

# Wellington Region Civil Defence Emergency Management Group Plan

2011-2016  
(Proposed Draft)



WELLINGTON REGION  
EMERGENCY MANAGEMENT

GROUP

# Plan Structure

## Introduction

- Identifies the Plan purpose, audience and Plan development process
- Explains how the Group goals align with the National CDEM Plan and Strategy

## Risk evaluation

- Describes the hazardscape for the Wellington Region
- Identifies the hazards that could impact the region and the likelihood and consequences

## Reduction

- The principles for risk reduction within the Wellington Region CDEM Group
- Risk reduction objectives and methods by which these will be achieved

## Readiness

- Principles for readiness within the Wellington Region CDEM Group
- The current level of readiness within the Wellington Region CDEM Group
- The readiness objectives and methods by which these will be achieved

## Response

- Principles for response within the Wellington Region CDEM Group
- The organisational framework, functions, roles and responsibilities during response
- Process for escalating responses and declarations

## Recovery

- Principles for recovery within the Wellington Region CDEM Group
- CDEM planning arrangements, frameworks and roles during the recovery phase
- The transition from response to recovery, financial arrangements and exit strategy

## Monitoring & evaluation

- Principles for monitoring and evaluation within the Wellington Region CDEM Group
- The method for measuring achievement of objectives for Plan reviews

## Management & governance

- Management and governance of the Wellington Region CDEM Group
- Roles and responsibilities of the CDEMG, CEG and Group Emergency Management Office
- Key appointments and Group funding arrangements

## Supporting plans & appendices

- Identifies the supporting plans
- included appendices such as the Group Work Programme, Terms of Reference, MOUs with other Groups and identifies strategic partners

## Table of Contents

List of Figures.....	4
List of Tables .....	4
Glossary.....	5
1 Introduction.....	12
1.1 Purpose of the CDEM Plan .....	12
1.2 Wellington Region CDEM Group .....	13
1.3 Target audience.....	13
1.4 Plan development and consultation process .....	14
1.5 Vision and goals of the CDEM Plan .....	14
1.6 Relationship to national CDEM documents .....	14
2 Risk profile.....	18
2.1 Key characteristics of the Wellington Region CDEM Group area .....	18
2.2 Identification of risk .....	19
2.2.1 Earthquake.....	20
2.2.2 Tsunami.....	23
2.2.3 Volcanic hazards .....	26
2.2.4 Storm .....	27
2.2.5 Flooding .....	29
2.2.6 Landslide.....	31
2.2.7 Drought and extreme heat .....	34
2.2.8 Fire (Rural) .....	35
2.2.9 Fire (Urban).....	37
2.2.10 Hazardous substances .....	38
2.2.11 Transportation accident (land, marine, air).....	40
2.2.12 Biological/Pandemic .....	41
2.2.13 Agricultural hazards (animal diseases, biosecurity).....	43
2.2.14 Disruption of infrastructure systems .....	45
2.2.15 Terrorism .....	46
2.3 Risk Evaluation .....	48
3 Reduction .....	52
3.1 Principles for risk reduction within the Group .....	52
3.2 Current local risk reduction practices .....	52
3.3 Strategic issues arising from current risk reduction practices.....	56
3.4 Objectives .....	56
3.5 Delivery of desired outcomes .....	57

4	Readiness.....	60
4.1	Principles for readiness within the Group.....	60
4.2	Current level of readiness .....	60
4.2.1	Organisational framework in readiness .....	60
4.2.2	CDEM Group EMO role .....	61
4.2.3	Local EMO role.....	61
4.2.4	Emergency operations centres .....	62
4.3	Strategic issues arising from current readiness practices .....	67
4.4	Objectives .....	68
4.5	Delivery of desired outcomes .....	69
4.6	Readiness organisation .....	71
4.7	Readiness activities .....	71
5	Response .....	74
5.1	Principles for response within the Group .....	74
5.2	Organisational framework.....	74
5.2.1	Organisational framework in response.....	74
5.3	Functions, roles and responsibilities .....	75
5.3.1	Role of local Emergency Operations Centres.....	75
5.3.2	Role of the Group Emergency Coordination Centre .....	76
5.3.3	Activation overview .....	76
5.3.4	Declaring a state of local emergency.....	76
5.3.5	Levels of management.....	78
5.3.6	Response functions.....	80
5.4	Emergency management systems.....	94
5.5	Strategic issues arising from current response practices .....	95
5.6	Objectives .....	95
5.7	Delivery of desired outcomes .....	96
5.8	Supporting of other CDEM Groups during an Emergency.....	97
5.9	Relationship with national support.....	97
6	Recovery.....	100
6.1	Principles for recovery .....	100
6.2	CDEM in recovery.....	100
6.2.1	CDEM Group's role in recovery.....	100
6.2.2	Territorial authorities' role in recovery.....	101
6.3	Group Recovery Plan.....	101
6.3.1	Group recovery structure .....	101
6.3.2	Group Recovery Manager .....	102
6.3.3	Group recovery management team.....	102
6.3.4	Transitional arrangements .....	102
6.3.5	Reporting requirements.....	103

6.3.6	Financial arrangements .....	103
6.3.7	Exit strategy .....	103
6.4	Strategic issues arising from current recovery practices.....	104
6.5	Objectives .....	104
6.7	Delivery of desired outcomes .....	105
6.8	Roles and responsibilities.....	106
7	Monitoring and evaluation.....	112
7.1	Principles for monitoring and evaluation within the group .....	112
7.2	Programme .....	112
7.3	Legislation compliance.....	115
7.4	Reviewing the CDEM Group Plan .....	115
7.5	External monitoring .....	116
8	Management and governance .....	118
8.1	Members of the CDEM Group.....	118
8.2	Members of the Coordinating Executive Group.....	119
8.3	Administrating authority.....	120
8.4	Group Emergency Management Office.....	120
8.5	Delegated authorities.....	121
8.6	Key appointments .....	123
8.7	Arrangements with other CDEM Groups .....	123
8.8	Financial arrangements.....	123
8.8.1	Programmed expenditure.....	124
8.8.2	Emergency expenditure.....	124
8.8.3	Unexpected expenditure .....	125
8.8.4	Cost recovery .....	125
8.8.5	Relationship to local government financial planning requirements .....	125
9	Supporting plans.....	128
	Appendix 1: CDEM Group Work Programme .....	131
	Appendix 2: Strategic Partners .....	134
	Appendix 3: Terms of Reference – CDEM Group .....	135
	Appendix 4: Terms of Reference – CEG .....	136
	Appendix 5: CDEM Group statutory and non-statutory appointments.....	137
	Appendix 6: MOUs with CDEM Groups .....	138
	Appendix 7: Statutory Declaration Forms .....	139

## List of Figures

Figure 1: Operational boundaries of the Wellington Region CDEM Group .....	13
Figure 2: Active faults within the Wellington Region CDEM Group.....	21
Figure 3: Wellington Region CDEM Group’s framework for readiness activities .....	61
Figure 4: CDEM Group response framework.....	75
Figure 5: CDEM Group emergency communications network .....	94
Figure 6: NCMC operating modes .....	98
Figure 7: CDEM Group recovery structure .....	101

## List of Tables

Table 1: Relationship between the National Strategy Goals and CDEM Group Goals .....	15
Table 2: Active fault earthquake sources in the Wellington region .....	22
Table 3 Generalised mean tsunami wave heights and return periods for the Wellington Region .....	24
Table 4: Levels of flood protection planned for the Hutt, Waikanae and Otaki rivers.....	30
Table 5: Differences around the region in heavy rainfall return periods (120 mm) for rainfall events that can trigger landslides.....	33
Table 6: Regional Policy Statement objectives and titles of policies and methods to achieve the objectives .....	53
Table 7: Functions and roles of emergency management agencies .....	64
Table 8: Levels of response.....	79
Table 9: Response functions .....	81
Table 10: Roles and responsibilities in Recovery .....	107

## **Glossary**

### **Civil Defence Emergency Management**

The application of knowledge, measures and practices that are necessary or desirable for the safety of the public or property and are designed to guard against, prevent, reduce or overcome hazards, harm or loss associated with an emergency.

### **Civil Defence Emergency Management Group**

A joint committee of the local authorities in the Wellington region based on region council boundaries. The functions of the Group are to ensure that hazards and risks are identified and managed, ensure there is a region-wide civil defence emergency management capability to respond to and recover from emergencies, work with other emergency management agencies, and to promote appropriate mitigation of the risks the Region faces.

### **Command**

The internal direction of members and resources of an agency in the performance of that agency's role and tasks. Command relates to single agencies and operates vertically within an agency.

### **Control**

The overall direction of response activities in an emergency situation. Authority for control is established in legislation or by agreement and carries with it the responsibility for tasking and co-ordinating other agencies.

### **Co-ordinated Incident Management System (CIMS)**

A structure agreed by most New Zealand emergency management agencies to systematically manage incidents.

### **Co-ordinating Executive Group (CEG)**

A committee made up of executive officers of local authorities, Police, Fire Service, District Health Boards and any co-opted members as necessary. The CEG provides advice to the CDEM Group, implements decisions of the CDEM Group, oversees the Group Plan, oversees the work programme of the Group, and ensures appropriate structures are in place for the effective delivery of civil defence emergency management.

### **Co-ordination**

The bringing together of agencies and resources to ensure an effective response to an incident.

### **CRI**

A Crown Research Institute, for example Institute of Geological and Nuclear Sciences, National Institute of Water and Atmospheric Research.

### **Debrief**

A critical examination of an operation, carried out to evaluate actions for future improvements.

### **Declaration**

The process undertaken to make, extend or terminate a state of emergency.

### **Emergency**

A situation that causes or may cause loss of life, injury, illness, distress, or endangers the safety of the public and property that cannot be dealt with by the emergency services, or requires a significant and co-ordinated response under the CDEM Act 2002.

### **Emergency Coordination Centre**

An established and equipped facility where response to an incident may be coordinated. In the Wellington region the Group Office will activate their ECC (GECC) in an emergency to support and coordinate local EOCs.

An established and equipped facility where response to an incident may be supported. Both Group (GECC) and Local EOCs are present in the Wellington region.

### **Emergency management agency**

Any organisation with a role and responsibility in Civil Defence Emergency Management in the Wellington region.

### **Emergency Management Office**

An office of CDEM personnel to co-ordinate reduction, readiness and recovery activities (response is managed from an EOC) for one or more territorial authority areas, or for the CDEM Group (GEMO).

### **Emergency Operations Centre**

An established and equipped facility where response to an incident may be supported. Each of the territorial authorities in the Wellington region has an EOC.

### **Emergency Service**

The NZ Police, New Zealand Fire Service, National Rural Fire Authority, rural fire authorities and hospital and health services.



**Hazard**

Something that may cause, or contribute substantially to, an emergency. Typically defined as natural or human-made.

**Lead agency**

The organisation with the legislative or agreed authority for control of an emergency.

**Lifeline Utility**

Any organisation named or described in Schedule 1 of the CDEM Act. This includes airports, ports, railways, and providers of gas, electricity, water, wastewater or sewerage, storm water, telecommunications, roading networks and petroleum products.

**Local Authority**

A regional, city or district Council.

**Mitigation**

Activities carried out to reduce the consequences of a hazard when it occurs.

**Nationally Significant**

Any case that causes widespread public concern or interest, requires significant use of resources, is likely to affect more than one CDEM Group, affects New Zealand's international obligations, involves technology or processes new to NZ or results in significant or irreversible changes to the environment.

**Readiness**

Activities carried out to prepare the community or emergency management agencies for response.

**Recovery**

The time following an emergency when communities return to normal functioning. Recovery may take months or years.

**Reduction**

Activities carried out to reduce the frequency of occurrence of a hazard, or the consequence of a hazard when it occurs.

**Resilient**

Able to effectively respond to and recover from an emergency event and return to pre-event conditions or better.

**Resources**

All personnel, materials and equipment available, or potentially available for assignment to incidents.

**Response**

The period of time during an incident or emergency when action is immediately required to provide for safety, reduce loss of life, injury, illness or distress or protect property.

**Richter scale**

A scale used to measure the magnitude of an earthquake.

**SMUG analysis**

An analysis of the seriousness, manageability, urgency and growth of a hazard. A SMUG analysis was carried out to rank the hazards and identify the strategic issues for this Plan.

**Standard Operating Procedures (SOPs)**

Written incident practices adopted by an agency.

**State of emergency**

A state of national or local emergency declared under section 66, 68, or 69 of the CDEM Act 2002.

**Strategic issues**

Problems, gaps and inconsistencies that need to be addressed by the CDEM Group if it is to achieve its goals and vision of resilient communities.

**Territorial Authority (TA)**

A city or district Council.

**Supporting Document**

A document that provides additional information to support this Plan. A copy of each document listed as a supporting document in the Plan is available from the CDEM Group Emergency Management Office.

## **The following abbreviations/acronyms are used in the Wellington Region CDEM Group Plan.**

AA Automobile Association

AREC Amateur Radio Emergency Corps

BOT Board of Trustees

CAA Civil Aviation Authority

CAB Citizens Advice Bureau

CDEM Civil Defence Emergency Management

CERT Community Emergency Response Team

CIMS Co-ordinated Incident Management System

CYFS Child Youth and Family Services

DHB District Health Board

DOC Department of Conservation

DPMC Department of the Prime Minister and Cabinet

EOC Emergency Operations Centre (and encompasses ECC)

ESCC Emergency Services Coordinating Committee

EQC Earthquake Commission

GECC Group Emergency Coordination Centre

HSNO Hazardous Substances and New Organisms

LTSA Land Transport Safety Authority

MAF Ministry of Agriculture and Forestry

MCDEM Ministry of Civil Defence & Emergency Management

MED Ministry of Economic Development

MFAT Ministry of Foreign Affairs and Trade

MoH Ministry of Health

MOU Memorandum of Understanding

MSA Maritime Safety Authority

NCCM National Crisis Management Centre

NGO Non-Governmental Organisation (excludes local government)

NZDF New Zealand Defence Force

NZFDA New Zealand Funeral Director Association

NZFS New Zealand Fire Service

NZTA New Zealand Transport Agency

RCCNZ Regional Coordination Centre New Zealand  
RPH Regional Public Health  
SOP Standard Operating Procedure  
SPCA Royal New Zealand Society for the Prevention of Cruelty to Animals  
TA Territorial Authority  
USAR Urban Search and Rescue  
WELA Wairarapa Engineering Lifelines Association  
WELG Wellington Engineering Lifelines Group  
WFA Wellington Free Ambulance  
WHO World Health Organization  
WIAL Wellington International Airport Limited  
WINZ Work and Income New Zealand

# Introduction

Purpose of the CDEM Plan  
Wellington Region CDEM Group  
Target audience  
Plan development and consultation process  
Vision and goals of the CDEM Plan  
Relationship to national CDEM documents

# 1 Introduction

## 1.1 Purpose of the CDEM Plan

The Civil Defence Emergency Management Act 2002 (CDEM Act) requires every regional council and every territorial authority to establish a Civil Defence Emergency Management Group (CDEM Group). The organisational structure and administrative arrangements of the Wellington Region CDEM Group in both readiness and response phases are shown in Section 5.2 and 6.4 of this plan.

Section 48 of the CDEM Act requires every CDEM Group to prepare and approve a CDEM Group Plan (Group Plan). The original Group Plan was approved by the CDEM Group in 2005. This Plan is the 2<sup>nd</sup> Generation CDEM Group Plan, and has been prepared to meet the requirements of Sections 48 – 57<sup>1</sup> of the CDEM Act.

The broad purpose of the Plan is to enable the effective and efficient management of significant hazards and risks for which a coordinated approach will be required. The Plan sets a strategic direction, providing CDEM Group objectives and a framework for continuous improvement to the management of emergencies.

The Group Plan seeks to:

- **Strengthen relationships** between agencies involved in civil defence emergency management,
- **Encourage cooperative planning** and action between the various emergency management agencies and the community,
- Demonstrate commitment to **deliver more effective** civil defence emergency management through an agreed work programme.
- Provide information on the hazards and risks in the CDEM Group and documents the **principles of operation** within which agencies involved in civil defence emergency management agree to cooperate.

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<sup>1</sup> Specifically Section 49 states that the CDEM Group plan must state and provide for –(a) the local authorities that have united to establish the Civil Defence Emergency Management Group,(b) the hazards and risks are to be managed by the Group,(c) the civil defence emergency management necessary to manage the hazards and risks described under paragraph (b),(d) the objectives of the plan and the relationship of each objective to the national civil defence emergency management strategy,(e) the apportionment between local authorities of liability for the provision of financial and other resources for the activities of the Group, and the basis for that apportionment,(f)the arrangements for declaring a state of emergency in the area of the Group, (g)the arrangements for co-operation and co-ordination with other Groups,(h) the period for which the plan remains in force.

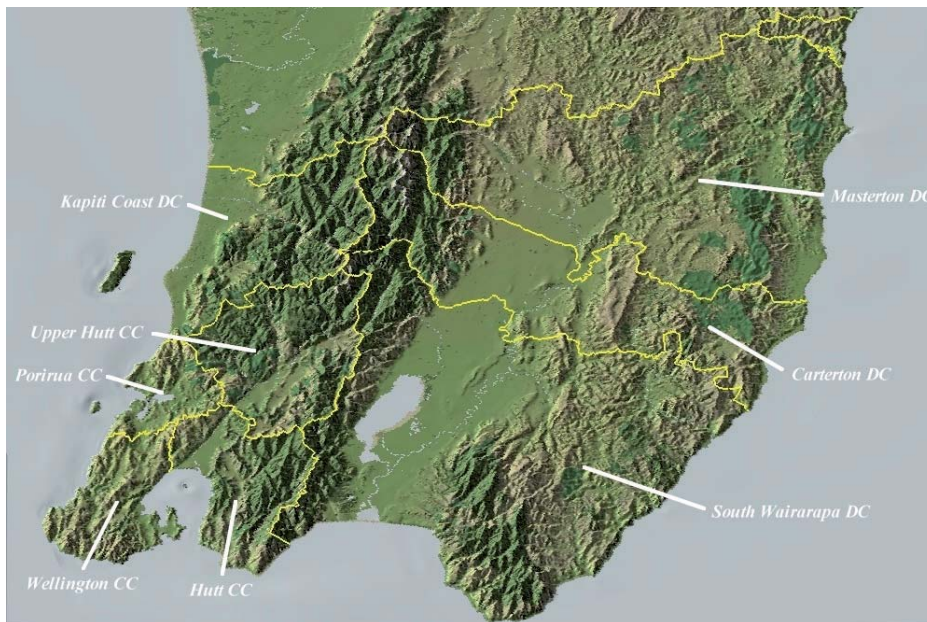
## 1.2 Wellington Region CDEM Group

The Wellington Region CDEM Group is made up of the following local authorities:

- Greater Wellington Regional Council
- Wellington City Council
- Porirua City Council
- Kapiti Coast District Council
- Hutt City Council
- Upper Hutt City Council
- South Wairarapa District Council
- Carterton District Council
- Masterton District Council

The local authority boundaries can be seen in Figure 1 below.

**Figure1: Operational Boundaries of the Wellington Region CDEM Group.**



## 1.3 Target audience

This plan has primarily been developed for:

1. The **CDEM sector**; including members of the CDEM Group and partner organisations.
2. **Primary stakeholders**; including emergency services and other members of the Co-ordinating Executive Group (CEG).
3. **Strategic Stakeholders**; includes all individuals and organisations that have a part to play in CDEM activities, but generally not on a daily basis.

**See Appendix 2 for a list of Wellington Region CDEM stakeholders.**

## 1.4 Plan development and consultation process

Local authorities, emergency services, lifeline organisations and other agencies with a role in civil defence emergency management in the Wellington Region participated in the development of this Plan.

The key steps were:

- Workshops were held with five different stakeholder groups (Emergency Services, Welfare agencies, National agencies, Lifeline organisations and Emergency Management staff) in June and July 2009 to enable input into the new Group Plan.
- Draft Plan approved by the CDEM Group for public consultation (*yet to be determined*)
- Draft Plan notified (*yet to be determined*) and public submissions received by *yet to be determined*.
- Submissions heard from *yet to be determined*.
- Amended Draft Plan reviewed by the Minister of Civil Defence (*yet to be determined*).
- Final Wellington Region Civil Defence Emergency Management Group Plan approved by the Wellington Region CDEM Group (xxx).

This plan will remain in effect for five years from the date of approval until reviewed by the Group and either amended, revoked, replaced or left unchanged. Sections 56 and 57 of the CDEM Act set out the process for amending the plan, with all changes (other than those deemed to be minor) requiring the public to be notified to allow for public notifications to be heard.

## 1.5 Vision and goals of the CDEM Plan

The vision of the CDEM Group Plan is that:

*“The communities of the Wellington Region are resilient”.*

Resilient communities are ready for emergencies and have the knowledge, skills and resources to respond to and recover from an emergency event.

### GOALS

The CDEM Group has identified the following four goals:

- **Goal 1:** The community and emergency management agencies will **be aware of the risks** they face across all hazards.
- **Goal 2:** The community and emergency management agencies will take action to **manage** the risks they face.
- **Goal 3:** The community and emergency management agencies will **know their roles and responsibilities** before, during and after an event.
- **Goal 4:** The community and emergency management agencies will be able to **respond to**, and **recover from**, emergency events effectively.

## 1.6 Relationship to national CDEM documents

Section 53 of the CDEM Act specifies that the CDEM Group Plan must not be inconsistent with the National Civil Defence Emergency Management Strategy and must take account of guidelines, codes or technical standards issued by the Director of Civil Defence Emergency Management.



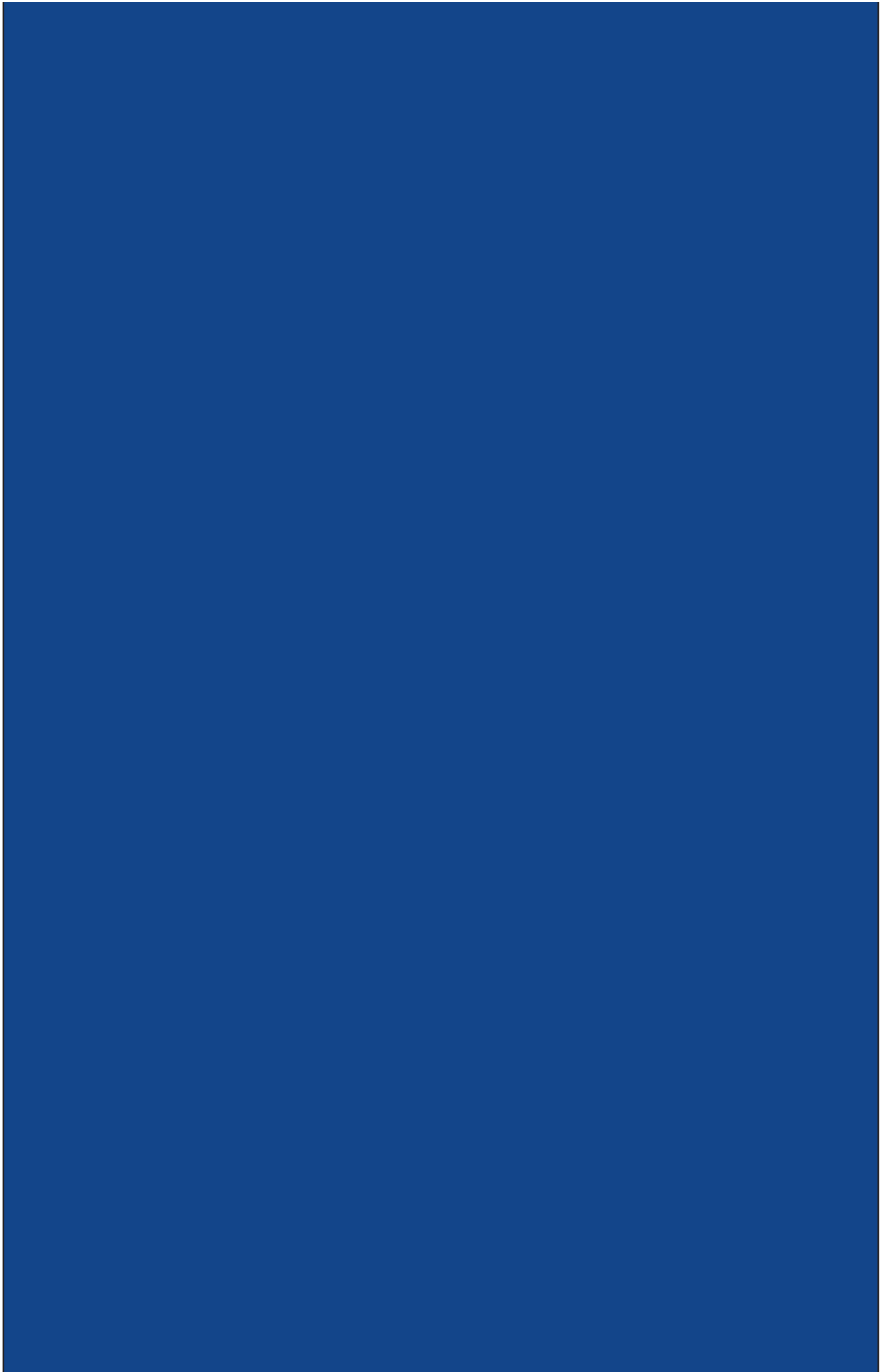
The vision and the four high level goals identified for this Plan support the vision and goals of the National CDEM Strategy (See Table 1 overleaf).

The national vision statement is

*“Resilient New Zealand: Communities understanding and managing their hazards”.*

**Table 1: Relationship between the National Strategy Goals and CDEM Group Goals.**

National CDEM Strategy Goals		Wellington Region CDEM Group Goals
<b>Goal 1:</b> To increase community awareness, understanding and participation in CDEM	<b>Supported by:</b>	<b>Goal 1:</b> The community and emergency management agencies will <b>be aware of the risks</b> they face across all hazards.
<b>Goal 2:</b> Reducing the risks from hazards to New Zealand.		<b>Goal 2:</b> The community and emergency management agencies will take action to <b>manage</b> the risks they face.
<b>Goal 3:</b> Enhancing New Zealand’s capability to manage emergencies.		<b>Goal 3:</b> The community and emergency management agencies will <b>know their roles and responsibilities</b> before, during and after an event.
<b>Goal 4:</b> Enhancing New Zealand’s capability to recover from disasters.		<b>Goal 4:</b> The community and emergency management agencies will be able to <b>respond to, and recover from,</b> emergency events effectively.



# Risk evaluation

Key characteristics of the Wellington Region CDEM Group area

## Identification of risk

Earthquake

Tsunami

Volcanic hazards

Storm

Flooding

Landslide

Drought and extreme heat

Fire (Rural)

Fire (Urban)

Hazardous substances

Transportation accident (land, marine, air)

Biological/Pandemic

Agricultural hazards (animal diseases, biosecurity)

Disruption of infrastructure systems

Terrorism

## Risk Evaluation

## 2 Risk evaluation

### 2.1 Key characteristics of the Wellington Region CDEM Group area

The Wellington Region has just fewer than 450,000 people. According to 2006 census data the main population centres are Wellington (40%), Lower Hutt (22%), Porirua (11%), Kapiti (10%), and Upper Hutt (8%). Masterton, South Wairarapa and Carterton districts make up nine percent of the total regional population.

The Region's population growth is likely to reach 15% by 2021, according to projections, with the fastest growing areas of Wellington, Kapiti and Porirua.

Wellington Region's physical geography and topography, with mountain ranges running north-south and dynamic river systems, has both created and restricted human settlement over the centuries. Risks the Region currently faces reflect choices made about such things as where we live and work and how we travel between them.

Wellington City, with a population of just under 200,000, is New Zealand's capital city and seat of government. The national importance of Wellington city is illustrated in its pivotal infrastructure linking the Region with the rest of the North Island, the South Island, and overseas. For example, Wellington's airport is the country's busiest domestic airport, while the port carries considerable volumes of freight and passengers. Wellington is also the nexus of State Highways 1 and 2 as well as commuter and long-distance train lines. While a substantial proportion of those who work in Wellington city may commute from outside the city, recent development has seen an increase in high-density inner city living.

Wellington city therefore functions as a major population centre and the headquarters of many services and businesses for the lower North Island. Access to, from and through the city is crucial.

Wellington's key role in politics, business and transport faces a number of threats from a range of natural hazards. The most notable hazards are the active fault lines that pass through or near the city. A major earthquake would damage many valuable assets and isolate the city, while a tsunami generated by such an earthquake could cause damage all around Wellington harbour.

The Hutt Valley is home to nearly 100,000 people and several thousand businesses, most with premises on the Hutt River floodplain. The western edge of the Hutt Valley has the same fault line that passes through central Wellington, posing a major threat of earthquake-related damage (including landslides).

The Wairarapa represents the largest area of land (78%) in the Wellington Region, though is home to only 9% of the Region's population. Nevertheless, the Wairarapa is very important to the regional economy. The Wairarapa Plains are bisected by several major river systems and faultlines, while Lake Wairarapa stores large volumes of water that flow through the area. The risk of flooding across the Wairarapa Plains is an important consideration for the CDEM Group Plan both because of the threat to life in major settlements and because of the consequences for the rural economy.

Much of the growth along the Kapiti Coast is on the coastal dune and river plains systems that stretch from Paekakariki into the Manawatu. The hazards facing the Kapiti communities range from earthquakes, landslides and tsunami through to floods from the steeply-flowing rivers that flow down from the Tararua Ranges. Kapiti is connected to Wellington by one major road and two rail tracks - both transport links pass over fault lines and alongside steep coastal cliffs. As such, the area's communication connections with the capital - and Wellington's most direct link with the rest of the North Island - are especially vulnerable.

The Porirua area and Pauatahanui Inlet are also growing in population, and exposed to a similar range of hazards as the Kapiti coastal communities. Porirua has limited communication links to adjoining areas because of the steep hills defining the edge of the Porirua basin.

### Specific areas of consideration for CDEM

- The Region's transport links with the rest of New Zealand are vulnerable. The Region has a 'Y' shaped transport network with the main roading and rail network traversing the two main north/south valleys to make two strong north-eastern and north-western routes, culminating in the Wellington CBD. There are limited cross corridor links and key components of the network face a high risk of disruption from hazards. These links are busy, with about 85,000 vehicles a day using the Ngauranga to Aotea Quay section. These transport links are also used by utility services, e.g., bulk water supply systems. This means that high priority for CDEM is trying to ensure the protection of these transport links and for CDEM planning to have contingency plans to cope with damaged links.
- The Region is divided by mountain ranges, which separate the eastern rural Wairarapa area from the urban western Region. Weather patterns, fault lines and land-use differences mean that it is unlikely that the entire Region would be affected to the same degree by any major event. This means that the CDEM response capacity and organisation needs to be spread across the Region and the Group Emergency Coordination Centre in Wellington should have a fully functioning alternative location in the Wairarapa.
- It is likely that the Region will face multiple hazards in any event. For example, an earthquake could result in transport disruption, landslides, tsunami etc. Similarly, a high rainfall event may cause flooding, landslides and transport accidents. All CDEM planning should address the effects of multiple hazards rather than focussing on any one single hazard.
- As the seat of central government, core public sector services play an important part in the Wellington regional economy. The business services sector that interacts with government departments is a major industry, both in absolute terms and relative to the New Zealand economy as a whole. Wellington City is home to many government departments and head offices of large corporate organisations which are generally located in high rise buildings, many of which are located close to fault lines (e.g., Lambton Quay). It will be important that government agencies and corporate organisations are able to resume business as soon as possible after any event, as they will be key to any recovery operation and the economic implications of them not being able to resume business activities are large.
- Many people commute to the Region's cities and districts for work. This means that population densities vary across the Region by both area and time. During the day, the population of the CBD is higher than at night. Even so, the increasing trend of inner city living and the growth of recreational activities in the CBD, means that people are located in the CBD for 24 hours a day. The timing of any emergency event will affect the nature of the response. For example, at 5pm it is likely that many people will be in cars on SH1 and SH2 or in commuter trains along both transport corridors.
- There are significant disparities in deprivation across the Region with higher levels in parts of Porirua City, Lower Hutt and the Wairarapa. Those in the lower socio-economic groupings are less likely to have the resources to be prepared for emergency events.
- The Wairarapa is vulnerable to flooding which is a threat to the rural economy and to the Region's economy as a whole. CDEM planning should ensure that the risk of flooding is at an acceptable level and that flood events can be managed to reduce as much damage as possible.

## 2.2 Identification of risk

There have been many emergency events in the Wellington Region since records began. Some notable events in the Region's history include:

1855	Earthquake on the Wairarapa fault line measuring 8.2 on the Richter Scale. This earthquake caused significant destruction to properties across the Region and one person was killed.
1909	Shipwreck of SS Penguin at Cape Terawhiti. Seventy-five of 102 people on board died.
1918	Influenza pandemic. Up to 800 people in the Wellington Region died. Between a third and a half of the population was infected.
1940	Plane crash in Waikanae. Fifteen people were killed.
1942	Earthquake in Masterton measuring 7.2 on the Richter Scale caused considerable damage across the Wairarapa.
1968	Cyclone Giselle caused winds of up to 200kph and the sinking of the Wahine ferry on Barrett Reef in Wellington Harbour. Fifty-one of the 733 people on board died.
1976	Hutt Valley surface flooding due to heavy rain. All roads were disrupted and many severe slips occurred on hillsides.
1998	Kapiti river flooding caused the death of one person. There was a local declaration made by Kapiti Coast District Council. The Hutt Valley also experienced significant flooding.
2003/4	Flooding events in the Kapiti Coast, the Hutt Valley and Wairarapa. The Paekakariki landslide.

The hazards described in this Plan are all **significant** as they require CDEM Group involvement and management.

A description (including maximum probable event, mid range event, likelihood and consequences) of significant hazards follows<sup>1</sup>.

### 2.2.1 Earthquake

#### Description:

The Wellington region is located within an area of high seismicity near the plate boundary of the Pacific and Australian tectonic plates. In geological terms this boundary is referred to as the Hikurangi Subduction Margin and is where the Pacific Plate is subducting beneath the Australian Plate.

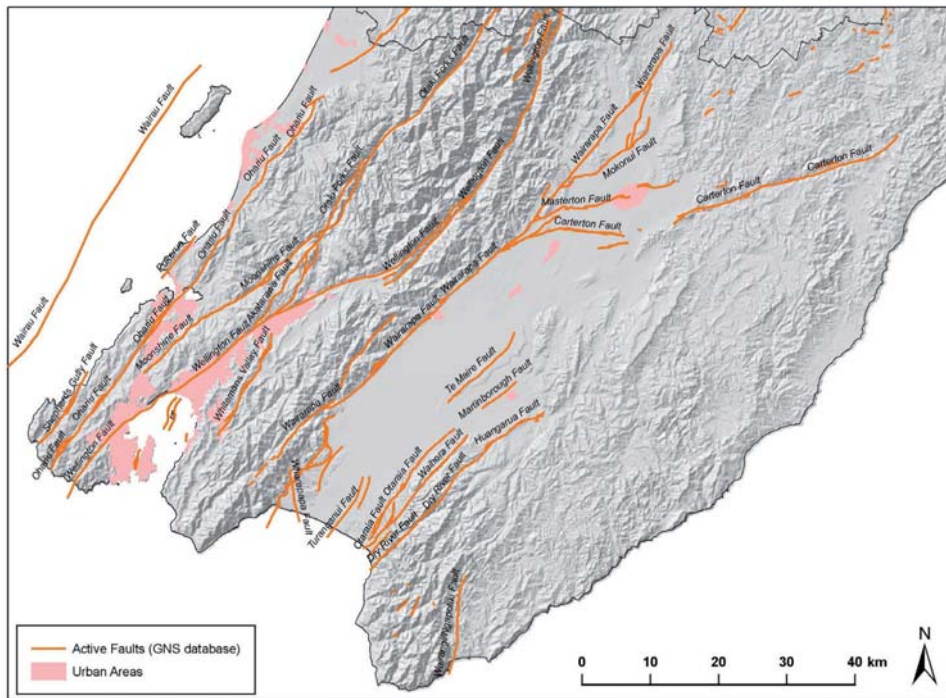
Stresses in the earth's crust produced by the subduction margin have produced a number of faults, both on land and on the seafloor, around the Wellington Region. Many of these faults are still active and present a significant hazard. The five faults that could potentially cause the most damage are; the Wellington Fault, Ohariu Fault (north & south), Wairarapa Fault, Carterton Fault and the Masterton Fault (See Figure 2). In addition, the subduction interface could produce a large and devastating earthquake, but little is currently known about the characteristics of fault movements on this feature. A number of these faults have an offshore component, which adds an additional tsunami risk to a rupture event.

Earthquakes are characterised by ground shaking. However, other effects that may occur include liquefaction, surface fault ruptures, landslides and, sometimes, tsunami.

All the population centres in the region (Wellington City, Hutt Valley, Porirua, Kapiti Coast, Wairarapa settlements) encompassing around 450,000 people, are within 10 km of one of these active faults. Of this number, approximately 75% are within 10 km of the Wellington Fault.

<sup>1</sup>A comprehensive description of each hazard is contained in the supporting document "Updated Hazard and Risk analysis for the CDEM Group Plan", available from the CDEM Group Office. (File z/03/02/05)

**Figure 2: Active faults within the Wellington Region CDEM Group.**



*Maximum probable event*

A shallow focus earthquake, magnitude 7.0 + on the Wellington fault. Lateral displacement of 5-10 m and 1-2 m vertical in parts of the Hutt Valley, with potential subsidence in Lower Hutt. Liquefaction in areas of Lower Hutt, Wellington waterfront and port area and around Porirua Harbour. Amplified ground shaking causes severe damage in these same areas. Harbour seicheing for 24-48 hours and potential for a 1-2 m locally generated tsunami, flooding low lying areas around Wellington Harbour.

*Mid-range event*

A magnitude 6.0 - 6.9 event on any fault near a metropolitan area anywhere in the region (Masterton, Porirua, Paraparaumu, Upper Hutt, Hutt City, Wellington). Considerable light to moderate damage might be expected from this event, especially close to the epicentre.

**Likelihood**

Around 400 earthquakes occur in the Wellington region every single year and since 1855 there have been over 60,650 earthquakes. Most of these are very small (< M3.0) and have no effect on the built environment.

The Wellington Fault is one of the major active strike-slip faults of the southern North Island and presents a significant seismic hazard to the Greater Wellington area. The Wellington-Hutt Valley segment of the fault is thought to move on average every 700-1000 years. It appears to be the most likely fault in the region to next move because the elapsed time since the last rupture event is close to its average recurrence interval.

Table 2 identifies the active fault sources in the Wellington region, the return period, elapsed time since the last event and the maximum magnitude.

**Table 2: Active fault earthquake sources in the Wellington region.**

Fault	Recurrence Interval (yrs)	Elapsed time since last event (yrs)	Maximum Magnitude*
Wellington	700-1000	350-500	7.6
Ohariu	2200	1000-1050	7.6
North Ohariu	1500-3500	~1000	7.3-7.7
Wairau	1000-2300	>800	7.2-7.7
Gibbs	3500-5000	<10000	<7.0
Shepherds Gully	2500-5000	~1200	7.6
Pukerua	2500-5000	~1200	7.6
Otaki Forks	3500-5000	Unknown	7.3-7.6
Akatarawa	3500-9000	<10000	<7.0
Wairarapa	1600-1900	152	8.3
Dreyers Rock/Kowhai	<2000	152?	8.0
Mokonui	1300-2000	1100-2600	6.7
Masterton	~1000	Unknown	6.7
Carterton	700-1000	Unknown	6.7
Cross Creek	2000-3500	Unknown	?
Wharekauhau Thrust	<2000	152?	8.0
Battery Hill	3500-5000	Unknown	8.0
Otaraia	3500-10000	Unknown	?
Martinborough	5000-10000	Unknown	~7.0
Huangaarua/Dry River	3500-5000	Unknown	8.0
Wairangi/Ngapotiki	1000-3200	Unknown	?
Boo Boo (offshore)	500-2000?	Unknown	7.2-7.6
Subduction Interface	500-2000?	Unknown	7.9-8.4 (8.2)

\*Estimated earthquake magnitude able to be generated in a penultimate faulting event.

GNS Science is currently leading a research programme called 'It's Our Fault', aimed at positioning the Wellington region to become more resilient to earthquakes. The project entails a comprehensive study of the likelihood of large earthquakes near Wellington, the size of these earthquakes, and their impacts on our communities. The project started at the end of 2006 and significant new results are already emerging, highlighting the need to update assumptions for Wellington's planning and civil defence emergency management preparedness.

## Consequences

### Social

- Deaths greater than 500 possible during daytime event. Also a general increase in other mortality e.g. heart attacks, people in medical care
- Injuries. Over 2000 people needing immediate attention, another 3000 injured and needing some medical attention. Dust asphyxiation issues
- Possibly 1000 people trapped in collapsed buildings and people needing rescue from rail and road accidents
- Traumatic stress
- Loss of family incomes
- Psychological distress and mental health issues arise
- Many people unable to inhabit their homes therefore temporary accommodation needed
- Public health concerns – lack of water, spread of disease. (especially if during winter or bad weather)
- Family and community groups disrupted
- Schools unable to operate
- Commuters can't get home
- Families separated

### Built

- Loss of water supply, electricity and gas possible



- Some major transportation routes likely to be impassable
- Phone and cell phone links could be cut
- Hospitals working at reduced capacity
- Emergency services stretched beyond capability. Emergency facilities may be damaged
- A large number of domestic homes destroyed following maximum event. Many of those by post event fires

#### *Economic*

- Economy distorted, possible short-term recession
- Reluctance to invest in Wellington region and NZ
- Spike in insurance costs
- Boom in reconstruction industry
- Drop in the value of the NZ dollar
- Business continuity seriously affected
- Repair costs for residential homes up to \$4 Billion
- Over a quarter of all businesses in Wellington city extensively damaged. Many businesses lost

#### *Natural*

- Fault rupture, scarp created
- Landslides
- Uplift or subsidence (e.g Hutt Valley 1-2m subsidence on western side)

### **2.2.2 Tsunami**

#### **Description**

A tsunami is a series of waves generated by the sudden displacement of a water surface. The three main generating mechanisms are submarine fault ruptures, landslides or volcanic activity. Most tsunami (around 90% depending on location) are caused by a submarine fault rupture that results in the vertical displacement of the sea bed. The remaining 10% of tsunami are generated by landslides (submarine or terrestrial) and volcanic activity (island or submarine). Landslides alone are responsible for around 9% of tsunami recorded globally, but for a range of reasons, it is about double this for New Zealand.

With over 500 km of coastline, the Wellington region is exposed to tsunami from a range of sources:

- Distant source tsunami (> 3 hrs travel time);
- Regional source tsunami (1 – 3 hrs travel time); and
- Local source tsunami (< 1 hr travel time).

The Wellington region is primarily at risk from tsunami generated from both distant (far-field) and local sources (near-field). Regionally generated tsunami are not considered to pose a significant threat. The level of risk around the region is not equal, rather it varies depending on exposure levels to local and distant sources. The Kapiti Coast is considered to have the lowest risk; Wellington a moderate risk and the Wairarapa coast (east and south) the highest risk. In general, the risk increases from low to high in an anticlockwise direction around the coast from Otaki to Castlepoint. Compared to the rest of New Zealand, the Wairarapa coast has one of the highest tsunami risks in New Zealand. In contrast, the Kapiti Coast has one of the lowest risks.

Table 3 shows the mean wave heights for both local and distant source tsunami at 100, 500 and 2500 year return periods across the region.

**Table 3 Generalised mean tsunami wave heights and return periods for the Wellington Region (expressed as a mean estimate in metres above sea level (m asl) for local source and distant source tsunami. Higher or lower water elevations may occur locally).**

Local Source Tsunami	100 year	500 year	2500 year
Kapiti/Porirua	0.9m	2.7m	5.5m
Wellington & Lower Hutt (including south coast)	1.6m	4.5m	9.9m
Wairarapa (including S & E coasts)	2 - 4m	4 - 6m	8 - 10m
Distant Source Tsunami	100 year	500 year	2500 year
Kapiti/Porirua	0.5m	1.0m	1.5m
Wellington & Lower Hutt (including south coast)	1.1m	2.5m	4.2m
Wairarapa (including S & E coasts)	<2m	2 - 4m	6 - 8m

(Data source: GNS)

#### *Maximum probable event*

Locally generated tsunami occurring at high tide, at night with wave heights in the order of 10 m and run-up elevations of between 10 to 20 m or up to 500 m inland from either:

- A rupture of the Hikurangi subduction margin;
- A large submarine landslide off the Cook Strait Canyon;
- A large fault rupture event resulting in vertical displacement of ~ 5 m on the Wairarapa or Wellington Fault.

The whole region is affected and the tsunami may occur in addition to earthquake damage. Area most affected depends on the generation source. A rupture of the subduction margin might be expected to most severely affect the east and southeast Wairarapa coast. The effects of a large submarine landslide will be more localised and will depend on the location of the slide, but Palliser Bay and Wellington south coast could be severely affected. A large fault rupture event in Cook Strait would affect the whole region, in particular the south Wairarapa coast, Palliser Bay, Wellington Harbour and south coast.

Water could possibly flood the Rongotai-Kilbirnie isthmus. Significant seiching in the Wellington Harbour and Lake Ferry to heights of 2 m above sea level. A bore may travel up the Hutt River. Reflection and refraction of waves along the Porirua and Kapiti coasts. Depending on the wave frequencies, waves may become trapped in Wellington Harbour or between Kapiti Island and the Kapiti Coast. Forecast modelling indicates a 2500 year return period for this type of event.

#### *Mid-range event*

Local source tsunami with a wave height of 3 - 4 m, with limited or no warning arriving at high tide on a summer weekend. Highest risk areas are coastal communities of the east and south Wairarapa Coast (e.g. Mataikona, Castlepoint, Riversdale and Ngawi) and the Wellington south coast and Harbour area. Forecast modelling indicates a 250 year return period for this type of event.

## Likelihood

It is unlikely that the region would experience major impacts from a tsunami (less than a 1:100 year event), even if it occurred on high tide. A 1:100 year tsunami will cause damage to structures around the coast, but would be unlikely to cause major structural damage. Based on the historical record, a 2.2 m tsunami may be considered a 1:100 year event for the Wellington region and a 5.3 m wave may be considered a 1:500 year event. Run-up elevations around the coast may be in the order of 3.0 - 4.4 m for a 100 yr event and 8 - 10 m for a 500 yr event.

## Consequences

### *Social*

- Deaths. May number in the hundreds for locally generated events
- Injuries (amputations, blunt trauma injuries from debris, crush injuries). May number in the 1000's for local events
- Possible health effects from raw sewerage or hazardous substances
- Emotional/psychological distress
- Effects vary depending on time of year (esp. tourist/holiday locations) and time of day (especially coastal residential dwellings and workplaces)
- Influx of media and researchers
- Confusion, panic or distrust during warning phase (if warning existed)
- Family group disruption
- Community group disruption
- Short term loss of community facilities
- People unable to inhabit damaged dwellings. Short and medium term alternate accommodation will be required
- A number of schools and facilities for the elderly uninhabitable

### *Built*

- Destruction of coastal homes and businesses (including port facilities). This number could be thousands of residential properties
- Coastal road access disruption and damage, undermining or scouring
- Coastal infrastructure and utilities damaged/destroyed, especially from salt water inundation. Stormwater drains/sewer pipes may become overloaded
- Possible fires from fuel leaks

### *Economic*

- Loss of family and business incomes
- Building and infrastructure reconstruction
- Loss of earnings from land made unusable by salt water inundation
- Loss of business confidence in coastal areas
- Significant loss of ability to function in maritime industries (e.g. fishing, maritime transport), or those reliant on maritime transport (e.g. fuel delivery, importers/exporters)

### *Natural*

- Saltwater inundation causing short term loss of vegetation and reduced land productivity
- Possible longer term opportunity for species diversity in new habitats created
- Erosion and debris redeposits may alter current coastal landscapes. This may affect water courses or drainage. Dunes may be severely scoured

## 2.2.3 Volcanic hazards

### Description

Whilst there are no volcanoes in the Wellington region, there is a residual risk from related volcanic activity. The biggest issue for the Wellington region is ash fall from volcanic eruptions in the central North Island. An eruption of Mt Taranaki, Mt Ruapehu or Mt Ngauruhoe could result in ash fall over the region causing damage and disruption.

### Likelihood

Calculating return periods for ash fall in the region is difficult due to variations in source location, eruption size and wind direction. Ash falls are present in the geological record, particularly the northern Wairarapa, at intermittent time intervals over the past 25,000 years. Return periods for the Wairarapa are estimated at 1300-1600 years for a 1 - 5 mm ash fall from Mt Taranaki, and greater than 2000 years for a 1 - 2 mm ash fall from Mt Ruapehu or Mt Ngauruhoe. These estimates are based on the prevailing wind direction being northwesterly rather than northerly. Return periods for Wellington are not known, but are likely to be lower.

Large accumulations of ash (up to 30 mm in Wairarapa) could be expected from a prolonged eruption of Taupo or from the Okataina volcanic field in the Bay of Plenty but the recurrence interval for these events is >10,000 years.

### Consequences

#### *Social*

- Increased asthma, bronchial illnesses and silicosis type illnesses
- Ash acts as an irritant to lungs and eyes, especially if it contains acid salts
- Temporary movement of people from affected areas
- Ash affects road visibility and traction for an extended period
- Minor damage to houses will occur if fine ash enters buildings, soiling interiors, blocking air-conditioning filters

#### *Built*

- Reduction in electricity use may be required
- Possible contamination of small water supplies, particularly roof-fed tanks
- Electricity may be cut; short-circuiting occurs at substations if ash is wet and therefore conductive. Low voltage systems more vulnerable than high. Wet ash may break power lines
- Water supplies may be cut or limited due to failure of electrical supply to pumps
- Possible contamination of water supplies by chemical leachates
- High water-usage will result from ash clean-up operations
- Roads may need to be cleared to reduce the dust nuisance and prevent stormwater systems becoming blocked
- Sewerage systems may be blocked by ash, or disrupted by loss of electrical supplies

#### *Economic*

- Possible minor damage to vehicles, houses, and equipment caused by fine abrasive ash
- Airports will close due to potential damage to aircraft – flights coming from affected areas will be disrupted. Delay in delivery of supplies that arrive by air
- Damage to electrical equipment and sub-stations. Some ash falls are mildly electrically conductive if they contain acid salts
- High cost of cleanup. Issues with dumping of ash

### Natural

- Possible crop damage
- Possible enrichment of rural pastures
- Some livestock may be affected; most will not be unduly stressed, but many suffer from lack of feed, wear on teeth, and possible contamination of water supplies

#### 2.2.4 Storm

##### Description

Storms have a host of associated meteorological phenomena and any given event may have some or all of these including, heavy rain, strong winds, lightning, hail and snow. In turn these may cause flooding, storm surge, coastal erosion and inundation, and landslips. A large storm has the potential to cause widespread damage across the region, initiating a local or region wide civil defence emergency.

Storms in the Wellington region generally come from three main sources:

- *Southerly storms.* Most commonly in winter, but can occur at any time of the year. Southerly storms bring with them, heavy rain, high sustained wind speeds and snow to higher elevations.
- *Northwest storms.* These occur mainly in the spring months, in particular September and October, but can also occur in August and November. Climate modelling indicates that the westerly airflow will strengthen over New Zealand in response to climate change pressures, indicating that the frequency of northwest storms may increase over the next 100 years. Northwest storms typically bring severe high winds to the region.
- *Ex-tropical cyclones.* Cyclones form every year in the summer and early autumn months in equatorial regions due to warm sea surface temperatures and strong evaporation. Typically, by the time they reach New Zealand they have weakened and are usually downgraded to ex-tropical cyclone status. On average they occur every 3 – 6 years. The most severe are events that approach from the southeast, as they track down the east coast of the North Island, such as cyclone Giselle (1968) (Wahine storm) or cyclone Bola (1988). These systems bring severe high winds (funnelled by Cook Strait), intense rainfall and high seas.

##### Maximum probable Event

A 1 in 100 yr ex-tropical cyclone event similar to or larger than the Wahine storm affecting entire region and initiating region wide civil defence emergency. Heavy rain across the region and severe localised falls in the Tararua's and western Wairarapa hill country. Rain fall leads to flooding in catchments of the Kapiti Coast (possible flash floods and debris flows in steep coastal catchments) and Wairarapa (bank overtopping and flood plain inundation). Surface flooding in low lying areas around Porirua and Wellington. Possible landslips in steep catchments such as the coastal escarpment at Paraparaumu/ Paekakariki, western Wairarapa hills or hill suburbs in Hutt Valley or Eastbourne. Coastal erosion and inundation from storm tides at locations such as at Raumati Beach, Paekakariki, Eastbourne, Te Kopi and Castlepoint. Severe winds cause some structural damage to dwellings. Landslides along SH1 and SH2 and slips on smaller roads around the region such as Akatarawa and Paekakariki Hill Road. Offshore wave heights up to 15 metres in Cook Strait. Potential for some loss of life and many injuries.

##### Mid-range Event

A 1 in 50 year rainstorm with 6 hour rainfalls of 50 mm in localised places and 100 mm over 24 hours across the region. Surface flooding and possible flash floods in steep catchments. Associated sustained gale force winds (> 60 kph), gusting storm force (> 120 kph). Significant emergency response required.

## Likelihood

### *Rain Depths*

- 100 yr return period 1- hour rain depths 40 mm
- 100 yr return period 24 hr rain depths 200 mm

### *Severe winds*

- 142 yr return period 198 km/h
- 475 yr return period 216 km/h

### *Lightning and hail*

- Between 1 - 5 days of hail per year in region
- Between 0.15 and 0.7 lightning flashes per square km per year in region

### *Snowfall*

- 1 per year at 200 - 600 m
- 5 per year at 600 - 1000 m

### *Storm surge*

- 10 yr return period 0.40 m above mean sea level (1.10 m on high tide)
- 50 yr return period 0.60 m above mean sea level (1.50 m on high tide)
- 100 yr return period 1.2 m above mean sea level (1.90 m on high tide)

### *Ex-tropical cyclones*

- 1 every 3 – 6 years with various levels of impact

## Consequences

### *Social*

- Deaths possible due to persons being outdoors during the events, building damage, hypothermia, transportation accidents. (historically number of deaths is low except when a transportation incident is caused)
- Many injured due to transportation accidents and building damage, extreme cold
- Building damage (e.g. loss of roofs) will mean increased demand for short term accommodation. Infill housing particularly vulnerable
- Vulnerable sectors of community maybe more highly impacted (e.g. elderly, children, lower income earners)
- Temporary isolation of parts of the region due to access disruption
- Water contamination possible
- Commuters unable to return home

### *Economic*

- Small business loss of ability to trade
- Particular losses in agricultural sector
- Loss of earnings due to transportation delays (e.g. maritime, rail, road transportation)

### *Built*

- Destruction of electrical and electronic installations. Interruption of power and communications. (trees a common cause)
- Blocked and damaged culverts. Stormwater networks overwhelmed
- Road and rails access disruption
- Underground services damaged by landslides and erosion

#### *Natural*

- Agricultural land saturated and unusable
- Destruction of plant life, crop damage.
- Trees uprooted
- Debris dams formed
- Loss of coastal land

### 2.2.5 Flooding

#### **Description**

Frequent heavy rainstorms, the steep gradients of many river catchments and human occupation of floodplains combine to make flooding the most frequently occurring natural hazard event in the Wellington region.

A flood occurs when an area of land, usually low-lying, is inundated with water. There are many different types of flooding events, each with its own cause and geographic characteristics. All these types of flooding events can happen in the Wellington region:

- *Surface flooding or ponding due to impeded drainage.* This commonly occurs in swampy or low lying areas particularly around estuaries and inlets. It can occur after a heavy rain storm due to blocked storm water drains. Antecedent conditions may exacerbate problems if the ground is waterlogged and the water table is high. This can occur around Porirua Harbour and Pauatahanui Inlet, Lake Wairarapa and localised areas around the region, such as interdune depressions on Kapiti Coast, Wellington City and Lower Hutt.
- *Coastal flooding from tsunami that can affect any part of the region or storm surge overtopping* in places such as south Wellington coast, Wellington Harbour (Eastbourne, SH 2), Centennial Highway (SH 1) on Kapiti Coast, as discussed in tsunami and storm sections.
- *River flooding from bank overtopping onto flood plains.* This is usually associated with prolonged heavy rainfall in catchment areas, but can also be due to snow melt. Peak flood flows can be heightened by vegetation clearance in the catchment, reducing the ability of the soils to hold water so that it is released more quickly into the river system. Floodwaters from these events frequently contain debris such as branches and rocks that can act as battering rams and increase damages to infrastructure like bridges or houses. Sewerage can sometimes become entrained in the flood waters, providing an additional health risk. Significant deposits of silt, sand and gravel may cover large areas after floodwaters have receded, adding to the damages caused by the water.

Particular risk areas in the region include the Otaki and Waikanae River flood plains, Lower Hutt and flood plains in the Wairarapa. Smaller watercourses have the potential to cause localised flooding in heavy rainfall events.

- *Flash flooding* (often associated with debris flows) caused by intense heavy rainstorms in short steep catchments. A flood that rises and falls rapidly with little or no advance warning is called

a flash flood. Can occur in Waikanae, Paekakariki, and locations along the southern and eastern Wairarapa coast. It commonly occurs in places backed by a steep coastal escarpment. The problem is worsened by vegetation clearance in the catchment area. This allows bare soils to be more easily eroded and increases runoff due to a reduction in the amount of water that can be held in the soils. Thus, peak flows are reached much more quickly.

*Maximum probable event*

A 500 year flooding event on the Hutt River exceeding the design standard of the stop banks. Heavy intense rainfall from a stationary front bringing over 500 mm of rain over a 36 - 48 hour period to the Hutt River Catchment. Complete flooding of Hutt Valley floodplain affecting both upper and lower valley. The same weather system will have caused flooding in the Otaki or Waikanae River valleys and high river flows with surface flooding in the Wairarapa. Surface flooding in Porirua and parts of Wellington city from storm water back up. Leads to a region wide civil defence emergency declaration.

*Mid-range event*

A 100+ year flood event on Waikanae or Ruamahanga River floodplains. Significant surface flooding and river flooding due to damaged/overtopped protection works at a small number of sites. Wairarapa towns isolated and all floodways in operation. Significant stock losses and damage to crops. Damage to bridges and roads.

**Likelihood**

Annual exceedance probabilities exist for all rivers in the region. These are calculated by measuring the volume of water flowing in a river during a flood event and determining the probability of that size flow happening in any given year. Thus, 1:100 year flood volumes will differ from river to river. Table 4 shows the degree of protection in place along the Hutt, Waikanae and Otaki Rivers.

**Table 4: Levels of flood protection planned for the Hutt, Waikanae and Otaki rivers.**

<b>Hutt River Floodplain Management Plan</b>
<b>Lower Valley</b>
<i>Major stopbanks: 1 in 440 year return period flood with additional stopbank capacity (freeboard) and associated bank-edge protection.</i>
<i>Manor Park stopbank: 1 in 440 year return period flood.</i>
<i>Belmont edge protection: 1 in 100 year return period flood.</i>
<b>Upper Valley</b>
<i>Major stopbanks: 1 in 1000 year return period flood with associated bank-edge protection of 1 in 440 year return period flood.</i>
<i>Bridge Road edge protection: 1 in 100 year return period flood.</i>
<i>Gemstone Drive stopbank and edge protection: 1 in 100 year return period flood.</i>
<i>Totara Park stopbank: 1 in 440 year return period flood.</i>
<b>Waikanae River Floodplain Management Plan</b>
<i>Stopbanks: 1 in 100 year return period flood.</i>
<i>House raising to 1 in 100 year return period flood level (where viable, as an alternative to stopbanks).</i>
<b>Otaki River Floodplain Management Plan</b>
<i>Stopbanks: 1 in 100 year return period flood.</i>
<i>House raising to 1 in 100 year return period flood level (where viable, as an alternative to stopbanks).</i>



## Consequences

### *Social*

- Deaths and injuries are likely from people being caught in flood waters
- Emotional/psychological distress
- Public health concerns due to sewerage contamination and lack of potable water
- Family group disruption
- Community group disruption
- Short term loss of community facilities
- Short and medium term alternate accommodation requirements
- A number of schools and facilities for the elderly uninhabitable
- Commuters stranded
- Domestic animals separated from homes and needing feeding/accommodation

### *Built*

- Water supply interrupted and contaminated
- Waste water and storm water systems overwhelmed
- Electricity and telecommunications disrupted as facilities flooded
- Significant damage to road networks

### *Economic*

- Significant economic effects of damage to structural protection works
- Direct building and infrastructure damage, loss of income for businesses affected, loss of business confidence
- Significant stock and agricultural losses in rural areas

### *Natural*

- Debris and landslides can change river courses
- Possible loss of production for flooded agriculture and horticulture areas
- Damage to wetlands, riverbank and river mouth ecosystems
- Erosion and realignment of river systems possible

## 2.2.6 Landslide

### **Description**

The geology, tectonic setting and climate make the Wellington region particularly prone to landslides and there have been many events in the region over the years. The landslide hazard of the region results from a combination of the predisposed geomorphology, human modification of the environment and poor planning decisions coupled with poor engineering/maintenance of protection works. Landslides are second only to flooding in terms of the economic costs as a result of damages, insurance payouts and mitigation works required to control their effects.

Landslide is a term commonly used to refer to a range of slope failures that may more correctly be referred to as mass movement. Mass movement is a down-slope transfer of materials (including rock, earth, mud or debris) mobilised under the influence of gravity. These movements can be very slow creeping events that induce damage over a long period of time or they can be rapid events that happen in minutes to seconds. Mass movements include debris flows, subsidence and rock falls.

The susceptibility of an area to mass movement depends on the angle and aspect of the slope, the vegetation cover, the soil or rock characteristics and any modifications carried out on the slope (e.g. cuts, fills, earthworks). Whether a slope fails or not depends on a balance between the strength of the slope material and the driving or shear stress acting on the slope. Failure can occur when either the shear stress is increased, the strength is decreased or from a combination of the two. The main aspects of the two factors involved in slope failure are:

*Increased shear stress:*

- Increase mass (rainfall or snow melt, colluvial deposition, building development, leaky water/sewer/storm water pipes)
- Vibration forces (earthquake shaking, heavy traffic)
- Increased slope angle (tectonics, toe erosion, colluvial deposition, slope cutting)

*Decreased material strength:*

- Rainfall or snow melt (affect clay minerals, decreases frictional strength, erosion)
- Vegetation destruction (forest fires, avalanches, catchment clearance)
- Rock weathering (freeze/thaw or wet/dry cycles)
- Geologic structure (old slips, bedding planes, weak layers)

Generally, forces controlling the shear stress are cyclical events, such as a heavy rainfall, earthquakes or an addition of material from higher upslope (colluvial deposition). Changes in the material strength generally occur continuously over a much longer time period as rocks weather and breakdown, or vegetation grows and slowly strengthens a slope.

*Maximum probable event*

Widespread mass movements around the region (rockfalls and landslides) triggered by a large earthquake at the end of a wet winter. The event causes much damage to property, infrastructure and transport routes into the region. Road and rail links into Wellington and the Hutt Valley are cut off for one to two weeks. Resources to clean up the slides are unavailable within the region and some utilities and road/rail links are unable to be restored. One significant landslide destroys a high occupancy property (apartments or rest home) that requires immediate rescue and in the longer term demolishing. Numerous smaller slides cause millions of dollars worth of damage to properties and businesses in Wellington City and the Hutt Valley.

*Mid-range event*

Numerous small rainfall induced landslides in all parts of the region. A small number of landslides block essential roads such as SH 1 and SH 2 for a period of three to four days. A small number of properties are destroyed. People are unable to return to their homes for days. Concurrent flooding causes problems in related parts of the region.

**Likelihood**

Landslides in the Wellington region tend to be medium-high frequency/low-medium impact events. Based on the historical record, there are on average 7 rainfall triggered landslide events every year. Of these, 1 - 2 are major and 5 are smaller landslide events.

The likelihood of significant rainfall events that could trigger landslides also varies enormously between locations in the region. Table 5 shows differences across the region in rainfall events that could trigger landslides. High risk times are the end of a wet winter or during large scale intense storms, such as ex-tropical cyclones.

**Table 5: Differences around the region in heavy rainfall return periods (120 mm) for rainfall events that can trigger landslides.**

Rain gauge return period of rainfalls exceeding 120 mm in 24 hours	
Riverside (northern valley Wairarapa)	76 years
Purunui (northeast hill country Wairarapa)	12 years
Featherston	31 years
Lagoon Hill (southeast hill country Wairarapa)	4 years
Karori	50 years
Wainuiomata	3 years
Paraparaumu	100 years
Kaitoke	5 years

### Consequences

#### Social

- Small human impact for rainfall induced landslides
- Possibly small number of deaths and rescues necessary from earthquake induced landslides
- Long term displacement for small number of properties affected by landslides
- Commuter disruption

#### Economic

- Transportation route blockages
- Loss of earnings
- Reduced productivity of land in rainfall induced events

#### Built

- Transportation route blockages
- Possible severing of water, sewer, electricity, gas and telecommunication supplies if located in landslide path
- Damage or destruction and loss of private dwellings or other buildings

#### Natural

- Erosion of grazing land
- Change of angle of remaining slope after landslide may lead to increased potential of future slides
- Change of topography (e.g. formation of ponds behind the fallen toe of the slide like Hidden Lakes in Wairarapa, or slide materials available as useable land like Hutt Motorway)
- Loss of vegetation
- Loss of productivity

## 2.2.7 Drought and extreme heat

### Description

Drought becomes a hazard when people choose to live and derive their livelihoods from land in drought prone areas. There are numerous definitions for a drought, but it generally describes a prolonged period of low rainfall leading to a severe soil moisture deficit. Drought is often accompanied by an extreme high temperature, that enhance evapotranspiration and exacerbates the effects of the drought on crops and plants. Impacts include water shortages or restrictions, crop failure, damage to horticulture, lack of feed and increased wildfire potential.

Drought can rapidly lead to a depletion of potable water supplies. Water supply systems have a relatively short storage capacity e.g. Stuart Macaskill Lakes storage lakes (at Te Marua) have 20 days of average water use for Upper Hutt, Lower Hutt, Porirua and Wellington.

#### *Maximum probable event*

Prolonged drought in the Wairarapa brought on by unusually dry spring that fails to recharge aquifers and exacerbated by strong El Niño conditions through the summer months that cause severe soil moisture deficits. Surface water in rivers dries up in lower catchment areas and wells fall to lowest range. Farmers forced to sell off stock and have to truck in drinking water. Agricultural crops such as grapes severely affected, leading to losses across the district. Drought persists into autumn and begins to affect winter feed crops and impacts on the next growing season. Wildfires break out in locations across the eastern hills and around Upper Hutt leading to further losses. As a result, financial effects are felt for two years and losses run to millions of dollars.

#### *Mid-range event*

Dry El Nino conditions lead to a drought in western areas. In Hutt Valley and Eastbourne, dry conditions lead to a number of wildfires that threaten houses. The prolonged conditions cause water shortages on the Kapiti Coast. The lower course of the Waikanae dries up and the area must rely solely on bore field water supply. This leads to major water restrictions and a slight reduction in water quality as wells start to draw down.

### Likelihood

On average there are 15 days per year when soil moisture deficits exceed 130mm in the Wairarapa, and 10 days in Kapiti, Wellington and the Hutt Valley. However, there is significant variation in these figures from year to year.

- The Wairarapa has the highest risk from drought due to its geographical location. In summer months the prevalence of northwest conditions leads to hot, dry föhn winds drying out the Central Valley and eastern hills. The central valley is at most risk because it also often misses out on rainfall from the east. Changing land use practices in the Wairarapa, such as conversion to dairy and vineyards is increasing water demand in this region.
- Water restrictions occur annually on the Kapiti Coast, especially in late summer, due to a combination of dry weather conditions, limited water supplies and high demand.
- Water shortage is only likely in the Wellington metropolitan area during a significant drought.

Evidence suggests we are entering a new phase of the Interdecadal Pacific Oscillation (IPO) which is likely to result in weaker westerly flows over the next 20 to 30 years with more La Niña events. Effects for the Wellington region include increased probability of low flows in Kapiti, Hutt and central Wellington catchments, and decreased probability of drought in the Wairarapa during summer.

## Consequences

### *Social*

- Serious health problems and deaths are possible when the water available drops below that required for human health and when temperatures exceed normal summer highs
- Elderly and young particularly at risk
- Alternate water supplies are needed
- Public health issues
- General stress caused by dry and hot conditions
- Activities that require fresh water are reduced e.g. recreation, gardening

### *Built*

- Water supply restricted, quality may be reduced
- Rail operations affected by extreme heat

### *Economic*

- Stress on horticulture through soil moisture deficits
- Stress on agriculture through soil moisture deficits and feed shortages
- Severe economic consequences for much of the region, particularly Wairarapa and rural areas

### *Natural*

- Land becomes vulnerable to wind and runoff erosion
- Productivity of farm land reduced
- Damage to freshwater ecosystems
- Higher risk of fire and consequences if occurs (both rural and urban)
- Increased likelihood of drought with climate change
- Pressure on fresh water ecology
- Soil moisture deficits and feed shortages
- Pressure on native and exotic plant species

## 2.2.8 Fire (Rural)

### Description

Wildfires are relatively common events around the Wellington region. A wildfire is an unplanned blaze that starts in an open space, such as a hillside, as opposed to a house fire. A wildfire hazard is created when it threatens lives, properties or areas with important natural or cultural significance. Wildfires can be started naturally (e.g lightning strike), but more commonly the ignition sources are human in origin. Human causes can be deliberate (arson), accidental (sparks from truck tyre blowout or train) or from careless actions (cigarettes butts, out of control camp fires).

The way a wildfire spreads, its speed and direction of travel, is dependent on a range of environmental factors:

- Fuel (wood, scrub, dry grass/undergrowth)
- Available oxygen
- Weather conditions (wind speed and direction, temperature, humidity)
- Slope angle (very important).

### *Maximum probable event*

Major fire in extreme drought conditions on rural urban interface, and threatening urban areas. Regional resources fully committed. Widespread evacuations and destruction of property and vegetation. National and international assistance required. Firefighters and residents killed and injured.

### *Mid-range event*

Three or more medium sized rural fires occur at the same time within the region. Personnel fully committed and support is required from outside the region. Rural properties threatened.

### **Likelihood**

Twenty percent of the Region's rural area is at 'high', 'very high' or 'extreme' risk from wildfire at some time during any year.

### **Consequences**

#### *Social*

- Deaths possible, in particular on urban/rural interface and rural communities. Comparable overseas events indicate death rates to be low (worst cases measured in the 10's of people, not 100's)
- Injuries including burns, smoke inhalation, breathing disorders likely
- Psychological trauma and fear of recurrent events
- Fire-fighters and aircraft operators particularly vulnerable to death or injury
- Intense media coverage
- Probable loss of vegetation and agricultural and domestic animals
- Victims may be emergency personnel
- Significant social disruption (smoke, noise, evacuations, road closures)
- Loss of dwelling or income
- Loss of confidence in emergency responders
- Social impacts of deliberately lit fires may include outrage, vengeance, fear, uncertainty

#### *Built*

- Possible disruption to electricity supplies
- Possible disruption to radio communications systems due to smoke effects
- Road disruption due to closures, smoke and/or emergency vehicles
- Significant requirement for water supplies from many sources. Drain on water resources
- Loss of above ground infrastructure

#### *Economic*

- Significant costs of emergency response
- Significant losses to forestry industry (impacts can affect the industry for at least 30 years)
- Airspace restricted causing disruption
- Loss of income in the rural sector
- Insurance implications

#### *Natural*

- Loss of native bush for recreation
- Possible loss of habitat for some species
- Increased erosion following destruction of vegetation
- Aesthetic impact for many years

## 2.2.9 Fire (Urban)

### Description

Urban fires have the same basic causes as rural fires but have a higher number of human and/or malicious causes. There are numerous human related causes for fires such as; electrical or mechanical faults, ignition of flammable material (petrol, diesel, oil), and industrial accidents to name a few. Urban fires have the potential to cause very costly damage and often result in injuries or death.

The spread of an urban fire is primarily determined by the type of fuels available to burn, which governs the type of fire (house, industrial, chemical), the effectiveness of any response mechanisms such as sprinkler and emergency response time. Most events occur with little or no warning.

#### *Maximum probable event*

A large conflagration starting in an industrial complex spreading into many buildings with high occupancy and through a whole suburban neighbourhood. Many deaths and homeless, many buildings destroyed. Industrial area destroyed.

#### *Mid-range event*

One large multi-storey building fire. Firefighting resources of the region are fully committed. There are many casualties and fatalities. Some domestic dwellings affected. Welfare provision is necessary.

### Likelihood

Many smaller scale events occur each year. There is little information available about the frequency of larger scale events.

### Consequences

#### *Social*

- Deaths, injuries
- Potential for death and injuries to fire-fighters
- Possible large number of entrapments
- Psychological trauma
- Burns and inhalation illnesses
- Housing damaged and unavailable
- Psychological distress and nuisance of employment downtime and lack of continued habitation
- Communications networks disrupted
- Recreational facilities damaged
- Enquiries needed
- Fear in the case of deliberately lit fires

#### *Built*

- Loss of buildings physically affected. Fire damage, collapse, destruction
- Neighbouring buildings and facilities contaminated
- Irreplaceable industrial processes stopped
- Supply of essential resources stopped e.g. fuel supply

*Economic*

- Complete business loss for those affected
- Employment downtime with ongoing disruption
- Significant costs of emergency response and preparedness (e.g. special suits for fire fighting when hazardous substances involved)
- Large insurance expenses

*Natural*

- Significant ground contamination and run off due to damaged materials and agents used in fire fighting
- Possible ground destabilisation on slopes

**2.2.10 Hazardous substances****Description**

Hazardous substances have one of the following properties:

- Explosivity
- Flammability (to either heat, air or water)
- Oxidative properties
- Corrosiveness
- Toxicity and or Eco-toxicity
- Generate hazardous substances on contact with air or water

Key substances commonly encountered include:

- Toxic gases: phosgene, hydrogen cyanide, hydrogen sulphide, chlorine, sulphur dioxide, ammonia, carbon monoxide
- Vapour cloud explosions most commonly caused by: methane, ether, propane
- Most frequently spilled substances: sulphuric acid, hydrochloric acid, ammonium nitrate, caustic soda (sodium hydroxide), chlorine, sodium/calcium hypochlorite (bleach), petrol/diesel/oil, CNG, natural gas
- Most hazardous when spilled: anhydrous ammonia, benzene/toluene/xylene (carcinogenic), nitric acid, phenol, methanol, chlorine, calcium/sodium hypochlorite

These substances are stored and transported around the Wellington region and have the potential to harm people and both the built environment and environment

*Maximum probable event*

A major spill of a chemical which is flammable and toxic in gas form. The spill becomes ignited and a fire ball destroys a large area of industrial estate and possibly residential property. The explosion also releases a large toxic gas cloud over surrounding residential areas. A number of fatalities from the initial explosion and potential for large numbers of casualties and possibly deaths from toxic cloud. An event such as this has the potential to be caused by an LPG explosion.



### *Mid-range event*

A large hazardous chemical is spilled due to major transportation accident. A localised fire ensues and significant environmental damage is caused by chemicals spilling into waterways. Clean up takes weeks and localised environmental impacts felt for years to decades. This may be a cocktail of substances stored separately when being transported but reacting together during the accident.

### **Likelihood**

There are regular small scale hazardous substances incidents each year.

The risk of fatality from chlorine gas incident is estimated at 3 in a million.

### **Consequences**

#### *Social*

- Deaths
- Injuries
- Burns cases
- Inhalation illnesses
- Paranoia, psychological distress associated with uncertainty about the hazard
- Anger towards industry and government
- Disruption of recreational opportunities
- Decontamination may be required
- Isolation of communities for a period of time

#### *Built*

- Disruption to localised transportation networks
- Localised damage in affected areas

#### *Economic*

- Major economic losses to industry who use the hazardous substance
- Business disruption in affected areas
- Physical property damage/destruction in affected areas
- Large costs of litigation possible

#### *Natural*

- Damage to environment, ecosystems, endangering plant and animal species

## 2.2.11 Transportation accident (land, marine, air)

### Description

There are many causes to transport accidents. Some more common are:

- human error.
- mechanical failure
- systemic/procedural failure
- natural hazard (e.g. earthquake, storm event, flooding, landslide).

Most accidents are events that occur rapidly and cause maximum effects immediately at the time of accident. Rarely do they have long warning periods. An exception to this might be a ferry accident.

#### *Maximum probable event*

A fully laden 737 crashes into a residential area of Wellington city during a northwest storm event or an InterIsland Ferry sailing at full passenger capacity capsizes in Cook Strait.

#### *Mid-range event*

A train derails at high speed on the Hutt Valley line during peak hour. Contact is made with numerous stationary objects and a fire is started. Results in a high number of fatalities and most other passengers requiring medical treatment. Over 150 people hospitalised.

### Likelihood

Each day there are a large number of passenger trips taken without incident. The occurrences of small scale events and near misses indicate that the possibility exists for a larger scale event to occur.

No information was found on the rate of major accident occurrences.

### Consequences

#### *Social*

- Deaths
- Injuries (including possibly crush and burns cases)
- Psychological distress for responders and primary victims
- Temporary and permanent family disruption
- Commuter and transportation systems disrupted

#### *Built*

- Damage to physical transportation mechanisms (e.g. roads/rail lines) or vehicles - e.g. ships or planes
- Possible damage to infrastructure in the vicinity of the accident

#### *Economic*

- Loss of confidence in the transportation sector
- Business disruption and possible shut down
- Large costs of response and investigation (esp. if recovery of vessel, craft necessary)

### *Natural*

- Possible ground or marine contamination from fuel or chemicals

### **2.2.12 Biological/Pandemic**

#### **Description**

A pandemic is an epidemic (an outbreak of an infectious disease) that spreads across a large region (for example a country), or even worldwide. A pandemic can start when three conditions have been met:

- The emergence of a disease new to the population or the re-emergence of an old, highly infectious and fatal disease
- The agent infects humans, causing serious illness
- The agent spreads easily and sustainably among humans.

There are a number of scenarios that would require a Public Health Authority response:

- New and emerging diseases affecting humans (SARS, new influenza strain or antibiotic resistant bacteria e.g. MRSA)
- Bioterrorism using biological agents such as anthrax and smallpox (other agents such as cyanide or chemical warfare would be led by another agency although public health would be involved)
- Major contamination of metropolitan water supply leading to communicable disease outbreaks such as cryptosporidium, salmonella, giardia, or E-coli contamination
- Mosquito-borne illnesses. NZ already has a mosquito species established that could carry Ross River Virus. Diseases such as Yellow Fever, Dengue Fever and Malaria could become endemic in New Zealand if other mosquito vector species are allowed to establish
- Large outbreak of a severe communicable disease, including meningitis, VTEC, measles, ebola
- Severe and prolonged heat wave or cold spell

The World Health Organization (WHO) has developed a global influenza preparedness plan, which defines the stages of a pandemic, outlines the role of WHO, and makes recommendations for national measures before and during a pandemic. The phases are:

#### *Interpandemic period:*

- Phase 1: No new influenza virus subtypes have been detected in humans
- Phase 2: No new influenza virus subtypes have been detected in humans, but an animal variant threatens human disease

#### *Pandemic alert period:*

- Phase 3: Human infection(s) with a new subtype but no human-to-human spread
- Phase 4: Small cluster(s) with limited localized human-to-human transmission
- Phase 5: Larger cluster(s) but human-to-human spread still localized

#### *Pandemic period:*

- Phase 6: Pandemic: increased and sustained transmission in general population

#### *Maximum probable event*

A major influenza pandemic (H5N1) occurs and over a period of 6 - 12 months. 10's of thousands

of people are infected and 1000's die. This overwhelms all hospital and health services, health practitioners themselves are affected and therefore unable to provide service. International assistance is needed; however this influenza strain is affecting many other countries. The economy slumps, leading to a small recession as local and international travel is limited and businesses are unable to operate.

#### *Mid-range event*

A large outbreak of a severe communicable disease for which treatment is available but which results in hospitalisations and a number of deaths. Especially vulnerable are children and elderly.

#### **Likelihood**

There were three influenza pandemics in the 20th century that overwhelmed health and social services either regionally or internationally. The influenza pandemic in 1919 - 20 caused 20 - 40 million deaths.

As a rough estimate a mid-range event could be expected every 20 - 30 years.

#### **Consequences**

##### *Social*

- Large number of deaths possible
- Particularly vulnerable are those with low immunity, the aged and the young
- Many people ill and requiring medical attention
- Health services for other conditions may be compromised
- Other public health priorities also compromised
- Loss of ability to work for large portion of the workforce
- Psychological impacts including fear and confusion, paranoia and other trauma
- Stigma of communicable illness placed on those affected
- Reduced quality of life, nuisance factors
- Loss of community cohesion as travel and contact limited
- Large demand for information
- Disproportionate impact on disadvantaged and vulnerable groups where there is crowding and lower baseline health status

##### *Built*

- Dependant on circumstance and may include water supply shortages, power outages, ports and airports shut down or reduced capacity
- Staff infrastructure and the performance of essential services e.g. hospitals, emergency services, council activities, public health etc. staff may be ill and so there is reduced capacity to deliver normal services

##### *Economic*

- Large costs of emergency response
- Losses from shutdown of businesses affected
- Secondary economic effects through reduction in international and local travel and trade, nervousness in stock market and business in general

##### *Natural*

- None to note

### 2.2.13 Agricultural hazards (animal diseases, biosecurity)

#### Description

The types of incursions for emergencies that would involve a whole of government response are those that will:

- severely affect production, trade, public health and/or biodiversity
- cannot be managed under Biosecurity Act Part VI powers and require emergency powers as provided in Part VII or other legislation
- where more resources are needed than existing service suppliers can provide
- where the Government requests a whole of government approach
- where public concern exceeds technical issues which MAF could manage with existing powers

Specific diseases that could occur include anthrax, avian and horse influenza strains that affect humans (bird flu), bovine spongiform encephalopathy (mad cow disease) or other encephalopathies such as scrapie in sheep or chronic wasting disease in deer, rabies and foot-and-mouth disease.

#### *Maximum probable event*

A major epidemic of foot-and-mouth disease dispersed across both islands prior to detection and imposition of movement control restrictions, such as occurred in the UK in 2001. Such an outbreak would require over 5,000 staff in four weeks with an estimated 300,000 animals requiring slaughter and disposal.

An outbreak of this scale would overwhelm veterinary and contracted response service suppliers. Recruitment from other sources and international assistance would be urgent and necessary. The economy would be seriously affected as all export of animals and animal products would have ceased. Animal welfare problems would exist on properties as they would be overstocked with animals for which there is no market and insufficient feed.

#### *Mid range event*

A number of cases of anthrax are detected on the banks of a river anywhere in New Zealand. While anthrax is endemic with sporadic incidence in many countries, the disease has not been diagnosed in New Zealand since 1954 and is now treated as exotic.

Anthrax affects animals and humans, and may be fatal, so is considered a serious public health risk. An incursion would require significant public communications assuring the safety of the New Zealand meat products. Trade would also be severely affected. Public health officials will be overwhelmed with the demand for information.

#### Likelihood

Foot and Mouth Disease has never occurred in New Zealand. The threat is still present and recent outbreaks have been experienced in Taiwan 1997 (free since 1929), South Africa 2000 (free since 1956 in domestic livestock), South Korea 2000 (free since 1934), Japan 2000 (free since 1908) and the UK (free since 1967).

Midrange event such as anthrax, formerly present in New Zealand and abundant in other countries or avian influenza with a strain that affects humans have greater probability. Bird Flu is present in a number of places around the world. Human to human transmission of avian influenzas is thought to be extremely limited.

## Consequences

### *Social*

- Public concern and panic are greater than actual human illness or death from zoonotics as a relatively small proportion of the population interact routinely with livestock and poultry
- Food safety issues will come to the forefront with diseases such as anthrax, bovine spongiform encephalopathy or other transmissible encephalopathies of animals due to the linkage with new variant Creutzfeldt Jakob (CJD) disease, a degenerative fatal human encephalopathy
- Other public health priorities also compromised

### For Foot-and-Mouth Disease

- 15 - 20,000 increase in unemployed
- Reduced household wealth due to drop in exchange rate and investment
- Loss of ability to work for large portion of the workforce
- Psychological impacts including fear and confusion, paranoia and other trauma
- Stigma of biosecurity breakdown placed on those affected
- Loss of rural community fabric due to devastation of rural economy

### *Economic*

#### For Foot-and-Mouth Disease:

- A loss of GDP \$6 billion in first year; \$10 billion after 2 years
- 8% drop in export of goods and services in first year
- Loss would continue because output lowered and exacerbated by slumps in domestic demand and negative reaction of trading partners
- 20% drop in exchange rate, recovering over ~ 2 1/2 years
- Reduced overseas and local investment (short term by 20%, longer term 6%)
- Reduced tax revenue \$3.5 billion over 4 years
- Doubling of net debt (2009/10 projected 12.1%, rises to 25.6%)
- Cost of emergency response to the outbreak = \$200 million includes controlling outbreak & compensating for animals slaughtered
- Tourism drop could be significant (In UK 2001 tourism was impacted 10 times that of primary production sector)

### *Built*

- Challenges on infrastructure are dependant on circumstance
- Demands on water supply due to the need for cleaning and disinfection for conveyances and for premises decontamination
- Heavy equipment demands
- Demand on municipal landfill for disposal of potentially infected material
- Biosecure transport of carcasses over public roads to mass burial sites

### *Natural*

- Dairy impacts in Waikato, Taranaki, Southland
- Sheep and beef impacts in South Island - Otago, Southland
- Poultry and pig impacts around Auckland and Christchurch
- Environmental degradation due to carcass disposal

## 2.2.14 Disruption of infrastructure systems

### Description

Could be a failure of any lifeline utility service that affects a significant part of the Wellington region. This includes:

- Water supply
- Wastewater systems
- Electrical supply
- Gas supply
- Telecommunications (including radio) system
- Transportation centres or routes (port, airport, highways, rail systems)
- Fuel supply
- Information technology and financial systems

Failure may be due to internal systemic failure and may be accidental or deliberate. Failures of particular consequence are those of a single asset with minimal redundancy that directly impacts on other utilities (possibly leading to cascading failure).

#### *Maximum probable event*

Major rupture of gas lines close to boundary into Wellington region. Lack of reserves leads to failure of supply. Widespread effects across region for private residential users and business's. Economic losses for business's relying on gas supply. Problem takes 2 - 3 weeks to return to normal.

#### *Mid-range event*

Telecommunications failure of a significant duration that affects the ability to dial '111'.

### Likelihood

There is no information available to determine how often these failures can be expected to occur. Small service interruptions are experienced regularly in many of the systems, and most systems have backups or redundancy built into them.

### Consequences

#### *Social*

- Illness and disease with breakdown in water, waste or heating systems
- Fatalities possible due to inhalation of gas, or fires and explosions caused by failure of gas or fuel systems
- Sanitation and biological effects
- Evacuations and inconvenience of loss of gas for cooking/water heating in gas system failure
- Evacuation of large areas if gas spreads through underground corridors
- Possible loss of communication to emergency service providers
- Loss of confidence in infrastructure
- Social disorder due to loss of petroleum run transport systems panic buying and congestion at fuel service sites

#### *Economic*

- Business and industry disruption – the utilities themselves and those that rely on the utilities

- Cost of containment in case of failure of sewerage or gas systems
- Tourism industry major losses through loss of appeal as tourist destination
- Loss of employment for businesses forced to shut/close
- Loss of income for industries dependent on transportation facilities (e.g. ports, airports) including export and import industries
- Long term economic effects
- Large costs of repair of infrastructure that failed
- Forced vacation of business premises

#### *Built*

- Overloading of parts of systems that remain operational (e.g. sewerage overflow, remaining telecommunications sites)
- Physical damage to infrastructure possible
- Long term lack of supply during recovery
- Lack of supplies and personnel (or access of these things to the region) for efficient repair
- One system failure may trigger cascading failure of other systems
- Fires and explosions possible if failure of fuel or gas systems

#### *Natural*

- Coastal or marine pollution with waste water or fuel system failures

### **2.2.15 Terrorism**

#### **Description**

Terrorist actions include actual or threatened:

- explosive devices
- harmful chemical release
- harmful biological release
- radiological event (incl nuclear)
- hostage or siege situation
- product contamination
- suicide bombers

The methods used during terrorist activities change and evolve over time.

Targets of terrorism:

- An individual target, or multiple significant targets (normally targets are specific rather than general)
- Ports and airports
- Infrastructure including hospitals, fuel supplies, lifelines, Council offices, command and control centres
- Transportation facilities e.g. train stations
- Political or diplomatic
- Any target that would cause economic disruption including imports/exports, tourism etc
- Media grabbing situations e.g. NZ or overseas icons, planes
- Maximum casualty sites e.g. cinemas, stadiums

Most acts of terrorism are designed for maximum effect especially through economic disruption.



This may be achieved by killing people or destroying the infrastructure needed for normal economic activities.

#### *Maximum probable event*

A dirty bomb with chemical or biological agents is set off in Wellington City. Fifty or more people are killed and thousands injured.

#### *Mid-range event*

A terrorist act is carried out against Wellington waterfront in the vicinity of the central train station and the Port. Tens of people are killed and many injured. Access around the crime scene is restricted. Wellington train systems are stopped for a period of weeks and Port operations for a month.

### **Likelihood**

There is no information available to determine how often these events can be expected to occur in New Zealand. However, Wellington is likely to be at higher risk due to the large presence of the Government and business sectors, and in particular International Embassies.

### **Consequences**

#### *Social*

- Deaths
- Injuries and long term rehabilitation
- Fear and psychological distress
- Displacement of residents and businesses in affected areas
- Loss of institutional knowledge
- Isolation of affected area for crime scene investigation
- Psychological distress

#### *Built*

- Transportation disruption
- Possible loss of emergency control facilities if targeted
- Infrastructure may be specific target

#### *Economic*

- Huge disruption to normal economic functioning (may be the specific motivation of the event to cause maximum economic losses)

#### *Natural*

- None noted

## 2.3 Risk Evaluation

A risk analysis was carried out in order to determine the level of risk the communities within the Wellington Region face from each of the hazards identified in the section above. It is important to note the rankings are based on the risk to the region as a whole; therefore these rankings are likely to differ for each individual territorial authority<sup>2</sup>.

Traditionally risk assessments have been determined using a variation of a hazard/risk equation:

**Hazard (agent) x Vulnerability = RISK**

Risk assessment tools have progressed in the past decade, and Seriousness, Management, Urgency and Growth (SMUG) Analysis was used to determine the hazards that pose the most significant threat to the Wellington region based on the scenarios identified below. The list shows these results in order of highest to lowest risk.

The risk posed by each hazard was evaluated using the following matrix. Further details of the rankings allocated to each hazard scenario and the criteria for each of the SMUG ratings can be found in *Updated Hazard and Risk Analysis for the CDEM Group Plan* available from the CDEM Group Office (File z/03/02/05).

	Consequence of the risk occurring				
	1	2	3	4	5
Likelihood (the risk will occur in next 10 years)	Insignificant	Minor	Moderate	Major	Catastrophic
A: Almost certain (more than 1:10 probability)	H	H	E	E	E
B: Likely (probability between 10 - 90 year occurrence)	M	H	H	E	E
C: Possible (probability between 100 – 500 year occurrence)	L	M	H	E	E
D: Unlikely (probability between 500 – 2000 year occurrence)	L	L	M	H	E
E: Rare (>2000 year event probability)	L	L	M	H	H

Key: E (Extreme), H (High), M (Medium), L (Low).

<sup>2</sup> Localised information on hazards and risks should be available from each of the territorial authorities.

Hazard (and brief outline of scenario used)	Likelihood	Consequence	Risk Rating
Earthquake – Wellington Fault event	D	5	E
Pandemic/Emerging disease - SARS, influenza etc	C	4	E
Tsunami – locally generated	C	4	E
Rural Fire - urban/rural interface	B	4	E
Transport accident – air crash over populated area	C	4	E
Storm – rain/wind/hail/lightning	B	3	H
Flooding – Hutt River 440 year event	D	4	H
Storm surge & coastal erosion – affecting multiple parts of the coastline.	B	3	H
Drought - water deficit and extreme heat effects	C	3	H
Public Health - mosquito/water borne illness, food safety issue	B	3	H
Haz Sub - LPG incident - explosion and gas cloud	C	3	H
Agricultural	C	3	H
Tsunami - distant source	C	3	H
Infrastructure failure of IT - affecting lifelines and essential services	C	3	H
Terrorism – bomb in urban area	D	4	H
Urban Fire – industrial to urban area	C	3	H
Infrastructure failure of water – affected by biological agent	C	3	H
Infrastructure failure – electricity affecting lifelines and essential services	C	3	H
Infrastructure failure – telecommunications affecting lifelines or essential services	B	2	H
Transport accident - marine – passenger	C	3	H
Transport accident – rail during peak commuter period	C	3	H

Hazard (and brief outline of scenario used)	Likelihood	Consequence	Risk Rating
Infrastructure failure – Loss of gas supply close to Region	C	2 to 3	M/H
Landslide - multiple incidents, isolates area, affects occupied area	D	3	M
Volcanic - ash from Taranaki eruption	E	2	L

# Reduction

Principles for risk reduction within the Group

Current local risk reduction practices

Strategic issues arising from current risk reduction practices

Objectives

Delivery of desired outcomes

## 3 Reduction

### 3.1 Principles for risk reduction within the Group

Reduction principles provide clarity and guidance on reduction activities, and assist in the understanding of reduction objectives. The CDEM Group risk reduction principles are as follows:

- Risks that have the potential to cause a **significant number of deaths or injuries** to people are unacceptable - **human life and safety will therefore take precedence** over all other priorities.
- Risks that have the potential to cause severe **economic losses, substantial damage** to buildings, infrastructure or lifelines utilities will have high priority.
- Risks that are **readily manageable** and are of **most concern to local communities** will be managed as a priority.
- Risks that can be **readily addressed by improving co-ordination and co-operation** between emergency management agencies will be given priority.
- Risks that have the **greatest potential consequences** will receive priority.
- Risks with a **high likelihood and high consequence** will be given priority.
- Risk reduction activities will be **implemented through a combination** of Long Term Council Community Plans, Regional & District Plans and plans of key partner agencies.

### 3.2 Current local risk reduction practices

Risk reduction is undertaken under the numerous statutory and non-statutory instruments some of which include:

- The Resource Management Act 1991 and its hierarchy of documents including the Regional Policy Statement (RPS) and City and District Plans.
- The Local Government Act 2002 in its instruments including Long Term Council Community Plans.
- The Building Act 2004[LH1] and the associated Territorial Authority Building Policies.
- The CDEM Act 2002 and its hierarchy of instruments, with this Group Plan as an important component.
- Other non-statutory instruments generated by the above statutory documents (eg. Guidelines, Structure plan, Asset Management Plans)
- Wellington Engineering Lifelines Group and Wairarapa Engineering Lifeline Association Business Plans and projects
- Business Continuity management plans of organisations operating in Wellington

The Wellington RPS has recently been reviewed (currently a proposed plan). Table 6 identifies policies that have been introduced to encourage risk reduction practices.

**Table 6: Regional Policy Statement objectives and titles of policies and methods to achieve the objectives.**

Objectives	Policy titles	Method titles	Implementation (*lead authority)
<p><b>Objective 18</b></p> <p>The risks and consequences to people, communities, their businesses, property and infrastructure from natural hazards and climate change effects are reduced.</p>	<p>Policy 28: Avoiding subdivision and inappropriate development in areas at high risk from natural hazards – district and regional plans</p>	<p>Method 1: District plan implementation</p> <p>Method 14: Information about natural hazard and climate change effects</p> <p>Method 22: Information about areas at high risk from natural hazards</p> <p><b>Also see</b> - Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policies 14 &amp; 16; Natural hazards (Table 8b) policy 62; Regional form, design and function (Table 9) policies 29, 30 &amp; 31 <b>and consider</b> - Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policies 50 &amp; 51; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	<p>City and district councils</p> <p>Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group</p> <p>Wellington Regional Council* and city and district councils</p>
	<p>Policy 50: Minimising the risks and consequences of natural hazards - consideration</p>	<p>Method 4: Resource consents, notices of requirement and when changing, varying or reviewing plans</p> <p>Method 14: Information about natural hazard and climate change effects</p> <p>Method 22: Information about areas at high risk from natural hazards</p> <p><b>Also consider</b> - Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policy 51; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	<p>Wellington Regional Council and city and district councils</p> <p>Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group</p> <p>Wellington Regional Council* and city and district councils</p>



<p><b>Objective 19</b></p> <p>Hazard mitigation measures, structural works and other activities do not increase the risk and consequences of natural hazard events.</p>	<p>Policy 51: Minimising adverse effects of hazard mitigation measures - consideration</p>	<p>Method 4: Resource consents, notices of requirement and when changing, varying or reviewing plans</p> <p>Method 14: Information about natural hazard and climate change effects</p> <p>Method 23: Information about natural features to protect property from natural hazards</p> <p><b>Also consider</b> - Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>	<p>Wellington Regional Council and city and district councils</p> <p>Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group</p> <p>Wellington Regional Council* and city and district councils</p>
<p><b>Objective 20</b></p> <p>Communities are more resilient to natural hazards, including the impacts of climate change, and people are better prepared for the consequences of natural hazard events.</p>	<p>Policy 28: Avoiding subdivision and inappropriate development in areas at high risk from natural hazards – district and regional plans</p>	<p>Method 1: District plan implementation</p> <p>Method 14: Information about natural hazard and climate change effects</p> <p>Method 22: Information about areas at high risk from natural hazards</p>	<p>City and district councils</p> <p>Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group</p> <p>Wellington Regional Council* and city and district councils</p>



<p><b>Objective 20</b></p> <p>Communities are more resilient to natural hazards, including the impacts of climate change, and people are better prepared for the consequences of natural hazard events.</p>	<p>Policy 28: Avoiding subdivision and inappropriate development in areas at high risk from natural hazards – district and regional plans</p>	<p><b>Also see</b> - Coastal environment (Table 2) policy 3; Energy, infrastructure and waste (Table 3) policies 6 &amp; 7; Fresh water (Table 4) policies 14 &amp; 16; Natural hazards (Table 8b) policy 62; Regional form, design and function (Table 9) policies 29, 30 &amp; 31 <b>and consider</b> - Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policies 50 &amp; 51; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p>
	<p>Policy 50: Minimising the risks and consequences of natural hazards - consideration</p>	<p>Method 4: Resource consents, notices of requirement and when changing, varying or reviewing plans</p> <p>Wellington Regional Council and city and district councils</p>
	<p>Policy 51: Minimising adverse effects of hazard mitigation measures - consideration</p>	<p>Method 14: Information about natural hazard and climate change effects</p> <p>Wellington Regional Council*, city and district councils and Civil Defence Emergency Management Group</p>
<p>Section 62(1)(i)(i) “Content of regional policy statements”.</p>	<p>Policy 62: Allocation of responsibilities for land use controls for natural hazards</p>	<p>Method 23: Information about natural features to protect property from natural hazards</p> <p><b>Also consider</b> - Coastal environment (Table 2) policies 34, 35 &amp; 36; Energy, infrastructure and waste (Table 3) policy 38; Fresh water (Table 4) policy 42; Natural hazards (Table 8a) policy 50; Regional form, design and function (Table 9) policies 53, 54 &amp; 55; Resource management with tangata whenua (Table 10) policies 47 &amp; 48</p> <p>Method 5: Allocation of responsibilities</p> <p>Wellington Regional Council and city and district councils</p> <p><b>See</b> - natural hazards (Table 8a) policies 28, 50 &amp; 51</p>

### 3.3 Strategic issues arising from current risk reduction practices

1. **Information about hazards is incomplete.** More research is required into some hazards (particularly man-made hazards) and information needs updating for others. Although there has been more work done in this area, there is still insufficient information about the consequences of hazards.
2. **There is a lack of co-ordination when communicating hazard information.** Access to information is difficult because there are numerous providers and a wide range of audiences.
3. **There is undue reliance on emergency agencies and local authorities.** There are still large sections of the community who do not fully understand the risks they face and are reluctant to take action to reduce these risks.
4. **There is a need for hazards, especially new hazards, to be analysed at the local level.** Local emergency events are most common and the consequences of these events need to be identified and communicated to all partners.
5. **Opportunities to increase the resilience of infrastructure networks are not always being taken at the time of planning and implementing capital works programmes.** All upgrades or new infrastructure should consider robustness in the long-term to improve the regions resilience.
6. **There are a large number of suspect high rise buildings in the Wellington region. The Building Act (2004)** requires local authorities to strengthen buildings to appropriate seismic standards .

### 3.4 Objectives

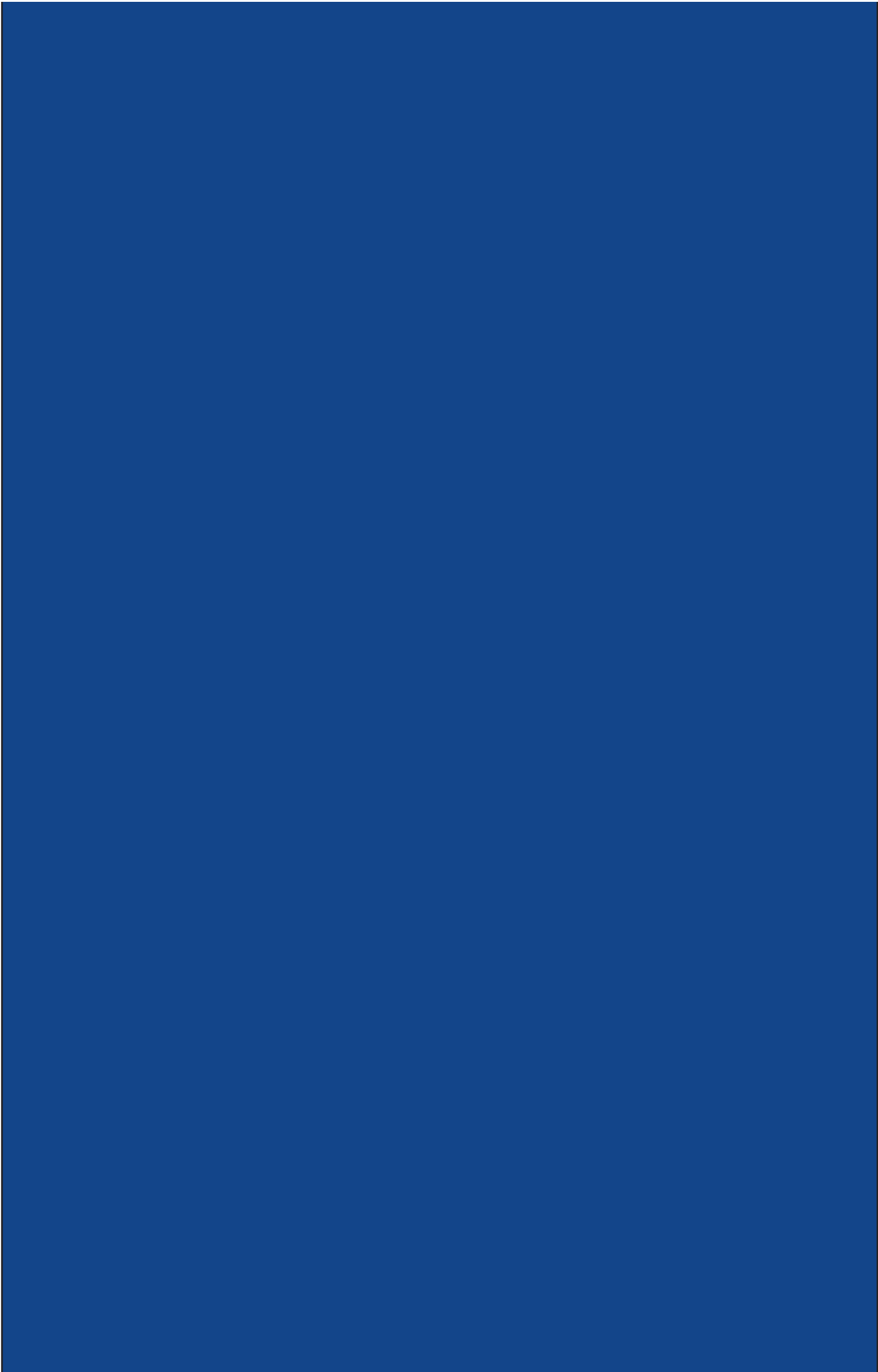
The CDEM Group has identified the following risk reduction objectives:

- 1 Information about all hazards is available, current, accessible, and communicated to all audiences in a way that enables informed decision making
- 2 Develop a comprehensive understanding of the Wellington Regions hazardscape
- 3 Encourage all CDEM stakeholders to reduce the risks from hazards to acceptable levels both in short and long term planning
- 4 Promote the inclusion of risk reduction in local government policy relevant to CDEM
- 5 Promote and co-ordinate ongoing research into the Wellington region's hazards and risks

### 3.5 Delivery of desired outcomes

The following table identifies the Wellington Region CDEM Group's specific reduction objectives, and the methods, tools and actions required to ensure these objectives are met. The table below also identifies how the Wellington Region CDEM Group's reduction objectives link into and support the strategic direction outlined by MCDEM.

Reduction Issue	Reduction Objective	Methodology, Tools and actions
<p>Information about hazards is incomplete</p> <p>There is a lack of co-ordination when communicating hazard information, leading to inconsistency and duplication.</p> <p>There is undue reliance on emergency agencies and local authorities by local communities.</p>	<p><b>Information about all hazards is available, current, accessible, and communicated to all audiences in a way that enables informed decision making.</b></p> <p><b>Develop a comprehensive understanding of the Wellington Regions hazardscape.</b></p> <p><b>Promote and co-ordinate ongoing research into the Wellington region's hazards and risks.</b></p>	<p>A review of hazard information will be carried out every 5 years or in conjunction with the review of the CDEM Group Plan.</p> <p>Upgrade of the Wellington Region CDEM website to include a secure portal where hazard information can be shared amongst CDEM stakeholders.</p> <p>A CDEM Public Education Programme for 2011-2015 will be implemented to identify ways of communicating hazard information to a wide range of audiences. Research will be undertaken every 3 years to evaluate the effectiveness of public education initiatives.</p> <p>Collaboration with local authorities and scientific groups in the risk identification and reduction areas to identify current gaps and opportunities for future research.</p>
<p>There is a need for hazards, especially new hazards, to be analysed at the local level.</p>	<p><b>Develop a comprehensive understanding of the Wellington Regions hazardscape.</b></p>	<p>Local Authorities to conduct workshops to engage communities to determine local consequences, and how these may be managed collectively to reduce the risk to the community.</p>
<p>Opportunities to increase the resilience of infrastructure networks are not always being taken at the time of planning and implementing capital works programmes</p> <p>There are a large number of suspect high rise buildings in the Wellington region.</p>	<p><b>Encourage all CDEM stakeholders to reduce the risks from hazards to acceptable levels both in short and long term planning.</b></p> <p><b>Promote the inclusion of risk reduction in local government policy relevant to CDEM</b></p>	<p>All local authorities to continue to foster strong working relationships with stakeholders, and to continue to encourage organisations to consider appropriate risk reduction measures at the time of planning.</p> <p>All local authority CDEM staff ensure they are engaged in relevant local government planning groups, to promote the inclusion of risk reduction practices.</p>



# Readiness

Principles for readiness within the Group  
Current level of readiness  
Organisational framework in readiness  
CDEM Group EMO role  
Local EMO role  
Emergency operations centres  
Strategic issues arising from current readiness practices  
Objectives  
Delivery of desired outcomes  
Readiness organisation  
Readiness activities

## 4 Readiness

This section of the Group Plan outlines the emergency readiness-related activities of the Wellington Region CDEM Group and its partners.

Readiness involves planning and developing operational arrangements (capacity and capability) that will be required to ensure an effective response to any emergency. Readiness comprises two distinct but related aspects:

**Organisational readiness** - Focuses on the *Readiness* of emergency response organisations, emergency services, local authorities, health service providers, NGOs, etc., but has become increasingly inclusive of private businesses that have roles in Reduction, Readiness, Response and Recovery.

**Community readiness** – Focuses on the ability of communities, families and individuals to be able to meet their own needs during and after emergencies.

### 4.1 Principles for readiness within the Group

The following principles should be used to guide the operational activities of the Wellington Region CDEM Group:

- CDEM activities are carried out to prevent, reduce or overcome hazards that may affect the safety of the public or property.
- Local level emergency management activities are fundamental to effective emergency management. Group and national management structures **support and coordinate** local activities.
- The CDEM Group office will be ready at all times to **support and coordinate** local emergency management activities.
- CDEM Group operational structures and processes will incorporate all emergency management agencies.
- All local authorities EOCs will be ready to respond to an event and meet the required EOC standards<sup>1</sup> (e.g. planning, training and exercising).

### 4.2 Current level of readiness

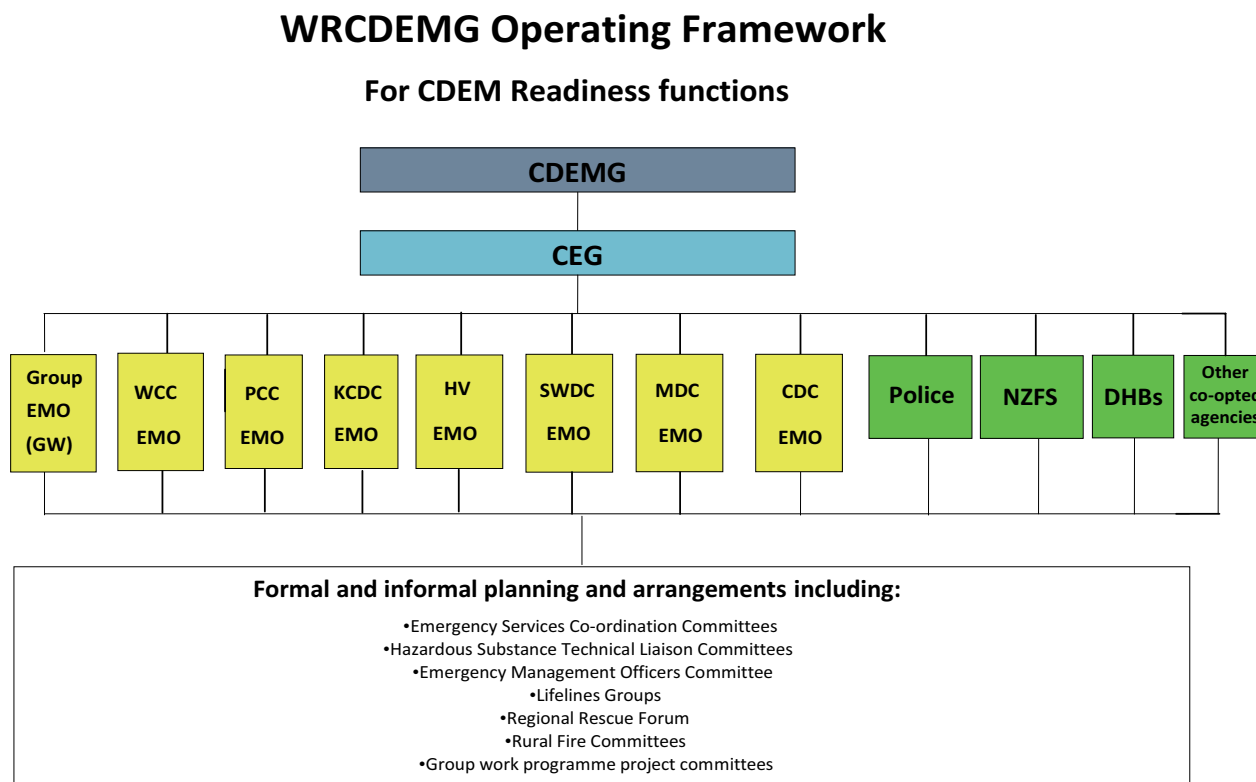
#### 4.2.1 Organisational framework in readiness

Each local authority has an Emergency Management Office (EMO) for the day to day (readiness) activities of emergency management. The Wellington Region CDEM Group EMO is operated by Greater Wellington Regional Council.

Figure 3 shows the Wellington Region CDEM Group's framework for readiness activities.

<sup>1</sup> The EOC standards are identified in section 4.2.4 of this plan. All local authority EOCs are subject to an EOC (including alternate EOCs) audit every 3 years.

Figure 3: Wellington Region CDEM Group's framework for readiness activities.



#### 4.2.2 CDEM Group EMO role

The Group EMO:

- Monitors, evaluates and reviews the CDEM Group Plan.
- Carries out its responsibilities specified in the CDEM Group Plan.
- Co-ordinates the involvement of GWRC in CDEM Group activities.
- Co-ordinates the provision of professional advice to the CDEM Group.
- Directs and participates in CDEM Group work programme activities
- Provides a Group response and recovery capability, including EOC and lifelines information co-ordination facilities, systems, tools, and trained personnel

#### 4.2.3 Local EMO role

The local EMO:

- Carries out the responsibilities of its constituent territorial authorities as specified in the CDEM Group Plan
- Establishes liaison links with local emergency agencies, other agencies, volunteers and the community
- Develops local emergency management plans and SOPs as required
- Provides a local response and recovery capability, including EOC facilities, trained personnel,

and community facilities

- Participates in CDEM Group work programme activities
- Co-ordinates the involvement of the territorial authority(ies) in local or CDEM Group activities

#### 4.2.4 Emergency operations centres

Each Emergency Management Office operates an Emergency Operations Centre. These centres are maintained in a state of readiness at all times and become operational in the event of an emergency.

The EOCs in the Wellington Region are at the following locations:

Facility	Location
Group ECC	Level 4, 142 Wakefield Street, Wellington
<b>Local EOCs:</b>	
Wellington EOC	2 Turnbull Street, Wellington
Porirua EOC	7 Serlby Place, Porirua
Kapiti Coast EOC	Fytfield Place, Paraparaumu
Hutt Valley EOC	25 Laings Road, Lower Hutt
Masterton EOC	64 Chapel Street, Masterton
Carterton EOC	Holloway Street, Carterton
South Wairarapa EOC	86 Regent Street, Martinborough

Each EOC has a designated alternate location:

Alternate Facility	Location
Group EOC	34 Chapel Street, Masterton
<b>Local EOCs:</b>	
Wellington EOC	86 Oxford Street, Tawa
Porirua EOC	St Johns Building, Trust Park, Porirua
Kapiti Coast EOC	Paraparaumu Memorial Hall, Tutanekei Street, Paraparaumu
Hutt Valley EOC	Council Administration Building, 838 – 842 Fergusson Drive, Upper Hutt
Masterton EOC	Wairarapa Hospital, Blair Street, Masterton
Carterton EOC	80 Holloway St Carterton
South Wairarapa EOC	Anzac Hall corner Beel and Lyon Streets Featherston

Local EMOs also maintain community emergency facilities, for example, welfare centres or civil defence centres.



## Required standards for Emergency Operations Centres

The EOCs in Wellington Region CDEM Group are required to meet the following minimum standards:

Key performance area:	Objectives:
<b>Physical characteristics of the EOC are appropriate and suitable to cater for the particular demands it will or may have to meet.</b>	EOC location is appropriate
	EOC design is appropriate
	EOC layout is appropriate
	EOC equipment is appropriate
<b>Organisational arrangements of the EOC are suitable.</b>	Functions reflect CIMS concepts
	Support agencies are accommodated
	The EOC will link appropriately and efficiently with political stakeholders and lower/higher level EOC's
<b>EOC staffing arrangements are sufficient.</b>	All EOC functions will be staffed adequately
	Promote continuing EOC staff development
	Promote Controller engagement
	Promote Recovery manager engagement
	Key positional appointments identified (Welfare, PIM, Planning, Logistics)
	Staff Welfare, Health & Safety recognised
	Shifts are managed efficiently
<b>Effective Information management</b>	Effective Information Collection
	Effective Information Administration
	Effective Information Interpretation
	Public information management
	Effective Information Communication
<b>Reference Material</b>	Comprehensive Standard Operating Procedures (SOP's) are available
	Standardised templates/formats are in place for: Sitreps, Action plans, Media releases, briefings (e.g shift handover, political stakeholders, media) and meeting agendas
	Declaration Templates
	Legislative reference documents are available
	Other reference material available:
	Specific contingency plans, adequate maps (hard copy and/or electronic)

Table 7 specifies readiness functions, along with the role of both lead and support agencies.

The functions are grouped under the following headings:

- Warning systems
- Facilities and equipment
- Education
- Training and exercises

**Table 7: Functions and roles of emergency management agencies.**

Function		Functional Lead agency	Role	Support agencies	Role	Supporting Documents
<b>Warning systems</b>						
Warning systems (meteorological events)	Metservice	Develop and disseminate warnings of meteorological events, including heavy rain, strong wind, coastal swells, heavy snow. Provide forecasting services, as required.	Group EMO TAs NIWA	Ensure that warnings are received by territorial authorities Disseminate warnings via local networks, as appropriate Provide technical advice and forecasting services, as required	CDEM Group Warning Receipt and Dissemination SOP	
Warning systems (distant tsunami)	MCDEM	Receive and disseminate tsunami warnings to CDEM Groups	Group EMO TAs GNS, NIWA	Ensure that tsunami warnings are received by territorial authorities Disseminate tsunami warnings and response advice to the public. Provide technical advice as required	CDEM Group Warning Receipt and Dissemination SOP MCDEM Tsunami Advisory and Warning National Plan	
Warning systems (river flooding)	GWRC	Develop flood warnings for major river systems and disseminate these to TAs, emergency responders and pre-arranged land owners. Interpret meteorological information to identify potential for flooding	TAs Metservice, NIWA	Disseminate flood warnings to public. Take action to respond to flood warnings as necessary Develop and disseminate flood warnings for small watercourses and storm water flooding Contribute technical information and advice for flood warnings	GWRC Flood Procedures Manual CDEM Group Warning Receipt and Dissemination SOP	

Function		Functional Lead agency		Role		Support agencies		Role		Supporting Documents	
Warning systems (volcanic)	GNS	Develop and disseminate alert levels and warnings for volcanic activity	TAs	Disseminate warning to the public if necessary							
Warning Systems (terrorism)	NZ Police	Determine terrorism threat levels. Notify National and Group CDEM agencies of threats that may have a community impact. Disseminate terrorism threat warning to the public, if appropriate.	Department of Prime Minister and Cabinet/ MCDEM	Disseminate terrorism threat information to CDEM Groups, as appropriate	Group EMO, TAs						National Terrorist Plan <b>CDEM Group Warning Receipt and Dissemination SOP</b>
				Disseminate terrorism threat information to local response agencies, as appropriate							
<b>Facilities and equipment</b>											
Operational facilities maintenance	Group EMO for Group EOC TAs for Local EOCs	Maintain EOC facility (and alternate) in a state of readiness. Train EOC management personnel									
Community operational facilities (e.g. Civil Defence Centres) maintenance	TAs	Identify and maintain appropriate facilities in the community to enable effective response and recovery activities.	Volunteer groups (may include church groups, school BOTS, others)	Contribute to the establishment and maintenance of community facilities as agreed with TA.							
Communications systems provision	Group EMO	Provide and maintain a communications system between the Group EOC, local EOCs and identified regional response agencies	TA	Provide and maintain communications between local emergency agencies.	Contractors, Telecommunications providers, AREC						<b>CDEM Group Communications SOP</b>
			NZFS	Deploy mobile communications units or repeaters when appropriate.							
				Provide agreed communications services							



Function	Functional Lead agency	Role	Support agencies	Role	Supporting Documents
<b>Education</b>					
Community Education	TA	Deliver community education as per the CDEM Group Education Strategy Co-ordinate education activities with other emergency agencies	Group EMO	Facilitate the development of the CDEM Group Education Strategy. Co-ordinate development of joint education materials and campaigns as agreed in the CDEM Group Education Strategy	CDEM Public Education Group Strategy
<b>Training and exercises</b>					
Community response training	TAs	Train the community and volunteers as necessary to ensure provision of CDEM (may include Response and Preparedness in Disaster (RAPID) programme, Community Emergency Response Team(CERT))	Emergency Services, Group EMO	Support community CDEM training, as required	CDEM Group Training & Exercise Schedule
Group response training and exercises	Group EMO	Implement the CDEM Group Training and Exercise Schedule	TAs, Emergency Services	Contribute to and participate in Group training activities	CDEM Group Training & Exercise Schedule

### 4.3 Strategic issues arising from current readiness practices

1. **Emergency management personnel in the Region have varied qualifications and experience.** In particular, Controllers tend not have day to day CDEM responsibilities.
2. **The community is generally apathetic about being prepared for an emergency.**
3. **There a small proportion of businesses in the CDEM Group area that have business continuity plans and would be able to provide services following an event.** Many businesses that are critical to the CDEM Groups response are not prepared for an emergency.
4. Although there is no longer a statutory requirement for local authorities to prepare individual CDEM plans, **it is important that local planning is in place and is not inconsistent with the CDEM Group Plan and all supporting plans.**
5. Some emergency management partners feel there is a need to **clarify roles and responsibilities in an emergency.** This also includes working with partners to ensure they are able to carry out the roles and functions identified.
6. **Local level inter-agency planning is inconsistent across the Region** and, in some cases, important agencies are not included.
7. **Territorial authorities need to develop operational plans such as Disposal of Sewage, Tsunami Evacuation and Debris Disposal.** These plans will be developed and will not be inconsistent with the plans and guidelines developed by the CDEM Group.
8. **There is often a disconnect between the CDEM Group and Media organisations.** The relationship between the media and the CDEM Group needs to be strengthened and the ways in which the media and the CDEM Group can work together in an event to be clarified.
9. **Communications between the lifeline utilities within the CDEM Group is vulnerable.** There is no way of contacting lifeline utilities outside of business as usual tools (landline, cell phone, email and fax).
10. **CDEM EOCs in the region are at different stages of readiness.** It is essential that the CDEM Group EOC/ECC audit results are recognised to ensure EOCs in the Wellington region have acceptable minimum operating levels.

#### 4.4 Objectives

The CDEM Group has identified the following Readiness objectives:

- 1 Ensure all emergency management staff and personnel are suitably qualified and experienced for the positions they hold.
- 2 Provide effective and consistent messages to the community to increase awareness of their roles and responsibilities in CDEM.
- 3 Ensure critical businesses within the Wellington Region are aware of their roles following an event and have plans in place to carry out those roles.
- 4 Strengthen the coordination and cooperation amongst all relevant CDEM agencies in planning for an emergency.
- 5 Ensure all local planning is consistent with the CDEM Group Plan and all other supporting plans.
- 6 Clarify the roles and responsibilities of all CDEM agencies in an emergency.
- 7 Establish and maintain relationships with Media organisations to ensure public information messages will be effectively broadcasted to public in an emergency.
- 8 Establish and maintain effective and robust inter-agency communications.
- 9 Ensure all CDEM EOCs/ECC meet minimum operational requirements.

## 4.5 Delivery of desired outcomes

Readiness Objective		Method ,Tools and Actions
Emergency management personnel in the Region have varied qualifications and experience.	<b>Ensure all emergency management staff and personnel are suitably qualified and experienced for the positions they hold.</b>	Professional development programmes will continue to be developed for: <ul style="list-style-type: none"> <li>• local authority CDEM staff; and</li> <li>• CDEM Group appointees (Group Controller, Local Controller(s), Recovery Manager).</li> </ul> A Controller and Recovery Manager training working group will continue to meet at regular intervals to develop and monitor the effectiveness of such training. <p>Other working groups convened as required.</p>
The community is generally apathetic about being prepared for an emergency	<b>Provide effective and consistent messages to the community to increase awareness of their roles responsibilities in CDEM.</b>	The CDEM Public Education Strategy will be utilised by all local authorities, and will be reviewed every three years. The effectiveness will be assessed by a community preparedness survey, with the results used to inform the review of the plan. <p>The CDEM Public Education Group will meet at least quarterly to develop and implement all public education requirements for the region.</p>
There are a small proportion of businesses in the CDEM Group area that have business continuity plans and would be able to provide services following an event.	<b>Ensure critical businesses within the Wellington Region are aware of their roles following an event and have plans in place to carry out these roles.</b>	All local authorities will identify the critical businesses within their territory, and ensure they understand the need for planning for an emergency.
It is important that local planning is in place and is not inconsistent with the CDEM Group Plan,	<b>Strengthen the coordination and cooperation amongst all relevant CDEM agencies in planning for an emergency.</b>	Local plans, if deemed necessary, will be prepared to support the CDEM Group Plan and any associated plans. If required, planning groups will be formed to ensure inter-agency cooperation and consistencies in these plans.
Emergency Management partners feel there is a need to clarify roles and responsibilities in an emergency.	<b>Clarify the roles and responsibilities of all CDEM agencies in an emergency.</b>	A workshop will be conducted across all three management levels to clarify roles and responsibilities in an emergency. <p>Upon completion of this workshop, all local authorities will engage their relevant emergency management partners to ensure they understand their roles and responsibilities.</p>

Readiness Issue	Readiness Objective	Method ,Tools and Actions
<p>Local level inter-agency planning is inconsistent across the Region</p>	<p><b>Strengthen the coordination and cooperation amongst all relevant CDEM agencies in planning for an emergency.</b></p>	<p>All local authorities to ensure that all plans are developed in consultation with relevant CDEM agencies, communicated and available to other agencies.</p> <p>All local authorities to ensure that all plans are readily available to other CDEM agencies.</p> <p>The CDEM Group website will be upgraded to include a secure portal to allow for plans to be shared within the CDEM sector.</p>
<p>Territorial authorities need to develop local operational plans for the Disposal of Sewage, Tsunami Evacuation and Debris Disposal.</p>	<p><b>Ensure all local planning is consistent with the CDEM Group Plan and all other supporting plans.</b></p>	<p>Territorial authorities to have developed and implemented the identified operational plans by the following dates:</p> <ul style="list-style-type: none"> <li>• Tsunami Evacuation – 31 Dec 2011.</li> <li>• Disposal of Sewage – 31 December 2012.</li> <li>• Debris Disposal – 31 Dec 2013.</li> </ul> <p>Territorial authorities to utilise the various CDEM Group Plans to ensure consistent planning across the region.</p>
<p>There is often a disconnect between the CDEM Group and media organisations</p>	<p><b>Establish and maintain relationships with media organisations to ensure public information messages will be effectively broadcasted to public in an emergency.</b></p>	<p>Work with media organisations to develop a best practice for broadcasting public information messages during an emergency.</p> <p>All local authorities to ensure the contact details for their relevant media organisations are up-to-date and accurate.</p>
<p>Communications between the lifeline utilities within the CDEM Group are vulnerable.</p>	<p><b>Establish and maintain effective and robust inter-agency communications</b></p>	<p>The preferred communications options will be presented to the lifeline utilities through the WELA and WELG.</p>
<p>CDEM EOCs in the region are at different stages of readiness.</p>	<p><b>Ensure all CDEM EOCs meet minimum operational requirements.</b></p>	<p>All EOCs are to be reviewed as part of MCDEM Monitoring and Evaluation (M&amp;E). The recommendations from the M&amp;E must be taken into consideration by all local authorities to ensure all EOCs have the appropriate tools to respond to an emergency.</p>



## 4.6 Readiness organisation

The following committees or groups have been established:

- Emergency Services Co-ordination Committees (ESCCs) – Wellington, Hutt Valley, Porirua, Kapiti Coast and the Wairarapa.
- Rural Fire Committees.
- Lifelines Groups – Wairarapa (WELA) and Wellington (WELG).
- Hazardous Substance Technical Liaison Committee (HSTLC).
- Emergency Management Officers Committee (EMOC).
- Regional Rescue Forum.
- WIAL First Impact Committee.
- Regional Welfare Advisory Group.
- CDEM Public Education Group.
- CDEM Controllers and Recovery Managers Training Group.
- Regional Logistics Group.
- Regional Planning and Intelligence Group.

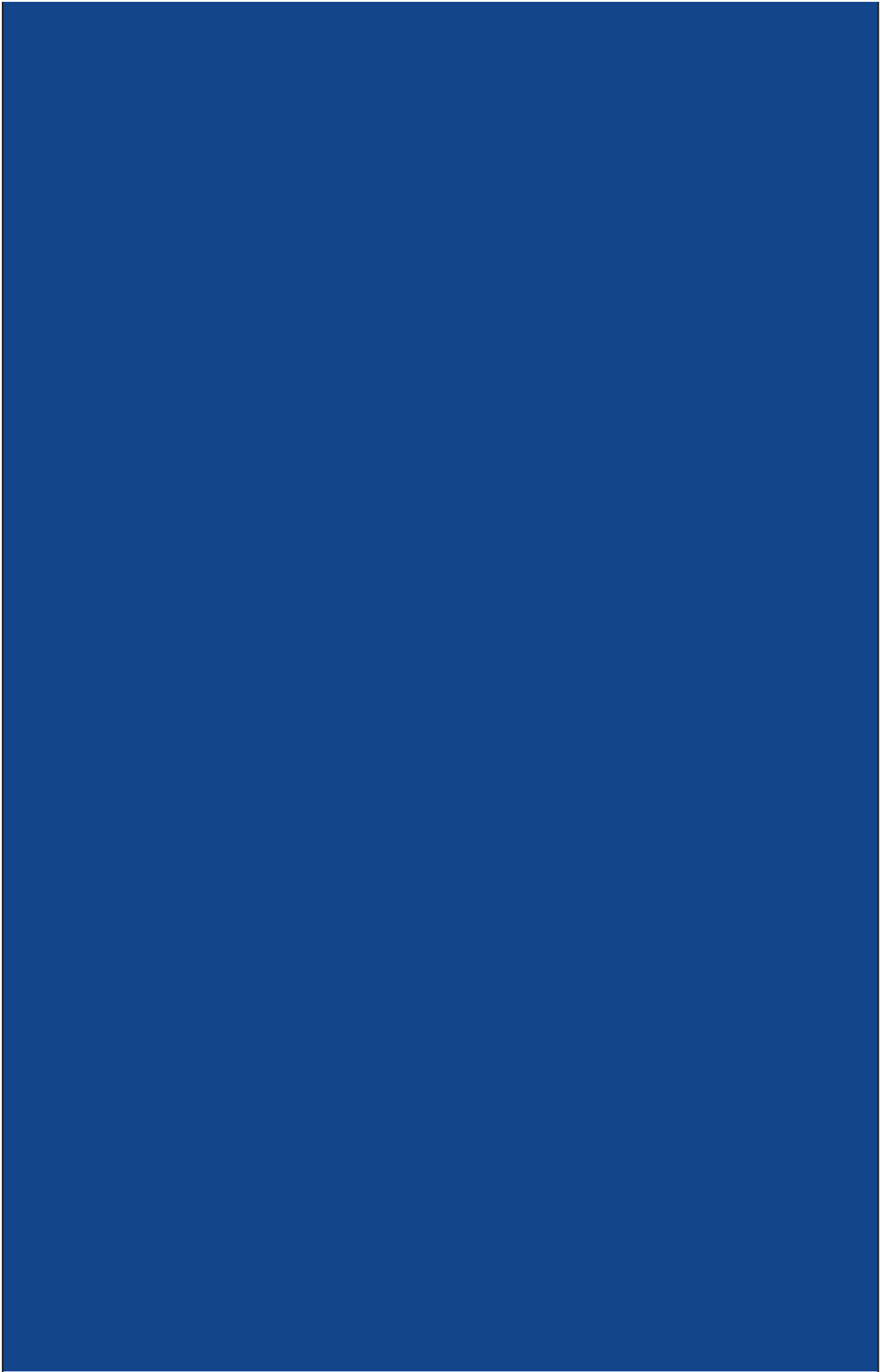
### Other planning committees

Additional planning groups are established from time to time for specific purposes, such as to facilitate a CDEM Group work programme activity, or to deal with a known emergency threat.

## 4.7 Readiness activities

The CDEM Group is committed to the following readiness activities:

- Regular communications tests with all EOCs/ECC within the Group.
- Ongoing training for all Controllers and Recovery Managers.
- Group training exercises at least once every two years. All territorial authorities are to take part.
- External audit of all EOCs every three years.



# Response

Principles for response within the Group

Organisational framework

Organisational framework in response

Functions, roles and responsibilities

Role of local Emergency Operations Centres

Role of the Group Emergency Coordination Centre

Activation overview

Declaring a state of local emergency

Levels of management

Response functions

Emergency management systems

Strategic issues arising from current response practices

Objectives

Delivery of desired outcomes

Supporting of other CDEM Groups during an Emergency

Relationship with national support

## 5 Response

### 5.1 Principles for response within the Group

- Local Authorities EOCs/ECC will activate when day to day operational arrangements are not sufficient to appropriately respond to an event.
- The Group ECC will be ready at all times to **support** local emergency management response activities.
- Emergency management response activities can be undertaken without a state of emergency being declared.
- The co-ordination of lifeline utility organisations is the responsibility of the CDEM Group ECC.
- CDEM Group operational structures and processes will incorporate all emergency management agencies.
- When necessary, the CDEM Group will request support from other CDEM Groups and Central Government.
- Response will be based on the assessment of 6 critical needs (including USAR, treatment and movement of injured, welfare, sanitation, medical/health and restoration of lifelines), co-ordination and information management.

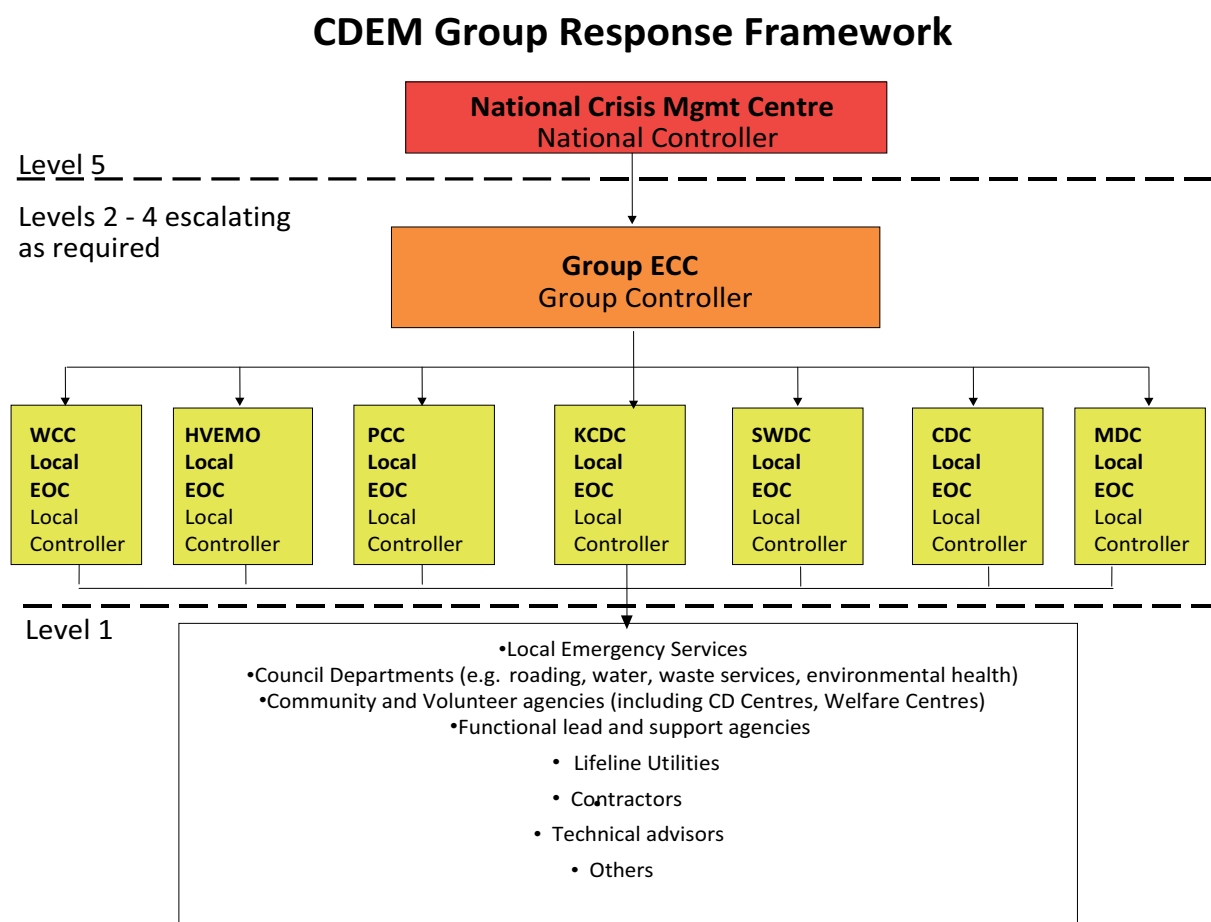
### 5.2 Organisational framework

#### 5.2.1 Organisational framework in response

Each local authority operates an Emergency Operations Centre (ECC), although some local authorities have chosen to operate jointly. The CDEM Group EOC is operated by Greater Wellington Regional Council.

Figure 4 shows the Group's operational framework for response. Five levels of emergency response are included. Level 1 is a small-scale emergency event, for example a traffic accident; Level 5 is a large-scale national event, such as a major earthquake.

Figure 4: CDEM Group response framework



## 5.3 Functions, roles and responsibilities

### 5.3.1 Role of local Emergency Operations Centres

Under the direction of the **Local Controller**:

- Operate according to CIMS structure.
- Co-ordinate the response of local emergency agencies within the area of the EOC.
- Monitor events and escalate response as required.
- Ensure local emergency response agencies are involved in the local response, and emergency services liaison officers available in the EOC.
- Ensure communications are in place with key local response agencies.
- Arrange for community welfare and support facilities and services.
- Receive, assess and disseminate information for local emergency response agencies.
- Provide information to the media about the event and the local response.
- Report to the Group ECC.

### 5.3.2 Role of the Group Emergency Coordination Centre

Under the direction of the **Group Controller**:

- Operate under CIMS structure.
- Co-ordinate and/or support activated Local EOCs.
- Receive, assess and disseminate information for emergency response agencies based on the 6 critical needs.
- Where possible, provide logistical support when requested by a Local EOC.
- Ensure major emergency response agencies are involved in the Group response, and major support agencies have liaison officers available in the EOC.
- Ensure communications are in place with key regional response agencies.
- Receive, assess and disseminate information about lifeline utility services through a Lifelines Co-ordination Centre within the ECC.
- Provide information to the media about the event and the Group response.
- Report to Central Government.

### 5.3.3 Activation overview

An EOC/ECC may be partially or fully activated as the circumstances of a developing incident dictate.

The following may result in a Local EOC being activated:

- An alert or warning has been received.
- Local emergency agency notifies emergency management staff of a developing incident.
- Local emergency agency requests EOC to co-ordinate response to an incident.
- Local emergency agency requests the use of CDEM facilities.
- CDEM personnel determine that CDEM input is required.

The following may result in the Group ECC being activated:

- One or more Local EOCs have been activated.
- Group CDEM personnel are notified of a developing incident that may require Group monitoring and/or response.
- Lifelines information is required by one or more Local EOCs.
- Local EOC requests Group ECC to co-ordinate response to an incident.
- A declaration of a state of local emergency is made in one or more territorial authority areas.

### 5.3.4 Declaring a state of local emergency

There are two types of declarations of a state of local emergency:

- Declaration of state of local emergency that covers the district of a territorial authority.

- Declaration of a state of local emergency for the whole area of the CDEM Group.

### **Declaring a State of local emergency covering one district of a territorial authority (up to Level 3).**

A state of local emergency may be declared by a territorial authority if:

- It appears that an emergency has occurred or may occur within the area.
- The situation is causing or has the potential to cause loss of life, injury, illness, distress, or endangers the safety of the public or property.
- The powers of Section 86 – 94 are required.
- Emergency services advise they cannot deal with situation.
- A co-ordinated response is required, involving CDEM input.
- The resources of a territorial authority area are needed to assist another area that has declared a state of local emergency.

The declaration must be officiated by:

The Mayor of the affected territorial authority can make a declaration of state of local emergency for their district. In the absence of the Mayor, an elected member acting on behalf of the Mayor may make the declaration.

### **Declaration of a state of local emergency for the whole area of the CDEM Group, or one or more districts or wards within the area (Level 4).**

A state of local emergency may be declared for the entire CDEM Group if:

- It appears that an emergency has occurred or may occur within the whole Group area or one or more districts or wards within the area.
- The powers of section 86 – 94 are needed.
- Emergency services across the Group area advise they cannot deal with situation.
- A co-ordinated response is required involving CDEM input.
- More than one territorial authority area has a declaration or potential emergency in place.
- If resources of the Group area are needed to assist another area that has declared a state of local emergency.

The declaration must be officiated by:

The Chairperson of the CDEM Group can make a declaration of a state of local emergency for the whole CDEM Group area or any district or ward within the area. In the absence of the Chairperson of the CDEM Group, an elected representative of the CDEM Group may make the declaration.

### **Procedure for declaring a state of local emergency<sup>1</sup>**

The person authorised to make a declaration of a state of local emergency must adhere to the following process:

- Consult with the Local and Group Controllers and emergency services before making a declaration
- Sign the statutory declaration form. See Appendix 4.

<sup>1</sup> For more detailed information on the declaration process, refer to the Director's guidelines for the CDEM sector: Declarations [DGL05/06]

- Notify the Group and Local Controller(s) that a declaration of a state of local emergency has been made, and the area for which it has been made
- Notify the public by any means possible that a declaration has been made
- Notify the Ministry of CDEM that a declaration has been made
- As soon as possible arrange for the declaration to be published in the *Gazette*. Contact NZ Gazette Office at the Department of Internal Affairs.

The state of local emergency will stay in place for 7 days unless it is extended or terminated within that time. People authorised to make the declaration of a state of local emergency are also able to extend or terminate the state of local emergency, using the same procedure as above.

### 5.3.5 Levels of management

As an emergency event escalates, the organisation responsible for managing the event changes, as does the Controller. The more serious the event, the higher the level of EOC activation and the more formal the control structure. A declaration of a state of emergency may be required.

#### Level 1 – day-to-day emergency response

Day-to-day emergency events are managed on site using the New Zealand Co-ordinated Incident Management System (CIMS). These events are managed by emergency services and specialist agencies without CDEM input.

##### *Control*

The type of incident defines the lead agency. The agency with the legal mandate is responsible for control of the incident e.g. NZ Police for criminal acts, NZ Fire Service for fire and hazardous substance incidents.

#### Level 2 – CDEM required, no emergency declaration

These are larger scale emergency events that require CDEM input. One or more Local EOCs may be activated. The Group ECC may also be activated, as experience has shown that local events have regional impacts. These events will not require a declaration of emergency.

##### *Control*

Control is exercised by:

A lead agency (not a CDEM agency), if the event is specialised. These events require CDEM support either Local or Group, or both. An example of this type of event is a public health emergency controlled by the Medical Officer of Health.

The CDEM Local Controllers will co-ordinate the event, with support from the Group Controller. These Controllers are not able to exercise emergency powers as there is no declaration in force.

#### Levels 3 & 4 –Declaration of a state of local emergency

These levels of emergency require a declaration of a state of local emergency, with the associated emergency powers.

Events within one territorial authority (Level 3) will require a declaration for that area: Events covering more than one territorial authority area (Level 4) will require declaration for the whole Group area.

##### *Control*

The Group Controller is required to direct and co-ordinate the emergency response.

The CDEM Group has also appointed Local Controllers. Local Controllers have been delegated the



authority to carry out the functions and duties of the Group Controller for their territorial authority area, and exercise the associated powers within their areas.

Local Controllers must follow any directions given by the Group Controller during a state of local emergency.

### Level 5 – Declaration of a state of national emergency

This level of emergency requires declaration of a state of national emergency.

#### Control

Group and Local Controllers operate under the direction of the National Controller.

Table 8 summarises the levels of response. The grey areas highlighted show CDEM Group ECC response.

**Table 8: Levels of response**

Level	Description	Declaration status	EOC role	Control
<b>Level 1</b> '111' type emergency	Local incident(s). No CDEM input	No declaration	No EOC involvement. Some monitoring by CDEM staff possible	Lead agency using CIMS
<b>Level 2</b> CDEM Group Response	Some CDEM input required. No CDEM powers required.	No declaration	Local EOCs and Group ECC may be partially or fully activated	Lead agency or Emergency response co-ordination by CDEM Local Controller, Group Controller in support
<b>Level 3</b> CDEM Group Response	CDEM input required in one territorial authority area. CDEM powers required	Declaration for one territorial authority area or ward	Local EOC fully active Group ECC active in support	<b>Group Controller and Local Controllers</b> in place
<b>Level 4</b> CDEM Group Response	CDEM input required in whole Group area. CDEM powers required	Declaration for whole Group area	Group ECC fully active Local EOCs fully active	<b>Group Controller and Local Controllers</b> in place
<b>Level 5</b> National Response	National emergency	National declaration	National CMC fully active Group ECC fully active Local EOCs fully active	<b>National Controller</b> in place. <b>Group Controller</b> continues under co-ordination of National Controller <b>Local Controllers</b> continue under co-ordination of Group Controller

Response

### 5.3.6 Response functions

Table 6.3.2 specifies the response functions during an emergency led by the CDEM Group, along with the role of both lead and support agencies grouped as follows:

- Information management
- Resource management
- Urban Search and Rescue
- Evacuation
- Health and medical (including treatment and movement of the injured)
- Welfare
- Infrastructure and lifelines (including sanitation)
- Police and fire services.

In addition, there are events when the CDEM Group will have a support role. These are listed below and included in Table 9.

- Search and Rescue: land, marine and air
- Public Health Emergencies
- Agricultural emergencies
- Terrorism emergencies

#### Supporting documents

Table 9 also refers to documents that describe in detail how some of the functions are carried out. These documents are the responsibility of the lead agency specified and are not formally part of this Plan.

Supporting documents prepared by the CDEM Group are typed in **bold** and can be viewed at the CDEM Group Emergency Management Office, or are under development as part of the CDEM Group work programme.

**Table 9: Response functions**

Function	Functional lead agency	Role	Support agencies	Role	Supporting Document
<b>Information management</b>					
Public information Co-ordination	Lead agency as per CIMS (response level 1 & 2)	Generate and disseminate public information and warnings	TA	Disseminate public information	CIMS Manual
	Local EOC (response level 3)	Co-ordinate and disseminate public information and warnings	All Agencies Media	Generate public information about own agency area of responsibility.	<b>CDEM Group Public Information Plan</b>
	GECC (response level 4) NCMC (response level 5)		Lifelines Co-ordination Centre (within GECC)	Provide information to Lifelines Customers and the Media as required. Provide lifelines information to EOC public information managers for release to the public Provide information for dissemination to other agencies	<b>CDEM Group ECC SOPs</b>
Situation Reporting	Lead agency as per CIMS (response level 1 & 2)	Generate and disseminate incident information to all necessary agencies as decided by associated plans, MoU's and the functional lead agencies	TAs, ESs, all agencies		
	Local EOC (response level 3)	Collate, generate and disseminate incident information to all necessary agencies			
Enquiry about individuals	GECC (response level 4)	Collate, generate and disseminate incident information to all necessary agencies	Local EOC, TAs, ESs, all agencies	Provide information to the GECC for dissemination to other agencies.	
	NZ Police TAs (response level 3)	Provide information to central government as requested	MCDEM	Facilitate information flow between GECC and central government	
	NZ Red Cross (response level 4 - 5)	Answer national and international tracing enquiries Receive registration information from TAs, NZ Police and DHBs	NZ Red Cross TAs NZ Police DHBs	Manage enquiries about individuals affected by disaster as agreed Provide information about evacuated people, casualties and victims of emergencies to NZ Red Cross to enable enquiry	Red Cross MoU with NZ Police and MOU with MFAT



Function	Functional lead agency	Role	Support agencies	Role	Supporting Document
<b>Information management</b>					
Public Enquiry	Lead agency as per CIMS (response level 1) TA (response level 2 and above)	Maintain call centre facilities to answer public enquiries about emergency events. Provide electronic information via website if possible.	GECC	Provide regional scale emergency information to local agencies to assist with public enquiries	CDEM Group Public Information Plan
Lifeline information co-ordination	GECC Lifelines Co-ordination Centre (LCC)	Collate and disseminate lifelines information to lifelines network. Provide lifelines information to EOC public information manager for dissemination to the public as necessary	Lifeline organisations	Provide information to the LCC about status of services Provide information to Lifelines Customers and the Media as required.	CDEM Group ECC SOP CDEM Group Lifelines Response Protocols
Reconnaissance and needs assessment	TA	Co-ordinate reconnaissance of local area and disseminate findings	GECC NZ Police, NZ Fire Service, GWRC, CAA, MSA, NZDF All agencies	Co-ordinate local reconnaissance activities if necessary. Facilitate lifelines facility reconnaissance if necessary. Collate and disseminate reconnaissance findings. Provide resources and personnel to assist with local reconnaissance Carry out reconnaissance of own networks/assets	CDEM Group Reconnaissance Plan
Environmental impact assessment	GWRC	Assess environmental impacts of emergency events.	TAs DoC	Assess environmental impacts of emergency events within own area.	

Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Resource management</b>					
Logistics supply	TA	Co-ordinate and prioritise resources within local area. Co-ordinate procurement, requisitioning, payment, access, staging, distribution and return of resources.	GECC	Provide resources as requested by a TA. Co-ordinate and prioritise resources from outside the Wellington region.	
Volunteer management and support	TA (response level 2 and above)	Co-ordinate reception and tasking of spontaneous and trained volunteers	CAA, RCCNZ Other CDEMGs	Co-ordinate transportation by air and air traffic safety, including restricted air space Provide and transport logistics supplies as requested by the CDEM Group.	
Incoming external personnel management and support	TA	Provide for the administration, accommodation and tasking of invited external personnel	GECC, MCDEM Other CDEM Groups	Co-ordinate transportation and priority of invited external personnel (national and international)	

Response

Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Health and medical</b>					
First aid and movement of injured	WFA	Triage and provide initial treatment to injured. Determine priority transportation of injured to medical facilities.	St John, NZ Red Cross	Provide trained first-aiders to assist lead agency ambulance personnel	
	St John (Otaki and Wairarapa) WDHB (Wairarapa)		First Aid trained public or teams	Carry out first aid	
Medical provision	DHBS	Co-ordinate health sector response within DHB area. Provide hospital and health services	GPs	Provide emergency health services under the direction of the DHB.	Regional Health Major Incident Plan
			Plunket	Make available registered nurses to assist at welfare centres.	
Public Health	Regional Public Health Service (RPHS)	Co-ordinate regional and local public health response. Take action necessary to prevent, control and monitor spread of communicable diseases. Provide public health advice to CDEM. Implement the powers of the Medical Officer of Health in consultation with the Group Controller (declared only)	TA	Carry out public health inspections and assessments. Provides resources and facilities as requested.	Regional Health Major Incident Plan RPH Incident Management Plan
			DHBs	Co-ordinate community based health activities with the RPHS.	

Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Urban Search and rescue</b>					
Search and rescue (urban)	NZFS	Provide management personnel for urban search and rescue operations, as available.	USAR taskforces, International teams	Mobilise resources to carry out medium rescue.	<b>CDEM Group Regional Rescue Strategy</b>  USAR standards and guidelines
		Deploy USAR taskforces on request.			
	TAs	Co-ordinate required location of rescue activities. Establish pre-event arrangements with contractors and general rescue teams for rescue capability.	Local rescue teams – TA, volunteer, private, business Group ECC MCDEM	Mobilise resources to carry out surface rescue.  Co-ordinate requests for national and international rescue teams and technical experts	
<b>Evacuation</b>					
Evacuation	NZ Police NZFS (non declared)  TA (declared)	Evacuate areas required for public safety within the powers and authority of NZ Police or NZFS.	TA	Assist with personnel and resources for evacuation. Provide for the safety and welfare of evacuated people as required.	
		Evacuate areas necessary for the preservation of human life. Provide for the safety and welfare of evacuated people.	NZ Police NZFS	Assist with personnel and resources for evacuation.	
Registration of evacuees	TAs	Register people displaced by an emergency.	Welfare Centre staff CAB NZ Red Cross	Provide resources where possible and agreed to assist registration and collect data for input.	



Function		Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Welfare</b>						
Welfare co-ordination	TA		Initiate and co-ordinate welfare services.	Salvation Army Victim Support CAB NZ Red Cross	Provide welfare needs assessment services where available and required.	
Welfare (food)	Salvation Army		Co-ordinate and provide emergency catering facilities, including stand alone catering units where available.	Private caterers and providers TAs	Provide services as agreed.	
Welfare (immediate shelter)	TAs		Ensure and co-ordinate the provision of emergency shelter in the response phase of an emergency.	Marae Housing New Zealand Private suppliers	Provide accommodation services if agreed with TA.	
Welfare (clothing)	NZ Red Cross		Co-ordinate the provision of essential clothing, blankets and toiletries for victims at the request of a TA.			
Deceased victims	NZ Police		Manage the identification, handling, and transportation of deceased victims. Notify next of kin.	DHBs (morgues) TA's RPH	Manage mortuary facilities and arrangements for storage of deceased victims.	Coroners Act NZ Police DVI procedures. NZ Funeral Directors Association and Embalmers Association Disaster Response Plan.



Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Welfare</b>					
Deceased victims	NZ Police	Manage the identification, handling, and transportation of deceased victims. Notify next of kin.	Coroner	Determine the cause of death of victims.	
			Private funeral directors NZFDA	Direct the interment of deceased persons if necessary. Make arrangements for interment of deceased persons.	
Animal welfare	TA	Co-ordinate actions required to alleviate distress in animals.	SPCA	Co-ordinate the rescue of animals and birds and supply holding facilities where possible.	
			MAF	Record details of lost domestic pets. Co-ordinate steps to safeguard the welfare of farm animals.	
				Co-ordinate the disposal of farm animal carcasses.	
<b>Infrastructure and lifelines</b>					
Commuter management	NZ Police (response level 1 & 2)	Implement and enforce safety measures of road transportation networks. Provide information to commuters. Co-ordinate and prioritise transport needs of emergency workers	TA	Co-ordinate road access restoration of local roads	CDEM Group Regional Commuter management strategy
			Transport operators	Implement business continuity arrangements to restore services	
			NZTA	Co-ordinate road access restoration of state highways	
			AA	Provide information about road status to commuters	
			GWRC	Provide information to commuters	
			Lifelines Utilities	Make safe damaged lifeline utilities.	
			GECC	Co-ordinate local commuter management plans	
	TA (response level -3)	Provide for commuters stranded en-route within local area.			



# Response

Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents	
Infrastructure and lifelines	NZTA (State Highways)	Co-ordinate road access restoration of state highways	Contractors NZ Police AA LTSA	Provide services to restore road access or maintain road safety of state highways	Agency BCPs	
		Co-ordinate road access restoration of local roads	GECC – Lifelines co-ordination Centre	Provide services to restore road access or maintain road safety of local roads.		
		Restore rail access or implement interim measures				
	Access restoration	WIAL	Assess safety of Wellington International Airport and restore air access to the Wellington region or implement interim measures.	Paraparaumu Airport Hood Aerodrome NZDF Private aircraft companies	Take all necessary steps to restore air services and facilities or implement interim measures.	CDEM Group Regional Road Access restoration strategy
				RCCNZ MSA	Declare and manage restrictions to air space if required.	
				Contractors Harbourmaster MSA	Provide advice and information to restore port and marine transportation services.	
		CentrePort	Assess safety of entry and exit to the port and restore port facilities or implement interim measures.			

Function		Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Infrastructure and lifelines</b>						
Building damage assessment	TA		Arrange and co-ordinate building inspections (including for structural safety and environmental health). Authorise re-occupation of damaged properties.	Insurance Companies & EOC	Co-ordinate and arrange insurance assessments.	
				Insurance Council	Co-ordinate insurance company activities & communication.	
				RPH	Provide advice on public health issues of damaged properties through TA's	
				Engineers/ technical advisors	Provide advice on safety and structural integrity of buildings.	
Emergency Communications	Communications asset owner		Take all necessary steps to restore normal communications networks and arrange interim measures if necessary.	GECC	Take all steps to restore communication between the Group and Local EOCs.	Agency BCPs
				Local EOC	Take all necessary steps to restore communication between Local EOC and community response facilities and organisations.	
				AREC	Provide technical advice, personnel and services to EOCs as agreed.	
Emergency water supply	TAs		Take all necessary steps to restore normal water supply networks. Facilitate interim measures to provide water to residents when supply network is disrupted.	GWRC	Take all necessary steps to restore the bulk supply of water and support local authority interim measures.	Water Supply Mutual Aid Agreement. Agency BCPs
				RPH	Provide advice on integrity of emergency water sources, and water quality.	Wellington Meteorological Emergency Water Supply Strategy & Action Plan

# Response

Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Infrastructure and lifelines</b>					
Sewage and storm water services	TAs	<p>Take all necessary steps to restore normal sewage and storm water networks.</p> <p>Arrange collection and disposal of waste when sewerage and waste water systems are disrupted.</p> <p>Carry out inspections of sites contaminated with sewage and waste water.</p>	RPH	Provide advice on issues of public health.	<p>Agency BCPs</p> <p>Sewerage Response Manual</p> <p><b>CDEM Group Sewerage Disposal Plan</b></p>
Energy restoration and emergency supply	Electricity distribution companies	Take all necessary steps to restore normal electricity distribution networks and arrange interim measures if necessary.	GWRC	Provide inspection of sites contaminated with sewage and waste water	<p>Agency BCPs.</p> <p>Agency Emergency Plans</p>
	Gas distribution companies	Take all necessary steps to restore normal gas distribution networks and arrange interim measures if necessary.			
	Oil companies	Take all necessary steps to restore normal fuel supply networks and arrange interim measures if necessary.			

Function		Functional lead agency		Role		Support agencies		Role		Supporting Documents	
Police & fire services											
Law and order	NZ Police	Maintain law and order. Secure control perimeters.	Fire Police Private security companies	Provide services as requested.							
Fire control urban	NZFS	Extinguish and prevent the spread of fires. Co-ordinate fire brigades (Defence, industrial, rural) when necessary.		Provide fire fighting services for defence facilities and others as agreed.							
Fire control rural	TAs DoC	Extinguish and prevent the spread of fires in rural areas.	NZFS NRFA Rural associations	Provide advice and support at rural fire incidents.							
Hazardous substances response	NZFS	Stabilise and render safe hazardous substances.	HSTLC members RPH TAs GWRC	Provide advice and support at hazardous substances incidents. Carry out necessary investigations.							HSNO Act
	Marine Oil spill GWRC	Manage oil spill incidents within the Coastal Marine Area. Mobilise GWRC oil spill response personnel and equipment. (MSA for nationally significant event or beyond 12 nauticalmiles)	SPCA Spiller CentrePort MSA NZFS	Respond to and manage marine oil spill incidents.							Tier II Oil Spill Response Plan



# Response

Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Non-CDEM Group led emergencies: (CDEM Group primarily in support role)</b>					
Search and Rescue: land, marine, air (excludes urban/building extraction)	NZ Police	Manage rural, land based and small scale marine search and rescue operations (excluding extraction from damaged structures).	Harbourmaster CDEMG/TAs	Provide advice and support for marine rescue incidents.	RCCNZ SOP Wellington Aerodrome Emergency plan
	RCCNZ (MSA)	In response to activated emergency locator transmitters or missing or distressed aircraft or vessels co-ordinate the response of national or international resources.	Coastguard Centreport Private vessels or aircraft Volunteers DoC MSA, CAA	Respond rescue resources to carry out search and rescue and provide information as requested.  Carry out investigations as required	
Agricultural emergencies	MAF/Agriquality  RPH	Investigate and manage incursions of exotic organisms affecting plants and animals.  Investigate and manage interceptions and incursions of exotic mosquitoes of public health significance.	CDEMG/TAs, GWRC Federated Farmers Massey University Vets Rural Support Trusts	Provide support and resources for agricultural emergencies as requested.	MAF biosecurity and incursion Plans  RPH Biosecurity Response Plan

Function	Functional lead agency	Role	Support agencies	Role	Supporting Documents
<b>Non- CDEM Group led emergencies: (CDEM Group primarily in support role)</b>					
Public health emergencies	Medical Officer of Health	Direct actions to prevent and control the spread of pandemic illness. When authorised by the Minister (or declared CDEM emergency) direct and implement powers of the Medical Officer of Health.	TAs (incl Environmental Health Officers) Emergency Services CDEMG DHBs MoH	Implement the directions of the Medical Officer of Health. Provide resources and facilities to support the public health response. Authorise the use of the powers of the Medical Officer of Health.	Health Act S 70-71. National Pandemic Plan.
Terrorism emergency	NZ Police	Manage response to terrorism events and carry out investigation.	CDEMG/TAs NZFS DHBs / RPH DPMC MCDEM NZDF	Provide support services and resources as required. Co-ordinate national and international terrorism response and resources.	National Terrorist Plan.



## 5.4 Emergency management systems

The ability to communicate and share information is a critical component of the Wellington Region's CDEM operational capability. Figure 5 shows the emergency communication network voice and data) for the CDEM Group. Communications are outlined in the Wellington Region Group Emergency Operations Centre Standard Operating Procedures and in the Wellington Region CDEM Group Public Information Plan.

### Primary communications

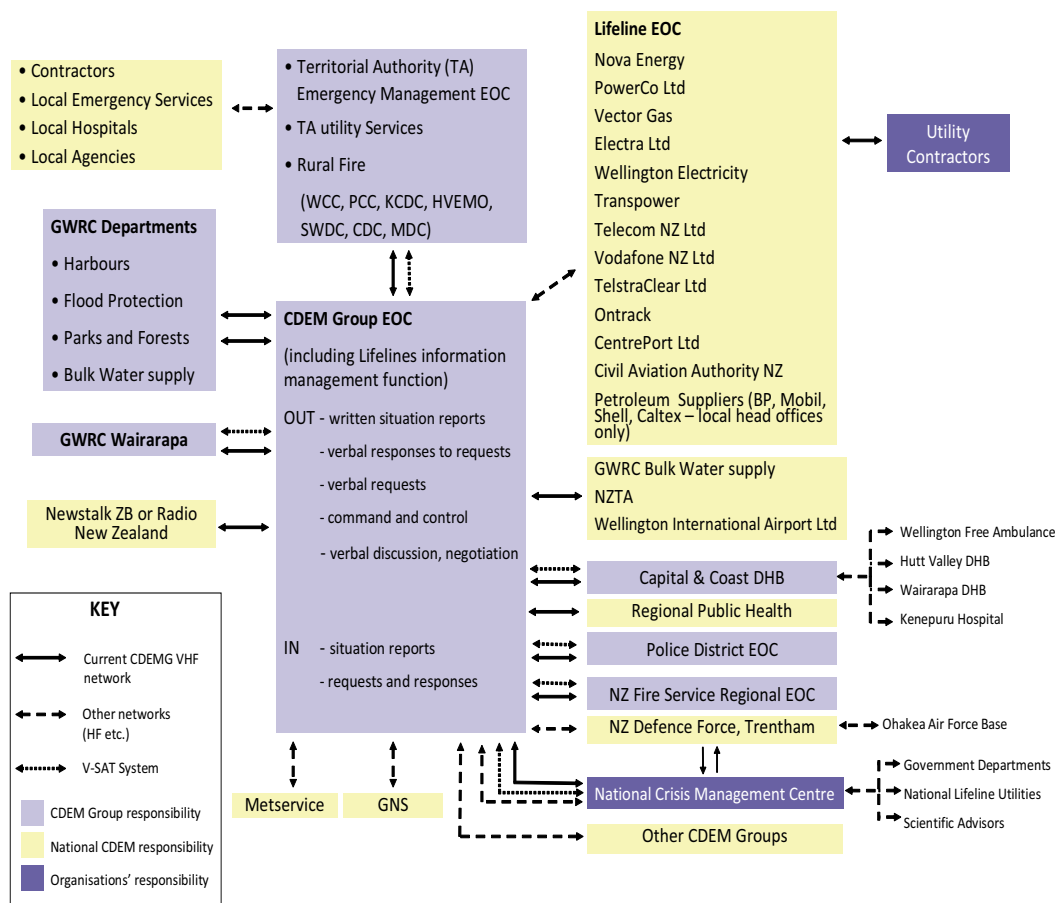
It is the CDEM Group's expectations that responding agencies can communicate with each other at all times. Telephone, facsimile, cell phones and email are the primary means of communication and will be used first in an emergency situation.

### Alternate communications

As a back up to the primary means of communication, VHF radio networks will provide communication coverage across the region, linking the Group ECC with each Local EOC as well as at other CDEM partners<sup>2</sup>. In addition, a satellite network will provide alternate long distance communications between Wellington and other agencies outside of the Wellington Region and superimpose communications links to the local authorities and the Emergency Services within the Region.

The CDEM Group office is responsible for maintaining an alternate communications system with Local EOCs and other identified responding agencies. Territorial Authorities will have the responsibility to provide alternate communication arrangements for each respective district.

**Figure 5: CDEM Group emergency communications network**



<sup>2</sup>MCDEM, Capital & Coast DHB, NZ Police, NZ Fire Service, Hutt Valley DHB, Wairarapa DHB, Greater Wellington Flood Protection (Wellington), Greater Wellington Flood Protection (Mabey Road), Beacon Hill, Regional Public Health, NZTA, Wellington Airport, Radio NZ, Greater Wellington Water (Lower Hutt) Kestrel and Access Telecom.



## 5.5 Strategic issues arising from current response practices

- **Communities are unaware of their roles and responsibilities in an emergency.** Large sections of the community are unaware of the responsibilities they have to themselves, families and communities in response to an event.
- **Public information is sometimes inconsistent and disseminated in an ad-hoc fashion** during an emergency. In some cases agencies have provided conflicting information; and in others cases, critical information has not reached the public.
- **Lifelines Utilities vary in the manner in which they can respond.** It is sometimes difficult to co-ordinate these organisations because they use different communications systems and offices may be located outside of the Wellington Region. Further, it can be difficult to identify the service provider.
- **Emergency communication and information systems do not have the capability to link all vital emergency management agencies in the Region.**
- **Many plans and SOPs that are developed during the readiness phase are not implemented effectively in an emergency.**
- **Lesson learnt from activating an EOC/ECC are not addressed and often re-occur during subsequent activations.**

## 5.6 Objectives

The CDEM Group has identified the following response objectives:

- 1 Establish and maintain community-based emergency response capabilities across the region
- 2 Ensure the public receives timely, relevant and consistent information during an emergency event
- 3 Ensure response of Lifelines Utilities in an emergency event is effectively co-ordinated
- 4 Vital emergency management agencies can communicate effectively during an emergency
- 5 All EOCs and CDEM agencies are working with compatible information management systems.
- 6 Ensure response plans are implemented effectively during emergencies
- 7 All lessons learnt have been identified and incorporated into response plans

5.7 Delivery of desired outcomes

Response Issue	Response Objective	Method, Tools and Actions
Communities are unaware of their roles and responsibilities in an emergency.	<b>Establish and maintain community-based emergency response capabilities across the region</b>	All local authorities to work <b>with</b> communities to facilitate the development of community response plans.
Public information is sometimes inconsistent and disseminated in an ad-hoc fashion	<b>The public receives timely, relevant and consistent information during an emergency event.</b>	The CDEM Public information management plan is reviewed. PIM Managers group established and maintained to discuss issues, identify solutions and ensure relationships are maintained.
Lifelines Utilities vary in the manner in which they can respond.	<b>The response of Lifelines Utilities in an emergency event is effectively co-ordinated.</b>	Communications systems will be reviewed between the CDEM Group ECC and all regional Lifelines Utilities. WELA and WELG will be used to communicate the findings of the review. The Group ECC will have the facility to co-ordinate (Lifelines co-ordinator) the responses of Lifelines Utilities, with clear processes and protocols in place.
Emergency communication and information systems do not have the capability to link all vital emergency management agencies in the Region.	<b>Vital emergency management agencies can communicate effectively during an emergency.</b> <b>All EOCs and CDEM agencies are working with compatible information management systems.</b>	Communications systems will be reviewed between the CDEM Group and all vital emergency management agencies. These systems will be regularly maintained and upgraded as appropriate according to the recommendations from the communication review. All CDEM agencies will utilise the MCDEM EMIS in an emergency.
Many plans and SOPs that are developed during the readiness phase are not implemented effectively in an emergency.	<b>Ensure response plans are implemented effectively during emergencies</b>	All local authorities will ensure that their plans and SOPs are followed in an emergency by all EOC staff and relevant CDEM agencies.
Lesson learnt from activating an EOC/ECC are not addressed and often re-occur during subsequent activations.	<b>All lessons learnt have been identified and incorporated into response plans</b>	Following an EOC/ECC activation (either exercise or 'real' event) a formal debrief will be conducted to identify any gaps and/or areas for improvement within each EOC/ECC. The results will be provided to the Group Office to be added to the Wellington Region CDEM Group Corrective Action Plan. Implementation of the corrective actions will be administered by the established Exercise Planning Group and reported to the CEG and CDEM Group.

## 5.8 Supporting of other CDEM Groups during an Emergency

When requested, the Wellington Region CDEM Group will provide support to the other CDEM Groups. The co-ordination of this support will be between the Group Controllers.

## 5.9 Relationship with national support

MCDEM uses National Crisis Management Centre (NCMC) to—

- 1 manage existing or potential—
  - a. national emergencies; or
  - b. civil defence emergencies of national significance; and
  - c. support CDEM Groups in their management of local civil defence emergencies.
- 2 NCMC is used to gather, collate, assess and produce information, direct response operations and support, issue public information and conduct media liaison, inform and advise the Government, and, where required, co-ordinate government and non-government resources.
- 3 The nature of the civil defence emergency determines the level of activation. NCMC may operate in any of the modes indicated Figure 6.
- 4 Activating NCMC for a civil defence emergency necessarily involves links with—
  - a. CDEM Group ECC;
  - b. support agencies;
  - c. national lifeline utilities.
- 5 The primary support agencies in NCMC for civil defence emergencies include—
  - a. the Ministry of Health;
  - b. the Ministry of Social Development;
  - c. the Ministry of Agriculture and Forestry;
  - d. the Ministry of Foreign Affairs and Trade;
  - e. the New Zealand Defence Force (Joint Forces Headquarters);
  - f. the New Zealand Fire Service (urban and rural);
  - g. the New Zealand Police.

**Figure 6: NCMC operating modes**

Mode	Roles	Scale
1 Monitor	Monitor and assess incidents that may lead to a state of local emergency. Monitor and assess local emergencies.	Standby. Minimal staffing to monitor impending or actual event. Other staff on standby. Support agencies notified.
2 Engage	In addition to monitoring activities: Collect, analyse, and disseminate information on emergencies; report to/advise government; provide public information service.	Standby. Increased staffing. Support agencies kept informed.
3 Assist	In addition to interaction activities: Process/coordinate requests for support from regional and local organisations.	Partial to full staffing. NCMC fully operational. All supporting agencies activated.
4 Manage	Collect, analyse, and disseminate information on emergency (including the provision of a public information service). Control the overall response. Co-ordinate logistical support, including aid from overseas and international liaison. Report to/advise government.	Significant emergency. Full staffing. NCMC fully operational. All MCDEM staff committed. All supporting agencies activated.

Response

# Recovery

Principles for recovery

CDEM in recovery

    CDEM Group's role in recovery

    Territorial authorities' role in recovery

Group Recovery Plan

    Group recovery structure

    Group Recovery Manager

    Group recovery management team

    Transitional arrangements

    Reporting requirements

    Financial arrangements

    Exit strategy

Strategic issues arising from current recovery practices

Objectives

Delivery of desired outcomes

Roles and responsibilities

## 6 Recovery

Recovery is the process whereby activities are co-ordinated to bring about the immediate, medium and long-term rehabilitation of a community after an emergency.

Recovery involves minimising the escalation of the consequences of an emergency, rehabilitation of the emotional, social, physical and economic wellbeing of communities, taking opportunities to meet future community needs, and reducing future exposure to hazards and risks.

The recovery phase gains momentum when the threat to life has passed, community safety is assured, and any state of emergency is lifted.

### 6.1 Principles for recovery

- Recovery is an enabling and supportive process utilising local capacity, capability and expertise.
- Recovery activities start when emergency response is in progress. Key decisions during the response phase are likely to directly influence and shape recovery.
- Recovery management personnel and procedures should be put in place as soon as possible during response to an emergency.
- Recovery should not just aim at recreating the past, but creating the future. Opportunities to reduce vulnerability to future hazard events should be sought and implemented during recovery.
- The timeframes for recovery are likely to be long, probably 3 - 10 years and perhaps longer.
- Recovery is community driven and ranges from large scale community planning, to individual assistance.
- Recovery will involve agencies that have not previously had any direct involvement with emergency management. It will involve a diverse range of expertise and skills.

### 6.2 CDEM in recovery

#### 6.2.1 CDEM Group's role in recovery

The CDEM Group has a statutory function to carry out recovery activities (S17(1)(e) CDEM Act 2002). However, it does not have any statutory powers during the recovery phase of an emergency.

The role of the CDEM Group in recovery is one of facilitation, co-ordination and monitoring to support local recovery activities.

The CDEM Group will:

- Appoint a Group Recovery Manager
- Establish a multi-agency recovery management team with particular focus on key recovery issues
- Provide advice and support to local recovery personnel
- Report to central government departments

## 6.2.2 Territorial authorities' role in recovery

Territorial Authorities will:

- Appoint local recovery managers
- Establish a local recovery management team to facilitate recovery
- Work with the Group Recovery Management Team.
- Plan for managed withdrawal so that individuals and organisations within the community can, in the long term, manage their own recovery processes, albeit with support available if required.

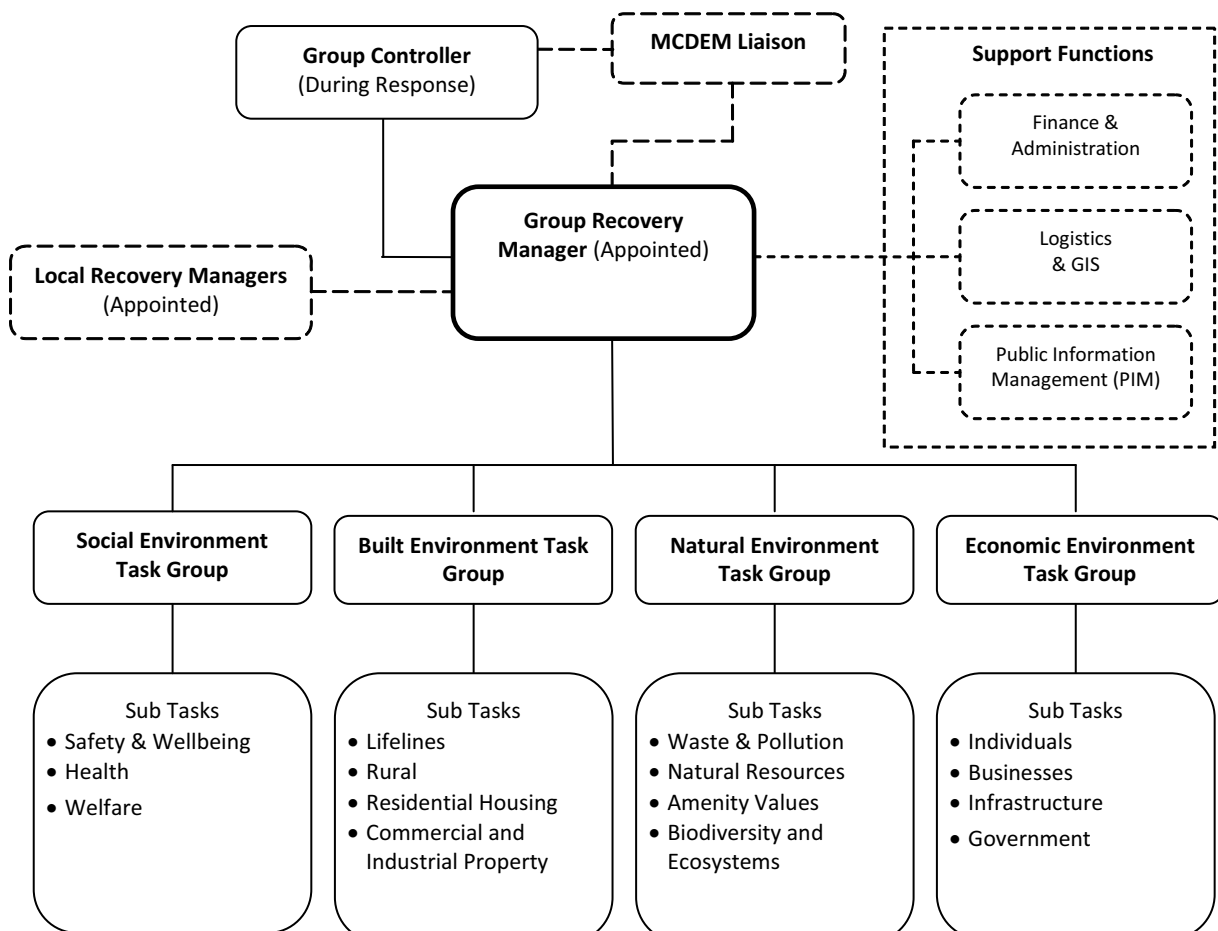
## 6.3 Group Recovery Plan

The CDEM Group Recovery Plan identifies the processes required to support local disaster recovery management through facilitation, co-ordination and monitoring. It includes the detail required by the Group Recovery Manager and the Group Recovery Management Team. This is summarised in subsequent sections.

### 6.3.1 Group recovery structure

Figure 7 overleaf shows the current CDEM Group recovery structure.

**Figure 7: CDEM Group recovery structure**



### 6.3.2 Group Recovery Manager

The Group Recovery Manager has no statutory powers during emergency recovery.

The Group Recovery Manager is engaged by a contractual arrangement with the CDEM Group, via the CDEM Group Office, to co-ordinate recovery activities for the CDEM Group area. The Group Recovery Plan provides a Terms of Reference and job description for the Group Recovery Manager.

The role will include the following:

#### During readiness

- Participate in Group recovery training and exercises
- Attend ongoing recovery management training

#### During response

- Be familiar with response activities and establish transitional arrangements
- Establish a Group Recovery Management Team
- Establish a Group Recovery office including personnel, physical resources and facilities
- Engage local recovery managers, key recovery agencies (including central government) and the community to consider recovery issues
- Understand and establish damage and needs assessment requirements

#### During recovery

- Maintain information management systems
- Engage with Group Public Information Manager to provide timely public information messages to support local recovery activities
- Co-ordinate recovery activities across the social, built, natural and economic environments
- Support local recovery managers, where requested, in the management of relief funds and donated goods and services
- Report to Central Government

### 6.3.3 Group recovery management team

The Group Recovery Manager may establish workgroups with specific terms of reference, and appoint workgroup leaders, as required.

The Group Recovery Management Team and workgroups will require adequate administrative support.

### 6.3.4 Transitional arrangements

The transition from response to recovery is led by the Group Controller in consultation with the Group Recovery Manager. The transition will formally acknowledge the transfer of coordination and accountability for recovery related activities through:

- The completion of a transition report (Controller)
- A transitional briefing (Controller & Recovery Manager)



- Initial Group Recovery Action Plan (Recovery Manager)
- Communicating the transition (Controller & Recovery Manager)

The Group Recovery Plan sets out the arrangements for the above.

### **6.3.5 Reporting requirements**

The Group Recovery Action Plan provides the details of what, when, who and how recovery activities will be carried out.

The Group Recovery Manager must supplement the Group Recovery Action Plan with formal Group Recovery Reports to maintain accountability, transparency and provide consolidated recovery reporting to Central Government, through MCDEM.

### **6.3.6 Financial arrangements**

An expenditure management system will be set up during the response phase. This must be closed off at the transition from response to recovery and the details submitted to the Group Recovery Manager and Wellington Region CDEM Group.

During recovery, the GWRC finance system and staff will be used for managing all Group recovery financial transactions.

Financial arrangements for relief funds, donated goods and services, monetary donations and financial assistance from central government are outlined in the CDEM Group Recovery Plan.

### **6.3.7 Exit strategy**

CDEM recovery activities are aimed at allowing the social, built, natural and economic environments of individuals and communities to attain an appropriate level of functioning. The withdrawal of the enabling and supporting structures to achieve this need to be planned with clearly documented arrangements for the handover of responsibilities to the agencies who would normally deliver the specific service.

Local Recovery Managers and recovery agencies are best placed to determine when CDEM recovery can be reduced or withdrawn. However, community participation in this process and the information provided to the affected communities is a key factor.

The Group Recovery Action Plan aims to capture, document and plan an exit strategy. The details pertaining to this are in the Group Recovery Plan.

## 6.4 Strategic issues arising from current recovery practices

- 1. The Group Recovery Plan provides a framework for developing recovery arrangements across the social, built, natural and economic environments.** Agencies identified in the Group Plan have gaps in recovery planning.
- 2. It is difficult to have enough properly trained recovery management personnel.** In particular, recovery personnel tend not have day to day CDEM responsibilities and there is often a high turnover of personnel.
- 3. Agencies required for recovery operations may differ from those who will be involved in emergency response.** More work needs to be done to identify these agencies, and to ensure that they understand their roles and participate in pre-event planning.
- 4. Public information during recovery is sometimes inconsistent and disseminated in an ad-hoc fashion.** Some core information could be pre-prepared, such as health protection and insurance advice.
- 5. It is especially hard for small businesses to recover from an emergency event.** They invariably operate with limited resources and are unable to cope with any significant interruption to their business. These businesses are vital to the local economy.

## 6.5 Objectives

The CDEM Group has identified the following recovery objectives:

- 1 Gaps in recovery planning are identified and a strategy for addressing these is developed.
- 2 Strengthen the coordination and cooperation amongst all relevant CDEM agencies in recovery planning.
- 3 All local authorities have an appropriate number of suitably qualified recovery management personnel.
- 4 Agencies who can contribute to recovery know their roles and how they will co-ordinate their activities.
- 5 The public receives timely, relevant and consistent information during and after an emergency event.
- 6 Support communities to strengthen their ability to recover in an emergency.

## 6.6 Delivery of desired outcomes

Recovery Issue	Recovery Objective	Method, Tools and Actions
<p>The Group Recovery Plan provides a framework for developing recovery arrangements across the social, built, natural and economic environments.</p>	<p>Gaps in recovery planning are identified and a strategy for addressing these is developed.</p> <p>Strengthen the coordination and cooperation amongst all relevant CDEM agencies in recovery planning.</p>	<p>All local authorities are to work with recovery agencies to determine current gaps in planning.</p> <p>These gaps may be addressed through the establishment of smaller planning groups.</p>
<p>It is difficult to have enough properly trained recovery management personnel</p>	<p>The Region has an adequate number of suitably qualified recovery management personnel.</p>	<p>Professional development programmes will continue to be developed for:</p> <ul style="list-style-type: none"> <li>• local authority CDEM staff; and</li> <li>• CDEM Group appointees (Group Controller, Local Controller(s), Recovery Manager).</li> </ul> <p>A Controller and Recovery Manager training working group will continue to meet at regular intervals to develop and monitor the effectiveness of such training.</p>
<p>Agencies required for recovery operations may differ from those who will be involved in emergency response</p>	<p>Agencies with who can contribute to recovery know their roles and how they will coordinate their activities.</p>	<p>Other working groups convened as required.</p> <p>All local authorities are to identify recovery agencies and conduct a workshop to ensure that their roles and responsibilities are clearly understood.</p> <p>Establish and maintain a Regional Recovery Agencies Committee that will meet at least annually to share information and discuss any key issues.</p>
<p>Public information during recovery is sometimes inconsistent and disseminated in an ad-hoc fashion</p>	<p>The public receives timely, relevant and consistent information during and after an emergency event.</p>	<p>The CDEM Group Public Information Management Plan will be reviewed to include recovery. PIM templates will be developed which include key generic recovery information.</p>
<p>It is especially hard for small businesses to recover from an emergency event</p>	<p>Small businesses are encouraged to take active responsibility for managing their own recovery.</p>	<p>All local authorities will work with small businesses to encourage recovery planning.</p>

## 6.6 Roles and responsibilities

Many of the functions carried out during emergency response continue during recovery.

In addition, the recovery phase of the emergency requires additional recovery functions to be performed by many emergency management agencies.

Recovery functions are described in the following categories:

- Information management
- Welfare
- Health and medical
- Infrastructure and lifelines
- Resource management

The roles and responsibilities for functions carried out during recovery are outlined in Table 10.

### Supporting documents

Supporting documents prepared by the CDEM Group are typed in **bold** and can be viewed at the CDEM Group Emergency Management Office, or are under development as part of the CDEM Group work programme

**Table 10: Roles and responsibilities in Recovery**

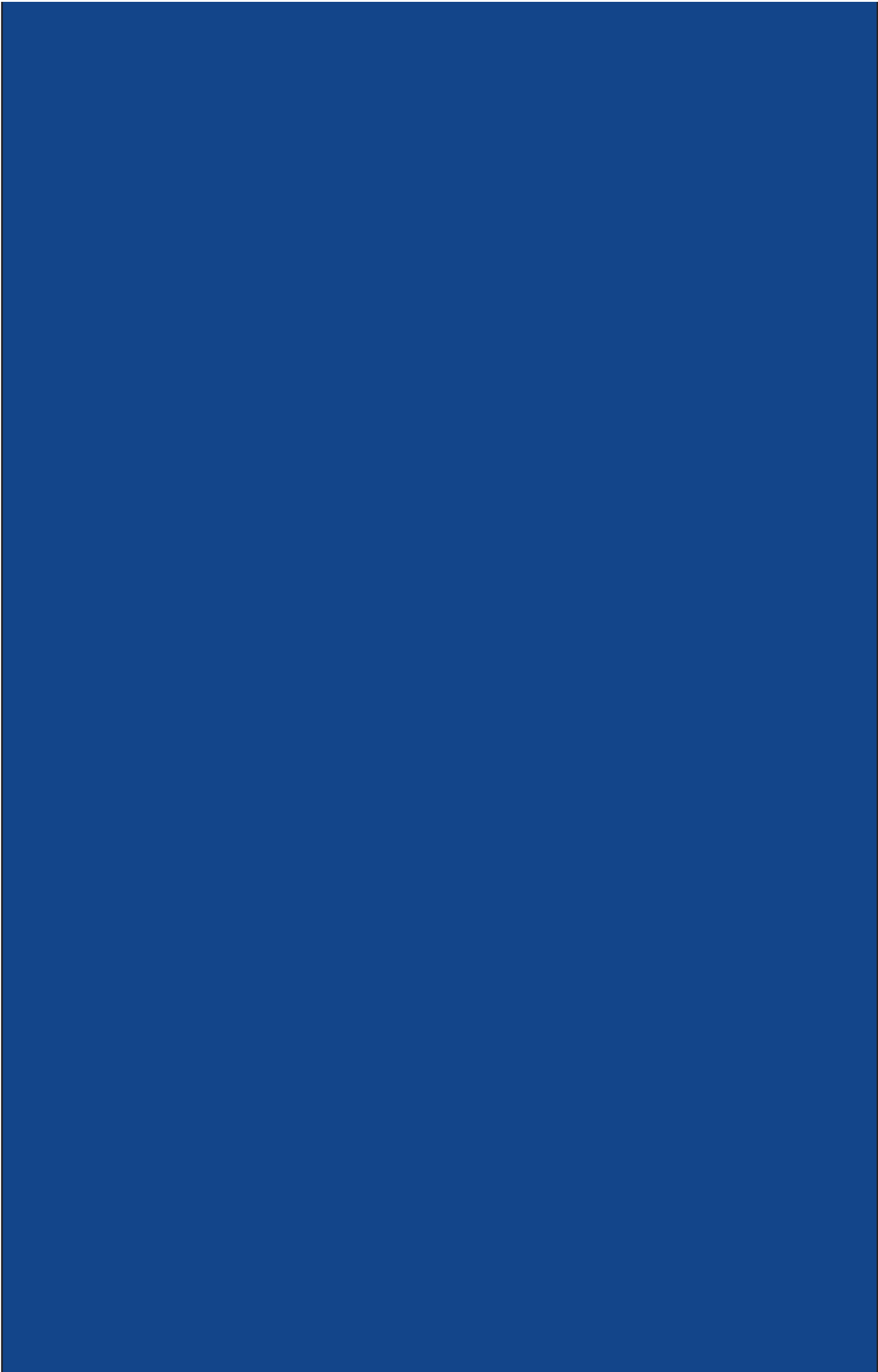
Function		Functional Lead Agency	Role	Key support agency	Role	Supporting Documents
<b>Information management</b>						
Public information for recovery	TAs		Provide and co-ordinate advice to the public about recovery issues and progress.	Group EMO All agencies	Co-ordinate recovery messages across the Group as necessary. Provide advice about own services.	CDEM Group Public Information Strategy
Financial impact assessment	TAs		Collate information and statistics of financial losses and damages.	Govt Depts (eg MED, Treasury, Reserve bank) Insurance Council Chambers of Commerce Insurance Council	Collate information about financial impacts. Collate information and statistics about insured losses.	
Debrief	Group EMO		Conduct a debrief of CDEM Group emergency response and recovery activities. Collate the findings and report to the CDEM Group.	Each agency	Conduct a debrief of emergency response and recovery activities within own organisation.	
<b>Welfare</b>						
Welfare (shelter)	Housing New Zealand		Facilitate the provision of short-term housing for evacuees.	RPH TA	Provide advice on public health issues associated with temporary accommodation facilities. Provide information on evacuees to enable accommodation arrangements to be made.	
Welfare (emergency benefits)	Ministry of Social Development – WINZ		Maintain benefit payments and make emergency payments.	TAs	Provide information on evacuees to enable benefit payments.	
Welfare (donated goods)	TAs		Make arrangements for the receipt, management, storage and distribution of donated goods.	Red Cross	Assist with the management of donated goods as agreed.	
Welfare (donated funds)	TAs		Establish and distribute mayoral relief funds.	Red Cross	Manage national appeals and the collection and distribution of funds as agreed.	



Function	Functional Lead Agency	Role	Key support agency	Role	Supporting Documents
<b>Health and medical</b>					
Mental health (psychological services)	DHBs	Facilitate mental health support response.	CYFS	Provide care services for children and young persons separated from their parents or guardians.	
			Plunket	Assist with counselling and support services. Provide care services for children and young persons separated from their parents or guardians.	
			Salvation Army/Church Groups/Private providers	Assist with counselling and support services as agreed.	
<b>Infrastructure and lifelines</b>					
Infrastructure & Lifeline restoration	Lifeline Utility organisation	Facilitate the restoration of damaged infrastructure. Determine priorities for restoration in consultation with Group Recovery Manager and other lifelines.	Insurance Companies	Fund or arrange repairs for claimants	
			Contractors	Carry out works to restore infrastructure and lifelines as contracted.	
Rebuilding and reconstruction	Asset owner	Arrange rebuilding and reconstruction of own assets.	RPHS	Providing advice on integrity of lifelines, in particular water supplies.	
			TAs	Issue necessary building consents. Facilitate sustainable redevelopment and mitigation for future events.	
			Building industry organisations and contractors	Provide advice on building industry limitations and standards.	
			Govt Depts	Carry out rebuilding and reconstruction as contracted. Allocate and distribute funds for reconstruction as considered necessary.	
			Insurance Companies & EQC	Fund or arrange repairs for claimants.	
			Insurance companies	Provide advice to customers on insurance implications of disposal of damaged assets.	

Function	Functional Lead Agency	Role	Key support agency	Role	Supporting Documents
<b>Resource management</b>					
Insurance assessments and payout	Insurance Companies and EQC	Carry out insurance assessments and make payments.	Insurance Council	Communicate and advocate on behalf of the insurance industry.	Insurance Emergency Plan
Cost recovery from central government	Group EMO	Co-ordinate the preparation of emergency expenditure claims for Group expenses.	TAs	Prepare and submit emergency expenditure claims for own agency costs.	
			MCDEM	Provide advice on claims preparation and process expenditure claims.	
Debris Removal	TA	Issue necessary approvals or consents for disposal.	RPH	Provide advice on public health issues regarding disposal sites.	
	GWRC	Co-ordinate debris removal and disposal.			







# Monitoring and evaluation

Principles for monitoring and evaluation within the group Programme

Legislation compliance

Reviewing the CDEM Group Plan

External monitoring

## 7 Monitoring and evaluation

### 7.1 Principles for monitoring and evaluation within the group

To ensure that progress is being made towards the Plan Vision and Goals it is essential that the effectiveness of implementing this Plan be evaluated.

The effectiveness of this Plan will be evaluated by:

- Measuring achievement of the Plan Goals
- Monitoring progress on the CDEM Group Work Programme
- Reviewing the Plan following activation in response to an emergency
- Ongoing review of Plan currency and sufficiency
- Plan review and monitoring by the Ministry of CDEM
- LTCCP and Annual Plans.

### 7.2 Programme

Measurement of Plan Goals will be facilitated by the CDEM Group Office and reported to the Co-ordinating Executive Group and the CDEM Group.

Plan Goals will be measured biennially, that is, in 2013 and 2015.

Descriptions of success have been developed for each goal, and measurement tools identified. The tools described in the tables below have been selected, although in some cases there may be multiple ways of measuring success.

#### Goal 1: The community and emergency management agencies will be aware of the risks they face

What does success look like?	Measurement tool chosen
<b>The community:</b>	
Can identify the hazards in their area.	Community preparedness survey.
Seek information about hazards.	Data assessment: Requests for hazard education materials. Website hits.
<b>Emergency management agencies:</b>	
Can identify the hazards in their area, or that may affect their business.	EM Agency survey. Data assessment: Requests for technical reports or advice.
Seek information about hazards.	Website hits (hazards portal) Hazard research commissioned.

**Goal 2: The community and emergency management agencies will take action to manage the risks they face**

What does success look like?	Measurement tool chosen
<b>The community:</b>	
Have emergency plans.	Community preparedness survey.
Have emergency supplies.	Community preparedness survey.
Consider hazards in property decisions.	Data assessment: LIM/PIM request data.
Hold appropriate levels of insurance.	Data assessment: Insurance statistics. Insured and non-insured loss assessment after events.
<b>Emergency management agencies:</b>	
Carry out mitigation activities.	Work programme CEG reports for: RMA Plans reflect mitigation Business Continuity Plans Asset management plans reflect hazards Data assessment:
Consider hazards in property decisions and operational planning.	Requests for technical hazard reports or advice. Commission hazard research.
Have appropriate staff and resources.	EM Agency survey.

**Goal 3: The community and emergency management agencies will know their roles and responsibilities**

What does success look like?	Measurement tool chosen
<b>The community:</b>	
Expect that individuals must be self reliant.	Community preparedness survey. Data assessment: Requests for hazard education materials.
Understand roles of emergency management agencies.	Community preparedness survey.
<b>Emergency management agencies:</b>	
Can identify their role.	Plan update for trigger event. Data assessment: Website hits for Group Plan. EM Agency survey.
Meet to discuss and agree roles.	Record of multi-agency meetings and exercises.

Monitoring and evaluation

**Goal 4: The community and emergency management agencies will be able to respond to, and recover from emergency events effectively.**

What does success look like?	Measurement tool chosen
<b>The community:</b>	
Has groups and volunteers in place to manage community impacts and response.	EM Agency survey. Community preparedness survey.
Knows where to go for help or to give help.	Community preparedness survey.
Responds appropriately.	Data assessment: Media monitoring of events. Debrief reports.
<b>Emergency management agencies:</b>	
Have response plans in place to support Group Plan.	EM Agency survey.
Have recovery plans in place to support Group Plan.	EM Agency survey.
Have control and co-ordination personnel in place and trained.	Trigger event for Plan update.
Respond and recover effectively.	Debrief reports.
Have EOC/ECC facilities in place that meet minimum standards.	EOC/ECC Audit.

### Monitoring progress of CDEM Group work programme

The CDEM Group work programme has been put together to address the strategic issues raised during Plan development (Appendix 1).

The work programme consists of projects that need input from many emergency management agencies, as well as individual agency projects that the CDEM Group feels are essential for the Group to be able to function.

Some work programme activities are ongoing, and have no finite start or finish dates. Other activities are specific short term projects. The large number of work programmes means different reporting and monitoring requirements.

### Monitoring process

The Co-ordinating Executive Group will oversee implementation and monitoring of the work programme. The CEG role will be to:

- Annually agree the work programme activities
- Set timeframes and allocate facilitators for work programme activities
- Request and receive reports on work programme activities including:
  - An annual verbal report on progress by each member for ongoing work programme activities (an updateable database of these ongoing programmes may be kept if appropriate) written updates of progress on short-term projects at each CEG meeting
  - A formal report or presentation at the completion of short-term projects.

### 7.3 Legislation compliance

The Wellington CDEM Group Plan complies with The CDEM Act (2002), the CDEM National Plan and all other relevant legislation such as:

- Biosecurity Act 1993
- Building Act 2004
- Fire Service Act 1975
- Forest and Rural Fires Act 1977
- Hazardous Substances and New Organisms Act 1996
- Health Act 1956
- Health and Safety in Employment Act 1992
- Local Government Act 2002
- Maritime Transport Act 1994
- Resource Management Act 1991.

### 7.4 Reviewing the CDEM Group Plan

The Group Emergency Management Office will facilitate a debrief of emergency response and recovery activities following any activation of the Group Emergency Coordination Centre. This debrief will be held in addition to any local agency debrief.

The Group Emergency Management Office will prepare a report for the CEG meeting subsequent to the event debrief.

The report will include:

- A record of events
- Positive and negative aspects of the response and recovery activities
- Lessons learned for future response and recovery activities
- Recommendations for amendments to the CDEM Group Plan if necessary.

#### Ongoing review of Plan currency and sufficiency

The Group Plan has a life of five years, but can be reviewed in full or part at any time. Minor changes to the Plan can be made without a formal review of the Plan (Section 57, CDEM Act (2002)).

The Group Emergency Management Office will facilitate the review and, if necessary, amendment of the Plan following any trigger event that may affect the currency or sufficiency of the Plan.

Trigger events include, but are not limited to:

- Changes in the National CDEM Plan
- Introduction of any new guidelines, codes or technical standards issued by the Director of Civil Defence Emergency Management.
- Introduction or amendment of legislation affecting the role of any emergency management agency

- Recommendations from Group activation debrief or nationally commissioned enquiry
- Change of CDEM Group appointed personnel

**Summary timetable of monitoring and review activities.**

Timeframe	Reviewing what?	Monitoring or review mechanism
Every year	Progress on ongoing work programmes	<ul style="list-style-type: none"> <li>• Report to CEG (or update database)</li> </ul>
	Completion of short term work programme projects to be achieved in that year.	<ul style="list-style-type: none"> <li>• Report to CEG</li> </ul>
Every 2 years (i.e. in 2013 and 2015)	Achievement of Plan Goals	<ul style="list-style-type: none"> <li>• Community preparedness survey</li> <li>• Emergency management agencies survey</li> <li>• EOC/ECC audit</li> <li>• Data assessments</li> <li>• Report to CEG</li> </ul>
On occurrence of trigger events	Plan currency and sufficiency	<ul style="list-style-type: none"> <li>• Amendment in response to:               <ul style="list-style-type: none"> <li>– debrief of EOC/ECC activation</li> <li>– trigger events</li> <li>– Ministerial review</li> </ul> </li> <li>• Debrief report</li> <li>• Report to CEG</li> </ul>
Every 5 years	Plan currency and sufficiency including legal status	<ul style="list-style-type: none"> <li>• Complete Plan review, development, consultation and CDEM Group approval</li> </ul>

### 7.5 External monitoring

Under section 8 of the CDEM Act, the Director of Civil Defence Emergency Management has a function to "monitor the performance of CDEM Groups and persons who have responsibilities under this legislation". This will be undertaken primarily via the MCDEM Capability Assessment Tool. This Tool aims to create a standard assessment of emergency management capability in New Zealand. It consists of a set of key performance indicators and performance measures against which organisations can assess themselves or be externally assessed. The Wellington CDEM Group was externally assessed in August/September 2010.

The Wellington CDEM Group may undertake the external assessment in three years time (2013) to provide a measure of self improvement.

# Management and governance

- Members of the CDEM Group
- Members of the Coordinating Executive Group
- Administrating authority
- Group Emergency Management Office
- Delegated authorities
- Key appointments
- Arrangements with other CDEM Groups

- Financial arrangements
  - Programmed expenditure
  - Emergency expenditure
  - Unexpected expenditure
  - Cost recovery
  - Relationship to local government financial planning requirements

## 8 Management and governance

### 8.1 Members of the CDEM Group

#### CDEM Group membership and functions

Each local authority in the Wellington region is a member of the CDEM Group. The Group's functions, duties and powers are those of a civil defence emergency management group as described in the CDEM Act. The CDEM Group is also a joint standing committee under clause 30(1)(b) of Schedule 7 of the Local Government Act 2002.

The CDEM Group is a partnership between the local authorities of the Wellington region. Its objectives are described in its Terms of Reference, which have been adopted by the Group. The CDEM Group works together with emergency services and other organisations within the region to ensure an effective and efficient region-wide civil defence emergency management capability.

#### CDEM Group Terms of Reference

The CDEM Group has adopted a Terms of Reference (TOR) for the purposes of:

- Setting out functions, duties and powers
- Providing for administrative and financial arrangements
- Describing in general terms, how the CDEM Group will operate.

The CDEM Group will review the TOR following the adoption of this plan. A copy of the TOR is included as Appendix 3.

#### CDEM Group membership

Each of the following organisations is a member of the CDEM Group:

- Carterton District Council
- Greater Wellington Regional Council
- Kapiti Coast District Council
- Hutt City Council
- Masterton District Council
- Porirua City Council
- South Wairarapa District Council
- Upper Hutt City Council
- Wellington City Council.

#### Representation on CDEM Group

CDEM Group members are represented by their Mayor or chairperson or an alternate elected representative who has been given delegated authority to act on their behalf.



## 8.2 Members of the Coordinating Executive Group

### CEG membership and functions

The Co-ordinating Executive Group (CEG) is a statutory group under the CDEM Act with prescribed functions. These include:

- Providing advice to the CDEM Group and any subgroups or committees
- Implementing, as appropriate the decisions of the CDEM Group; and
- Overseeing the implementation, development, maintenance, monitoring, and evaluation of the CDEM Group plan.

Other CEG roles include:

- Providing advice on the strategic direction of emergency management in the region.
- Ensuring that all emergency management functions, including the Group Plan, are reviewed and monitored as appropriate.
- Recommending the draft work programme and annual budget to the CDEM Group for approval.
- Recommending to the CDEM Group the appointment of any CDEM personnel including the Group and Local Controllers, and any persons who may declare a state of emergency.
- Co-ordinating input into the annual planning process of each local authority with respect to the CDEM function.

### CEG membership

Each of the following organisations are members of the CEG:

- Carterton District Council
- Greater Wellington Regional Council
- Kapiti Coast District Council
- Hutt City Council
- Masterton District Council
- Porirua City Council
- South Wairarapa District Council
- Upper Hutt City Council
- Wellington City Council
- Capital & Coast District Health Board
- Hutt Valley District Health Board
- Wairarapa District Health Board
- New Zealand Fire Service
- New Zealand Police
- Wellington Region Lifelines (co-opted)
- Regional Welfare Advisory Group (co-opted)

## Representation on CEG

Each member of the CDEM Group is represented on the CEG by its chief executive (or an alternate representative who has been given delegated authority to act for the chief executive).

All CEG members, whether from local authorities or other organisations, are senior representatives of their organisation. This is to ensure a strategic overview and an ability to commit resources.

The CEG TOR is included in Appendix 4.

## 8.3 Administrating authority

The administrating authority of the CDEM Group is the Greater Wellington Regional Council (s23(1) of the CDEM Act 2002).

As such, it:

- Serves as the CDEM Group and CEG secretariat, including developing meeting agendas, preparing order papers, arranging meeting venues and taking and disseminating minutes of meetings.
- Provides financial management for the CDEM Group, including budgeting and reporting.

Greater Wellington Regional Council provides the Group EMO for the CDEM Group.

## 8.4 Group Emergency Management Office

The role of the Group EMO is to:

- Co-ordinate the development, implementation, monitoring and review of the CDEM Group Plan;
- Publish the CDEM Group Plan;
- Provide professional advice and services to the CDEM Group and CEG;
- Carry out functions specified for the Group Emergency Management Office by the Group Plan or the CDEM Group;
- Co-ordinate reporting of CDEM Group work programmes to the CEG and CDEM Group; and
- Provide a Group response capability, including the Group ECC facility, staff and resources.

### 8.5 Delegated authorities

The CDEM Group is able to delegate any of its functions under the CDEM Act to members of the Group, the Group Controller, or other persons. These delegations are made by resolution passed at a CDEM Group meeting.

The CDEM Group has made the following delegations:

Authority delegated to:	Description of Delegation	CDEM Act Refs
Group Controller	<ul style="list-style-type: none"> <li>Exercise any of the powers, duties and functions in sections 18(2), 76, 85 of the CDEM Act.</li> </ul>	S18(2), 76, 85.
Local Controllers	<ul style="list-style-type: none"> <li>Exercise any of the powers, duties and functions in sections 18(2), 76,85 of the CDEM Act in relation to the TA area(s) for which they are appointed as Local Controller.</li> <li>A Local Controller must follow any directions given by the Group Controller during an emergency.</li> </ul>	s18(2), 76, 85.
CDEM Group Chairperson	<ul style="list-style-type: none"> <li>The CDEM Group Chairperson is authorised to declare a state of local emergency for the Wellington region or 1 or more districts or wards within that region.</li> </ul>	s 27 (2) s25(1)
CDEM Group representatives (Mayors and GWRC Chairperson)	<ul style="list-style-type: none"> <li>If the CDEM Group Chairperson is unable to declare a state of local emergency, another CDEM Group representative is authorised to declare a state of local emergency for the Wellington region for 1 or more districts or wards within that region in their place.</li> </ul>	s25(1) s26(4)

Authority delegated to:	Description of Delegation	CDEM Act Refs
<p>CDEM Group representatives (Mayors and GWRC Chairperson)</p>	<p>Authority to declare a state of local emergency passes when a representative is unable to declare a state of local emergency, and in the following order:</p> <ol style="list-style-type: none"> <li>1. CDEM Group Chairperson</li> <li>2. Chairperson, Greater Wellington Regional Council</li> <li>3. Mayor of Wellington City</li> <li>4. Mayor of Lower Hutt City</li> <li>5. Mayor of Upper Hutt City</li> <li>6. Mayor of Porirua City</li> <li>7. Mayor of Kapiti Coast District</li> <li>8. Mayor of Masterton District</li> <li>9. Mayor of South Wairarapa District</li> <li>10. Mayor of Carterton District</li> </ol> <p>For the avoidance of doubt, the authority to declare a state of local emergency may only be held by one CDEM Group representative at a time.</p> <ul style="list-style-type: none"> <li>• The Mayor of a territorial authority, or an elected member of the territorial authority designated to act on behalf of the Mayor, is authorised to declare a state of local emergency that covers the district of that territorial authority.</li> <li>• The authority to replace the Group Controller during a state of emergency is delegated to those representatives authorised to declare a state of emergency for the Group area under S.25(1) with the same order and limitations. This power can be exercised when (a) the Group Controller is absent or (b) when the CDEM Group Chairperson, in consultation with two or more members of the CDEM Group, consider, on reasonable grounds, that the Group Controller is not adequately discharging his or her duties.</li> </ul>	<p>s25(1) s26(4)</p>
<p>CDEM Group Office</p>	<ul style="list-style-type: none"> <li>• The authority to carry out the functions listed under s18(2) of the CDEM Act 2002.</li> </ul>	<p>s18(2)</p>

## 8.6 Key appointments

The Wellington Region CDEM Group statutory and non-statutory appointments are included in Appendix 5 of this plan.

Any appointment will be a contractual relationship for services between the individual and the CDEM Group via Greater Wellington Regional Council.

## 8.7 Arrangements with other CDEM Groups

The Wellington Region CDEM Group will seek and accept support from other CDEM Groups and central government to enhance the Group response and recovery capability when necessary.

The Wellington Region CDEM Group will also offer support to other CDEM Groups.

A Memorandum of Understanding (MOU) has been established with the CDEM Groups neighbouring the Wellington Region, and with other key Groups with which the Wellington Region CDEM Group has arrangements to interact as follows.

These Groups are:

- Manawatu Wanganui
- Marlborough
- Hawkes Bay
- Auckland

The signed MOUs are attached in Appendix 6.

## 8.8 Financial arrangements

The activities of the CDEM Group incur costs that can be broken into two main areas:

### Programmed expenditure:

- Administrative and related services under S.24 of the CDEM Act 2002.
- Annual CDEM Group work programme to implement the strategic part of the Plan.

### Emergency expenditure:

- Expenditure incurred by the Group in the lead up to, during and after a declared state of emergency.
- This section outlines the financial arrangements under these circumstances and the methods of cost apportionment.

The CDEM Group budget is prepared annually and agreed by the CDEM Group.

### 8.8.1 Programmed expenditure

Greater Wellington Regional Council is responsible for funding:

- Administrative and related services under S.24 of the CDEM Act 2002.
- The cost of its representation on the CDEM Group and CEG.
- Costs associated with the CDEM Group EMO and Group EOC.
- Group appointments including the Group Controller and Alternates, Group Recovery Manager and Alternate and Group Lifelines Co-ordinators.
- The costs of Greater Wellington Regional Council and Group EMO involvement in the agreed CDEM Group work programme.

Each territorial authority member of the CDEM Group is responsible for:

- The reduction, readiness, response and recovery arrangements required for their district.
- The cost of its representation on the CDEM Group and CEG.
- Costs associated with the Local EMO, the Local EOC and local appointments including Local Controllers and Recovery Managers.
- The costs of the agreed involvement in the CDEM Group work programme.

#### External costs of CDEM Group work programmes

If external assistance is required for an agreed CDEM Group work programme project, the cost will be split on the basis of 33% Greater Wellington Regional Council and the remaining 64% split amongst the consistent territorial authorities on a pro rata by population basis.

Any exceptions are to be brought before the CEG for decision.

### 8.8.2 Emergency expenditure

#### During the lead up to a declared emergency (Levels 1 – 2)

Greater Wellington Regional Council is responsible for funding:

- All costs associated with the resourcing, activation and operation of the Group ECC.
- All reasonable direct expenses incurred by the Group Controller.
- All reasonable direct expenses (e.g. travel, meals, and accommodation) incurred by requested technical advisors.

Territorial authorities are responsible for meeting all costs associated with the local CDEM response, personnel, facilities and resources.

A clear record of who authorises any expenditure and its purpose is to be kept.

#### During a declared emergency (Levels 3 - 5)

Greater Wellington Regional Council is responsible for funding:

- All costs associated with the resourcing, activation and operation of the Group ECC.
- All reasonable direct expenses incurred by the Group Controller.
- All reasonable direct expenses (e.g. travel, meals, and accommodation) incurred by requested

technical advisors.

- Costs associated with the use of resources and services under the direction of the Group Controller.

Territorial authorities are responsible for meeting emergency expenditure incurred within their districts, and arising out of the use of resources under the direction of the Local Controller.

Territorial authorities take full first line responsibility for dealing with the impact of the disaster in their geographic and functional areas of responsibility.

A clear record of who authorises any expenditure and its purpose is to be kept.

### **During recovery**

Upon termination of a declared emergency, the expenditure regime established for the response phase must be closed off and recommenced for the recovery phase under the direction of the Group Recovery Manager.

A clear record of who authorises any expenditure and its purpose is to be kept.

### **8.8.3 Unexpected expenditure**

The CDEM Group will consider any additional items of expenditure not pre-programmed on a case by case basis.

### **8.8.4 Cost recovery**

Following an emergency response, claims may be prepared for government assistance (Category A & B expenditure, National CDEM Plan).

Claims for government assistance are to be made by the organisation who incurred the expenditure. If an emergency involved more than one district the CDEM Group will co-ordinate and check the respective local authority claims, independently prepare a claim for Group costs, and submit a consolidated application.

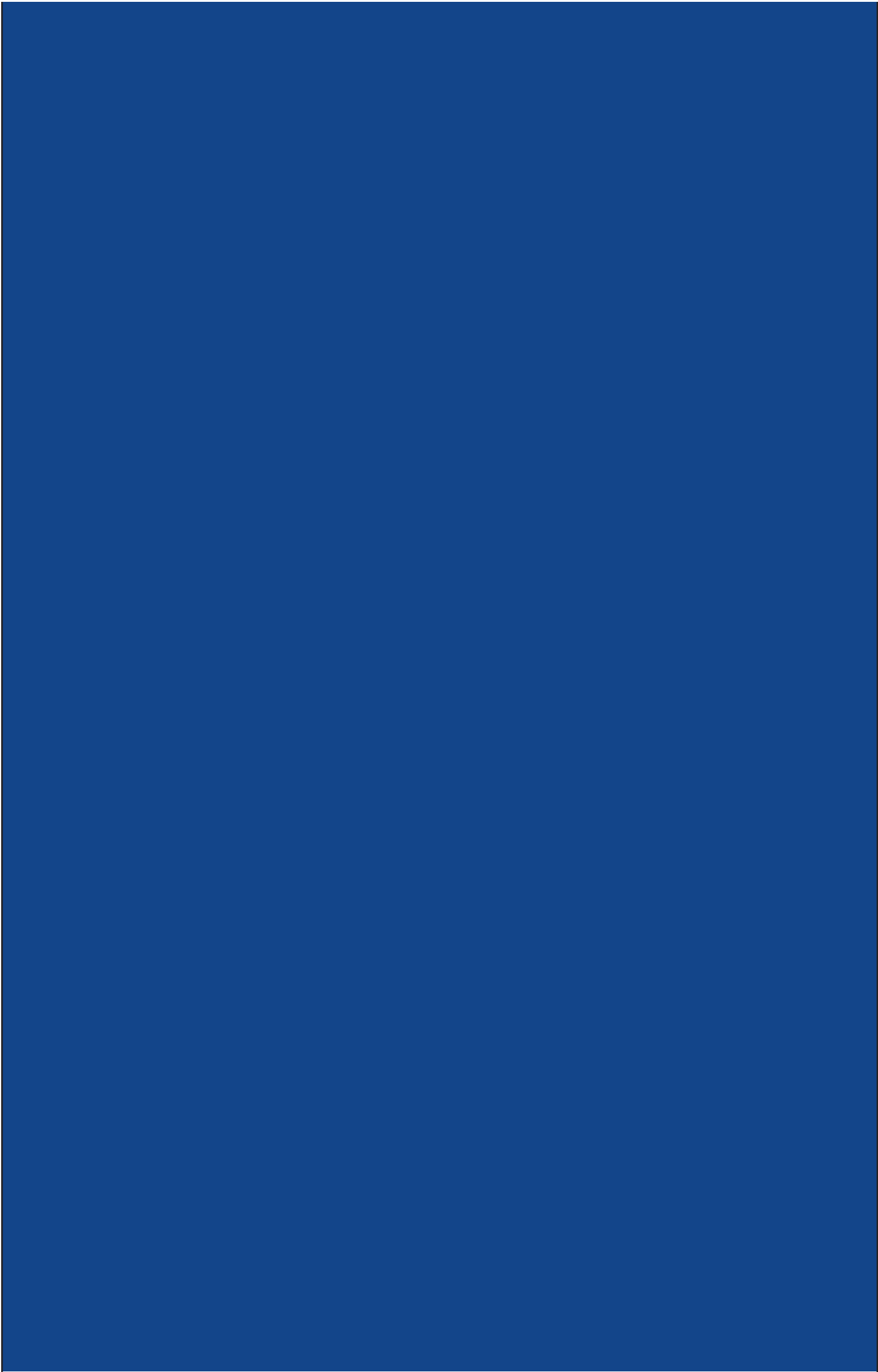
Any reimbursement from central government will be distributed back to the local authority which incurred the expenditure.

### **8.8.5 Relationship to local government financial planning requirements**

The CDEM Group is unable to bind members in terms of funding Group activities.

Decisions on funding CDEM activities will be subject to scrutiny through CDEM Group member authorities' Long Term Council Community Plans, and Annual Plan budgeting processes, which go through community consultation.

If any member of the Group is unable to carry out its responsibilities under this Plan, the matter should be brought back to the CDEM Group for decision.





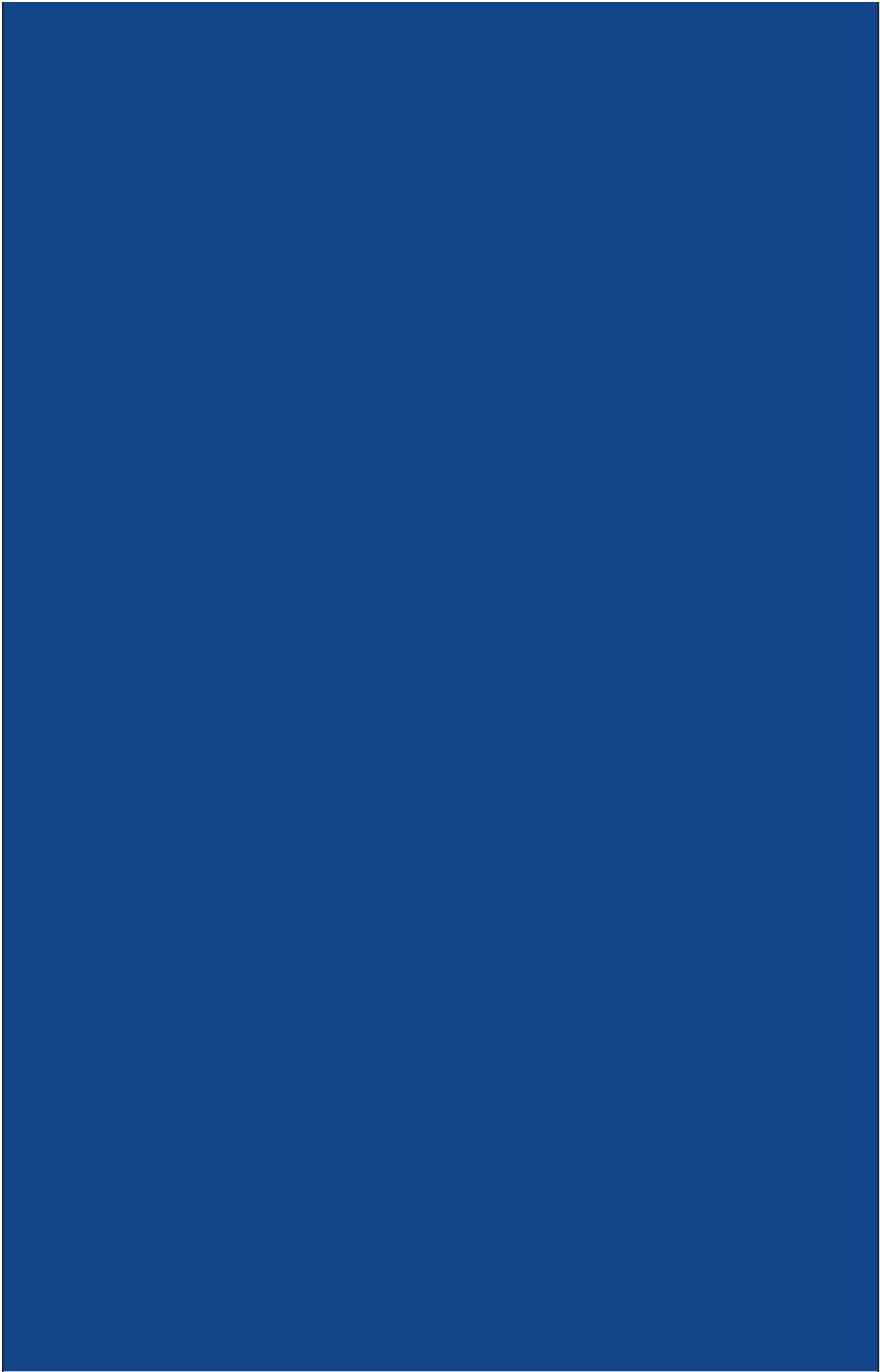
# Supporting plans

## 9 Supporting plans

Below is a list of plans and guidelines that have been developed in support of the Wellington Region CDEM Group Plan.

Plan	Due for official review:
CDEM Group Welfare Plan	2012
CDEM Group Recovery Plan	2011
CDEM Group Public Education Strategy	2011
CDEM Group Disposal of Debris Guidelines	2013
CDEM Group Public Information and Media Management Plan	2011
CDEM Group Reconnaissance Plan	2011
CDEM Group Emergency Sewage Disposal Guidelines	2013
CDEM Group Tsunami Evacuation Plan	2012
CDEM Group Priority Utility Sites for Response and Recovery	2013
CDEM Group Regional Rescue Strategy	2011
CDEM Group Regional Commuter Management Strategy	2011
CDEM Group Road Access Restoration Plan	2011
Under Development	Completion date
Exercise Tangaroa	October 2010
Exercise Phoenix	November 2010
CDEM Group External Supply of Resources Plan	June 2011
CDEM Group website upgrade	June 2011
CDEM Group Public Information and Media Management Plan ( <i>review</i> )	June 2011
CDEM Group Regional Rescue Strategy ( <i>review</i> )	June 2011
CDEM Group Road Access Restoration Plan ( <i>review</i> )	June 2011
CDEM Group Regional Commuter Management Strategy ( <i>review</i> )	June 2011
CDEM Group Public Education Strategy ( <i>review</i> )	June 2011
CDEM Group Recovery Plan ( <i>review</i> )	June 2011

# Appendices



## Appendix 1: CDEM Group Work Programme

The tables below summarises the CDEM Group work programme activities proposed for 2010-2015.

### Ongoing CDEM Group Activities

Task	By When	Responsibility (lead agency)
Local Hazard Analysis	Ongoing	Each TA
Resource Management Plan Reviews	Ongoing	Each TA, GWRC
Business Continuity Plan Development	Ongoing	All CDEM agencies
LTCCP consultation with emergency management organizations	Ongoing	Each TA, GWRC
Asset management planning	Ongoing	Each TA, Lifeline utilities
Public Training	Ongoing	Each TA, emergency services
Formal agreements necessary for response and recovery	Ongoing	All CDEM agencies
Volunteer training	Ongoing	Each TA, GEMO
Professional Development (local CDEM Staff and Group appointees)	Ongoing	Each TA, GEMO
Territorial authority exercises	Ongoing	Each TA

### July 2011 – June 2012

Task	By When	Responsibility (lead agency)
Group Exercise	November 2011	GEMO, Each TA
External Supply of Resources Plan	June 2012	Each TA
CDEM Group External Supply of Resources Plan	June 2012	GEMO
CDEM Group Communications Plan ( <i>review</i> )	June 2012	GEMO
CDEM Group's use of GIS in CDEM ( <i>review</i> )	June 2012	GEMO
CDEM Group Fuel Supply Plan	June 2012	GEMO
Tsunami Evacuation Plan	Dec 2011	Each TA

CDEM Group Mass Temporary Accommodation Plan	June 2012	GEMO
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#### July 2012 – June 2013

Task	By When	Responsibility (lead agency)
Group Exercise	November 2012	GEMO, Each TA
Disposal of Sewage Plan	Dec 2012	Each TA
CDEM Group Regional Commuter Management Strategy ( <i>review</i> )	June 2013	GEMO
CDEM Group Air Traffic Control During an Emergency Strategy	June 2013	GEMO
Community Preparedness Survey	June 2013	GEMO
Vulnerability of Lifelines Utility Communications	June 2013	GEMO
CDEM Group Welfare Plan ( <i>review</i> )	June 2013	GEMO
CDEM Group Reconnaissance Plan ( <i>review</i> )	June 2013	GEMO
CDEM Group Road Access Restoration Plan ( <i>review</i> )	June 2013	GEMO
CDEM Group Supply of Emergency Water Plan	June 2014	GEMO

#### July 2013 - June 2014

Task	By When	Responsibility (lead agency)
Group Exercise	November 2013	GEMO, Each TA
Business Preparedness Survey	June 2014	GEMO
Debris Disposal Plan	Dec 2013	Each TA
CDEM Group Supply of Emergency Water Plan	June 2014	GEMO
CDEM Group Mass Temporary Accommodation Plan	June 2014	GEMO
CDEM Group Emergency Sewage Disposal Guidelines ( <i>review</i> )	June 2014	GEMO
CDEM Group Tsunami Evacuation Plan ( <i>review</i> )	June 2014	GEMO
CDEM Group Disposal of Debris Guidelines ( <i>review</i> )	June 2014	GEMO
CDEM Group Priority Utility Sites for Response and Recovery ( <i>review</i> )	June 2014	GEMO
Hazard and Risk Analysis for the Wellington CDEM Group Plan ( <i>review</i> )	June 2015	GEMO

July 2014 – June 2015

Task	By When	Responsibility (lead agency)
Group Exercise	November 2014	GEMO, Each TA
Local Hazards Consequences Analysis Report	June 2015	Each TA
Community Preparedness Survey	June 2015	GEMO
CDEM Group Communications Plan <i>(review)</i>	June 2015	GEMO
CDEM Group's use of GIS in CDEM <i>(review)</i>	June 2015	GEMO
CDEM Group Fuel Supply Plan <i>(review)</i>	June 2015	GEMO
CDEM Group Public Education Strategy <i>(review)</i>	June 2015	GEMO
CDEM Group Recovery Plan <i>(review)</i>	June 2015	GEMO
CDEM Group Public Information and Media Management Plan <i>(review)</i>	June 2015	GEMO
CDEM Group Regional Rescue Strategy <i>(review)</i>	June 2015	GEMO
Hazard and Risk Analysis for the Wellington CDEM Group Plan <i>(review)</i>	June 2015	GEMO

July 2015 – June 2016

Task	By When	Responsibility (lead agency)
Group Exercise	November 2015	GEMO, Each TA
CDEM Group Mass Evacuation Plan <i>(review)</i>	June 2016	GEMO
CDEM Group Regional Commuter Management Strategy <i>(review)</i>	June 2016	GEMO
CDEM Group Air Traffic Control During an Emergency Strategy <i>(review)</i>	June 2016	GEMO
CDEM Group Welfare Plan <i>(review)</i>	June 2016	GEMO
CDEM Group Reconnaissance Plan <i>(review)</i>	June 2016	GEMO
CDEM Group Road Access Restoration Plan <i>(review)</i>	June 2016	GEMO
Wellington Region CDEM Group Plan <i>(review)</i>	June 2016	GEMO

## Appendix 2: Strategic Partners

Local Authorities	Lifeline Utilities and Lifeline Groups
Carterton District Council Greater Wellington Regional Council Hutt City Council Kapiti Coast District Council Masterton District Council Porirua City Council South Wairarapa District Council Upper Hutt City Council Wellington City Council	BP Oil NZ Ltd Mobil Oil New Zealand Ltd Caltex New Zealand Ltd Shell New Zealand Ltd Bulk Water - GW Electra Ltd Nova Energy Vector Gas Powerco Ltd
Emergency Services	Wellington Electricity Telecom New Zealand Ltd TelstraClear Vodafone Kordia Radio NZ NZTA Transpower Kiwirail / OnTrack CentrePort Wairarapa Engineering Lifelines Association Wellington International Airport Ltd Wellington Lifelines Group
National Rural Fire Authority (NRFA) New Zealand Fire Service New Zealand Police Wellington Free Ambulance Capital and Coast District Health Board Hutt Valley District Health Board Wairarapa District Health Board Regional Public Health Service	
National Agencies	Welfare Organisations
Child Youth and Family Housing Corporation Ministry of Social Development (WINZ) Maritime Safety Authority (MSA) NZ Defence Forces (NZDF) Civil Aviation Authority (CAA) Department of Conservation (DoC) Insurance Council of New Zealand Inc Metservice Ministry of Agriculture and Forestry (MAF)/Agriquality Ministry of Civil Defence & Emergency Management (MCDEM) Ministry of Health (MoH) Earthquake Commission (EQC) Department of Prime Minister and Cabinet (DPMC) National Institute of Water and Atmospheric Research (NIWA) GNS Rescue Co-ordination Centre New Zealand (RCCNZ)	New Zealand Red Cross Salvation Army SPCA Order of St John Ambulance Central Region Victim Support
	Other Agencies
	Hutt City Rescue NZRT 7- Victoria University Rescue Team NZRT 8- WCC Tawa Rescue Team NZRT 9- Upper Hutt Community Rescue Team Amateur Radio Emergency Corps Chambers of Commerce Regional Economic Development Agencies Federated Farmers Media organisations Coastguard Central Region Volunteer rescue teams



**Appendix 3: Terms of Reference – CDEM Group**

**\*\*To be added\*\***

## **Appendix 4: Terms of Reference – CEG**

**\*\*To be added\*\***

## Appendix 5: CDEM Group statutory and non-statutory appointments

### STATUTORY APPOINTMENTS:

#### Group Controller

*Rian van Schalkwyk*

#### Alternate Group Controllers

*Ian Gunn, Craig Hamilton*

#### Local Controllers

Wellington City	Mike Mendonca Sally Dosser, Derek Fry, Fred Mecoy (alternates)
Porirua City	Mike Chapman, Trevor Farmer (alternate)
Kapiti District	Bernie Goedhart Scott Dray, Leigh Sage (alternates)
Hutt City	Paul Nickalls Marty Grenfell, Chris Upton (alternates)
Upper Hutt City	Chris Upton Paul Nickalls (alternate)
Masterton District	Kevin Tunnell Jonathan Hooker, Roger Gardner (alternates)
South Wairarapa District	Derek Theobald
Carterton District	Elaine Brazendale Milan Hautler (alternate)

### NON-STATUTORY APPOINTMENTS:

#### Group Recovery Manager

*Francis Ryan*

#### Alternate Group Recovery Managers

*Tim Porteous, Barry Leonard*

#### Lifelines Co-ordinators

*Dave Brundston*

*Sandra Pederson (alternate)*

#### Group Welfare Manager

*Kate O'Regan*

## Appendix 6: MOUs with CDEM Groups

**\*\*To be added\*\***

## Appendix 7: Statutory Declaration Forms

### Form 8, Schedule 2, CDEM Regulations 2003

#### Declaration of state of local emergency

*Section 68, Civil Defence Emergency Management Act 2002*

I, [full name], declare that a state of local emergency exists in [specify names of Civil Defence Emergency Management Group area, districts, or wards] owing to [describe emergency].

The state of local emergency comes into force immediately on the making of this declaration/ into force at [specify later time and date]\*.

The state of local emergency expires with the commencement of the seventh day after the date on which this declaration is made/expires at [specify time and date, which must not be later than the commencement of the seventh day after the date on which this declaration is made]\*.

\*Select one.

Declared by: [signature]

Designation: *Select the applicable designation.*

- Person appointed and authorised by the Civil Defence Emergency Management Group to declare a state of local emergency for its area.
- Representative of a member of the Civil Defence Emergency Management Group [select this designation where no appointed person is or is likely to be able to exercise the power to declare a state of local emergency].
- Mayor of the district for which the state of local emergency is declared.
- Elected member of the district for which the state of local emergency is declared (designated to act on behalf of the mayor when the mayor is absent).

Time and date of declaration:

#### Notes

1. This declaration must be—
  - (a) notified to the public immediately by any means of communication that are reasonably practicable in the circumstances; and
  - (b) published in the *Gazette* as soon as practicable. It is recommended that publication in the *Gazette* occur within 20 working days after the state of emergency is terminated.
2. Calculating “the commencement of the seventh day after the date on which this declaration is made”: If the declaration is made at any time on 1 January, it will expire at the beginning of 8 January. If the declaration is made at any time on a Friday, it will expire at the beginning of the following Friday.

**Form 9, Schedule 2, CDEM Regulations 2003**

**Declaration extending state of local emergency**

*Section 71, Civil Defence Emergency Management Act 2002*

I, [full name], extend the state of local emergency declared at [specify time and date]<sup>†</sup> for [specify names of Civil Defence Emergency Management Group area, districts, or wards] owing to [describe emergency].

The state of local emergency expires with the commencement of the seventh day after the date on which this declaration is made/expires at [specify time and date, which must not be later than the commencement of the seventh day after the date on which this declaration is made]\*.

<sup>†</sup>Include times and dates of any previous extensions.

\*Select one.

Declared by: [signature]

Designation: *Select the applicable designation.*

- Person appointed and authorised by the Civil Defence Emergency Management Group to declare a state of local emergency for its area.
- Representative of a member of the Civil Defence Emergency Management Group [select this designation where no appointed person is or is likely to be able to exercise the power to declare a state of local emergency].
- Mayor of the district for which the state of local emergency is declared.
- Elected member of the district for which the state of local emergency is declared (designated to act on behalf of the mayor when the mayor is absent).

Time and date of declaration:

**Notes**

1. This declaration must be—
  - (a) notified to the public immediately by any means of communication that are reasonably practicable in the circumstances; and
  - (b) published in the *Gazette* as soon as practicable. It is recommended that publication in the *Gazette* occur within 20 working days after the state of emergency is terminated.
2. Calculating “the commencement of the seventh day after the date on which this declaration is made”: If the declaration is made at any time on 1 January, it will expire at the beginning of 8 January. If the declaration is made at any time on a Friday, it will expire at the beginning of the following Friday.
3. If this is a second or subsequent extension of a state of emergency, specify the time and date each previous extension was made, as well as the time and date the state of emergency was first declared.

## Form 10, Schedule 2, CDEM Regulations 2003

### Declaration terminating state of local emergency

Section 72, Civil Defence Emergency Management Act 2002

I, [full name], terminate the state of local emergency declared at [specify time and date]<sup>†</sup> for [specify names of Civil Defence Emergency Management Group area, districts, or wards] owing to [describe emergency].

The termination of the state of local emergency takes effect from the time and date of this declaration/from [specify time and date, which must not be later than the commencement of the seventh day after the date on which the state of local emergency was declared or last extended]\*.

<sup>†</sup>Include times and dates of any extensions.

\*Select one.

Declared by: [signature]

Designation: *Select the applicable designation.*

- Person appointed and authorised by the Civil Defence Emergency Management Group to declare a state of local emergency for its area.
- Representative of a member of the Civil Defence Emergency Management Group [*select this designation where no appointed person is or is likely to be able to exercise the power to declare a state of local emergency*].
- Mayor of the district for which the state of local emergency is declared.
- Elected member of the district for which the state of local emergency is declared (designated to act on behalf of the mayor when the mayor is absent).

Time and date of declaration:

#### Notes

1. This declaration must be—
  - (a) notified to the public immediately by any means of communication that are reasonably practicable in the circumstances; and
  - (b) published in the *Gazette* as soon as practicable. It is recommended that publication in the *Gazette* occur within 20 working days after the state of emergency is terminated.
2. Calculating “the commencement of the seventh day after the date on which the state of local emergency was declared”: If the declaration was declared at any time on 1 January, it would expire at the beginning of 8 January. If the declaration was made at any time on a Friday, it would expire at the beginning of the following Friday.
3. If any extension of the state of emergency was made, specify the time and date each extension was made, as well as the time and date the state of emergency was first declared.