SAFER

SOUTH ISLAND/TE WAIPOUNAMU
ALPINE FAULT EARTHQUAKE RESPONSE

FRAMEWORK

AF8
ALPINE FAULT MAGNITUDE 8

MANA TANGATA: POWER OF LEADERSHIP THROUGH THE PEOPLE

AF8
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SHARED SITUATIONAL AWARENESS AND OPERATIONAL COORDINATION IN THE EVENT OF A MAJOR ALPINE FAULT EARTHQUAKE.

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ABOUT THE SAFER FRAMEWORK AND AF8 PROGRAMME

The SAFER Framework is one of the outputs of the Ministry of Civil Defence & Emergency Management funded AF8 Programme, led by Emergency Management Southland.

GOVERNANCE

Governance for the AF8 Programme and the SAFER Framework is provided by the AF8 Steering Group, comprising management representatives of each South Island CDEM Group emergency management office, the Ministry of Civil Defence & Emergency Management, and science representatives co-opted by the CDEM Group members.

Emergency Management Southland are the administrating authority for the SAFER Framework, on behalf of the South Island CDEM Groups as owners of the Framework. Administering authority status for SAFER Framework can be transferred to another entity on agreement of a majority of members of the Steering Group.

REVIEW

It is intended that the SAFER Framework will be reviewed collectively by partner CDEM Groups and agencies within five years of it first being adopted, or following any significant exercise, actual response, or change to the organisational, statutory or regulatory environment within which the Framework is located.

The SAFER Framework may also be reviewed after any significant emergency response or higher level response review that has relevant or applicable findings.

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SUMMARY

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SECTION 1: INTRODUCTION

The South Island Alpine Fault Earthquake Response (SAFER) Framework is a key output of the first two years of the AF8 Programme, a Ministry of Civil Defence & Emergency Management (MCDEM) funded project to improve knowledge of, readiness for, and resilience to a magnitude 8 earthquake on the Alpine Fault.

The SAFER Framework provides a concept of coordination of response and priority setting across all six South Island Civil Defence Emergency Management (CDEM) Groups and their partner organisations in the first seven days of response. It is not intended to replace existing plans within agencies but to provide a coordinated picture of response across the South Island.

Scientific knowledge of New Zealand's highly active seismic context has improved appreciably from an already solid base since the 2010 Darfield and 2011 Christchurch earthquake, as more resources have been directed to research national and regional programmes. The AF8 Programme has been established by South Island CDEM Groups in partnership with their seismic science partners, in particular GNS Science (Resilience to Nature's Challenges), University of Canterbury (QuakeCoRE and Rural Priority Laboratory), University of Otago, and Massey University, to make the most of the resources available in building readiness for and resilience to earthquake risk in the South Island.

02/

SECTION 2: SCENARIO

The SAFER Framework employs the best current estimation of impacts to inform planning for quake response, with the knowledge that there is a high degree of uncertainty of what will actually happen. Current estimates suggest that the Alpine Fault experiences a significant rupture approximately every 300 years, with the most recent rupture known to have occurred in 1717. The impact of a major rupture of between 400 to 800 kms of the Alpine Fault would result in severe building, infrastructure, and geological damage within approximately 100 kms of the fault.[1] Communities in the affected areas will be isolated, with highly compromised living conditions from days to months, with less severe affects further from the greatest shaking intensities.

Landslides, liquefaction, infrastructure damage, deaths and injuries vary considerably in all models of Alpine Fault rupture. Weather conditions at the time of the quake and during the response cannot be known in advance. Therefore, the response Framework for an Alpine Fault rupture must use a flexible approach to ensure it encompasses a wide range of possible outcomes, including worst case scenarios. AF8 has developed a Maximum Credible Event (MCE) scenario based on a magnitude 8 earthquake rupturing along the Alpine Fault from South to North.[2] Credible impacts resulting from the significant Alpine Fault earthquake scenario included in the SAFER Framework are:

- Landslides, rockfalls, liquefaction
- Damage to buildings, electricity, telecommunications, water, roads, etc.
- 1,000s of minor to moderate injuries
- 100s to 1,000s of serious injuries
- 100s of deaths
- 10s to 100s entrapped
- 10,000s displaced or isolated
- Food and fuel supplies disrupted
- Agricultural, tourism and industry disrupted

1. See Appendix B for more detail.
2. Based on modelling from similar events elsewhere and RiskScape modelling not yet released.

03/

SECTION 3: CONSOLIDATED RESPONSE FRAMEWORK

Reviews of responses to earthquakes and other significant emergencies in New Zealand and elsewhere in the past decade have identified that the most effective responses are those where robust science is used to inform planning and risk management. This includes knowledge of specific hazards communities are exposed to and the consequences they generate. Responders can use this information to pre-empt the response capabilities, resources and coordination processes that will be required to meet the immediate and ongoing needs of communities affected by an emergency. This focus on consequence-informed capability development results in less time being required to assess the impacts of an emergency on communities, infrastructure and the environment, and can therefore improve responsiveness. It also helps to build resilience prior to the event, initiate and maintain effective responses, and transition seamlessly to recovery.

The SAFER Framework employs the current best scientific knowledge of the Alpine Fault and its consequences and puts in place a set of proactive response targets, guidance and supporting processes to assist CDEM Groups, local authorities, iwi, emergency services, social agencies, health and disability services, infrastructure providers, tourism stakeholders, business, and communities in developing more detailed plans to build and deliver effective, proactive responses when disaster strikes. This knowledge is outlined in impact assumptions that inform the rest of the document.

The response component of the Framework outlines the collaborative approach intended to be taken across the South Island, that will be supported by central government agency coordination led by MCDEM. Effective responses under this Framework rely on leadership provided by CDEM Group Controllers, bringing together partner organisations in a seamless inter-CDEM Group response.

A set of response objectives and an "estimated response timeline" are included to provide an indication of changing priorities and realistic timeframes for planning and activities in the immediate response to the needs generated by an Alpine Fault earthquake. The response objectives and accompanying function specific "situation and likely event development" analysis provide focus to the response guides and suggested tasks included in each of the action plans.

Included in the response section are six functional response components, providing guidance for aspects of response identified in multi-agency SAFER workshops carried in 2017 as requiring more cross-boundary specificity, clarity or urgency than provided in existing guidance and plans. These components are:

- Telecommunications
- Reconnaissance
- Evacuation
- Logistics
- Public Information Management
- Welfare Services

As access to and from severely affected areas will be very limited in this event, effective across-boundary, multi-agency coordination of evacuation, logistics, and the provision of welfare services (in affected areas, in transit, and in safe areas) will be pivotal aspects of any resultant response.

Planning workshops for SAFER have identified key vulnerabilities and shared resources across New Zealand. We recognise that the Framework document is the start of the planning discussion and there will be an accompanying gap analysis to identify further work programmes over the coming years. Examples of this include: management of air assets, fuel plans, Fast Moving Consumer Goods (FMCGs) and telecommunication resilience and redundancy. An extensive list of earthquake response focused roles and responsibilities is attached as appendices to the Framework, to provide Alpine Fault earthquake response expectations of emergency response partners. The roles and responsibilities section adds SAFER context value and clarity to the more generic equivalents provided in the National CDEM Plan and Guide 2015 and other emergency response management documents.

The SAFER Framework provides not only guidance for more effective responses but an impetus for improved resilience to earthquakes. Risk reduction opportunities, needs and targets are identified and delivered alongside readiness developments, outlined in Appendix A and in the accompanying SAFER Implementation Plan. A diagram representing the SAFER concept of multi-agency coordination is at Figure 5.

A LIVING FRAMEWORK

Responsibility for the SAFER Framework will be held by Emergency Management Southland, the sponsors of this project, with the intention that it will be reviewed following the national Alpine Fault exercise in the 2020/2021 financial year. The Framework will be fully reviewed five years after it is adopted or after any events or changes in policy, responsibilities or organisational arrangements with a bearing on the Framework. Appendix A provides an outline of how the response planning stages of AF8 are intended to transition into the ongoing programme of risk coordination, communication, and resilience work that will follow under the AF8 banner.

CONSISTENCY ACROSS ALL CDEM GROUPS WILL BE BENEFICIAL TO AN EFFECTIVE RESPONSE.

INTRODUCTION

MANA TANGATA: POWER OF LEADERSHIP THROUGH THE PEOPLE

1.1 PURPOSE AND SCOPE

The purpose of the SAFER Framework is to provide a concept of shared situational awareness and operational coordination and cooperation across all South Island CDEM Groups and partner agencies in the event of a major Alpine Fault earthquake, or any earthquake that causes widespread damage in the South Island.

The scope of the SAFER Framework includes the key concepts, principles and actions that would underpin a proactive, effective and coordinated response across the South Island to a major Alpine Fault earthquake.

Emphasis in the Framework is on issues where consistency across all CDEM Groups will be beneficial to an effective response, particularly on cross-CDEM Group boundary issues.

The SAFER Framework sits between and connects CDEM Group and partner organisation plans at the regional level with the National CDEM Plan and Guide and national level partner organisations plans.

While this Framework does not detail the national response approach to an Alpine Fault event, it recognises that an event of this nature would likely lead to a declaration of a state of national emergency. The Framework therefore reflects that the National Crisis Management Centre (NCMC) would be activated to direct the response

1.2 OUT OF SCOPE

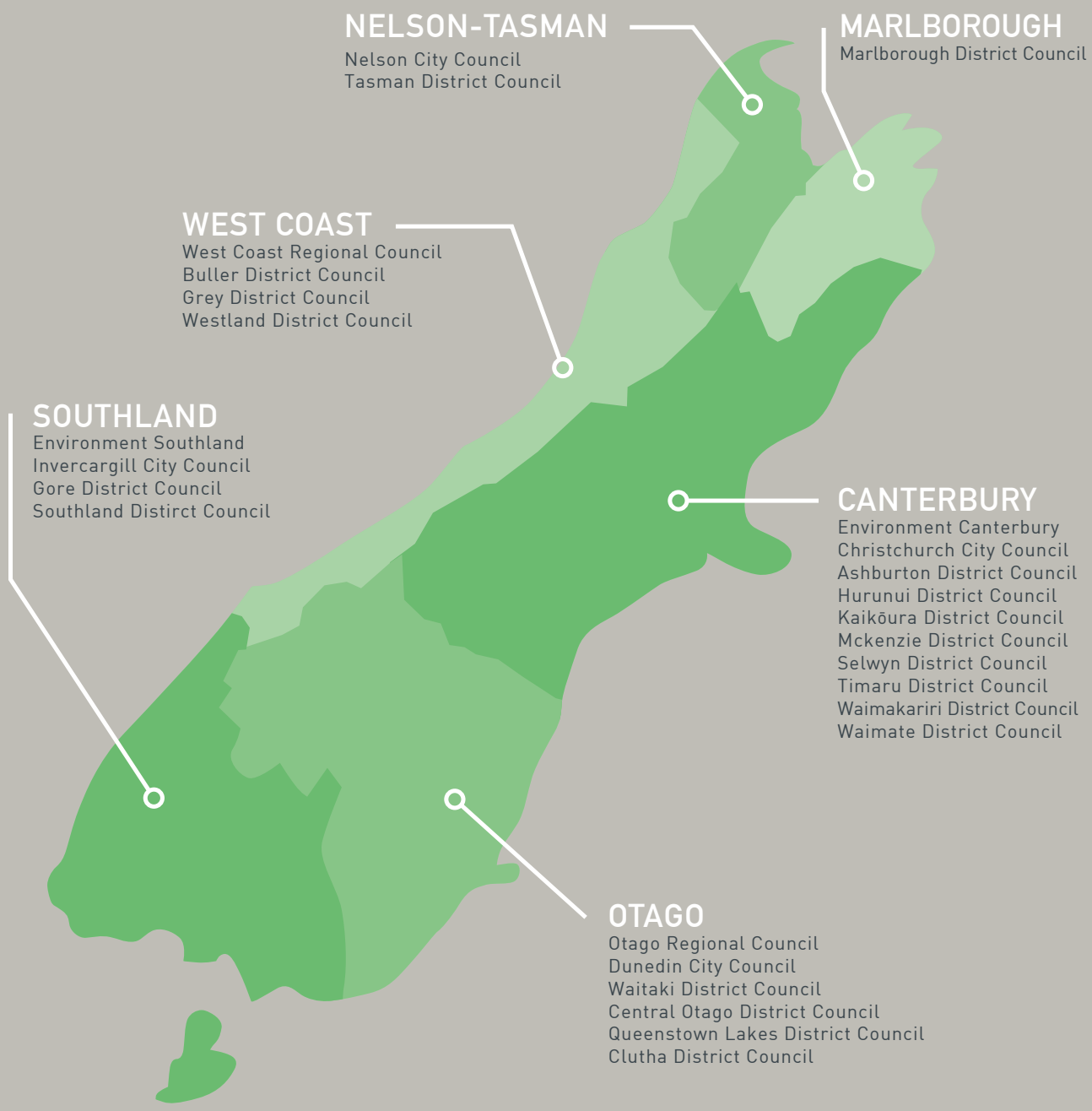
This Framework does not contain detailed action planning for CDEM Groups, MCDEM, or partner agencies at local, regional and national levels. It is therefore essential that these organisations have their own plans and procedures how they will respond to a major Alpine Fault earthquake and other emergencies of similar scale and complexity.

1.3 AUDIENCE

This Framework is intended for the following users:

- South Island CDEM Groups, their member local authorities (as shown in Figure 1) and their local and regional partner organisations
- All other CDEM Groups and partner organisations
- South Island Te Waipounamu iwi
- MCDEM and the National Crisis Management Centre (NCMC)
- Central Government agencies (including all emergency services, the New Zealand Defence Force (NZDF), health and disability services, welfare service agencies, and transport, energy and telecommunications regulating agencies involved in the response in the South Island)
- Crown owned entities
- Lifeline utilities: road, rail, ports/airports, air transport providers, electricity, fuel, telecommunications, water, waste water, (particularly national service providers serving more than one CDEM Group area) and the FMCG sector
- Private sector organisations involved in response and recovery
- Non-government organisations (NGOs) involved in the response and recovery
- All science research entities (including Crown Research Institutes (CRIs) and universities with interests and intention to be involved in, support or study community and managed responses to significant South Island earthquakes)
- South Island and national media organisations

FIGURE 1. SAFER FRAMEWORK CDEM GROUPS AND MEMBER LOCAL AUTHORITIES



SOURCE: MINISTRY OF CIVIL DEFENCE & EMERGENCY MANAGEMENT

1.4 INTENDED USE

The SAFER Framework is intended to be used by CDEM Groups and partner agencies as follows:

Before an Alpine Fault earthquake:

- To further develop relationships that will enable consistent and mutually supporting action across all aspects of response in the South Island
- As a basis to build on existing plans and capabilities and to establish more detailed operational planning

During an Alpine Fault (or other significant) earthquake:

- As a guide for determining impacts, needs, future risks, consequences and necessary response actions

It is anticipated that CDEM Groups, member local authorities, partner agencies and stakeholder organisations will update their plans and procedures to align with the SAFER Framework.[3]

1.5 ACTIVATION TRIGGERS

The SAFER Framework will be activated by all South Island CDEM groups, their member local authorities, regional and national partner organisations immediately when any of the following triggers occur:

1. A strongly felt earthquake with shaking continuing for longer than two minutes.
2. Confirmation from GeoNet/GNS Science, MCDEM, or other sources that a severe Alpine Fault earthquake has occurred.
3. Community-wide electricity or telecommunications failure following a severe earthquake.
4. Reports of significant damage following a severe, long duration earthquake.

These triggers have been defined to ensure that the unknown factors of the event do not prevent immediate, coordinated response actions being carried out. Initially unknown factors will include:

- The source of the earthquake
- The scale and consequences of the event
- The extent of damage to communications, electricity and other networks

1.6 OPERATIONAL PERIOD

The SAFER Framework covers the first seven days of response after a major earthquake. An estimated response timeline for an Alpine Fault event is included in Appendix C.

However, actions initiated and action plans developed in the first seven days will continue into or inform subsequent operations periods.

3. An implementation plan will accompany the SAFER Framework to provide objectives, targets, and measures for the development or update of respective response plans and capabilities.

1.7 CONTEXT OF THE SAFER FRAMEWORK

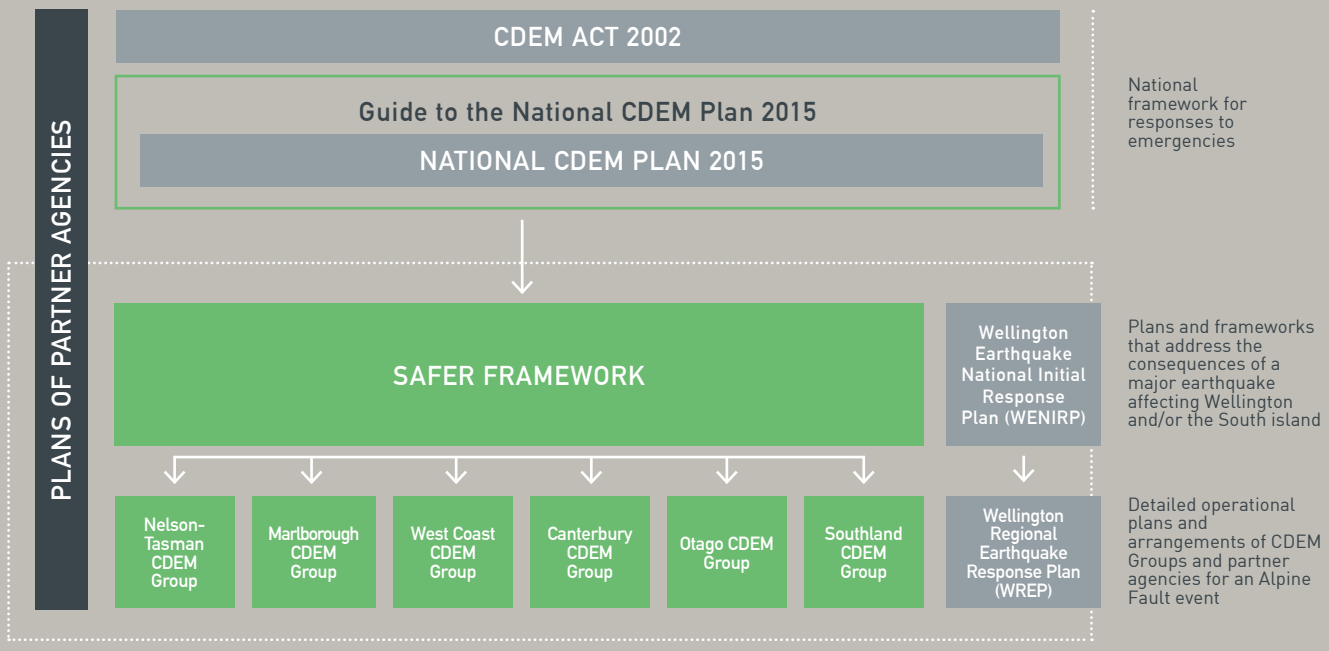
The SAFER Framework is designed to operate under the auspices of the CDEM Act 2002 and within the structures, roles and responsibilities of:

- The current National CDEM Plan and Guide
- The current version of the New Zealand Coordinated Incident Management System (CIMS) manual.

The Framework sits between and connects this national level doctrine with the statutory and operational plans developed by CDEM Groups, and the operational plans and arrangements of all partner agencies at regional and local levels, as illustrated in Figure 2 below.

The SAFER Framework includes a wider range of partner agencies while this Framework does not provide detailed action planning for each agency, those that have roles and responsibilities under this plan are expected to have their own response plans and capabilities that are consistent with the SAFER Framework.

FIGURE 2. SAFER FRAMEWORK CDEM GROUPS AND MEMBER LOCAL AUTHORITIES



The SAFER Framework is designed to work alongside (and has been developed in conjunction with) the Wellington Earthquake National Initial Response Plan (WENIRP)[4], as a significant Alpine Fault earthquake may cause damage and disruption in Wellington as well as in the South Island. It is therefore possible that the SAFER Framework, WENIRP, and the Wellington Regional Earthquake Response Plan (WREP)[5] will need to be activated in response to the same event.

4. Developed by MCDEM.
5. Developed by the Wellington Region Emergency Management Office (WREMO).

1.8 BACKGROUND

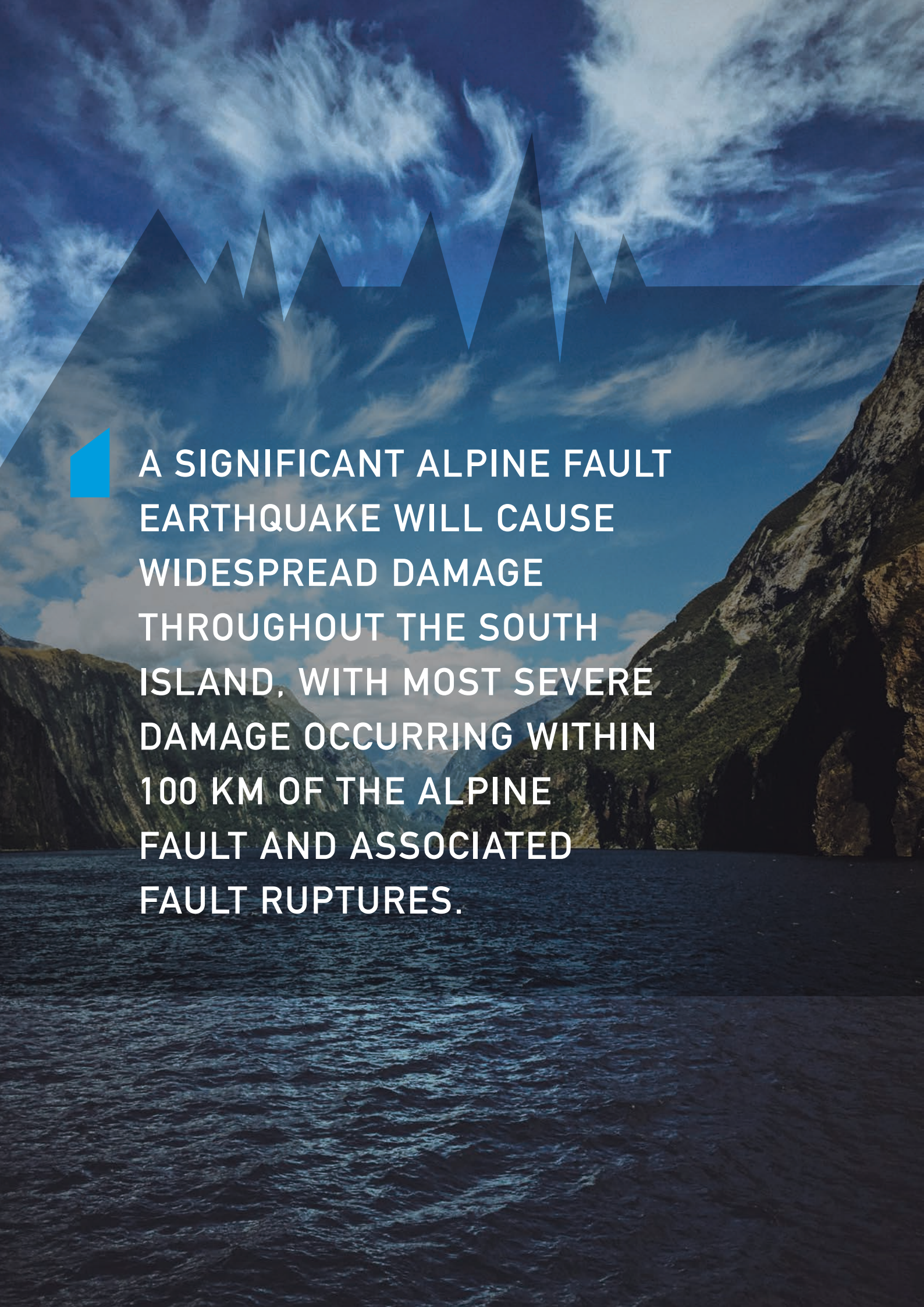
The following recent events have highlighted the need for a systematic, proactive, and consistent approach to inter-organisational coordination in major emergencies:

- 2010-2012 Canterbury earthquake sequence
- 2010 Pike River Coal Mine Tragedy
- 2011 MV Rena grounding
- 2016 Kaikōura earthquake sequence
- 2017 Port Hills fires.

The SAFER Framework was developed in response to the lessons learned from these and other emergencies, and to provide the groundwork for the close cooperation between South Island response agencies that an Alpine Fault event would require.

The scientific research that informed the scenarios used in this Framework and other AF8 outputs was put together by a broad range of multi-disciplinary experts from a consortium of New Zealand universities and CRIs.

Appendix A "Project AF8 Transition" provides an overview of the goals and associated tasks that need to be carried out over the next 5 years, at which point the SAFER Framework will be reviewed.



A SIGNIFICANT ALPINE FAULT EARTHQUAKE WILL CAUSE WIDESPREAD DAMAGE THROUGHOUT THE SOUTH ISLAND, WITH MOST SEVERE DAMAGE OCCURRING WITHIN 100 KM OF THE ALPINE FAULT AND ASSOCIATED FAULT RUPTURES.

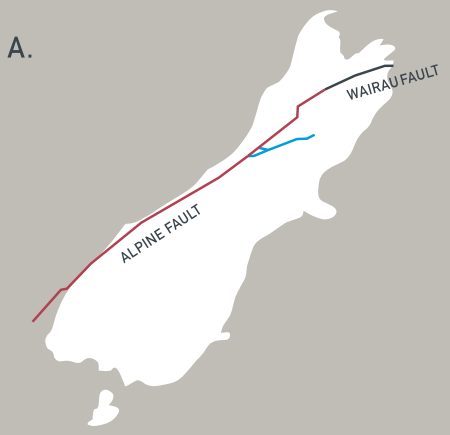
SCENARIO

MANA TANGATA: POWER OF LEADERSHIP THROUGH THE PEOPLE

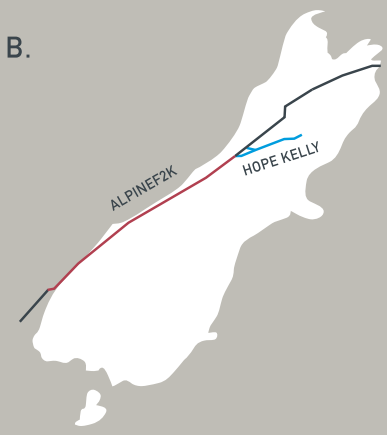
2.1 OVERVIEW

The scenario on which this Framework is based is informed by a range of Alpine Fault rupture scenarios and other potential earthquake sources. The SAFER Framework has been written to consider any and all potential Alpine Fault earthquake scenarios, the scenario used in the SAFER planning workshops was a South to North rupture of the 400km section of the Alpine Fault depicted in Figure 3.b.

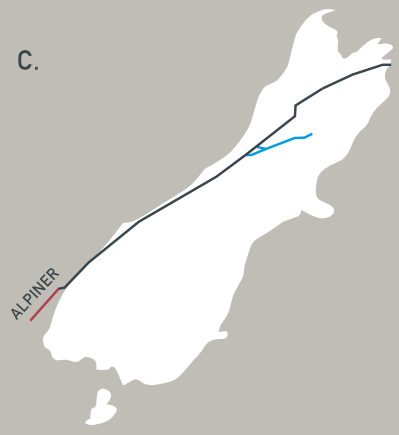
FIGURE 3. THE ALPINE FAULT IN THE SOUTH ISLAND OF NEW ZEALAND, HIGHLIGHTING EARTHQUAKE SOURCE SEGMENTS[6]



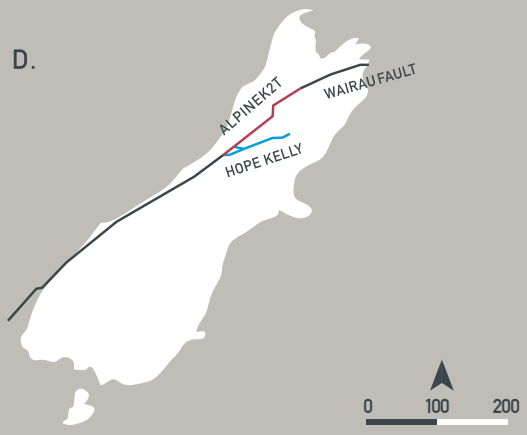
A. The Alpine Fault (red), including the Wairau Fault (black) in the northeast, is a semi-continuous plate boundary structure from offshore of SW Fiordland to Cook Strait.



B. The Alpine F2K (Fiordland to Kelly) source segment (red) is defined from offshore of Charles Sound, Fiordland to the intersection with the Hope-Kelly Faults (blue).



C. Offshore AlpineR (Resolution) source segment (red).



D. The AlpineK2T (Kelly to Tophouse) source segment (red) strikes from the vicinity of the Hope-Kelly Faults (blue) intersections to the southwestern end of the Wairau Fault.

6. National Seismic Hazard model of Stirling et al. (2012).

2.2 MAXIMUM CREDIBLE EVENT [MCE]

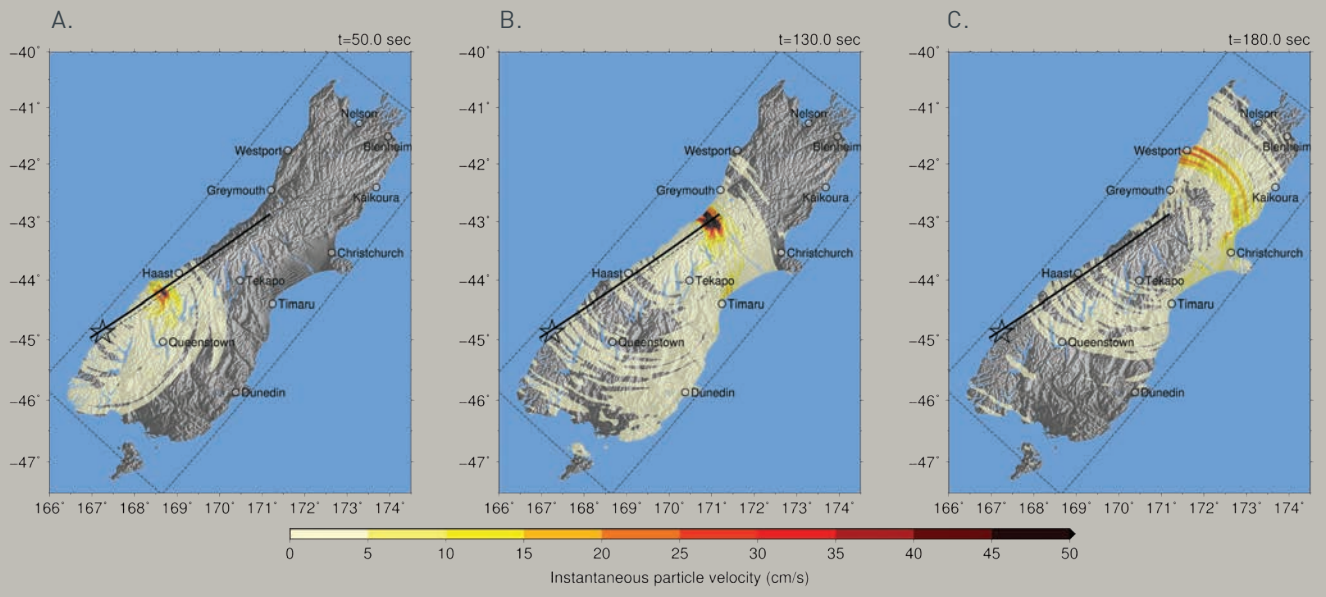
The specific scenario used in developing the SAFER Framework is scenario B from Figure 3 on the previous page, involving an earthquake initiation (epicentre) in Fiordland, with the seismic energy propagating North-Eastwards for 400km along the Alpine Fault, to Kelly, inland from Greymouth.

The South to North rupture is the accepted maximum credible event (MCE)[7] used for the SAFER Framework, as this scenario represents the most widespread and severe damage credibly possible from an Alpine Fault rupture. More severe scenarios are also possible, but the chosen scenario was deemed challenging enough to provide a sound basis for planning purposes.

The energy released by this earthquake is depicted in Figure 4 below, representing peak ground acceleration at two and three minute intervals after the initiation of the rupture at a epicentre near to Milford Sound. Energy from the quake will predominantly follow the direction of the rupture, in this case from South to North. As well as the energy release nearer to fault rupture, this modelling also demonstrates the accentuation of ground acceleration in the softer unconsolidated soil in coast central Canterbury.

Alternative scenarios include a more northern epicentre, which will generate a north to south rupture propagation, likely to cause more damage in Central Otago, Dunedin, Clutha and South-Eastern parts of the Southland region. These alternative scenarios would not change the activation or implementation of the SAFER Framework.

FIGURE 4. ILLUSTRATION OF THE PARTICLE VELOCITY (VECTOR MAXIMUM IN THE HORIZONTAL PLANE) AT THREE TIME INSTANTS DURING GROUND MOTION SIMULATION OF THE SOUTHERN HYPOCENTRE ALPINEF2K RUPTURE SCENARIO[8]



A. t = 50s, illustrating significant rupture directivity in the wavefield;

B. t = 130s, directivity-basin coupling as the wavefield enters the Canterbury basin;

C. t = 180s, directivity leading to relatively large amplitudes North of the rupture and critical reflections resulting in a long duration of significant ground motion in the Canterbury sedimentary basin.

7. International best practice hazard based planning uses MCE scenarios to inform the planning.
8. Ground motion simulations of great earthquakes on the Alpine Fault of Bradley BA et al. (2017).

2.3 CONTEXT OF AN ALPINE FAULT EARTHQUAKE

The area covered by this Framework is the entire South Island, including Stewart Island, all of which will be impacted directly or indirectly by a significant Alpine Fault earthquake.

Exposure to an Alpine Fault earthquake is strongly influenced by location and local ground conditions and topography, with the steeper terrain of the Southern Alps near the Alpine Fault and communities with vulnerable infrastructure being the most exposed. Communities and visitors to these areas are also vulnerable due to their exposure to ground shaking during the quake and the resultant damage to infrastructure and critical services (for more detail, see section 2.3.3 Vulnerable Communities).

2.3.1 POPULATION

The estimated population of the South Island at the time this Framework was written and at the intended time of its review are provided in Table 1 below.

TABLE 1. SOUTH ISLAND REGIONAL POPULATIONS

CDEM GROUP AREA	ESTIMATED 2018	ESTIMATED 2023
Southland	98,400	99,000
Otago	219,750	225,550
Canterbury	610,090	619,970
West Coast	33,760	34,030
Nelson-Tasman	102,200	105,100
Marlborough	45,700	46,400
Total	**1,109,900**	**1,130,050**

SOURCE: STATISTICS NEW ZEALAND

Seasonal populations may differ substantially in all regions from the estimates of population contained in Table 1, which are based on census night in March 2013. Summer and winter tourists[9] and seasonal horticulture seasonal workers swell the population of Queenstown Lakes, Central Otago, the West Coast, Marlborough and Tasman districts considerably, by between 25% and more than 100%.

Day and night populations also differ significantly, resulting in different injury and isolation outcomes in different parts of the South Island. The most marked of these day and night differences are in areas such as Queenstown Lakes to Fiordland during the summer, as visitors take day trips to Milford Sound and other parts of the conservation estate, and during the winter when visitors and local travel to the region's ski areas and central and service-based urban areas during working hours.

9. Current tourism data is collected predominantly by Statistics New Zealand (Stats NZ) and the Ministry of Business, Innovation and Employment (MBIE); however, it is mostly aggregated within regions and does not provide real-time estimation of visitor numbers across the South Island. Regional tourism organisations (RTOs) maintain up-to-date intelligence on visitor numbers that will be extremely useful in an earthquake response.

2.3.2 VULNERABILITY

Vulnerability to the impacts of a large Alpine Fault earthquake may be determined by characteristics such as age, English not being a primary language, a lack of local knowledge including hazards and/or less well established community connections or support networks.

2.3.3 VULNERABLE COMMUNITIES

Vulnerable communities are most strongly determined by local, cultural or economic characteristics, including individuals and groups without strong, well established support in the area or knowledge of the local hazard-scape. The most vulnerable include:

- Anyone living or working in, passing through, or visiting buildings or places likely to be severely quake damaged
- Individuals with chronic medical conditions that depend on continuous electricity supply or access to medications, with disabilities i.e. visual and hearing impaired, mobility issues in wheelchairs health and/or those who rely on health care professionals or carers
- Members of culturally and linguistically diverse communities, including seasonal workers, refugees and newer migrants
- People aged 65+, particularly older members of this cohort vulnerable prior to the quake
- Visitors generally, but most importantly in areas near to the Alpine Fault that are prone to damage and isolation
- Seasonal workers and newer migrants in urban, tourist and agricultural areas for whom English is not a first language and/or who lack local knowledge and community connections
- Visitors (domestic and international) to remote locations during the summer months will be particularly prone to isolation with even less access to telecommunications
- Children whose normal routines are severely interrupted
- Owners and staff of businesses likely to be severely impacted, particularly if their homes are damaged
- Communities likely to be physically isolated following significant local quake effects
- Older unreinforced masonry and concrete slab buildings are most vulnerable to damage
- Companion and production animals dependent of human support or infrastructure vulnerable to earthquakes and/or individuals or groups who are responsible for at-risk animals

2.3.4 CRITICAL SUPPLIES AND LIFELINE UTILITIES

The South Island's road network, fuel, water, air transport, electricity, telecommunications and marine transport infrastructure are vulnerable to disruption from earthquakes and lack redundancy. Telecommunications services are increasingly hubbed in major centres, are not locally or regionally autonomous, and therefore vulnerable to failure caused by link disruption. Key electricity generation and distribution components are concentrated near to the Alpine Fault and widely distributed, making them similarly vulnerable.

Communities close to the Alpine Fault, and throughout the South Island, rely on this infrastructure for the delivery and distribution of all essential goods and services and to travel between and within communities. Very little food is produced in the South Island for local consumption, with most supplies being trucked into communities daily to maintain retail supplies after being imported from offshore, often through North Island centres. South Island food distribution centres are generally centralised in the greater Christchurch area and to a lesser extent in Dunedin, adding some resiliency, but communities nearer the Alpine Fault will be isolated from the bulk supplies that they depend on daily.

As well as lifeline utilities, most residential and commercial built structures are susceptible to significant damage from earthquakes and aftershocks. However, most newer infrastructure have been designed and constructed with quake resilience in mind.

2.3.5 HEALTH SERVICES

Tertiary and secondary health services are concentrated in the larger communities on the east coast of the South Island, primarily in Christchurch, Dunedin, Invercargill, Timaru, and Nelson-Marlborough, distant from the Alpine Fault. Smaller hospitals and health services closer to the Alpine Fault, in Te Anau, Queenstown Lakes, Central Otago, Mackenzie Country and the West Coast are vulnerable to quake impact and disruption to land transport routes.

2.3.6 ONGOING PSYCHOSOCIAL IMPACTS FROM PREVIOUS EARTHQUAKES

South Island communities, particularly Canterbury and Marlborough, have experienced numerous damaging earthquakes since September 2010 that have left residents, including responders, susceptible to psychosocial impacts of further severe quakes. Psychosocial support will be a significant aspect of all response and recovery activities.

THE SOUTH ISLAND'S ROAD NETWORK, FUEL, AIR TRANSPORT, ELECTRICITY, TELECOMMUNICATIONS AND MARINE TRANSPORT INFRASTRUCTURE ARE VULNERABLE TO DISRUPTION FROM EARTHQUAKES AND LACK REDUNDANCY.

2.4 ANTICIPATED IMPACTS

A significant Alpine Fault earthquake will cause widespread damage throughout the South Island, with most severe damage occurring within 100 km of the Alpine Fault and associated fault ruptures. Injuries and deaths are anticipated in communities in inland Otago, Fiordland, inland Canterbury, Southern portions of Nelson-Tasman and Marlborough closest to the Alpine Fault. Proportionately the most severe impacts will be experienced on the West Coast where communities, roads and other infrastructure intersect with, or are very close to, the Alpine Fault.

Table 2 shows an overview of the anticipated impacts from an Alpine Fault event. Detailed regional-scale information about various anticipated impacts is included in Appendix B Detailed impact estimates.

TABLE 2. OVERVIEW OF ANTICIPATED IMPACTS FROM A MAJOR ALPINE FAULT EARTHQUAKE

	ANTICIPATED IMPACTS
Immediate human impacts	There are likely to be thousands of minor and moderate injuries, at least hundreds of serious injuries, hundreds of entrapped individuals, and hundreds of fatalities due to building failures, landslides/rockfalls, road/bridge damage nearer to the Alpine Fault and in vulnerable building and terrain further distant from the fault.
Health and disability services	Health and disability services will struggle to meet the demands generated by the earthquake due to structural damage to health facilities near to the fault and due to disruption to road transport within and to and from impacted areas.
Areas of structural damage	Areas of most structural damage are likely to be western Southland/Fiordland, Queenstown Lakes, Central Otago, West Coast, inland Canterbury, and the southern parts of Tasman and Marlborough districts. Reported numbers of trapped, injured and isolated are likely to rise rapidly over the first 24 to 48 hours of response.
Isolated communities	Tens of thousands of visitors and residents are likely to be isolated in Queenstown Lakes, parts of Central Otago, the West Coast and Fiordland as roads are damaged and air transport is, at least initially, suspended.
Tsunami	Tsunami are likely to have occurred in lakes and fiords near to the Alpine Fault potentially causing significant damage or loss of life. Despite coastal tsunami being unlikely, significant portions of communities in marine tsunami inundation zones are likely to have evacuated as local populations feel a long, strong earthquake and carry out self evacuations.
Electricity	Electricity supplies throughout the South Island will be affected with likely blackouts within at least 150 km of the Alpine Fault and intermittent supply in areas considerably distant from the fault. The supply to the North Island may be also be affected.
Telecommunications	Standard telecommunications networks will be damaged with remaining networks overwhelmed by increased communications traffic. In ground infrastructure is likely to be severely damage.
Roads, railway lines, bridges, embankments	Roads, rail and bridges are likely to be damaged and seriously obstructed throughout areas of most severe shaking, including lower lying areas susceptible to liquefaction, lateral spreading towards waterways, landslide and rockfall. Access to and from communities has been impeded to varying degrees, depending on distance from the fault rupture and local geological conditions.
Water (potable, waste and storm)	Potable, waste and storm water systems are likely to be damaged around the South Island particularly in areas that have been impacted by the most severe shaking.

2.5 RESPONSE ASSUMPTIONS

The assumptions in Table 3 below have been made in the development of this Framework, based on AF8 hazard impact scenarios and on outputs from the planning workshops carried out in preparation for this Framework.

These assumptions are estimates only and will likely need to be verified and modified at the outset of and during responses to an actual Alpine Fault earthquake. If any of these assumptions are found not to be valid in an actual response the SAFER Framework and associated national, group, agency, and local actions plans will be adjusted accordingly.

TABLE 3. RESPONSE ASSUMPTIONS FOR THE SAFER FRAMEWORK

	ASSUMPTION
A	**CDEM Groups will be able to coordinate local responses** Each CDEM Group will have identified and equipped a primary and alternate post-quake operational Emergency Coordination Centres (ECCs) and Emergency Operations Centres (EOCs) from which regional and local and multi-agency responses will be able to very quickly lead and coordinate multi-agency and community responses, communicate and coordinate with other CDEM Group ECCs and NCMC.
B	**CDEM Groups will be rapidly declare states of local emergency** Due to the immediate impact of a significant Alpine Fault earthquake, local authorities and CDEM Groups affected will immediately activate processes to declare states of local emergency to ensure significant coordinated responses are empowered and achieved locally and regionally.
C	**South Island local authorities will continue operate, if with reduced capability** South Island local government authorities, with regulatory oversight responsibility, will continue in their same role and responsibilities during the Alpine Fault earthquake response, potentially at a reduced capacity, providing emergency assistance, including resources, through the South Island CDEM Group system.
D	**Communities will respond proactively** Communities will work together receiving limited guidance from local government initially. This includes neighbour helping neighbour, individuals volunteering within communities and communities assisting other communities in need.
E	**North Island CDEM Groups may be able to assist the South Island** North Island CDEM Groups may be available to assist South Island CDEM Groups as requested, acknowledging that in a major earthquake event their focus may be on their own emergency response. Wellington and its response capability may well be compromised by the earthquake.
F	**A state of national emergency will be declared within 24/48 hours** If the criteria for declaring are met, a state of national emergency will be declared early in a response. Once a state of national emergency is declared the NCMC will direct the overall response. Group and local CDEM Controllers will continue to direct and coordinate responses within a state of national emergency, working to the priorities of the National Controller. The NCMC will continue to support, de-conflict and prioritise national response activities.
G	**The National Crisis Management Centre (NCMC) will be operational and national coordination will be active** The NCMC will be operational and able to coordinate the national response, although it is possible that it will be from an alternate location other than its primary Wellington location.
H	**Responding agencies are functional** Responding local and regional agencies will be able to rapidly activate in communities directly impacted by the quake where those agencies have a presence. They will also be prepared to respond and assist in/from less affected areas.

	ASSUMPTION
I	**Standard telecommunications are highly compromised across the South Island** Responding agencies will be able to communicate, though it is likely to be in a much reduced capacity, using satellite communications, local UHF and VHF radio telephone, longer distance HF radio, and couriers using various means of transport. Many communities are likely to have very little access to telecommunications outside their immediate area, although some will have local UHF/VHF radio and fewer still will have satellite telecommunications.
J	**Areas further from the fault rupture are likely to be isolated** Marlborough, Kaikōura and Nelson-Tasman are also likely be isolated, with access in parts of these areas potentially compromised as well.
K	**Landslides, rockfalls and landslide dams will be widespread and numerous** Research supporting this Framework clearly indicates that there will be hundreds of thousands of landslides and rockfalls in steeper terrain near the Alpine Fault throughout the South Island. These geological changes will pose immediate and ongoing risk to life and damage to infrastructure. The risk of landslide dam failure will be a high priority consideration in immediate and ongoing reconnaissance and evacuation planning and delivery.
L	**The West Coast and communities close to the Southern Alps will be isolated** Large parts of the South Island normally accessed through alpine passes or steep sided valleys nearer to the Alpine Fault will be inaccessible by road, potentially for weeks to months, and should be the focus of initial and ongoing reconnaissance, response and relief. This may include Queenstown Lakes, Eastern Southland, Central Otago, Mackenzie Basin, Canterbury foothills to Hurunui District, Nelson Lakes to Murchison.
M	**Ports will be impacted** The small, primarily fishing ports of Jacksons Bay, Westport and Greymouth are likely to be severely compromised by the quake and will be inaccessible due to road damage and liquefaction. The ports of Nelson, Marlborough, PrimePort Timaru, Otago and Lyttelton may be affected directly or indirectly by the initial quake or more local aftershocks and will need to be assessed for serviceability. South Port Bluff is unlikely to be significantly impacted other than due to local liquefaction unless there is significant local co-seismic activity.
N	**West Coast airports will be impacted** Hokitika and Westport airports and smaller airstrips will need to be assessed for damage after the initial and significant subsequent quakes prior to use.
O	**Other South Island airport impacts will be variable** Airports closer to the Alpine Fault are likely to be damaged and will need to be assessed and, where necessary, repaired prior to use, including Manapōuri, Milford, Queenstown, Wānaka, Glentanner, Mt Cook, Twizel and Tekapo. Airports further from the Alpine Fault are less likely to be impacted but may also require assessment depending on local seismic activity, and ground and groundwater conditions, including: Invercargill, Dunedin, Alexandra, Timaru, Oamaru, Omarama, Christchurch International, Nelson, Motueka, Tākaka, Blenheim/Woodbourne and Picton.
P	**The South Island electricity generation and distribution network will be severely compromised** The impact of the initial quake and wider aftershocks will cause most South Island hydro-electric generation plants to shut down. Damage will occur to some transformer sites. National and local distribution networks will be damaged, particularly where pylons or poles are located in steeper, less stable terrain. Dams and canals may be compromised directly by shaking and ground deformation and indirectly by landslide into or below structures. Some local generation and distribution is anticipated to be achieved in less severely affected later in the first week of response.
Q	**South Island Assembly and Staging Areas (Air) will be established at larger operational airfields** Air assembly areas are most likely to be established at Christchurch, Blenheim/Woodbourne, Queenstown and Invercargill airports. If available, Hokitika and Queenstown Airport will also be designated as South Island Assembly Areas. Dunedin, Wānaka, Alexandra and other airports may be available as staging areas for evacuation and resupply. These facilities will be assessed in the first six hours after the initial and subsequent quakes and their status shared with all responding South Island CDEM Group ECCs and NCMC to enable planning for regional and local response and recovery efforts.

	ASSUMPTION
R	**South Island Assembly and Staging Areas (Sea) are likely to be operational at less damaged ports** Marine assembly, embarkation/disembarkation areas will be established where possible, likely to be ports most distant from the Alpine Fault, including South Port Bluff, Lyttelton, PrimePort Timaru and Port Marlborough in Picton. These facilities will be assessed in the first 24 hours after the initial and subsequent quakes and their status shared with all responding South Island CDEM Group ECCs and the NCMC to enable planning for regional and local response and recovery efforts.
S	**Autonomous and managed mass evacuation from impacted area will take place** Some residents and most visitors are likely to attempt to remove themselves from areas of damage and the most intense aftershocks as soon as they can. Critical casualties, essential government personnel and visitors will be evacuated by air, sea, lakes and roads as soon as possible in the circumstances, as part of the initial response.
T	**Nationally directed reconnaissance will be activated immediately** Pre-planned reconnaissance provided by NZDF, GNS Science, international remote sensing satellites and others will be initiated and plans modified, to provide situational awareness to national, South Island-wide and regional responses. The emphasis of these efforts and their outputs will be on informing immediate and ongoing response activities, with outputs being prioritised for regional and local life safety and response planning.
U	**Rail will be inoperable within the affected areas** The rail network in the affected area, particularly the West Coast Mainland Line and in the vicinity of Kaikōura will be unusable due to direct damage to tracks, ballast and bridges, as well as landslides and rockfall beyond the 7 day period covered by this initial response plan. Rail may remain operational on the east coast at least in places between South Port Bluff and Christchurch.

2.6 SECONDARY AND COMPOUNDING RISKS

High priority secondary and compounding risks for inclusion in planning and management include:

2.6.1 AFTERSHOCKS

Aftershocks will cause further landslides on unstable slopes, effect clearance and repair operations and pose a hazard to unstable buildings, and infrastructure previously damaged – although perhaps not perceptibly. Bridges, for example, that are passable prior an aftershock might not be after further aftershocks. Inspections of structures, slopes, and communities will need to be repeated after each significant aftershock. Aftershocks also have a debilitating effect on the psychosocial wellbeing

In addition, there is a continued risk of tsunami caused by aftershocks leading to rockfall/ landslides into lakes and fiords, and/or submarine landslides.

2.6.2 ONGOING STRUCTURAL FAILURE

Buildings and infrastructure will continue to be at risk of failure during aftershocks, particularly unreinforced masonry, tilt slab concrete features, bridges, flood protection structures, and embankments.

Severe weather (see 2.6.5 Severe Weather) will pose a further compounding risk to already vulnerable structures. Hospital and health services, critical in response and recovery, are vulnerable to direct and indirect earthquake impacts.

2.6.3 CASCADING LANDSCAPE EFFECTS

A high priority for inclusion in planning and management is addressing cascading hazards, secondary impacts and a heightened risk environment that may follow the main earthquake. These hazards and risks may arise from aftershocks and landscape hazards created by the quake, and their interactions with coexisting yet unrelated hazards, notably severe weather.

Landslides and rockfalls will be extensive in steep terrain effected by the quake and aftershocks. Many of these slides will create dams in streams and riverbeds which will begin to fill rapidly, depending on rainfall, stream flows and the nature of the dam material. Dams such as this are prone to failure and/or overtopping as water builds up or aftershocks occur. Communities and infrastructure downstream of landslide dams will be vulnerable to sudden inundation in the event of dam failure.

As well as dam break floods from landslide dams, river allusion (river bed change) and debris flow (potentially caused by aftershocks) will pose ongoing risks.

2.6.4 TSUNAMI

There will be a heightened risk of tsunami caused by rockfall/landslides into lakes and fiords and/or submarine landslides, mostly likely during an aftershock.

2.6.5 SEVERE WEATHER

It is likely that wind, rain, snow, drought, extreme heat/cold or storm surge will affect at least some parts of the island at the time of the initial quake and during the first week of response, depending on the time of year. Severe weather will may also require modification of response priorities in order to provide weather protection to impacted populations.

There is the possibility of a severe storm that causes its own impacts irrespective of the current emergency. Furthermore, an extreme rainfall event may cause unexpected impacts in that historical flooding patterns may have changed due to altered topography, channel blockages and damage to storm water systems.

2.6.6 COMMUNICABLE HUMAN DISEASES

Disruptions to hospital and health services, water and waste water services, food supplies, places of accommodation and shelter, and the concentration of displaced people in emergency accommodation with limited hygiene raise the risk of communicable and waterborne diseases.

2.6.7 IMPACTS ON RESPONSE OPERATIONS

Aftershocks raise risks for operations in or near damaged buildings and infrastructure, while new landslips may block land transport routes.

Severe weather may hamper search and rescue, debris clearance, sea, land and air transport movements and beach landing operations. Heavy rain, along with aftershocks, pose additional risks to response activities from landslides and flash flooding or debris flows.

However, rainfall may be beneficial in areas with damaged water distribution networks, where rain may be collected for consumption. Public information should include advice on storing and treating of rainfall to lessen the burden on potable water provision.

PLANS DEVELOPED AND ACTIONS TAKEN IN THE FIRST SEVEN DAYS OF RESPONSE WILL INFORM ONGOING PLANNING.

CONSOLIDATED RESPONSE FRAMEWORK

MANA TANGATA: POWER OF LEADERSHIP THROUGH THE PEOPLE

3.1 MISSION STATEMENT

The mission of the SAFER Framework is to:

Immediately mobilise a coordinated, mutually supportive, sustainable South Island-wide response to a major Alpine Fault earthquake, to minimise loss of life and the health risks to communities and individuals, mitigate risks, retain public confidence and to provide for the immediate to short term needs of affected communities.

3.2 INITIAL RESPONSE OBJECTIVES

The immediate mission focus will be on supporting and coordinating search and rescue operations and delivery of services for trapped, injured and dependent individuals and groups, whilst gaining a rapid appreciation of ongoing and potential future needs – predominantly in relation to inter-CDEM Group multi-agency cooperation.

Plans developed and actions taken in the first seven days of response will inform ongoing planning, much of which will influence or continue into subsequent operational periods.

The initial response objectives[10] for the first seven days of response are to:

1. Preserve life, rescue entrapped, mitigate risks, and care for injured, isolated and dependent people
2. Initiate prioritised reconnaissance, impact assessment and shared situational awareness
3. Control movement into affected areas to reduce exposure to hazards and impact on response
4. Immediately identify and secure local water, food, fuel and emergency accommodation
5. Proactively establish and maintain shared situational awareness throughout the response
6. Coordinate immediate and ongoing inter-CDEM Group responses to areas of most need
7. Establish telecommunication with all affected communities within 72 hours of the initial quake
8. Coordinate multi-agency responses across the South Island throughout the response
9. Provide response access to and egress from affected areas within 72 hours of initial earthquake
10. Ensure communities are provided with essentials: shelter, water, food, clothing, security and healthcare
11. Maintain law and order throughout the response
12. Minimise further casualties from all significant hazards throughout the response
13. Provide public information services to communities and the media using all means available
14. Support the reinstatement of critical infrastructure and provision of temporary alternatives
15. Initiate recovery planning within 72 hours for later transition to recovery management

10. The SAFER Framework response objectives have been informed by the response objectives in the National CDEM Plan and Guide.

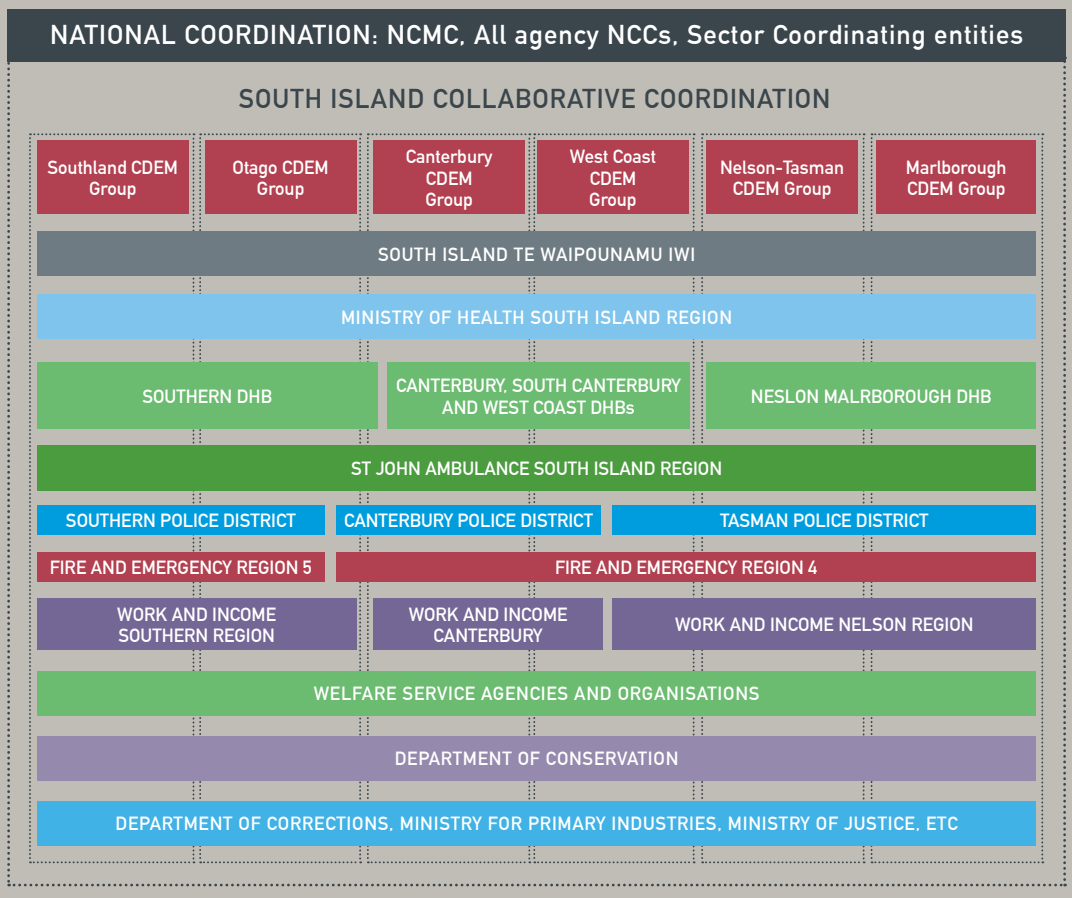
3.3 SOUTH ISLAND ALPINE FAULT EARTHQUAKE RESPONSE COORDINATION CONCEPT

Coordinating themes under the SAFER Framework are:

- Multi-agency coordination will primarily be provided by the standard statutory arrangements delivered by each CDEM Group and their local partner organisations.
- CDEM will act as lead agency in this event, normal command and control arrangements will apply within regions.
- Central Government agencies are generally only represented in major centres of population and administration, necessitating close coordination between CDEM Groups.
- In an emergency of the geographic and consequence spread and complexity as an Alpine Fault earthquake, inter-regional coordination between CDEM Groups will be required to supplement the usual local, intra-regional and national levels of coordination.

A concept for inter-CDEM Group and inter-agency coordination is illustrated in Figure 5 below.

FIGURE 5. CONCEPT OF INTER-CDEM GROUP AND INTER-AGENCY SAFER COORDINATION



All South Island CDEM Controllers and partner organisations will ensure that coordination centres, personnel, and processes are supported to ensure a coordinated response across the South Island – particularly across CDEM Group boundaries. These coordination processes will include:

1. Participation in developing and maintaining shared situational awareness operating pictures.
2. Active participation in joint planning and execution of reconnaissance, response and resource coordination activities.
3. Inclusion of all relevant agencies/ organisations and response functions in CDEM Group intelligence gathering and action plans.
4. Deployment of organisation/agency liaison officers/representatives to relevant CDEM Group ECCs.
5. Avoidance of duplication of multi-agency coordination in agency ECC/EOCs.

3.3.1 CDEM GROUP-TO-CDEM GROUP SUPPORT

The scale of an Alpine Fault earthquake and resultant response, with its focus on the western third of the South Island and lesser impact to the South East and East, lends itself to sets of paired CDEM Group-based responses (outlined in Figure 6 below). This support is likely to be in the form of reconnaissance and emergency logistics support from 'supporting' to 'recipient' CDEM Groups, and evacuees/ displaced people moving from supported to recipient CDEM Groups.

This approach also aligns with District Health Boards (DHBs), most emergency service boundaries and other partner organisations, boundaries (particularly considering where their regional headquarters are located), allowing them to easily integrate into CDEM structures.

See Response Components 3.6.1 to 3.6.6 for detail on the nature of inter-CDEM Group support anticipated.

FIGURE 6. CDEM GROUP-TO-CDEM GROUP SUPPORT PAIRINGS

SUPPORT CDEM GROUP		RECIPIENT CDEM GROUP
CANTERBURY	→	WEST COAST (Grey and Westland Districts)
NELSON-TASMAN	→	WEST COAST (Buller Districts)
OTAGO	→	WEST COAST (Haast and South)
MARLBOROUGH	→	CANTERBURY (Northern Kaikōura)
SOUTHLAND	→	OTAGO (Queenstown Lakes)
SOUTHLAND	→	OTAGO (Dunedin - if severely damaged)
NELSON-TASMAN	→	MALRBOROUGH

3.4 CONCEPT FOR COMMAND AND CONTROL

3.4.1 AT THE CDEM GROUP AND LOCAL LEVEL

Local level and multi-agency responses will be controlled within each CDEM Group area under the direction and coordination of the respective CDEM Group Controller.

All CDEM Groups will immediately initiate processes to consider the declaration of local states of local emergency (see Table 6 paragraph 3) in the event of any significant earthquake to:

- Ensure projection and clarity of leadership in the multi-agency response (s17.1.d CDEM Act 2002)
- Make use of emergency powers under the CDEM Act (Part 5) as situations require
- Better enable CDEM Groups to meet their statutory requirement to support their neighbouring groups where possible (s17.1.f)
- Provide protection from liability to those responding under CDEM control (s110 CDEM Act 2002).

In the likely event of a state of national emergency being declared and local declarations ceasing to have effect (s66.3 CDEM Act), CDEM Groups and CDEM Group Controllers retain their powers and responsibilities (s28 CDEM Act) within the priorities and direction set by the National Controller.

3.4.2 NATIONAL COORDINATION

In the event of an Alpine Fault earthquake (or other large earthquake in the South Island) MCDEM will, as lead agency, activate the NCMC to coordinate the all of government national response activities (see Figure 7 right). The NCMC will work with ECCs, support agencies, national lifeline utilities and news media to coordinate the all of government response.

The NCMC will:

- Provide strategic level oversite and decision making at the national level
- Gather, collate, assess and produce information
- Coordinate and direct the response operation, planning and support
- Coordinate national resources and international assistance
- Issue public information and conduct media liaison
- Inform and advise Ministers, Cabinet and agencies

MCDEM and CDEM Groups will, as lead agencies at the national and regional levels respectively, need to work effectivity together to ensure a coordinated and integrated multiagency response.

- Until a state of national emergency is declared, the NCMC will operate to support the priorities of CDEM Group Controllers by coordinating, deconflicting and prioritising national response activities
- Once a state of national emergency is declared, the NCMC will direct the overall response and CDEM Group Controllers and partner agencies will work to the priorities of the National Controller. The NCMC will continue to, support, deconflict and prioritise national response activities

3.4.2a NCMC OPERATIONS

In a response to an Alpine Fault earthquake the NCMC is expected to be operating from Wellington,[11] however it is anticipated that the National Controller may require an increased presence in the South Island to ensure effective national coordination. This will likely involve the deployment of National Controller representatives to some key ECCs and regular National Controller visits to impacted CDEM Groups.

11. If the NCMC is unable to operate from Wellington, the Alternative NCMC in Auckland will undertake all of the functions of the NCMC

3.4.2b NO REGRETS APPROACH

An earthquake of the scale anticipated in an Alpine Fault rupture will result in needs in affected communities on a scale that New Zealand has not seen before, resulting in heavy demand for support and services. Meeting the needs of affected people will therefore require a significant level of national support and coordination. Determining where the needs are the largest is expected to be problematic in the initial stages of the response.

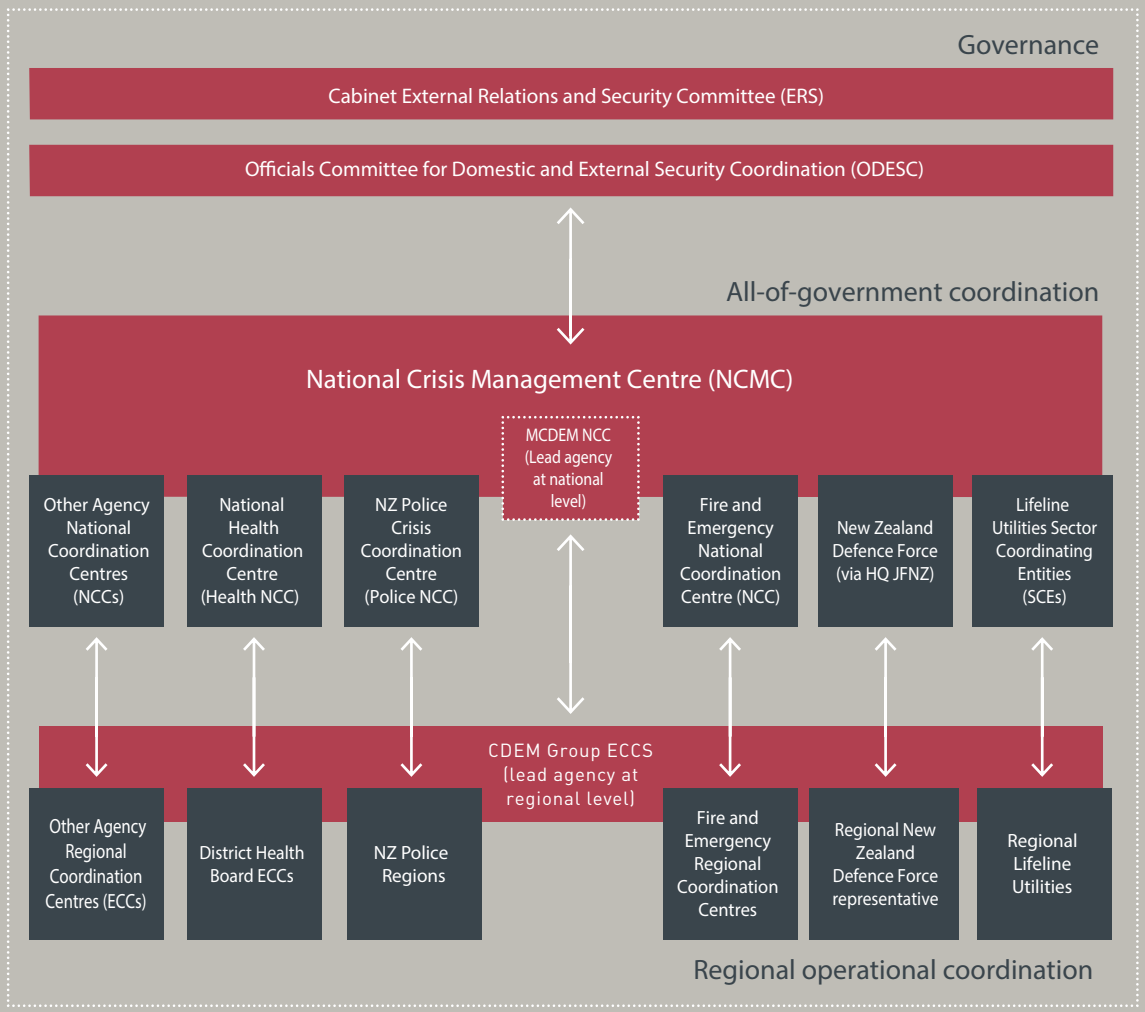
The initial response is therefore likely to use a proactive 'rapid relief' approach based on likely impact instead of waiting for specific needs to be confirmed. Rapid relief focuses on the immediate provision of resources and assistance to ease the suffering of those affected by an emergency, on a 'no regrets' basis.

3.4.2c INTERNATIONAL ASSISTANCE

Due to the scale of the response required, it is recognised that New Zealand will not be able to mount an effective and sustained response without the support of our international partners. The NCMC International Assistance Function will therefore be activated in the early stages of the response to coordinate requests for and manage offers of international assistance.

The NCMC International Assistance Function will proactively mobilise pre-identified personnel and resources in the initial stages of a response. These personnel and resources will supplement domestic resources and will likely be further supplemented once initial assessments have been completed.

FIGURE 7. NCMC NATIONAL RESPONSE COORDINATION



3.4.2d RESOURCE COORDINATION

Critical resources (both domestic and international) will be scarce and in high demand, requiring national prioritisation. The NCMC and national agencies will identify, prioritise and assign resources as appropriate. This will involve either holding a resource nationally, assigning them regionally or a combination of both approaches.

Resources that are assigned by the NCMC to operate within a region will be under the control of the Group Controller. Examples are:

- Urban Search and Rescue (USAR) or Emergency Medical Teams operating within impacted regions; or
- Air assets evacuating people within a CDEM Group.

Resources that are assigned by the NCMC to operate between regions will be under the Control of the National Controller. Examples are:

- Air assets used to evacuate people across CDEM Groups; or
- Reconnaissance assets operating across multiple CDEM Group areas

Note: Control of resources does not override a resource owner's authority to command its resources in the execution of tasks.

3.5 RESPONSE PRIORITIES

Table 5 below describes the priorities of the response, as the crucial elements that will need to be recognised, planned for, and addressed, regardless of the exact scale, spread, and consequences of the event.

TABLE 5. RESPONSE PRIORITIES

PRIORITY	DESCRIPTION
Immediate life-saving and search and rescue	Responders, including community members themselves and visitors, in seriously affected communities will immediately respond to assist injured and entrapped individuals and initiate search and rescue activities. Controlled where possible by emergency services on, or rapidly deployed to, the scene of immediate impacts, increasingly directed and coordinated by formal CDEM-led responses as the response continues.
Rapid reconnaissance	Rapid reconnaissance for situational awareness and intelligence sharing between responding agencies will be essential to informing immediate response activities, including rescue and medical response.
Establishing effective communications between South Island CDEM Groups and partner agencies	Establishing and maintaining workable alternative means of telecommunications, for responders and communities, while standard telecommunications systems are re-established, will be crucial.
Communication with affected communities, including those that are isolated	Direct communication with communities using non-electronic means will be crucial. A consistent and mutually supportive approach across the South Island will be required. Including, where possible, face-to-face communication with isolated communities, ideally in conjunction with reconnaissance and welfare services. As well as safety messaging, communities will need information about wider response activities and how they can continue to support themselves and each other. To ensure an adequate level of professional leadership is projected CDEM Group Controllers may be required to take more of a lead role as spokespersons than in traditional local emergencies, supported by senior personnel from functional lead agencies and emergency services.

PRIORITY	DESCRIPTION
Shared intelligence, and collaborative action planning	Planning for and delivery of timely and reliable acquisition, analysis and sharing of intelligence, and collaborative response planning, at and between all levels of response will be essential to effective leadership and outcomes.
Coordinated Rapid Impact Assessment	As coordinated needs assessments are unlikely to be possible in the initial days of the response information and intelligence collected during rapid impact assessments will be critical for providing direction to the response and estimating the needs of impacted populations. Rapid impact assessments and knowledge of impacted communities vulnerabilities should be used to estimate the immediate, medium and long-term needs of affected communities. These estimates should be used for action planning until needs assessment data is available.
Identifying ongoing compounding hazards, secondary risks and escalating impacts	Rapid reconnaissance and ongoing monitoring and assessment of the potential for compounding hazards, secondary risks and escalating impacts (in the built, social, economic, cultural, rural and natural environments) will be crucial to an effective ongoing response.
Supporting response agencies and critical facilities to function	Support (including supply of electricity and fuel) to responding agency assets and facilities, such as hospitals, health clinics, Civil Defence Centres (CDCs), emergency services hubs, ECCs and telecommunications nodes.
Gain access to and re-connect isolated areas to provide critical services and supplies that are essential for health and welfare	Air transport will be crucial to both initial life-saving responses and ongoing relief and response activities as communities remain isolated from the outside world and each other. Designated and dedicated medical transport evacuation assets will continue to be controlled and coordinated by the National Ambulance Crisis Coordination Centre under the authority of the NHCC and in close coordination with respective CDEM Group ECCs. Sea, river and lake access will be an essential element of response in respective contexts.
Quickly establishing shelter and support solutions for displaced or isolated people and communities	Shelter and emergency accommodation will be an urgent need in severely impacted communities. Coordinating the shelter for and evacuation of the vulnerable and displaced people across CDEM Group boundaries will be immediate, medium term and long-term priorities. Supporting people and communities in meeting their physical health and psychosocial wellbeing needs will crucial.
Establishing functional transport and supply chains	Transport will be essential to meeting community and response needs throughout this response. An innovative and highly coordinated approach will be necessary to overcome the challenges of compromised transport networks and nodes.
Coordinating the evacuation of vulnerable and displaced people across CDEM Group boundaries	Coordinating the evacuation and movement of vulnerable and displaced people across CDEM Group boundaries will be an immediate priority.
Proactive, responsive, and sensitive management of personnel	Response personnel management will be vital. Re-distribution of ECC, EOC and field response personnel between CDEM Groups may be required early in the response as impacts and needs vary in magnitude and complexity across the South Island.
Health and safety	Responders (including volunteers) must be provided with adequate support, breaks, relief and replacement will be essential to the medium and long-term wellbeing of all involved

3.6 RESPONSE ACTIONS

Early response actions will focus on rescue, treatment of injured, reconnaissance, shared situational awareness, emergency shelter, evacuation of displaced people, provision of essential supplies and rapid damage assessment.

Table 6 shows the key high level response actions in more detail and includes responsibility for the action and its key objectives.

Timeframes included in Table 6 and associated response components are initial aspirations that may be varied in immediate action and subsequent planning. However, the initial timeframes proposed are necessary in general terms for response actions to be effective in meaningful timeframes for affected communities.

A timeline of response activities is included in Appendix C.

A list of roles responsibilities for each response organisation is included in Appendix D.

TABLE 6. HIGH LEVEL CDEM GROUP RESPONSE ACTIONS

	ACTION	ACTION LEAD	PARTNERS
1	Initiate CDEM Group-led multi-agency response and coordination Includes activation of CDCs and initiation of rapid damage assessment across CDEM Group areas in conjunction with search and rescue.	CDEM Group Controllers	Senior regional managers/commanders of partner agencies (DHBs, Police, Fire and Emergency New Zealand, iwi, welfare services agencies) Local Controllers Mayors and councillors
2	Establish means and schedule of communications Includes establishing fallbacks in case of failure.	CDEM Group Controllers	Senior regional managers/commanders of partner agencies
3	Declare state of emergency for CDEM Group area. All CDEM Groups will immediately consider if the criteria for declaring a state of local emergency are met and will as required declare states of local emergency.	CDEM Group joint committee chairs and mayors.	Group Controllers, heads of emergency services MCDEM regional advisors
4	Initiate CDEM Group-led immediate reconnaissance of urban and rural areas Establish plan to coordinate reconnaissance activities and resultant intelligence sharing across the South Island. Include coverage parts of neighbouring CDEM Group areas unable to accessed by them.	CDEM Group and Local Controllers	ECC Intelligence leads reconnaissance planning and tasking. Lifeline utility coordinator. Police, Fire and Emergency New Zealand (FENZ), regional/unitary council, local news media.

ENSURE A CONSISTENT, MUTUALLY SUPPORTIVE APPROACH ACROSS THE SOUTH ISLAND.

SMART OBJECTIVES (INCLUDING INITIAL COMPLETION TIMEFRAMES)	NATIONAL CONTEXT	REFER TO
a. Response organisations in and near to affected areas to immediately: i. Support responding communities ii. Commence light urban search and rescue iii. Triage, stabilise, transport and treat injured iv. Move people at risk to areas of safety v. Establish multi-agency incident management at sites/areas vi. Cordon and control movement to affected areas vii. Commence status and incident reporting b. CDEM Group-led multi-agency response coordination to commence within 90 minutes of initial quake.	Initial threat assessment and issue of relevant National Warning or Advisory Activation of NCMC Possible activation of Wellington Earthquake Initial Response Plan (WENIRP), including activation of NCMC in alternate location	Detailed CDEM Group / agency plans and procedures
a. Complete CDEM Group telecommunications checks within 1 hour of activating the Group ECC. b. Make contact with / receive contact from the NCMC within 1 hour of activating the Group ECC. c. Initiate South Island-wide telecommunications check 3 hours after initial quake. d. Implement a South Island-wide telecommunications plan within 6 hours of initial quake and within 1 hour of all subsequent significant aftershocks and other hazards.	Establish contact with affected CDEM Groups and a schedule for regular communications using all available communications methods	3.6.1 Tele-communications component Appendix A
a. Consideration of the need for states of local emergency to be declared in each CDEM Group area within 1 hour of activating the ECC/EOC. Not required if state of national emergency already declared and communicated (see right, National Context).	Declaration of state of national emergency over all or some areas, or districts within areas, if the criteria for declaring are met. On declaration of a state of national emergency NCMC will direct and coordinate the over-all response. CDEM Groups and partner agencies will work to the priorities of the National Controller	Form: Declaration of state of local emergency Section 68, Civil Defence Emergency Management Act 2002
a. Ground reconnaissance to commence within 6 hours of initial quake. b. Air reconnaissance to commence as soon as light and weather permit: within 12 hours of initial quake. c. Full initial regional-scale reconnaissance[12] to be completed by all CDEM Groups within 48 hours of initial quake. d. Ongoing daily reconnaissance to be completed by 1700 hrs and reported by 2000hrs.	Tasking and supporting partner agencies to undertake reconnaissance, in order to build a broad picture of the status of key infrastructure and response agencies, as well as people and locations affected	3.6.2 Reconnaissance component Appendix B

12. "Regional-scale reconnaissance" means high level reconnaissance of key infrastructure, identification of communities in need of immediate support, geological and other hazards – not door-to-door rapid damage or needs assessments.

	ACTION	ACTION LEAD	PARTNERS
5	Establish cross CDEM Group-boundary evacuation intentions and requirements Includes welfare of evacuees in assembly areas, transit and arrival.	CDEM Group Controllers	Local Controllers; Police (as manager of site evacuations); Group Welfare Managers; Group ECC/ECC Planning and Logistics Managers
6	Establish plan for and commence across South Island coordinated movement and support of people, food, water, sanitation, hygiene, shelter, property, equipment, transport, fuel. Includes designation of critical resources, such as helicopters, fuel, food, water and water treatment.	CDEM Group Controllers	CDEM Group Welfare and Logistics Managers; Operations Managers, St John Ambulance, Public Health Units (PHUs), lifeline utility coordinators; air transport operators, ground transport operators, New Zealand Transport Agency (NZTA), FMCG, NZDF, ports, airports, rail.
7	Coordinate delivery of consistent messaging and mutual support of PIM activities across the South Island.	CDEM Group PIM Managers	Local and partner agency PIM Managers
8	To provide immediate and ongoing welfare services to isolated communities, evacuated and displaced people, and communities sheltering in place with degraded essential services, across all CDEM Groups.	CDEM Group Welfare Managers	Welfare Coordination Groups (WCGs) comprising welfare service organisations, including iwi representatives

SMART OBJECTIVES (INCLUDING INITIAL COMPLETION TIMEFRAMES)	NATIONAL CONTEXT	REFER TO
a. Commence detailed planning for the evacuation of residents and visitors from severely affected CDEM Group areas to less affected areas with capacity to receive them within 6 hours of the initial quake. b. Commence movement of people prioritised for immediate evacuation to areas of safety within 24 hours of the initial quake. c. Complete evacuation of all people prioritised for evacuation within 5 days of the initial quake. d. Review inter-Group evacuation plan within 72 hours of initial quake.	Mobilise national resources to support affected CDEM Groups with their identified evacuation needs, and support receiving CDEM Groups to manage evacuees	3.6.3 Evacuation component Appendix C
a. Ascertain and share critical resource requirements between South Island CDEM Groups within 24 hours of initial quake and maintain throughout the response. b. Identify and begin establishing primary air heads, ports, beach heads and staging areas within 24 hours of initial quake. c. Commence inter-CDEM Group supply of critical resources within 48 hours of initial quake.	Establish/support a national supply chain into and out of impacted areas, and mobilise national assets and critical resources to support cross-CDEM Group logistics. Request and accept offers of international assistance required to support the supply chain	3.6.4 Logistics component Appendix D
a. Ensure PIM activities, messages and resources are coordinated and adequately supported throughout the response. b. Ensure fit for purpose means of communicating with communities are established and maintained across the South Island (this may include printed materials and community notice boards/information centres) c. Ensure that PIM messaging is effective and consistent across all CDEM Groups. d. Ensure that all audiences (domestic and international, directly impacted and non-impacted) are provided with relevant information safety messages and advice about actions to take, progress of the response and the official sources of information and updates. e. Ensure the media is engaged with effectively, including working with them to gather information about and provide information to affected communities.	Issue National Warnings and Advisories (including public safety and awareness information) via available systems and channels Coordinate all of government strategic communications Work with national media partners to share consistent messages with the public	3.6.5 Public information management (PIM) component Appendix E
a. Within 6 hours of this initial earthquake activate WCG Welfare Services sub-functions and advise the CDEM Group Controller of their activation: • Registration and needs assessment • Shelter and accommodation • Inquiry • Psychosocial support • Care and protection services for children and young people • Household goods and services • Financial assistance • Animal welfare b. As soon as feasible provide welfare services to meet the immediate needs of people affected by the emergency[13] (may be based on estimated need) c. Plan for registration and needs assessment. Direct and coordinate all agencies involved in registration and needs assessment. Register all affected people and undertake coordinated rapid needs assessment by agreed methods and the established process. Collate data centrally as possible. Task welfare services responsible agencies with detailed needs assessment and associated service d. Within 6 hours of the initial and significant subsequent quakes, complete initial planning for the ongoing delivery of welfare services to people affected by the emergency, in order to support the evacuation component, and the receipt of evacuees and displaced people. e. Within 24 hours of initial and significant subsequent quakes, and in conjunction with other community reconnaissance activities (rapid, damage, impact assessments), and the SAFER Evacuation and Reconnaissance Components • Activate CDCs located in safe areas • Initiate the delivery of ongoing welfare services to people affected by the emergency f. Within 72 hours review inter-Group Welfare plan after initial quake.	Activate the National Welfare Coordination Group (NWCG) to connect with and coordinate the activities of welfare services agencies at the national level, providing support through to CDEM Group WCG representatives	3.6.2 Reconnaissance component Appendix B 3.6.3 Evacuation component Appendix C 3.6.6 Welfare services component Appendix D

13. People affected by the emergency includes evacuated and displaced people, people in transit to areas of safety, people at CDCs, people sheltering in place and isolated communities. These people may be residents or visitors.

3.6.1 TELECOMMUNICATIONS COMPONENT

This section describes the telecommunications component of the SAFER Framework, including crucial coordination tasks and priorities for telecommunication.

TELECOMMUNICATIONS	SAFER FRAMEWORK COMPONENT

SITUATION

The impact the Alpine Fault earthquake is likely to damage telecommunications equipment and networks across the South Island. Compounding this will be damage to electricity infrastructure, roads, and emergency response management facilities, further compromising the ability of CDEM Groups, their partner agencies and communities to communicate needs and coordinate responses.

All South Island CDEM Groups have satellite voice and data communications capabilities, and some have HF radio telecommunications available to them, as alternative means of communication within their CDEM Groups and across the South Island. UHF/VHF voice telecommunications will be available for local land, water and air telecommunications at a local level only as most repeaters are vulnerable to quake damage and electricity interruption.

MISSION

To provide and maintain effective telecommunications between CDEM Groups and partner agencies across the South Island throughout the first week of response.

OBJECTIVES[14]

a. Complete CDEM Group telecommunications checks within 1 hour of activating the Group ECC.
b. Make contact with/receive contact from the Group ECC/NCMC within 1 hour of activating the ECC/EOC.
c. Initiate South Island-wide telecommunications check 3 hours after initial quake.
d. Implement a South Island-wide telecommunications plan within 6 hours of initial quake, all subsequent significant aftershocks and other intervening significant hazards.

EXECUTION (SPECIFIC TASKS)

1. CDEM Group Logistics Managers, in conjunction with equivalents in partner response agencies and lifeline utility coordinators, will lead telecommunications checks and the establishment and maintenance of alternative telecommunications across the South Island.
2. Each CDEM Group ECC and contributing partner agency will carry out telecommunications checks of agreed primary and secondary telecommunications means at 0600, 1200 and 2000 hrs each day.
3. All contributing organisations will keep reports succinct and to a minimum effective level of detail and length due to the austere, post-quake telecommunications environment, narrow bandwidth and use of shared voice channels.
4. All CDEM Groups and partner agencies will assign appropriate personnel to participate in agreed South Island-wide coordination radio/teleconferences, using agreed means of telecommunication.

CRITICAL RESOURCES

Telecommunications resources that will be critical across the South Island in the first three days of response will include:

- Satellite date and satellite voice
- Civilian HF radio (voice and data)
- Local UHF/VHF radio (voice and data)
- Military (open and encrypted) HF and VHF (voice and data)
- Local cell and landline
- Trunk landline and microwave

COMMAND, CONTROL, COORDINATION, AND COMMUNICATIONS

Coordination of telecommunications will be shared between CDEM Group operations and Logistics Managers. Logistics will ensure the equipment, personnel and support are established and maintained. Operations will ensure that all agency and inter-CDEM Group telecommunications protocols and processes are established and maintained.

SAFETY

Protecting the safety of responders and those affected by the quake and subsequent risks will be included in all telecommunications planning and actions throughout this response.

14. An appreciable amount of preparedness investment will be required to be able to achieve these objectives.

TABLE 7. IMMEDIATE TELECOMMUNICATIONS PROCEDURES

STEP	TIMEFRAME	PROCEDURE
1	Immediate on activation of primary or alternate ECCs.	Following a major South Island earthquake all CDEM Groups and partner agencies will activate and test their response telecommunications equipment to determine which means are available. These arrangements should be detailed in CDEM Group and agency initial response plans and/or business continuity procedures.
2	Within 1 hour of initial quake.	All South Island CDEM Groups ECCs will establish communication with their neighbouring CDEM Groups' ECCs, primary response partners and the NCMC, to share telecommunications status and to initiate ongoing shared situational awareness and coordination.
3	6 hourly	Test/report, tabulate and share current telecommunications status with all South Island CDEM Group ECCs.
4	On occurrence	If telecommunications status changes significantly for the better or worse the change in status will be notified to all South Island CDEM Group ECCs.

TABLE 8. RESPONSE TELECOMMUNICATIONS PRIORITIES

PRIORITY	MEANS	RANGE	NOTES
1	Satellite data	Local, regional, national, global	Highly resilient to seismic events. Will be used as primary data, situation awareness and action plan communication in quake response context. Primary communications in the SAFER context. (Cell phone directory being developed at time of Framework finalisation.)
2	Satellite voice		High seismic resilience. Likely to be used for urgent telecommunication between Group ECCs, local EOCs and partner agencies in quake response context. Primary interpersonal communications in the SAFER context.
3	HF Radio	Regional to Global Somewhat limited for local use.	Antennae and facilities within base sets may be vulnerable to quakes and sunspot activity. NZDF HF encrypted telecommunications equipment. Some CDEM Groups have retained HF capability. Primarily for voice but may be configured to carry data. Most medium-sized communities have HF "ham radio" operators who can assist in disaster communications. Some CDEM Groups, member transport agencies (TAs), or local Land Search and Rescue (LandSAR) Police have Amateur Radio Emergency Communications (AREC) teams available to them. Department of Conservation has a state-of-the-art, nation-wide HF radio network available to provide integrated telecommunications in emergency situations.
4	UHF/VHF Radio	Line of sight	Land mobile vehicle and handheld highly resilient to seismic activity. Base sets and repeaters are vulnerable and dependent on electricity. Primarily used for local or trunked distant voice communications. Used by all emergency services, marine operators and businesses. Air-to-air and ground-air communication available, including for radio relay into areas of compromised telecommunications. AREC have resources to assist with use of UHF/VHF.
5	Cellular network	Line of sight. Network dependent	Cell towers, internal equipment, buildings towers are attached/adjacent to, and cable networks to sites are all vulnerable to seismic activity. Cell tends to be physically robust in quakes, but prone to overload. Cell sites are dependent on electricity networks, onsite backup generation and connection to landline network. COWS (Cell-sites On Wheels) on vehicles or aircraft available to augment telecommunications in affected areas.
6	Fibre Cable	National and inter-regional	Inground networks moderately vulnerable to seismic activity. Networks, main trunk and increasingly local communication of data and voice. A key component of voice and data systems.
7	Copper Cable	Local to national	Pole mounted and inground networks vulnerable to seismic activity. Primary transmission of voice and data within communities.
8	Stored data	Local, regional, national	Fallback option when other means fail, particularly for transfer of bulk data, reports, images, video, etc. Useful for business continuity during quake response and aftershocks.
9	Paper	Local, regional	Final fallback. Usually used for backup in-house, but potentially more widely if all ICT fails post-quake. No current templates/forms.

3.6.2 RECONNAISSANCE COMPONENT

This section describes the reconnaissance component of the SAFER Framework, including crucial coordination tasks and priorities for reconnaissance.

RECONNAISSANCE	SAFER FRAMEWORK COMPONENT

SITUATION

Due to the impact of the earthquake and aftershocks on local topography, infrastructure, communities and response organisations, the ability to ascertain and share situational awareness of the impacts, and human, social, infrastructure, economic, and environmental consequences, and current or future risks is compromised. A proactive and coordinated approach to reconnaissance will be required to inform immediate local, regional, South Island-wide and national responses.

MISSION

Immediately initiate and maintain prioritised reconnaissance, impact assessment, and shared situational awareness to inform the response.

OBJECTIVES

a. Ground reconnaissance to commence within 6 hours of initial quake.
b. Air reconnaissance to commence as soon as light and weather permit, within 12 hours of initial quake.
c. Full initial reconnaissance to be completed by all CDEM Groups, within 48 hours of initial quake.
d. Ongoing daily reconnaissance to be completed by 1700 hrs and reports shared between CDEM Group ECC Intelligence functions by 1800hrs.

EXECUTION (SPECIFIC TASKS)

1. Pre-quake reconnaissance readiness. Effective reconnaissance will depend on well developed and maintained pre-earthquake maps, infrastructure, including hospital and health facilities, community and environmental status reports and impact estimates, and predetermined reconnaissance plans. (reconnaissance plan and reconnaissance reports templates, and intelligence collection matrix template are attached to this component.)
2. All CDEM Groups will commence and coordinate ground reconnaissance within affected and potentially affected areas, managed by Local Controllers where delegated, focusing on priority infrastructure, sites, communities, areas and routes, predetermined in pre-response and operational CDEM Group planning, within 6 hours of initial quake. Any significant subsequent quakes, and other significant changes in circumstances, including severe weather events may require additional reconnaissance to maintain situational awareness of threats to life safety.
3. All CDEM Groups and the NCMC will commence and coordinate air reconnaissance of remote and known or potentially isolated communities, geological features and infrastructure, managed by Local Controllers where delegated, within 12 hours of the initial quake, any significant subsequent quakes, and other significant changes in circumstances, including severe weather events – weather permitting
4. Agencies and organisations conducting field operations will task field personnel with conducting and reporting on field reconnaissance carried out in conjunction with field activities.
5. Building assessment will be conducted according to MBIE and the International Search and Rescue Advisory Group (INSARAG) guidelines to inform the tasking of domestic and international Urban Search and Rescue resources.
6. Initial reconnaissance reports and, where necessary, debriefs, will be provided to respective CDEM ECC personnel directly or via electronic or written reports within 1 hour of reconnaissance being completed. To be followed by more detailed reports within 6 hours.
7. Ground, air, and water based reconnaissance includes deliberately planned and ad hoc reconnaissance conducted by local authorities, CDEM volunteers, FENZ, Police, DHBs, St John Ambulance, PHUs, rural support trusts, lifeline utilities, Federated Farmers, commercial enterprises, organised and spontaneous volunteer groups, and the news media, coordinated by CDEM Group Controllers
8. Civil Aviation Agency (CAA) to close and Airways New Zealand to manage airspace as requested by CDEM Controllers.

RECONNAISSANCE	SAFER FRAMEWORK COMPONENT

9. Priorities for reconnaissance will include:
   a. Identification of areas requiring prioritisation for immediate search and rescue including:
      i. Multi-storey urban settings
      ii. Areas of safety where displaced are likely to assemble
      iii. Residential, visitor structures and sites, and transport routes in steep terrain
      iv. Inhabited areas prone to quake-induced liquefaction
      v. Low lying areas prone to quake-induced subsidence and flooding
   b. Potentially unstable steep terrain that may put communities or infrastructure at risk.
   c. Rapid reconnaissance and ongoing assessment of potential landslide dam risk
   d. Known and potential isolated communities.
   e. Flood protection infrastructure.
   f. Critical infrastructure networks and facilities: (See 3.6.3 Logistics Component Table 9)
      i. Roads (see Table 9. Response Transportation Priorities)
      ii. Airports (see Table 9. Response Transportation Priorities)
      iii. Sea/lake ports (see Table 9. Response Transportation Priorities)
      iv. Telecommunications infrastructure
      v. Electricity infrastructure
      vi. Food supply facilities
      vii. Health and aged care facilities
      viii. FMCG storage and distribution facilities (see Table 9. Response Transportation Priorities)
      ix. Water supply reservoirs and distribution infrastructure
   g. Civil Defence Centres and community-led centres (where these have been established by the community).
   h. Rural areas and communities not otherwise easily accessed.
   i. Housing and accommodation.

ADMINISTRATION AND LOGISTICS

Fuel and maintenance support for ground and air reconnaissance will be acquired, where necessary, and coordinated by responding CDEM Group ECC Logistics functions.

Commercially provided reconnaissance activities will be carried out after contracts being entered into for service delivery and costs, however detailed invoices for reconnaissance activities, supported by records of taskings, reconnaissance reports and any associated response activities, will be considered by CDEM Group ECCs. Ideally contracts will be in place for essential reconnaissance services.

COMMAND, CONTROL, COORDINATION, AND COMMUNICATIONS

Planning for air, ground, water based and remote sensing reconnaissance adjacent to or across CDEM Group boundaries will be agreed and coordinated by respective CDEM Groups ECCs, with supporting CDEM Groups providing reconnaissance resources and coordination in aid of more seriously affected CDEM Groups. These plans will take regard of and supplement, national led reconnaissance

All regionally-based emergency services, lifeline utilities, and fixed and rotary wing air operators will work to the direction and coordination of CDEM Group Controllers, in action planning, tasking, operations, intelligence and situational awareness sharing, debrief and reporting of all air reconnaissance activities.

If tasked to CDEM Groups by the NCMC, NZDF reconnaissance resources will be coordinated and tasked by the respective CDEM Group ECC.

Reconnaissance and the resultant intelligence will be crucial to supporting the planning for and deployment of domestic and international assistance including USAR, Emergency Medical Teams (NZ Medical Assistance Teams (NZMAT) and international teams), NZDF and international defence resources, NZ and international police, engineering and geological assessment teams, and other field response organisations.

Air operations will be managed by a CDEM Group air operations desk (or similar) within each CDEM Group and responsible to the respective ECC operations functions, with air medical activities coordinated by St John Ambulance, in close cooperation with air operators.

Communication between ECCs, emergency services, air operators will be conducted by best available telecommunications, with satellite telephone and, where available, UHF/VHF radio being the primary means of operational communications. HF radio should be used, where available, for longer range communication.

RECONNAISSANCE	SAFER FRAMEWORK COMPONENT

SAFETY

Safety of operators, responders, and the public will be considered and provided for in all aspects of reconnaissance planning and delivery, considering:

- Impact of the earthquake
- Ongoing associated risks of building failure
- Landslide, rockfall, landslide dams
- Infrastructure failure
- Liquefaction
- Flooding
- Air, water or ground contamination
- The likelihood of significant aftershocks
- Comprised telecommunications and access
- Compromised rescue and response support capabilities

Incident reports will be shared between South Island CDEM Groups ECCs to enable shared situational awareness of potential reconnaissance-related hazards as they arise.

3.6.2a

EOC/ECC/AGENCY RECONNAISSANCE PLAN TEMPLATE

A. **AGENCY:** [Agency/Coordination centre]

B. **AGENCY LOCATION:** [Agency/Centre location]

C. **DATE OF PLAN DEVELOPMENT:** [DD/MM/YYYY HH:MM am/pm]

D. **RESPONSIBLE OFFICER:** [Individual authorising the plan. Usually agency/EOC/ECC Intelligence Manager]

E. **RECONNAISSANCE ASSET(S):** [Available agencies/organisations to conduct reconnaissance]

F. **RECONNAISSANCE OPERATIONAL PERIOD:**
(Site: hours. Local: days. Regional: days to Weeks)
START DATE: [DD/MM/YYYY HH:MM am/pm]
END DATE: [DD/MMYYYY HH:MM am/pm]

G. **SITUATION:** [Brief outline of situation and likely development necessitating reconnaissance, including what is currently known and intelligence/situational awareness needs/gaps. Outline of current and planned reconnaissance]

H. **MISSION:** [Intended intelligence outcome and area(s), site(s), infrastructure, community, feature(s), risks and area]

I. **RECONNAISSANCE INFORMATION NEEDS:**
(See 3.6.2.d Intelligence Collection Plan Matrix)

1. Specific infrastructure: [lifeline utility facilities, networks, buildings, communities, neighbourhoods]
[May include status of areas of homes/accommodation, lines, roads, rail, bridges, ports, wharves, airports/aerodromes, dams/canals, water storage/treatment, electricity generation, telecommunications tower/facility, fuel storage/distribution facilities, FMCG facilities, etc.]
2. Specific social features: [Specific community status, community response, displaced people, isolated people/animals, people/animals in need of support, community centres, marae, schools, etc.]
3. Economic features: [Status of/access to/risk to: industrial facilities/areas, rural areas [land, agriculture, stock, horticulture, forestry, communities]
4. Environmental features and hazards:[Slope instability, rockfall, landslide, dams, liquefaction, inundation, contamination, fire)

J. **RECONNAISSANCE AREAS:** [Proposed geographic areas for focus of reconnaissance tasking]

K. **MEANS OF TRANSPORT / MODE OF RECONNAISSANCE:** [Means available and likely to be used satellite, drone, fixed-wing, helicopter, vehicle, boat, foot, etc.)

L. **COMMUNICATIONS:** [Means of communication on route, timings for progress and safety reports, means of providing immediate and final reports. Format for reports and anticipated additional material: digital imagery, video, samples, sketch maps, etc.].

M. **CONTROL:** [Individuals/roles: reconnaissance task leader, team members, person/office to report to. May include an organisation chart. Action on encountering needs on route.

N. **LOGISTICS:** [Resources necessary for the task. Refuelling and supply arrangements. Accommodation arrangements on route. Additional resources to be carried for delivery during reconnaissance]

O. **SAFETY AND RISKS:** [Outline risk analysis and management for the reconnaissance context. Safety equipment to be carried. Action on incident not planned for. Assignment of authority to change plan or abort task]

3.6.2b

RECONNAISSANCE TASK PLAN TEMPLATE

A. **TASKING/COLLECTION AGENCY:** [Agency name/Coordination centre developing]

B. **TASKING/COLLECTION AGENCY LOCATION:** [Agency/Centre location]

C. **DATE TIME OF PLAN DEVELOPMENT:** [DD/MM/YYYY HH:MM am/pm]

D. **TASKING OFFICER:** [Individual authorising the task plan: Usually EOC/ECC/agency Intelligence Manager]

E. **RECONNAISSANCE ASSET(S):** [Agency/organisation/individual tasked to conduct reconnaissance]

F. **TASK TIMEFRAME:**
START DATE TIME: [DD/MM/YYYY HH:MM am/pm]
END DATE TIME: [DD/MMYYYY HH:MM am/pm]

G. **SITUATION:** [Brief outline of the situation and its likely development that necessitates task]

H. **MISSION:** [Intended intelligence outcome and area(s), site(s), infrastructure, community, feature(s) to cover]

I. **RECONNAISSANCE TARGETS:**

1. Specific infrastructure: [lifeline utility facility/ies or network(s), building(s)]
[May include status of homes/accommodation, lines, roads rail, bridges, ports, wharves, airports/aerodromes, dams/canals, water storage/treatment, electricity generation, telecommunications tower/facility, fuel storage/distribution facilities, FMCG facilities, etc.]
2. Specific social features: [Specific community status, community response, displaced people, isolated people/animals, people/animals in need of support, community centres, marae, schools, etc.]
3. Economic Features: [Status of/access to/risk to: industrial facilities/areas, rural areas [land, agriculture, stock, horticulture, forestry, communities]
4. Environmental features and hazards: [slope instability, rockfall, landslide, dams, liquefaction, inundation, contamination, fire)

J. **RECONNAISSANCE ROUTE:** [Start location, intended route to be taken, way points which may include target location, route map]

K. **MEANS OF TRANSPORT / MODE OF RECONNAISSANCE:** [Satellite, drone, fixed-wing, helicopter, vehicle, boat, foot, etc. for particular reconnaissance tasks)

L. **LOGISTICS**: [Equipment necessary for the task. Refuelling and supply arrangements. Accommodation arrangement on route. Additional resources to be carried for delivery on route]

M. **COMMUNICATIONS:** [Means of communication on route, timings for progress and safety reports, means of providing immediate and final reports. Format for reports and anticipated additional material: digital imagery, video, samples, sketch maps, etc.]

N. **CONTROL:** [Individuals/roles: reconnaissance task leader, team members, person/office to report to. May be or include an organisation chart. Action on encountering needs on route.

O. **SAFETY AND RISKS:** [Outline risk analysis and management for the task. Safety equipment to be carried. Action on incident. Assignment of authority to change plan or abort task]

3.6.2c

RECONNAISSANCE REPORT TEMPLATE

A. **TASKING/COLLECTION AGENCY:** [Agency name/Coordination centre developing]

B. **TASKING/COLLECTION AGENCY LOCATION:** [Agency/Centre location]

C. **DATE TIME OF REPORT:** [DD/MM/YYYY HH:MM am/pm]

D. **REPORTING OFFICER:** [Individual reporting on reconnaissance outputs]

E. **RECONNAISSANCE ASSET(S) USED:** [Agency/Organisation/Individual conducted reconnaissance]

F. **RECONNAISSANCE OPERATIONAL PERIOD:**
(Site: hours. Local: days. Regional: days to weeks)
START DATE TIME: [DD/MM/YYYY HH:MM am/pm]
END DATE TIME: [DD/MMYYYY HH:MM am/pm]

G. **MISSION:** [Statement of whether mission was achieved, lessons identified that inhibited mission]

H. **SITUATION:** [Brief outline of the situation and its likely development that necessitates]

I. **RECONNAISSANCE TARGET OUTPUTS:**

1. Specific infrastructure: [lifeline utility facility/ies or network(s), building(s)]
[May include status of homes/accommodation, lines, roads rail, bridges, ports, wharves, airports/aerodromes, dams/canals, water storage/treatment, electricity generation, telecommunications tower/facility, fuel storage/distribution facilities, FMCG facilities, etc.]
2. Specific social features: [Specific community status, community response, displaced people, isolated people/animals, people/animals in need of support, community centres, marae, schools, etc.]
3. Economic features: [Status of/access to/risk to: industrial facilities/areas, rural areas [land, agriculture, stock, horticulture, forestry, communities]
4. Environmental features and hazards: [Slope instability, rockfall, landslide, dams, liquefaction, inundation, contamination, fire)

J. **RECONNAISSANCE ROUTE:** [Actual route to taken, including way points which may include target location, route map]

K. **MEANS OF TRANSPORT / MODE OF RECONNAISSANCE:** [Satellite, drone, fixed-wing, helicopter, vehicle, boat, foot, etc., used for reconnaissance tasks]

L. **LOGISTICS:** [Equipment used for the task. Refuelling and supply issues. Additional resources carried]

M. **COMMUNICATIONS:** [Effectiveness of means of communication used on route. Issues with format for reports and additional material: digital imagery, video, samples, sketch maps, etc.]

N. **CONTROL:** [Actual individuals/roles used: reconnaissance task leader, team members, person/office to report to. May include an organisation chart. Action on encountering needs on route. Recommendations for further reconnaissance]

O. **SAFETY AND RISKS:** [Risks identified and management options used. Safety equipment used. Action taken on incident. Decisions to change plan or abort task. Recommendations in relation to risks for wider response and future reconnaissance]

NUMEROUS COMMUNITIES, AND POTENTIALLY ENTIRE CDEM GROUP AREAS, ARE LIKELY TO BE ISOLATED BY THE IMPACT OF THE ALPINE FAULT EARTHQUAKE.

3.6.2d INTELLIGENCE COLLECTION PLAN MATRIX TEMPLATE

EEI (ESSENTIAL ELEMENT OF INFORMATION)	SPECIFIC INFORMATION REQUIREMENT			TIMELINE
	INDICATOR	INDICATOR SPECIFICS	NAMED AREA OF INTEREST	WHEN INFO NEEDED, INCLUDING FOLLOW UP and RETURN.
What needs to be known. [i.e • Status of community • Status of homes • Status of supporting infrastructure • ongoing risks in affected parts of AA District.)	Indicators that will satisfy EEI [i.e. • Number of displaced people • Community response • Estimated % of homes damaged • Estimated % of homes without water, waste water, electricity.]	[i.e. • Initial aerial overview • Sample visits. to each 5th or 10th house. • Visits to key sites – hotel, community leaders, community hall, gatherings of cars, tents, vans.]	[i.e. Community A to Community B)	DD/MM HH:MM

COLLECTION ENTITY	SOURCE(S)	REPORT TYPE	ACTION TO BE INFORMED BY INTELLIGENCE	REMARKS
AGENCY TO COLLECT, ANALYSE AND DISSEMINATE INTELLIGENCE	AGENCIES, ORGANISATIONS, OPEN SOURCE, INFORMAL SOURCES			
[i.e Group ECC intelligence unit]	[i.e Response team: Helicopter-based air and ground reconnaissance]	[i.e. • Radio/Sat phone report from site. • Oral debrief on return. • Written report 6 hours after return. • Digital images) Options available: • Written report • Digital images • Oral report • GIS (Geographic Information System) outputs • Satellite imagery • Air photo • Remote monitoring, • etc.	[i.e Inform initial response, coordinated impact and needs assessment, and ongoing action planning.]	Specific issues in relation to the info required.

SOURCE: MODIFIED FROM CIMS 2ND EDITION AND MCDEM 2018

3.6.3 EVACUATION COMPONENT

This section describes the evacuation component of the SAFER Framework, including crucial coordination tasks and priorities for evacuation.[15]

EVACUATION	SAFER FRAMEWORK COMPONENT

SITUATION

Numerous communities, and potentially entire CDEM Group areas, are likely to be isolated by the impact of the Alpine Fault earthquake. All road and rail links to the West Coast and Kaikōura District, and roads into Queenstown Lakes District are likely to have been damaged, with airports needing to be assessed for safe use and no functional port facilities in these coastal areas prior to the quake.

Water, food, shelter, sanitation, and fuel are in short supply in all affected communities, as supermarkets, inground infrastructure, and homes and commercial accommodation are likely to have been severely damaged, making it impossible for significant numbers of residents and visitors to remain in place in some circumstances for more than a few days.

Telecommunications and access will have been seriously compromised by the direct impacts of the quake and due to disruption of the electricity supply in most parts of the South Island, making communication with isolated communities and for response organisations to plan for and execute safe and efficient evacuation plans difficult.

Partner CDEM Group response support arrangements outlined elsewhere in this Framework (Table 3.1) will be used as the basis for assembly, transport and receipt of evacuees from seriously impacted and isolated parts of CDEM Groups to less affected and more accessible parts of supporting CDEM Groups. Areas of most intensive evacuation are likely to be from the West Coast CDEM Group area, particularly smaller, more isolated communities, Fiordland, Queenstown Lakes District, Kaikōura District, and Southern parts of Tasman District around St Arnaud and Murchison. Communities close to the Alpine Fault in other areas, in particular the Mackenzie Basin communities of Omarama, Tekapo, Twizel, and Mt Cook Village are likely to be isolated as well.

Planning for and conduct of non-urgent medical and non-medical evacuations will need to be carried out in close coordination with medical evacuations coordinated by Ambulance National Crisis Coordination Centre (NCCC).

MISSION

To provide guidance to CDEM Groups and their partner organisations for a seamless evacuation of residents and visitors between CDEM Groups, complementing local and national evacuation processes, within the first week of response.

OBJECTIVES

a. Commence detailed end-to-end planning for the evacuation of resident and visitors prioritised for evacuation from severely affected CDEM Group areas to less affected areas with capacity to receive them within 6 hours of the initial quake.
b. Commence movement of people prioritised for immediate evacuation to areas of safety within 24 hours of the initial quake.
c. Complete evacuation of all people prioritised for evacuation within 5 days of the initial quake.
d. Review inter-Group evacuation plan within 72 hours after initial quake.

EXECUTION (SPECIFIC TASKS)

1. All CDEM Group ECCs are to commence and continue unified, multi-agency planning for the movement of vulnerable people and animals to safe locations as soon as sufficient situational awareness is achieved.
2. CDEM Groups with the ability to receive displaced people from isolated parts of neighbouring or more distant CDEM Groups are to plan to do so and commence actions to support the movement, reception, welfare and onward transit.

15. See MCDEM DGL 07/08 Mass Evacuation Planning and s30 National CDEM Plan for more guidance.

EVACUATION	SAFER FRAMEWORK COMPONENT

ADMINISTRATION AND LOGISTICS

Evacuation administration, in relation to displaced people, animals, and effects, to be conducted by source and receiving Group ECCs, predominantly under the control of respective WCGs.

Transport resources for evacuation to be coordinated by respective CDEM Group logistics functions.

Evacuation from one CDEM Group area to another requires several means of transport, including:

- **Ground:** Walking, private cars, buses, trucks, rough terrain – Civ/Mil, ATVs – Urban/Rural
- **Air:** Helicopters: private, commercial chartered, military [ground-based and ship to shore. Fixed-wing: private, commercial chartered, commercial scheduled, military. Potential local air evacuation hubs: Queenstown, Alexandra, Kaikōura. Potential regional air evacuation hubs: Invercargill, Dunedin, Hokitika, Blenheim, Nelson]
- **Lake/river:** Private pleasure craft, commercial small, medium and large
- **Marine:** Private pleasure craft, commercial small, medium and large, military, ferries, cruise ships

COMMAND, CONTROL, COORDINATION, AND COMMUNICATIONS

Operational management of evacuations will be managed by the respective CDEM Group Operations functions, including Police with their responsibility under the National CDEM Plan for the tactical management of evacuations, and local CDEM with responsibility to direct and coordinate response activities within their district.

In the absence of CDEM Controllers at any level, Police will coordinate evacuation processes, consistent with their powers under the CDEM Act 2002 s91 and the Guide to the National CDEM Plan.

With consideration for and in partnership with logistics, agreement will need to be reached between the respective source and receiving CDEM Groups Controllers (or alternate coordinating entities) on:

- **Priorities for evacuation:** Based on vulnerability and needs of displaced people and the likely respective length of isolation of communities/areas involved
- **Assembly, transit and receiving areas, including:** Management of each facility, telecommunication between facilities
- **Multiple means of transport:** Several means of transport may be required to evacuate displaced people. For example, evacuating displaced people from Queenstown may require water based transport to Kingston, rough terrain vehicles on damage roads to Northern/Central Southland, buses for final movement to Invercargill or elsewhere, and marine ship or air transport out of the region.
- **Routes and any associated safety activities required prior to and during evacuations:** Including coordination with road controlling authorities and contractors carrying our repairs
- **Timings for each phase, including:** Management of each phase and handover arrangements from phase to phase
- **Care of displaced people in transit and on arrival (s3.6.6 Welfare Component):** Water, food, shelter, sanitation, hygiene, security, medical services, psychosocial support, support to companion animals and/or owners
- **Evacuations:** Whether evacuations will be voluntary or mandatory
- **PIM/Communications arrangements throughout evacuation planning and delivery, including:** To individuals, communities, areas, facilities being evacuated from damaged areas, organisations that will or may be involved, communities through which evacuations will pass, communities that will receive evacuees or where reception facilities are established, wider communities, media in the respective evacuee source, transit, and reception locations, wider media

SAFETY

The safety of responders, including evacuation transport operators, and displaced people will be a key consideration in all phases of planning and action. Evacuation planning and coordination will take into account risks from travelling through damaged landscapes and infrastructure and additional failures, potential impacts of further aftershocks, and complex risks from unrelated meteorological, hazardous substance, and social factors.

Fatigue and psychosocial impacts in the stressful high-tempo, post-quake, aftershock prone context will need to be considered.

The safety of physically, socially or psychologically vulnerable people will be a key component of evacuation planning and management.

3.6.4 LOGISTICS COMPONENT

This section describes the logistics component of the SAFER Framework, including crucial coordination tasks and priorities for logistics.

LOGISTICS	SAFER FRAMEWORK COMPONENT

SITUATION

The impact of the Alpine Fault earthquake is likely to have made the movement of people and resources within and between CDEM group areas difficult to impossible. Communities near the Alpine Fault will have been most severely affected. The West Coast, Queenstown Lakes, and Southern parts of Nelson-Tasman CDEM Group area are likely to be isolated from the rest of New Zealand as road, rail and air maritime access has been compromised by rockfall, liquefaction and lateral spreading, particularly at bridge abutments. Road access between Southland, Otago, Canterbury, Nelson-Tasman, and Marlborough is likely to be at best limited and in some cases entirely disrupted due to damage to infrastructure.

Tens of thousands of visitors and residents, potentially more than 250,000, will be isolated and in need of supplies urgently. Evacuation of residents and visitors prioritised for evacuation will be required as soon as possible. Both inward and outward travel will be severely constrained, with helicopters, crew, fuel, and maintenance now crucial components of the logistics train. Dedicated rotary and fixed-wing air ambulances and other airframes suitable to patient transfer will be coordinated by Ambulance NZ and the Ministry of Health (MoH).

The needs of tourist visitors and visiting workers who come from a wide range of nations, with English not being a first language for many, if spoken at all, will be a significant issue in many local contexts.

As electricity supplies are likely to have been seriously disrupted and access is compromised, fuel for generators, both petrol and diesel, will be a critical resource across the South Island – especially within isolated communities.

The supply of electricity and fuel to crucial facilities, such as hospitals and health centre, CDCs, emergency services hubs, ECCs, and telecommunications nodes, primarily through onsite generators, will be a major logistics coordination task across the South Island.

Water, water treatment and storage equipment, food, and shelter will be in high demand across the South Island, and especially so nearer to fault and in isolated communities and in support of rescue and response teams insitu. A coordinated approach to assist in meeting local and distant needs will be essential to an effective response. Planning for, establishing and maintaining logistics assembly areas, staging areas, road heads, air heads, beach heads, ports, evacuee reception centres, temporary evacuee accommodation and mortuaries will be a large component of the first three days and first week of response

MISSION

To provide proactive coordinated inter-CDEM Group logistics support to response activities across the South Island for the duration of the response.

OBJECTIVES

a. Ascertain and share critical resource requirements between South Island CDEM Groups within 24 hours of initial quake and maintain throughout the response.
b. Identify and begin establishing primary air heads, ports, beach heads and staging areas within 24 hours of initial quake.
c. Commence inter-CDEM Group supply of critical resources within 48 hours of initial quake.

EXECUTION (SPECIFIC TASKS)

1. Each South Island CDEM Group logistics function will collate data on critical human, physical and transport resources needed and available within their CDEM Group area, this will be shared across CDEM Groups to support the common operating picture and provide visability to Groups, and with the NCMC to action requests for assistance.
2. Less affected CDEM Groups will, in conulstaion with the NCMC, commence push supply of critical resources to more severely affected areas. (North Island CDEM Groups will do so in consultation with the NCMC)
3. Less affected CDEM Groups will, in conulstaion with the NCMC, plan and provide for the reception, care and onward travel of evacuees from their own and other CDEM Groups areas, particularly from more severely affected areas. (North Island CDEM Groups will do so in consultation with the NCMC)
4. Donated goods will be discouraged and proactively managed to reduce unintended negative consequences in more severely affected areas.

LOGISTICS	SAFER FRAMEWORK COMPONENT

RESPONSE CRITICAL RESOURCES

- Search and rescue personnel and equipment
- Medical personnel, equipment and personnel, prescribed medicines
- Potable water
- Food: non-perishable, easily transported and prepared
- Shelter: tents, caravans, campervans, portacabins
- Sanitation: portaloos, expedient latrines, portable showers, sucker trucks and operators,
- Helicopters:
  - Light (Reconnaissance, communication)
  - Medium (People and supplies, reconnaissance, communication)
  - NZDF (People and supplies, reconnaissance, communication)
  - Medical (Patient and medical personnel transfer. Coordinated by Ambulance NZ and also part of CDEM response)

  Note: Medium helicopters may be assigned to lifeline utilities for reconnaissance and repair
- Rough terrain capable transport, for movement on damaged highways and roads:
  - Coordination of land transport with private contractors, 4WD clubs, and emergent volunteers will be a significant CDEM responsibility
  - NZDF are expected to play a significant role in supporting rough terrain transport operations as NZDF have the experience, capability and capacity to support operations
- Fuel: diesel, petrol, gas
- Coastal transport options that provide maritime access to isolated regions, potentially with damaged port facilities:
  - The West Coast is likely to be in this situation
  - Bulk food and fuel supplies most efficiently delivered by sea, as rail and roads will be damaged
  - NZDF and international defence resources are anticipated to provide substantial resources to meet these needs, although potentially several days into the response.
- Alternative telecommunications equipment
- Alternative electricity generations: fuel, solar or wind
- Experienced personnel:
  - Air movements coordination
  - Medical staff and management
  - EOC/ECC – all functions
  - Welfare staff and management (including mass-lodging, catering, psycho-social)
  - Building/Engineering inspection and management
  - Cordon staffing and management
  - Water, Sanitation and Hygiene (WASH) expertise

COMMAND, CONTROL, COORDINATION, AND COMMUNICATIONS

CDEM Group Logistics Managers are to ensure that Logistics Managers and functions within all partner agencies are consolidated under CDEM Group control.

Critical logistics needs and activities will feature in regular South Island CDEM Group Controller and, where necessary, Logistics management radio/teleconferences, situation reports and action plans.

Direct coordination between National, Group and Local Logistics Managers, respectively planning for and linking acquisition, supply, transit, and recipient logistics planning, management and delivery.

Air movements coordination may be centralised to one or more CDEM Group ECCs if deemed necessary and depending on availability of experienced air movement Controllers.

Reconnaissance planning and resultant intelligence collection, analysis and dissemination is led by CDEM Group Intelligence functions, in close coordination with emergency services, welfare, and lifeline utilities partners.

SAFETY

The safety of logistics personnel (CDEM, partner agencies, private operators, and contractors), particularly those working in the field and in damaged environments will be a crucial aspect of logistics response planning and management.

The safety and wellbeing of affected residents and visitors will be a primary focus of all response activities including logistics, particularly people being moved to places of safety by logistics assets.

Transportation, storage and distribution of fuel in the post-quake, aftershock prone environment, using unconventional and unfamiliar equipment and facilities, in changed and changing contexts, with new and changing demands, will require concentrated risk management.

TABLE 9. RESPONSE TRANSPORTATION PRIORITIES

CDEM GROUP	LAND TRANSPORT	SEA/LAKE PORTS	AIRPORTS	FMCG AND FUEL
Southland	SH 1 SH 6 SH 90 SH 94 SH 95 SH 96 SH 97 SH 98 SH 99	Bluff Milford Sound Oban, Stewart Island Doubtful Sound	Invercargill Stewart Island Milford Sound Martins Bay (Grass) Manapōuri Five Rivers (Grass)	Supermarkets in larger towns. Fuel tank farm South Port Bluff. Local fuel storage.
Otago	SH 1 SH 6 SH 8 SH 8A SH 83 SH 85 SH 87 SH 90 Glenorchy Rd	Port of Otago/Port Chalmers Oamaru Kingston - Queenstown Wānaka	Dunedin Queenstown Wānaka Alexandra Oamaru Glenorchy (Grass) Makarora (Grass) Kingston (Grass) Omarama (Grass)	Supermarkets in larger towns. Foodstuffs distribution centre Dunedin. Fuel tank farm Port of Otago. Local fuel storage.
Canterbury	SH 1 SH 7 SH 70 SH 72 SH 73 SH 77 SH 79 SH 8 SH 82	Port of Lyttelton Kaikōura MainPort Timaru Akaroa	Christchurch Timaru Mt Cook Twizel Tekapo Glentanner Kaikōura (Grass)	Foodstuffs and Progressives distribution centres. Supermarkets in larger towns. Fuel tank farms – Port of Lyttelton and Mainport Timaru. Local fuel storage.
West Coast	SH 6 SH 67 SH 69 SH 7 Haast Jackson Bay Rd	Greymouth Westport Jacksons Bay	Westport Greymouth Hokitika Haast (Grass) Karamea Franz Josef Neils Beach (Grass)	Supermarkets in larger towns. Local fuel storage.
Nelson-Tasman	SH 6 SH 60 SH 63	Nelson Tākaka Motueka Port Tarakohe - Tākaka	Nelson Motueka Tākaka	Supermarkets in larger towns. Local fuel storage.
Marlborough	SH 1 SH 60 SH 63	Port Marlborough Picton Havelock Port Underwood	Blenheim / Woodbourne Picton (Grass) Omaka (Grass)	Supermarkets in larger towns. Local fuel storage.

3.6.5 PUBLIC INFORMATION MANAGEMENT (PIM) COMPONENT

This section describes the PIM component of the SAFER Framework, including crucial coordination tasks.[16]

PIM	SAFER FRAMEWORK COMPONENT

SITUATION

The Alpine Fault earthquake is likely to have made communication with affected communities difficult, whether they are physically isolated or not, due to telecommunications and electricity networks being damaged. The internet and local radio stations are unlikely to be available to most communities, although local radio stations may be operating in a few communities.

Physical access within communities, and between communities and regions will have been severely compromised by damage to roads and bridges. Helicopters being used as a means of collecting impact and needs intelligence, evacuating injured and vulnerable people, and providing food, water, sanitation, information, and other resources to communities, will also need to be utilized as the become a primary means of contact between communities.

Aftershocks, associated liquefaction, landslides, subsidence, potential flooding, building and above and inground infrastructure damage, will be ongoing issues. As will the direct and indirect impacts on affected communities, tens of thousands of whom will want and, in many cases, need to be evacuated from isolated and otherwise affected areas.

In the first three days of response, search, rescue, medical treatment, critical evacuations, shelter, water, food, fuel, and information will be the most sought after functions or resources. Convergence of affected people and responders at medical centres, CDCs, community centres, evacuation nodes such as airports, and potentially emergency services and local government offices, will be likely at various points in the response.

Communities will expect and need regular, up to date information on what is happening locally and more widely, what they should expect to happen, what response is being provided, what they need to do, how they can assist each other, and where they can go for assistance. Normal community networks and services will be challenged or seriously disrupted.

Visitors and shorter term workers, particularly where tourism, agriculture, horticulture, and tertiary education are dominant, may have limited or no understanding of English. English is also a second language for appreciable numbers of resident communities in most CDEM Group areas.

CDEM Group ECCs should have satellite voice and data with local, national and international reach, and HF radio telecommunication into and between some CDEM Group areas. Some PIMS have dedicated satellite phones at their disposal. These resources will be available for planned PIM coordination teleconferences on at least a daily basis. Satellite data will support the sharing of documents, although the inclusion of images and video is not likely to be feasible due to limited bandwidth.

News media organisations will be eager to gain access to the affected areas and get reports out from residents, visitors, responders and leaders in isolated, affected and responding communities.

MISSION

To provide consistent, mutually supporting all agency PIM functions within all CDEM Groups across the South Island throughout the Alpine Fault earthquake response.

OBJECTIVES

a. Ensure PIM activities, messages and resources are coordinated and supported throughout response.
b. Ensure fit for purpose means of communicating with communities are established and maintained across the South Island (this may include printed materials, community notice boards/info centres)
c. Ensure that PIM messaging is effective and consistent across all CDEM Groups.
d. Ensure that all audiences (domestic and international, directly impacted and nonimpacted) are provided with relevant information, safety messages and advice about actions to take, progress of the response and the official sources of information and updates.
e. Ensure the media is engaged with effectively, including working with them to gather information about and provide information to affected communities.

16. Adding SAFER context to National CEM Plan and Guide s28 PIM and DGL 14-13 PIM.

PIM	SAFER FRAMEWORK COMPONENT

EXECUTION (SPECIFIC TASKS)

1. Ensure that all audiences (domestic and international, directly impacted and nonimpacted) are provided with relevant information and advice about actions to take, public health messaging, progress of the response and the official sources of information and updates.
2. Ensure the media is engaged with effectively, including working with them to gather information about and provide information to affected communities.
3. Staff CDEM Group PIM functions with appropriately trained and experienced personnel and managers from local partner organisations, with relief staff acquired externally and deployment coordinated at Group level.
4. Coordinate Group PIM intentions, activities, resources with all South Island CDEM and NCMC PIM to establish and agree a South Island-wide PIM plan within 12 hours of initial quake for all responding agencies.
5. Acquire and maintain science (GNS/regional council/university) and intelligence input to PIM processes and outputs
6. Ensure Group PIM Manager is represented at Group Controller teleconferences.
7. Conduct South Island PIM tele/radio conferences, with Group and key partner PIM Managers, at least daily throughout the response.
8. Develop and agree consistent South Island-wide key messages.
9. Balance PIM staffing across South Island to achieve optimum effect and provide adequate rest and relief.
10. Deliver Group PIM functions consistent with the agreed South Island-wide PIM Plan, providing and receiving support as required.
11. Ensure alternative means of communicating with affected communities, such as the development and production of printed material and community notice boards/information centres is established and maintained.
12. Establish and maintain liaison with local, national and international media to ensure coordination, shared situational awareness, emphasis on risk and safety management and share this with all South Island CDEM PIMs.
13. Produce communication products outside affected Groups/areas for distribution within, where necessary.
14. Work with Group ECC Intelligence and lifeline utility coordinators, local authority asset management and GIS teams, critical infrastructure lifeline utilities, and other stakeholders to produce GIS outputs to inform PIM outputs.
15. If required and agreed with other CDEM Groups, Canterbury Group PIM will establish a South Island Joint Information Management Centre. This centre would act as the 'single point of truth' for South Island wide PIM messaging. ECCs and EOCs would maintain responsibility for regionally and locally specific messaging. Alternate centres would be Nelson-Tasman and Southland.

PIM	SAFER FRAMEWORK COMPONENT
ADMINISTRATION AND LOGISTICS	
CDEM Group PIM Managers in Group areas less affected will provide support to more affected CDEM Group areas.	• CDEM Group and local authority CDEM PIM Managers • DHBs • Iwi • Police • FENZ • Ministry for Primary Industries (MPI) • Ministry of Social Development (MSD) • Lifeline utilities • FMCG • Chambers of commerce

Potential critical PIM resources that will need to be acquired, staged, moved and supported will include:	• Experienced PIM personnel, able to operate in challenging work and living environment.
	• Telecommunications equipment to support PIM functions:
	• Satellite phones
	  • Satellite data
	  • Mobile cell sites
	  • Radio telephone UHF/VHF
	• Printing to support community flyer dissemination:
	  • Photocopiers, toner and paper
	  • Preprinted generic information sheets
	• Electricity to PIM functions, particularly telecommunications and printing
	• Public meeting resources:
	  • Large noticeboards, maps, posters, etc.
	  • Loudspeakers
	  • Safety equipment
	  • Safe facilities/locations for meetings
	• Means of transport appropriate to PIM functions:
	  • 4WD for damaged roads
	  • Helicopter access to isolated communities
	  • Boat access to isolated lake, river and coastal communities
	  • Fixed-wing access into communities with operational air ports/strips
	  • Bicycles/motorcycles for newsletter delivery/community connection
	• Media accreditation:
	  • Agreed between CDEM Groups with MCDEM
	  • Issued predominantly outside affected areas by supporting CDEM Groups.

COMMAND, CONTROL, COORDINATION, AND COMMUNICATIONS	
Intelligence on the context and PIM needs of isolated and other affected communities will be useful in planning for and providing PIM services across the South Island. This will rely on active shared situational awareness across PIM functions in all CDEM Groups. The isolation of some communities will result in telecommunications to those communities, particularly via public radio and satellite, will need to be provided from outside those communities and, in some cases, outside the CDEM Group area. PIM physical and human resource support to isolated CDEM Groups will be coordinated with respective intelligence, planning, operations, welfare and logistics functions to ensure coordination occurs across all aspects of response. Ensuring that those most in need receive the information necessary for them to make informed decisions. Coordinating PIM activities with major news organisations will be vital in an emergency response of this scale. Appointing and maintaining active liaison with the news media will be vital in achieving coordination.	
SAFETY	
The safety of PIM personnel in ECCs, EOCs, accommodation, and, most critically in the field should be a focus of PIM Managers. Personnel and community safety needs and potential future risks should be included in all PIM planning and outputs. Safety issues are likely to arise in the activities of news media in gaining access to, operating in, interviewing residents, visitors and responders, and in media outputs, within affected areas, in staging areas, on evacuation routes, and in reception areas and CDCs and similar facilities. PIM Managers should work consistently and in mutual support of each other to ensure that the media are aware of the numerous safety issues in post-quake, active aftershock environment. PIM Managers should seek Group Controller or delegated authority to provide robust advice or direction to PIM stakeholders as and when required.	

3.6.6 WELFARE SERVICES COMPONENT

This section describes the welfare services component of the SAFER Framework, including crucial coordination tasks and priorities for welfare services, focusing on cross-CDEM Group boundary issues.[17]

WELFARE SERVICES	SAFER FRAMEWORK COMPONENT

SITUATION

Numerous communities, and potentially entire CDEM Group areas, will be isolated by the impact of the Alpine Fault earthquake. All road and rail links to the West Coast and Kaikōura District, and roads into Queenstown Lakes District are likely to have been severely damaged, with airports being assessed for safe use and little in the way of functional port facilities in those coastal areas prior to the quake.

Water, food, shelter and fuel will be in short supply and there will be inadequate sanitation in all severely affected communities, as supermarkets, inground infrastructure, and homes and commercial accommodation are likely to have been severely damaged, making it impossible for significant numbers of residents and visitors to remain in place for more than a few days. Damage will also have occurred in communities further from the Alpine Fault, further into Southland, Otago, Canterbury, Marlborough and Nelson-Tasman, including damage to chimneys, retaining walls, unreinforced masonry buildings, buildings with heavy tile roofs, some inground and above ground infrastructure in areas prone to liquefaction or exaggerated seismic acceleration.

Telecommunications will have been seriously compromised by the direct impacts of the quake and due to disruption of the electricity supply, making communication with isolated communities to plan and execute safe and efficient evacuation planning will be difficult.

Partner CDEM Group response support arrangements outlined elsewhere in this Framework (Figure 6) will be used as the basis for assembly, transport and receipt of evacuees from seriously impacted and isolated parts of CDEM Groups to less affected and more accessible parts of supporting CDEM Groups. Areas of most intensive activity will be evacuations from the West Coast CDEM Group area, particularly smaller, more isolated communities, Queenstown Lakes District, Kaikōura District, and southern parts of Tasman District, most likely in the St Arnaud and Murchison areas, as well as communities close to the Alpine Fault in other areas, in particular the Mackenzie Basin communities of Omarama, Tekapo, Twizel and Mt Cook Village.

Planning for and conducting welfare services response in support of displaced people, evacuees and those sheltering in place will need to be carried out in close coordination with medical evacuations coordinated by Ambulance NZ and the MoH.

MISSION

To provide immediate and ongoing welfare services to isolated communities, evacuated and displaced people, and communities sheltering in place with degraded essential services, across all CDEM Groups.

WELFARE SERVICES	SAFER FRAMEWORK COMPONENT

OBJECTIVES

a. Within 6 hours of this initial earthquake activate WCG Welfare Services sub-functions and advise the CDEM Group Controller of their activation:
   - Registration and needs assessment
   - Shelter and accommodation
   - Inquiry
   - Psychosocial support
   - Care and protection services for children and young people
   - Household goods and services
   - Financial assistance
   - Animal welfare

b. As soon as feasible provide welfare services to meet the immediate needs of people affected by the emergency[18] (may be based on estimated need).

c. Plan for registration and needs assessment. Direct and coordinate all agencies involved in registration and needs assessment. Register all affected people and undertake coordinated rapid needs assessment by agreed methods and theestablished process. Collate data centrally as possible. Task welfare services responsible agencies with detailed needs assessment and associated service.

d. Within 6 hours of the initial and significant subsequent quakes, complete initial planning for the ongoing delivery of welfare services to people affected by the emergency, in order to support the evacuation component, and the receipt of evacuees and displaced people.

e. Within 24 hours of initial and significant subsequent quakes, and in conjunction with other community reconnaissance activities (rapid, damage, impact assessments), and the SAFER Evacuation and Reconnaissance Components:
   - Activate CDCs located in safe areas
   - Initiate the delivery of ongoing welfare services to people affected by the emergency

f. Within 72 hours review inter-Group Welfare plan after initial quake.

EXECUTION (SPECIFIC TASKS)

1. Group Welfare Managers are to ensure that community impact and needs information and intelligence is collected and analysed by either a dedicated welfare intelligence function or by suitably trained, experienced and resourced personnel as part of the work of the respective Group ECC Intelligence function.
2. Welfare/Community wellbeing reports are to be produced daily, including known and estimated numbers of individuals by age, gender, ethnicity/nationality, mobility, vulnerability and needs within affected communities and receiving welfare services or other support.
3. All CDEM Group ECCs are to commence and continue unified, multi-agency planning for the care and support of displaced and vulnerable people and animals throughout the response phase.
4. CDEM Groups are to identify and share the location, access, capacity, capability and dates of availability of potential CDC and community led centres with partner CDEM Groups to facilitate planning for movement of displaced and evacuated people.
5. CDEM Groups with the ability to receive displaced people from isolated parts of neighbouring or more distant CDEM Groups are to plan to do so and commence actions to support the movement, reception, welfare, and onward transit – consistent with SAFER Framework evacuation guide.
6. Animal welfare issues will be significant and will need to be planned for and managed proactively under overall coordination of MPI, with local authorities, SPCA, etc.

17. See s14 Guide to the National CDEM Plan, Welfare Services, and DGL 11-15 Welfare Services in an Emergency.
18. People affected by the emergency includes evacuated and displaced people, people in transit to areas of safety, people at CDCs, people sheltering in place and isolated communities. These people may be residents or visitors.

WELFARE SERVICES	SAFER FRAMEWORK COMPONENT

ADMINISTRATION AND LOGISTICS

Administration of welfare data, in relation to displaced people and their property, will be conducted under unified control of Group WCGs within the management structures of respective Group ECCs.

Physical and human resources required to support isolated, evacuated, displaced and vulnerable people will be acquired and coordinated by the respective CDEM Group Logistics functions. Coordination of welfare services resources within each Group areas is the responsibility of the respective Group Welfare Manager, supported by the Group ECC logistics function.

Movement of welfare services personnel and resources to support affected communities into an affected or supporting CDEM Group area will be the responsibility of the source CDEM Group, other than where managed by the NCMC. Incoming welfare services personnel are expected to be relatively self-sufficient but will be inducted, integrated and supported by the receiving CDEM Group welfare function.

COMMAND, CONTROL, COORDINATION, AND COMMUNICATIONS

Operational management of the welfare services function will be managed in close coordination with the respective CDEM Group operations functions.

Where significant community wellfare needs are planned for and/or welfare services are being delivered, CDEM Group ECC welfare services functions will be structured and staffed with suitably trained and experienced personnel consistent with New Zealand CIMS, the arrangements in the National CDEM Plan and Guide, and Welfare in an Emergency Director's Guideline.

Agreement will need to be reached between the respective source and receiving CDEM Groups Controllers (or alternate coordinating entities) on factors outlined in the SAFER Framework evacuation component:

- Priorities for evacuation
  - Based on vulnerability and needs of displaced people and the likely respective length of isolation of communities/areas involved
- Assembly, transit and receiving areas, including:
  - Management of each facility
  - Telecommunication between facilities
- Multiple means of transport

  Note: Several means of transport may be required to evacuate displaced people. For example, evacuating displaced people from Queenstown may require water transport to Kingston, rough terrain vehicles on damage roads to Northern/Central Southland, buses for final movement to Invercargill or elsewhere, and marine ship or air transport out of the region.
- Routes and any associated safety activities required prior to and during evacuations
  - Including coordination with road controlling authorities and contractors carrying our repairs
- Timings for each phase, including:
  - Management of each phase and handover arrangements from phase to phase
- Care of displaced people in transit and on arrival
  - Water, food, shelter, sanitation, hygiene, safety and security
  - Medical services
  - Psychosocial support
  - Support to companion animals and/or owners
- Whether evacuations will be voluntary or mandatory
- Information needs of people awaiting, prioritised for, or in transit for evacuation
- Registration (if not already registered) and detailed needs assessment (ongoing, especially as circumstances change, i.e. following evacuation)
- Care and protection of unaccompanied children and young people
- Inquiry – seeking contact with significant others/ significant others inquiring about them
- Emergency accommodation – a step beyond emergency shelter
- Financial assistance – always an issue for displaced people

WELFARE SERVICES	SAFER FRAMEWORK COMPONENT

SAFETY

The safety of responders, including formal, volunteer and emergent welfare responders, will be key considerations in all phases of planning and action.

Welfare and evacuation planning and coordination will take into account risks from travelling through damaged landscape and infrastructure and additional failures, potential impacts of further aftershocks, and complex risks from unrelated meteorological, hazardous substance, and social factors.

Fatigue and psychosocial impacts in the stressful high-tempo, post-quake, aftershock prone context will need to be considered.

The safety of physically, socially or psychologically vulnerable people will also be a key component of evacuation planning and management.

CONSEQUENCE-INFORMED CAPABILITY DEVELOPMENT RESULTS IN LESS TIME BEING REQUIRED TO ASSESS THE IMPACTS.

APPENDICES

MANA TANGATA: POWER OF LEADERSHIP THROUGH THE PEOPLE

A

B

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D

APPENDIX A:
PROJECT AF8 TRANSITION

A1

EXPECTATION

The SAFER Framework represents the first phase of an ongoing process to keep the nationally significant hazard posed by the Alpine Fault before the communities, businesses, response agencies and the science community. The consequences of the hazard are only partially understood and the impacts on communities, businesses, the environment, and response agencies needs to be clarified.

The SAFER Framework is reliant on all relevant organisations developing their own plans, procedures and capabilities for responses to emergencies such as an Alpine Fault rupture to be able to response effectively to an emergency of this scale and complexity. Therefore, it is vital all organisations with roles and responsibilities directly or indirectly under the SAFER Framework have plans, procedures and resources in place to ensure that they can carry out their designated roles effectively and in a coordinated manner, and that these are maintained, regularly evaluated, and continually enhanced.

This section outlines the goals and associated tasks that need to be carried out over the next 5 years at which point the SAFER Framework will be reviewed.

A2

GOAL 1: TRANSITION THE AF8 PROJECT INTO AN ONGOING AF8 PROGRAMME

ACTIONS:

- Secure a sustainable long term funding model, using the third year of Project AF8 funding from the MCDEM Resilience Fund as a foundation from which to attract additional strategic stakeholders and ongoing funding.
- Establish a wider AF8 governance and partnership group which includes key stakeholders including CDEM, science, iwi, DHBs, emergency services, welfare services, and lifeline utilities.
- Set in place arrangements for multi-stakeholder coordination of research, policy and operational arrangements to manage the high priority risks across the 4Rs.
- Ensure the ongoing development, implementation and maintenance of arrangements between key stakeholders.
- Review the SAFER Framework 5 yearly
- Carry out an oversight role of all planning to ensure consistency with the SAFER Framework.

A3

GOAL 2: REGIONAL READINESS IS FULLY INTEGRATED WITHIN CDEM, MCDEM, AND NATIONAL AND REGIONAL RESPONSE ORGANISATIONS THROUGH AGREEMENTS AND PRE-PLANNING.

ACTIONS:

- South Island Groups to develop local response plans consistent with the SAFER Framework (these will be integrated with regional response agency plans within each Group).
- Develop cross border MOUs between neighbouring South Island Groups and the Wellington Group consistent with the response supporting pairs concept in the SAFER Framework.
- MCDEM to develop a National Earthquake Response Plan with input from CDEM Groups and national stakeholders, with the assumption that a state of national emergency will be declared.
- Consider options for and develop South Island critical resource databases.[19]
- Develop a robust and sustainable all hazards South Island-wide Telecommunications Plan.
- Assess existing capacity and capability within Groups to respond with the aim of identifying key gaps, issues and resource overlaps.
- National response agencies have plans in place to manage their statutory responsibilities as outlined in the National CDEM Plan and Guide, National Health Emergency Plan and related documents.
- Plan for and carry out a Tier 4 National Exercise on an AF8 scenario.
- Use the CIMS Action Plan template as the structure for all plans developed within Programme AF8.

A4

GOAL 3: MAINTAIN AND FURTHER ENHANCE CLOSE WORKING RELATIONSHIPS BETWEEN AF8 SCIENCE AND PRACTICE PARTNERS.

ACTIONS:

- The science community is appropriately represented on the governance group.
- Develop a common picture of strategic priorities for ongoing and/or new research programmes.
- Continue to collaboratively improve the outputs of RiskScape with GNS.
- Encourage further scientific input to determine better hazard understanding, cascading hazard impacts and the resulting constraints on response.
- Develop a tourist flow model for New Zealand and the South Island that effectively represents seasonal changes.

19. NZSAR and FENZ Rural Fire resource databases should be included

A5

GOAL 4: IMPACT ASSESSMENTS AND VULNERABILITIES ON LIFELINES ARE UNDERSTOOD POST EVENT.

- Assess and model the impacts on key lifelines infrastructure to an extent that they can determine response priorities.
- Key lifelines investigate options to improve their resilience to an Alpine Fault rupture and invest in changes as opportunities arise.
- GIS (Geographic Information System) data on critical infrastructure lifeline utility networks, services, and seismic and associated vulnerabilities are developed and shared prior to and during response and recovery.

A6

GOAL 5: IMPROVED AWARENESS AND UNDERSTANDING OF THE IMPACT AND CONSEQUENCES OF THE ALPINE FAULT HAZARD ON SOCIAL, CULTURAL, ENVIRONMENTAL AND ECONOMIC WELLBEING.

ACTIONS:

- Continue to manage the website in a way that engages the public.
- Develop public education and community resilience messaging.
- Link scientific findings to public, business and government education messaging.
- Continue to present to conferences, community and business events as and when opportunities arise.

A7

GOAL 6: CDEM AND STAKEHOLDER RECOVERY PLANNING FOR AN AF8 EVENT IS IN PLACE.

ACTIONS:

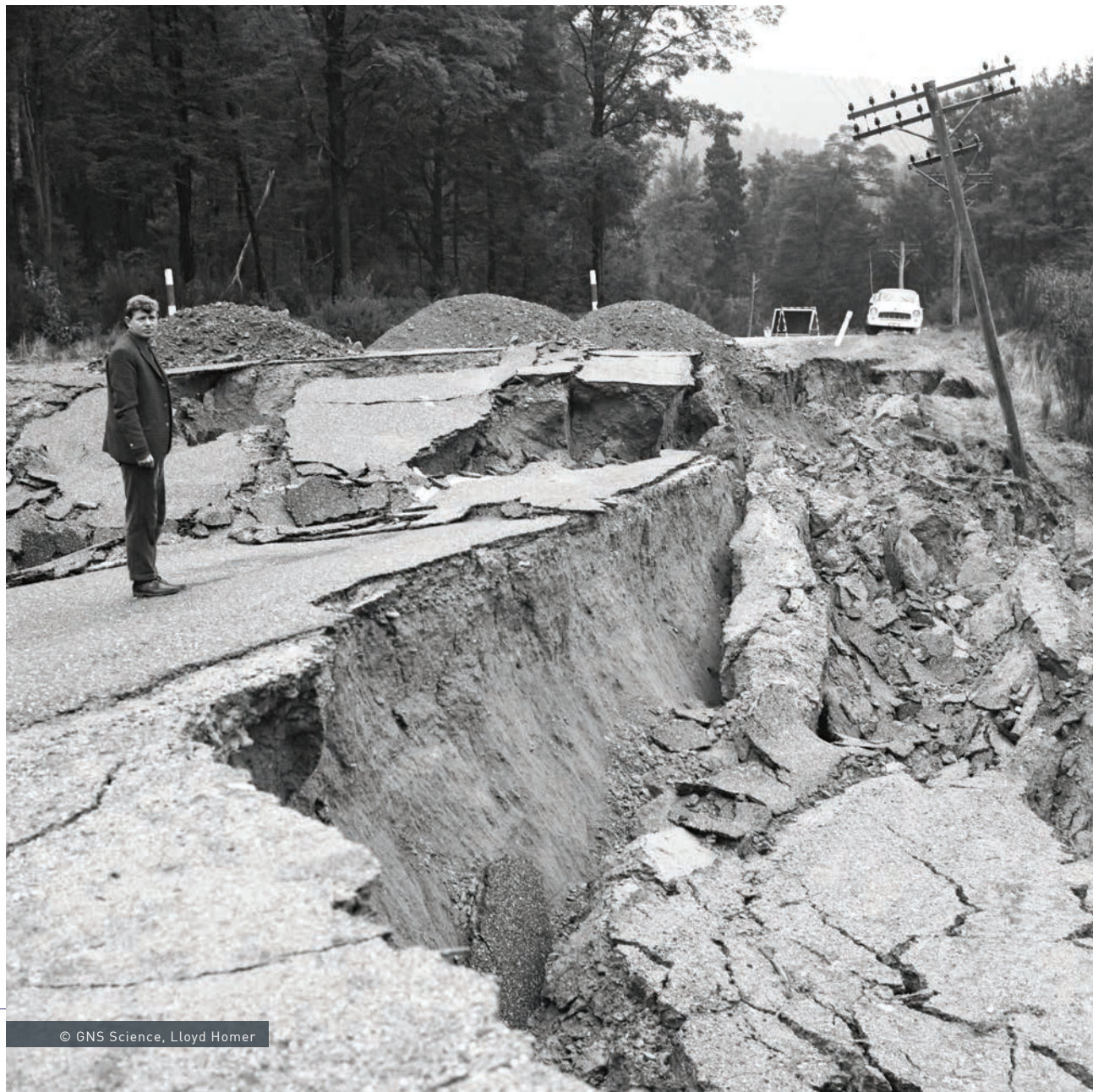
- CDEM Groups to consider the impacts of an AF8 event when developing/reviewing their strategic recovery plans.
- Carry out pre-planning at a national and regional level to consider how New Zealand would recover from such an event and develop recovery priorities.
- Key lifeline organisations, businesses and responding agencies take an AF8 rupture into account when developing/reviewing their business continuity plans.

APPENDIX B:
DETAILED IMPACT ESTIMATES

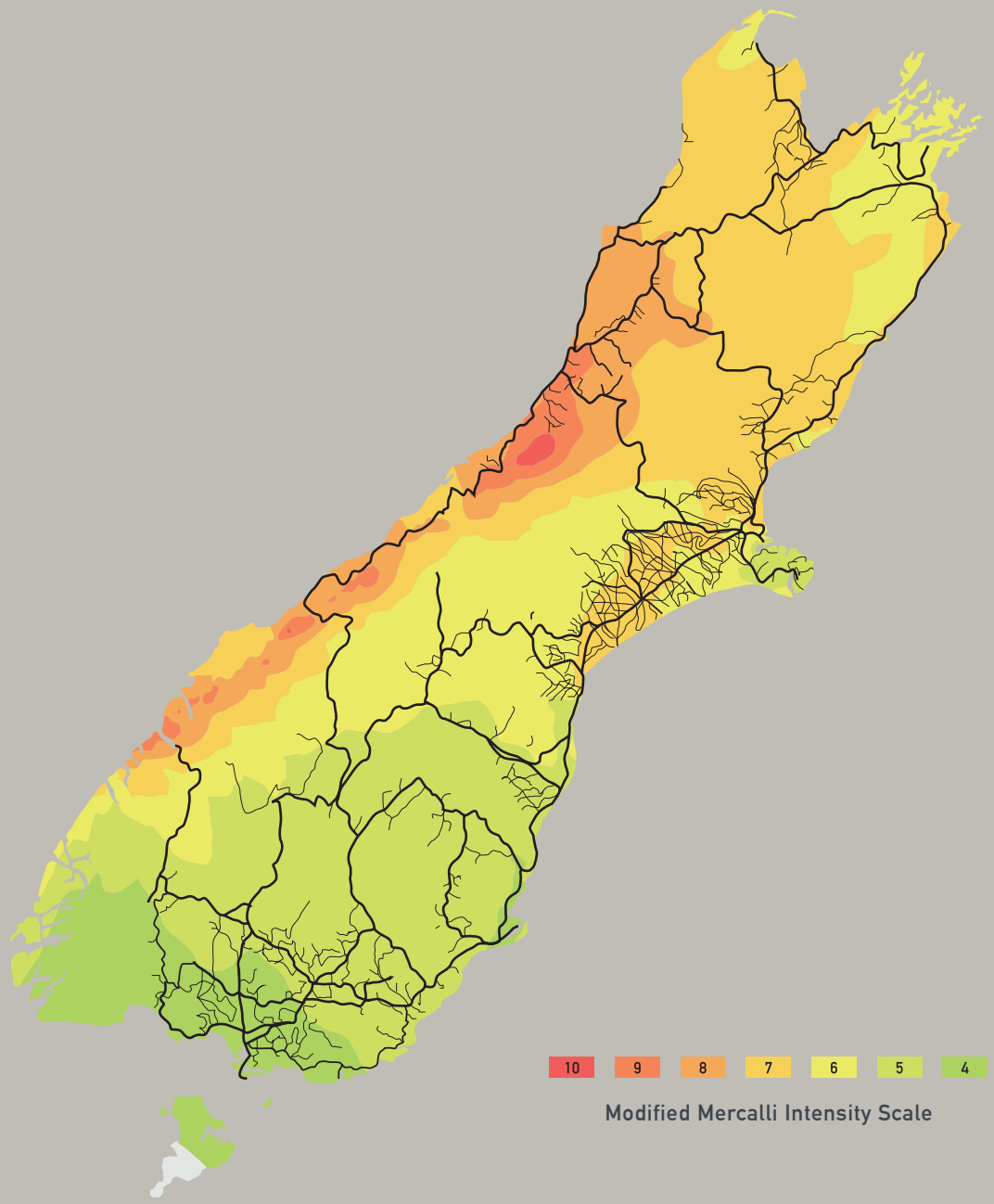
This appendix provides regional scale geographic representation of isoseismic energy, estimated distribution of landslides, and post-quake status of roads, electricity and telecommunications networks and airports across the South Island.

Estimates of community impacts after an Alpine Fault earthquake are currently being calculated by RiskScape, a hazard impact modelling programme developed by GNS Science and NIWA and applied to the AF8 Scenario by University of Canterbury Hazard and Disaster Management researchers. RiskScape applies the latest seismic energy and structural damage science to the geology and built environment of a given area.

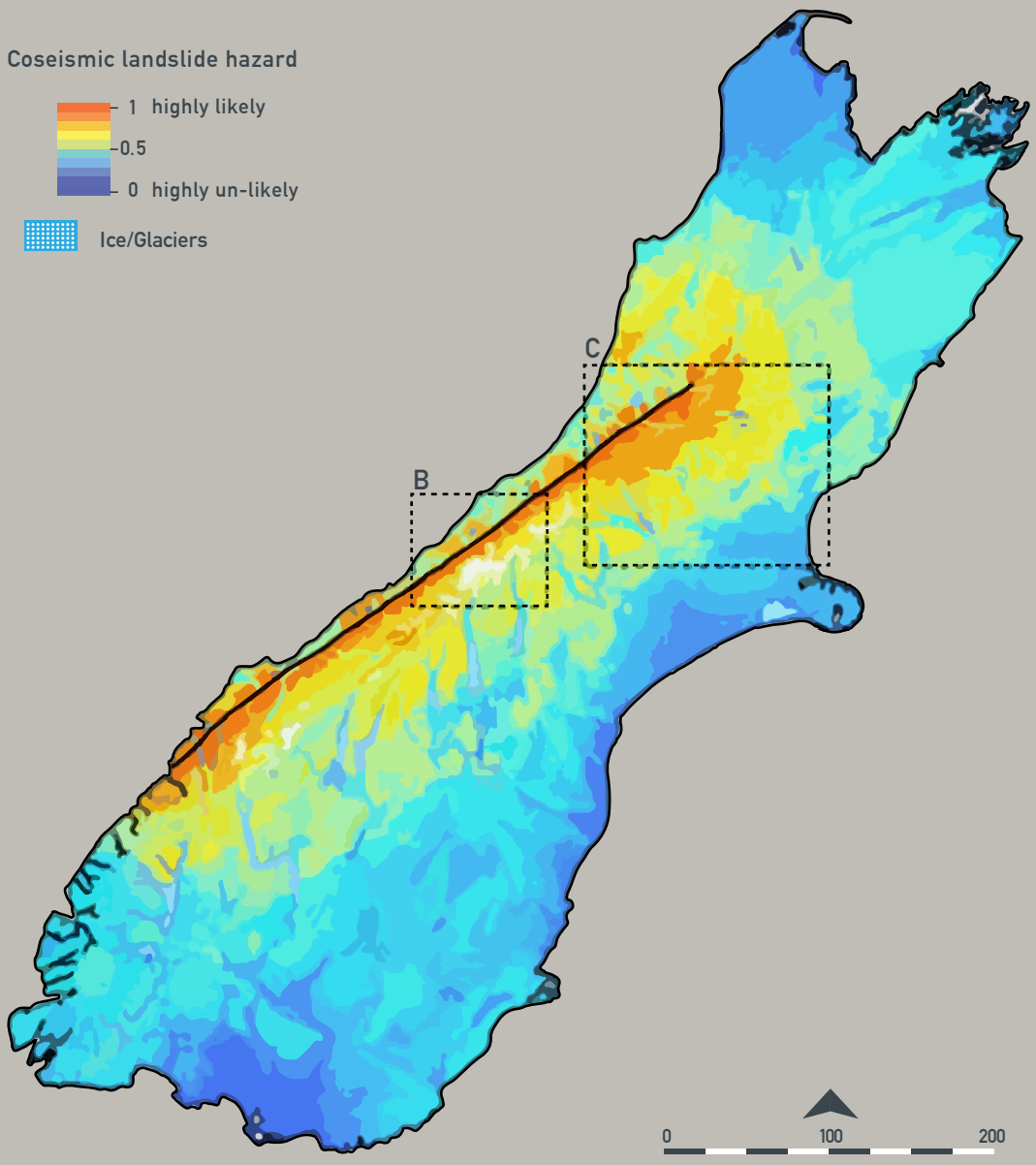
The outputs of the RiskScape analysis for a magnitude 8 earthquake are intended to accompany the SAFER Framework in a form that can be regularly updated during the 5 year life of the Framework. The human impact estimates will include regional scale potential day and night locations and seasonal population fluctuations.



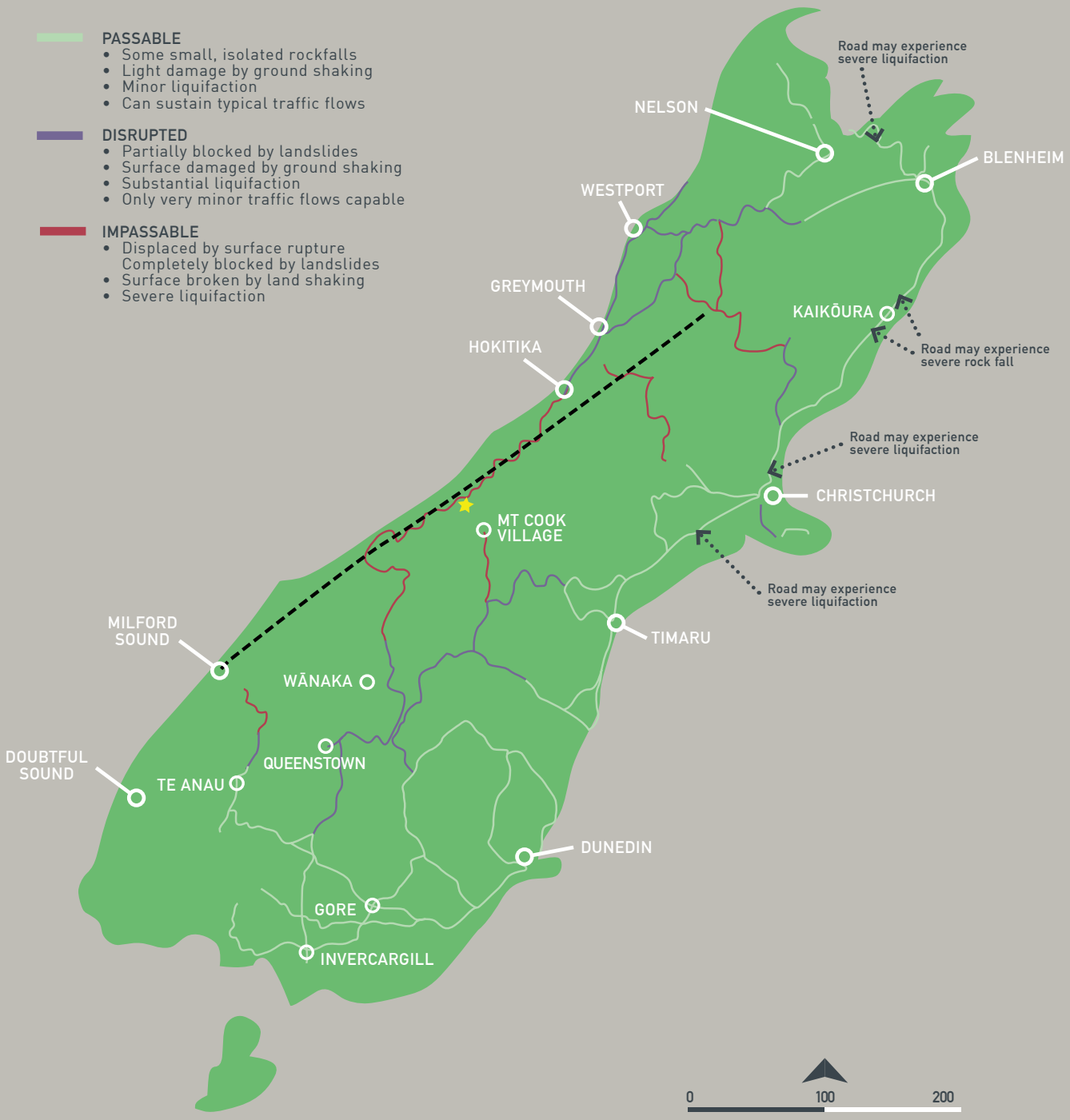
B.1. ISOSEISMIC REPRESENTATION OF ALPINE F2K QUAKE SHAKING INTENSITY



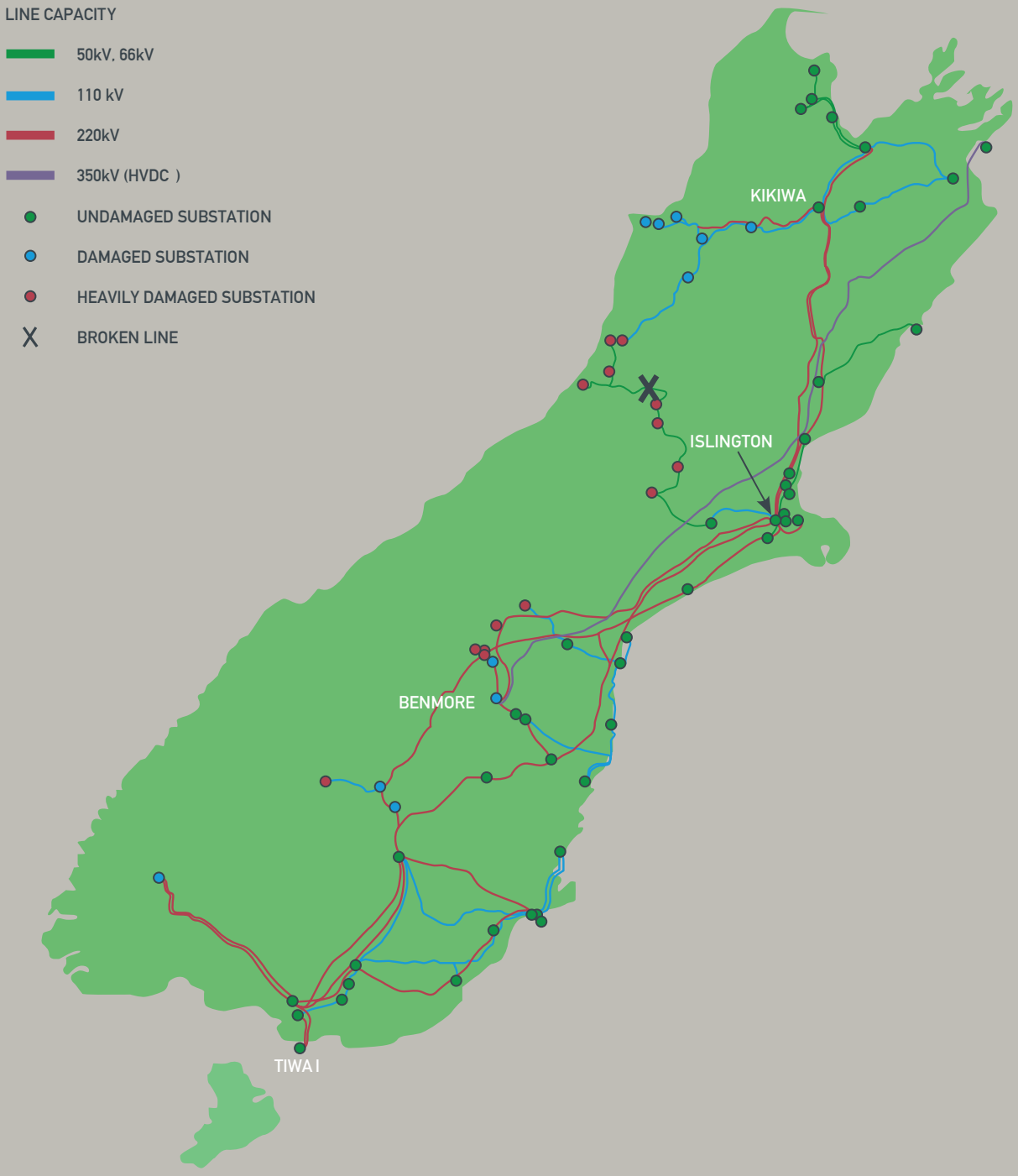
B.2 ESTIMATED DISTRIBUTION OF CO-SEISMIC LANDSLIDES



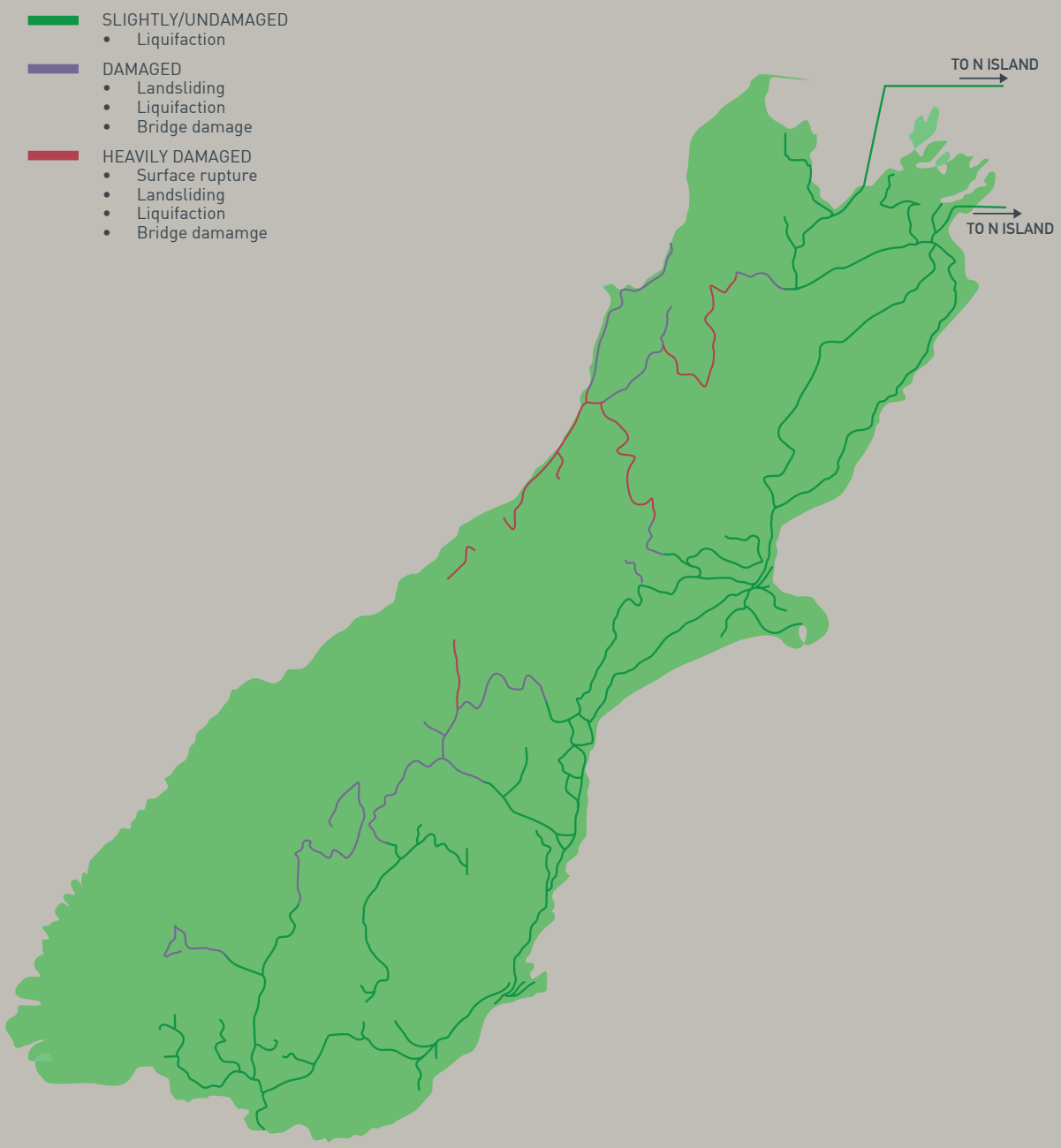
B.3 ESTIMATED DAMAGE TO ROADS



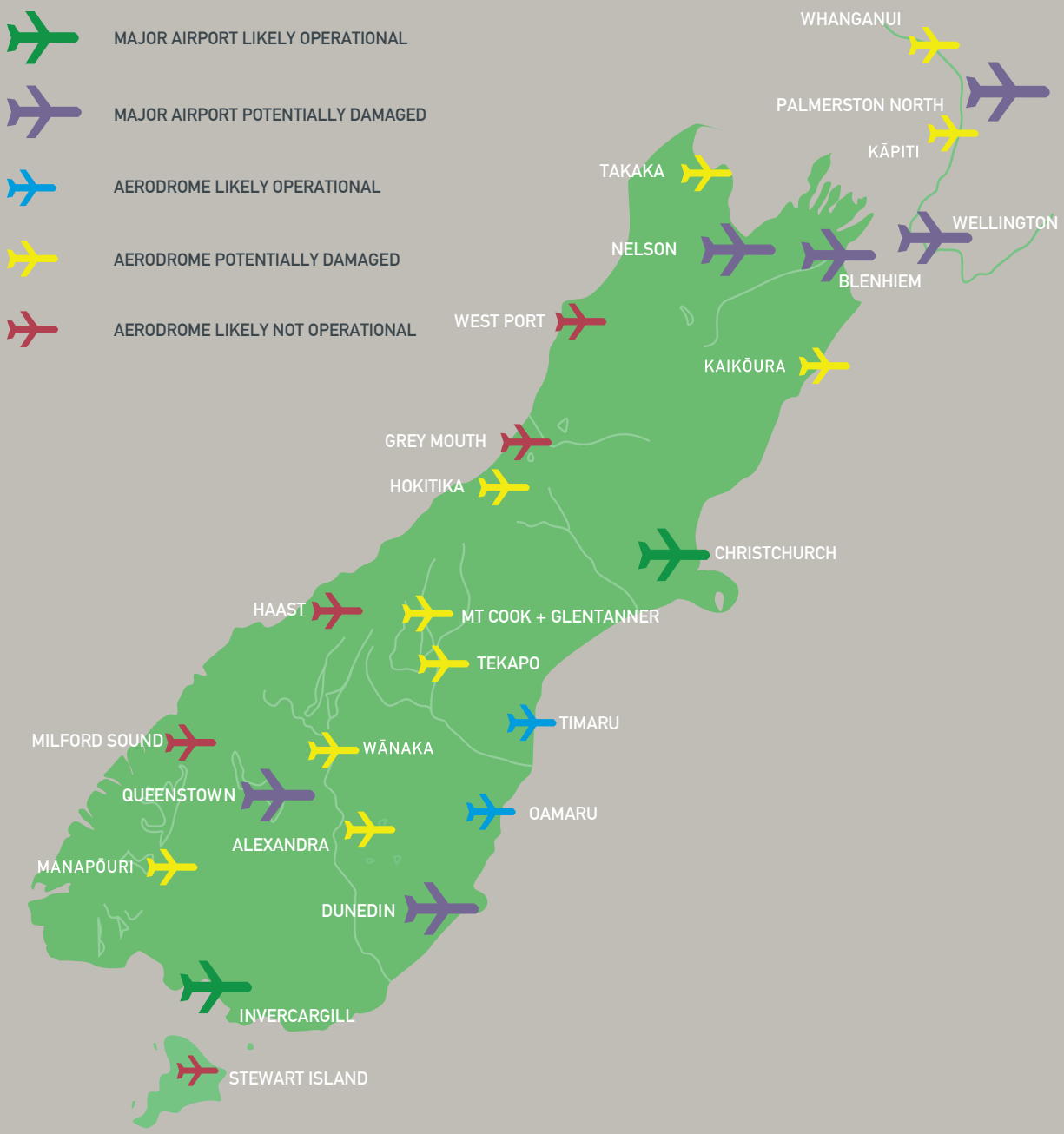
B.4 ESTIMATED DAMAGE TO ELECTRICITY INFRASTRUCTURE



B.5 ESTIMATED DAMAGE TO TELECOMMUNICATION LINES NETWORKS



B.6 ESTIMATED POST-QUAKE AIRPORTS STATUS



APPENDIX C:
ESTIMATED TIMELINE OF RESPONSE ACTIVITIES

TIMELINE	ACTIVITIES
IMMEDIATE RESPONSE	• Community and local agency responses, including local medical, begin immediately. • Local USAR and general rescue operations commence in affected urban areas. • Wider search and rescue commences along roads and in affected urban and rural areas. • Support to injured and displaced commences – led by Ambulance NZ, Primary Health Organisations (PHOs)[20] and DHBs. • Evacuation of critical casualties begins – coordinated by Ambulance NZ and DHBs, under CDEM control. • Group ECCs and Local EOCs activate (possibly at alternative locations). • Unified control initiated at local and group levels, including CDEM Controllers and primary response organisations, depending on local and regional contexts. • Declarations of states of local emergency made for all South Island CDEM Groups. • Local NZDF resources respond, within CDEM Group Controller coordination. • Reconnaissance, rapid impact assessment and information gathering begin. • Identification and sharing of local resource availability/shortfalls, requests for support. • Preparation to activate Civil Defence Centres (CDCs) commences, activation where required/feasible. • CDCs and welfare services activated in severely affected areas.
DAY ONE	• Rescue, triage, treatment and evacuation of injured continue as top priority. • USAR operations increase, deployment of additional national teams into affected areas. • Community self help continues, supported by and integrated into the official response. • New Zealand Medical Assistance Team (NZMAT) deployments into some affected areas commences. • Support to isolated communities commences in affected areas. • CDCs begin to operate in supporting CDEM Groups. • Detailed planning for mass evacuation of Internally Displaced People (IDPs) from isolated affected areas commences. • Information gathering, reconnaissance and shared situation awareness continues. • Preparation of regional staging and assembly areas begins. • Aftershocks continue, causing further damage to terrain and infrastructure. • Cordon and containment of response rescue response sites and high risk areas commences. • State of National Emergency (likely to have been) declared.

20. Primary Health Organisations coordinating medical centres, general practitioners etc.

TIMELINE	ACTIVITIES
DAY TWO -THREE	• Information gathering, reconnaissance and shared situational awareness processes continue, extending into more remote locations. • Regional assembly and staging areas begin operations – resources in, IDPs out. • Continue to establish and resource Civil Defence Centres as community needs are identified and monitored. • Treatment and evacuation of injured to continue as a high priority. • International Medical Assistance Team (IMAT) deployments commence. • Evacuation of non-critical casualties as required and as transport is available – coordinated by Ambulance NZ and DHBs, under CDEM control. • Evacuation of non-medical high priority IDPs from isolated areas commences. • USAR operations increase in severely affected urban settings, deployment of international teams into affected areas. • LandSAR and community outreach commences in less damaged areas. • Public health messaging commences.
DAY FOUR-FIVE	• Information gathering, reconnaissance and shared situation awareness processes continue. • National assembly and staging areas fully established. • Continue to establish and resource CDCs. • USAR operations continue in severely affected urban settings. • LandSAR and community outreach continues in less damaged areas. • Aftershocks continue, causing further damage to terrain and infrastructure. • Detailed recovery management planning commences.
DAY FIVE-SIX	• Information gathering, reconnaissance and shared situation awareness processes continue. • Road access from Southland to Kingston and Marlborough to Nelson Lakes re-established. • Sea-to-shore access plan to West Coast region established. • USAR operations continue in severely affected urban settings. • LandSAR and community outreach continue in less damaged areas.
DAY SIX-SEVEN	• Information gathering and reconnaissance continue. • Welfare support to affected communities and individuals continues. • Building and infrastructure assessment, safety precautions and replacement continues. • USAR and LandSAR life-saving operations begin to wind down. • Community outreach continues in all affected urban and rural areas. • Planning and preparation for transition recovery management well advanced, with a coordinated and consistent approach across all South Island CDEM Groups. • Aftershocks continue, causing further damage to terrain and infrastructure. • Extension of state(s) of emergency considered in conjunction with potential transition notice(s).
DAY 8 ONWARD	• Responses continue based on common operating picture and action plans developed during first seven days. • Preparation to transition to recovery management continues. • Aftershocks continue.

APPENDIX D:
ROLES AND RESPONSIBILITIES BY AGENCY

The roles and responsibilities outlined below are based on those provided for in the National CDEM Plan and Guide, South Island CDEM Group Plans and the outcomes of planning workshops conducted to support the development of the SAFER Framework.

D1

LEAD AGENCY: CIVIL DEFENCE EMERGENCY MANAGEMENT [CDEM]

The lead agency for managing the responses to consequences of earthquake related emergencies is CDEM at local, regional, and national levels (CDEM Act 2002, National CDEM Plan and Guide). All other agencies are required to ensure that their response intentions, plans, and activities are integrated into CDEM-led, coordinated responses and, where necessary, follow the direction of CDEM Controllers and staff to whom CDEM powers have been delegated.

In the absence of currently appointed CDEM Controllers at local or community levels during a declared state of emergency New Zealand Police constables are enabled by the CDEM Act 2002 (ss 86-92) and Policing Act to exercise some of the emergency powers otherwise assigned to CDEM Controllers.

Local community response activities are likely to be coordinated by members of the respective communities until formal command and control can be established.

AGENCY	RESPONSIBILITIES
MCDEM / NCMC	1. Lead agency for national response coordination 2. Coordinate and develop national level intelligence support and dissemination throughout the response structure 3. Act as the focal point for communication between central government and the regional/local level 4. Collaboratively plan and direct the overall response and recovery strategies with other central agencies, and regional/local Controllers 5. Provide timely and accurate public information and relevant messaging 6. Prioritise and direct national resource mobilisation to support requests for assistance 7. Coordinate national logistics efforts, including but not limited to a. Personnel, equipment and supply requests for support b. National logistics support, including Fast Moving Consumer Goods (FMCG), fuel, water, sanitation and hygiene resources, and emergency shelter c. Prioritise access to scarce national resources and capabilities d. Coordination of national domestic and international contractual arrangements e. Establishment and management of National Assembly Areas 8. Coordinate international support to the response, inclusive of reception, staging, onwards movement and integration

AGENCY	RESPONSIBILITIES
CDEM Groups	1. Activate Group ECC to support, coordinate and direct immediate and ongoing response activities of: Local and regional responses, Member local authorities, including regional councils, Emergent community response groups and spontaneous volunteers, Emergency services (including USAR)*, NZDF* , Hospital and health services*, PHUs and Medical Officers of Health, Welfare Service providers – through WCG*, Lifeline utilities, Rural sector organisations, Tourism sector, FMCG (food and other consumables), News media, Local/regional governance 2. Support initial search and rescue, medical response, patient and other urgent evacuations, and immediate welfare support, according to existing group, local, and partner agency response plans and needs generated by the earthquake. 3. Initiate and deliver South Island-wide telecommunications procedure and establish a South Island-wide telecommunications plan depending on impact on telecommunications infrastructure (Section 3.6.2 Telecommunications Component). 4. Initiate rapid damage and needs assessments within respective CDEM Group areas and parts of neighbouring CDEM Group areas likely to be inaccessible. 5. Plan and task wider reconnaissance, and acquire operational intelligence from directed reconnaissance, member territorial authorities, emergency services, welfare services, and use EHOs to carry out health assessments and liaise with PHUs community and industry groups, lifeline utilities and the media. 6. Collate, analyse, produce and share intelligence on known and estimated risks, casualties, displaced, vulnerable and isolated people/communities within respective affected areas and share with South Island CDEM Groups and NCMC in regular status, situation, and, where necessary, specific intelligence reports. 7. Activate and refine South Island-wide Evacuation Component (Appendix C), providing a connected, mutually supportive and coordinated approach to moving displaced and vulnerable people from seriously damaged and/or isolated parts of CDEM Group areas to safer locations in partner CDEM Groups areas. 8. Establish and maintain contact with the NCMC 9. Coordinate and direct all rapid impact assessments and immediate and ongoing reconnaissance activities, leading member local authorities, lifeline utilities, emergency services, community responses and public information. 10. Share status and situation reports with South Island CDEM Groups, NCMC, and partner agencies on: a. Numbers, needs and locations of injured, displaced, isolated and deceased b. Lifelines and emergency infrastructure condition, community impacts, needs, and anticipated restoration – including temporary service arrangements for: roads and highways, water, rail, waste water/sanitation, ports (and alternative landing areas), electricity, airports and airstrips, telecommunications, fuel (petrol, diesel, avgas, JetA1), residential structures, emergency service facilities, commercial premises, hospitals and health services, schools and tertiary institutions, emergency coordination centres, CDCs and accommodation, FMCG facilities, stores and capabilities, government facilities, e.g. council buildings c. ECC and field response staffing and equipment status and projected needs. 11. Acquire, collate, and assess estimated status lifelines and key infrastructure and share with key partners, neighbouring CDEM Groups, NCMC, and media. 12. Share consolidated, prioritised personnel, equipment and supply requests and future estimates with supporting CDEM Groups and NCMC. 13. Act as the Local Emergency Management Agency (LEMA) for USAR and other resources assigned to respective CDEM Group area(s), consistent with INSARAG guidelines and the National CDEM Plan and Guide, under the coordination of the NCMC. 14. Establish CDEM Group assembly areas (land, air and sea), evacuee reception areas, and emergency shelter for evacuated and displaced.

* this includes the international assistance operating within respective CDEM Group Areas.

AGENCY	RESPONSIBILITIES
CDEM Group Controllers	1. Coordinate and direct all local Controllers, agencies, organisations and resources responding, or potentially required for response, within area of control. 2. Establish and maintain contact with, and work under the coordination and direction of, National Controllers or Controllers delegated by the National Controller. 3. Establish and maintain coordination with CDEM Group governance leadership, to ensure consistent and coordinated governance support to responses and initiation of recovery management processes.
New Zealand Police	1. During a declared state of emergency, in the absence of or direction from a Group or Local Controller, exercise emergency powers under the CDEM Act 2002 (ss 86-92). (See section D.2 for more detail on Police roles and responsibilities.)
Fire and Emergency New Zealand	1. In any emergency a FENZ "authorised person" may direct others stabilise or make safe the situation. (See D.3 for detail.)
Local CDEM Controllers	1. Coordinate and direct all aspects of local responses by agencies and communities, and organisation responding, or potentially required for response, within area of control. 2. Establish and maintain contact with, and work under the coordination and direction of respective Group Controller. 3. Establish and maintain coordination with local governance leadership, to ensure consistent and coordinated governance support to responses and initiation of recovery management processes.
Local authorities	1. Respond to local needs according to crisis management plans, local and CDEM Group operational procedures, and action plans, under the control of CDEM Group ECC/EOC. 2. Support CDEM response coordination within respective and, where possible, neighbouring territorial authority areas. 3. Provide personnel and physical resources to responses elsewhere, as requested by Group or National Controllers. 4. Take a lead role within local lifeline utilities response and recovery coordination. 5. Lead and coordinated building assessment and safety within their area and support other affected local authorities where possible. 6. Provide governance support to the response and transition to recovery, holding local, CDEM Group-wide, South Island governance meetings or teleconferences as and when required.
Regional Councils / Unitary Authorities	1. Activate and maintain governance to response and recovery activation through CDEM Group joint committee. 2. Activate and maintain support, including financial and administrative support to CDEM Group response and recovery staff, facilities and processes, under the control of CDEM Group ECC/EOC. 3. Support science, hazards and environmental monitoring support to response and recovery. 4. Ensure flood management is integrated into CDEM-led response. 5. Liaison with iwi and rūnanga in support of tangata whenua/Māori response.

D2 NEW ZEALAND POLICE [NZP]

AGENCY	RESPONSIBILITIES
NEW ZEALAND POLICE	1. Respond to local needs in coordination with other emergency services and emergency community responders, under the control of local/group CDEM Controllers. 2. Establish communication with Police District HQs and local/group CDEM ECC(s). 3. Coordinate Police reconnaissance and intelligence collection and analysis planning and activities with CDEM ECC intelligence. 4. Share response intelligence with local/Group CDEM ECC(s) intelligence. 5. Execute warrants issued by CDEM Controllers (ss 78-81 CDEM Act 2002). 6. Forward consolidated, prioritised lists of personnel, supplies and equipment requiring transport into and from affected areas, to the respective CDEM Group ECCs. 7. Provide Police representatives to supporting CDEM Group ECC(s) intelligence, planning, and operations functions, where required by the respective CDEM Group Controller. 8. Manage public movement into affected areas, to boundaries and rules set by respective CDEM Group ECC(s). 9. Coordinate deployment and management of LandSAR teams, under overall control of respective CDEM Group ECC(s). 10. Carry out functions outlined in the National CDEM Plan and Guide section 9, including: a. Maintain the functions of the New Zealand Police as outlined in section 9 of the Policing Act 2008 and the (CDEM) Act b. Assist with the dissemination of warning messages c. Assist the movement of rescue, medical, fire, and other essential services d. Coordinate movement control over land, including communications and traffic control e. Conduct category I search and rescue operations f. Support category II search and rescue operations g. Carry out disaster victims identification h. Control access to and within an affected area so as to assist rescue, medical, fire, and other essential services i. Conduct any initial evacuations to ensure protection of life j. Coordinate inquiries to assist family, whānau, and next of kin to make contact with each other k. Trace missing persons and notify their next of kin l. Assist coroners as required by the Coroners Act 2006, in close liaison with the Ministry of Justice, health services and CDEM 11. Coordinate domestic and international Police and Disaster Victim Identification (DVI) teams within the Police district, in close coordination with respective CDEM Group ECC(s).

D3 FIRE AND EMERGENCY NEW ZEALAND [FENZ]

AGENCY	RESPONSIBILITIES
FIRE AND EMERGENCY NEW ZEALAND [FENZ]	1. Respond to immediate local needs in conjunction with other emergency services and emergent community responses, under Group CDEM control and NCMC coordination. 2. Establish and maintain contact with respective local CDEM EOCs and CDEM Group ECC(s). 3. Initiate and lead USAR responses in affected urban areas where FENZ resources are available. 4. Coordinate deployment and management of all FENZ personnel and domestic and international USAR teams 5. Activate major incident plans under the control of NCMC and respective CDEM Group ECC(s). 6. Coordinate reconnaissance planning and activities with CDEM ECC intelligence, according to INSARAG guidelines. 7. Share response intelligence with local/Group CDEM ECC(s) intelligence. 8. Forward consolidated, prioritised lists of personnel, supplies and equipment requiring transport into and from affected areas, to the respective CDEM Group ECCs. 9. Provide representatives to CDEM Group ECC(s) intelligence, planning and operations functions, where required by Group Controller. 10. Carry out functions outlined in the National CDEM Plan and Guide section 10.5, including: a. Firefighting to control, contain, and extinguish fires b. Containing releases and spillages of hazardous substances c. USAR (FENZ is formally recognised as having a heavy urban search and rescue capability and the ability to coordinate urban search and rescue within New Zealand, the capability to carry out urban search and rescue includes the national support team and urban search and rescue task forces consisting of technicians, medical staff, engineers, and search dogs) d. Limiting damage, including the salvage of essential material from endangered locations e. Redistributing water, in consultation with the relevant territorial authorities, for firefighting 11. On the declaration of a state of emergency, no additional powers or authority are conferred on FENZ. 12. Section 40 of the Fire and Emergency New Zealand Act 2017 provides that: "If an emergency occurs that does not involve fire or a hazardous substance, the authorised person responding to the emergency may do one or more of the following: a. Stabilise or render safe any other substance emergency b. Take whatever action is necessary to save lives and property in danger c. Direct any person to stop any activity that may contribute to the emergency d. Request any person, either orally or in writing, to take any action to prevent or limit the extent of the emergency e. Direct any person to leave any place near the emergency f. Direct any person to refrain from entering the vicinity of the emergency

D4 HEALTH SECTOR

AGENCY	RESPONSIBILITIES
DISTRICT HEALTH BOARDS (DHBS)	1. Establish contact with CDEM Group ECCs, potentially affected health care providers and support providers in their DHB area. 2. Provide situation reports, status, and capacity to support CDEM Group ECC(s). 3. Coordinate the local primary, tertiary and public health response within respective DHB area and parts of neighbouring areas delegated to support. 4. Implement regional response coordination procedures within the health and disability sector. 5. Forward requests for medical personnel, equipment and consumable supplies to the NHCC. 6. Implement procedures for requesting assistance with urgent patient transfers and the provision of staff, supplies and other assistance. 7. Forward consolidated non-medical support requests to CDEM Group ECCs for action, including requests for supplies, equipment, engineering, lifeline utilities and transport. 8. Be prepared to support DHBs within affected areas. 9. Be prepared to receive and treat casualties evacuated from affected areas.
MINISTRY OF HEALTH [MoH]	1. Establish contact with South Island DHBs and NCMC. If MoH South Island regional coordination activated link with Group ECCs. 2. Activate, staff and maintain South Island-wide regional health response coordination, in conjunction with CDEM Group SAFER coordination. 3. Identify available capacity across the health and disability sector and (in conjunction with NCMC) coordinate any transport requirements for the provision of personnel, equipment and supplies to affected areas. 4. Control the medical transport priorities for inter facility transport and aero-medical evacuations in coordination with the Ambulance NCCC and DHBs. 5. Liaise with NCMC and DHBs to arrange additional logistics support as required. 6. Coordinate the provision of additional medical teams to the affected areas. 7. Control any international medical assets deployed to New Zealand, and support local DHB management of international medical teams in affected and supporting DHB areas.
LAND AND AIR AMBULANCE PROVIDERS	1. Establish contact with DHB EOCs and CDEM Group ECCs within affected and supporting areas. 2. Respond to local needs in conjunction with local health and disability services, emergency service and partner agencies, and emergency community response, under the control of local/Group CDEM. 3. Respond in support of the wider South Island and national response in accordance with the New Zealand Ambulance Major Incident and Emergency Plan (AMPLANZ). 4. Coordinate Rotary Air Ambulance to transport appropriate health response resources and evacuate critical casualties. 5. Triage, treat and transport casualties as resources are made available 6. Manage prehospital health on the incident ground and coordinate with other health providers.
PRIMARY HEALTH ORGANISATIONS (PHOs)	1. Respond to local needs in conjunction with Ambulance NZ and local health and disability services, partner agencies and emergency community response, under the control of local/Group CDEM. 2. Establish contact with DHB EOC(s) and CDEM Group ECCs or local CDEM EOCs as appropriate, within affected and supporting areas. 3. Be prepared to respond in support of the wider response in affected or supporting areas, including supporting incoming displaced or evacuated people.

AGENCY	RESPONSIBILITIES
REST HOMES AND ELDER CARE HOSPITALS	1. Respond to rest home and elder care community needs in conjunction with Ambulance NZ and local health and disability services, in coordination with the local DHB and CDEM. 2. Establish contact with DHB EOC(s) and respective CDEM Group ECC (see Appendix B Telecommunications Guide). 3. Be prepared to respond in support of the wider response in affected or supporting areas, including supporting incoming displaced or evacuated people.
PRIVATE HOSPITALS	1. Respond to local needs in conjunction with Ambulance NZ and local health and disability services, partner agencies and emergency community response, under the control of local/Group CDEM. 2. Establish contact with DHB EOC(s) and CDEM Group ECCs or local CDEM EOC as appropriate, within affected and supporting areas. 3. Be prepared to respond in support of the wider response in affected or supporting areas, including supporting incoming displaced or evacuated people.
PUBLIC HEALTH UNITS (PHUs)	1. Respond to local needs in conjunction with Ambulance NZ and local health and disability services, in coordination with local CDEM. 2. Establish and maintain contact with DHB EOC(s) and CDEM Group ECCs or local CDEM EOCs as appropriate, within affected and supporting areas. 3. Establish and maintain contact with the NHCC. 4. Assess, manage and communicate public health risks in close coordination with respective Group ECC/EOC. 5. Be prepared to respond in support of the wider response in affected or supporting areas, including supporting incoming displaced or evacuated people. 6. Carry out rapid risk assessment of acute public health issues as per World Health Organisation (WHO) protocols 7. From the findings of the rapid risk assessment and incoming intelligence, fine tune prepared action plans. 8. Arrange for expedient distribution of public health messaging and advice to affected communities and rescuers. 9. Planning partner agency collaboration for the purpose of expediently establishing minimum standards for water supply, sanitation (excreta disposal, vector control solid waste disposal, drainage) and hygiene promotion (WASH) as per the SPHERE project. 10. Commence implementation of prompt and effective measures to protect the health of the public against injury or disease or illness arising from an emergency as per the procedures guidelines specified in Section 10 of the Ministry of Health Environmental Health Manual.
MENTAL HEALTH SERVICES	1. Establish contact with DHB EOC(s) and respective WCG(s), via the psychosocial support sub-function sub-group, at respective CDEM Group ECCs (see section 3.6.2 Telecommunications Component). 2. Respond to and coordinate responses to psychosocial local needs in conjunction with WCGs and the NWCG. 3. Be prepared to respond in support of the wider response in affected or supporting areas, including supporting incoming displaced or evacuated people.
NEW ZEALAND BLOOD SERVICE	1. Establish and maintain communication with NHCC and DHB EOCs. 2. Manage acquisition, storage and supply of blood products in support of response activities.
PHARMACIES	1. Establish and maintain communication with respective local EOC or CDEM Group ECC via Pharmacy Guild representation to DHB EOC. 2. Provide status reports on impacts to and capabilities of local pharmacy services. 3. Continue to provide services, considering the impact of the earthquake. 4. Provide adaptive pharmacy support to hospital disability services and CDEM response activities.

D5 WELFARE SERVICES

AGENCY	RESPONSIBILITIES
WELFARE SERVICES (CDEM GROUP LEVEL)	1. Establish and maintain engagement as a WCG at and under the control of respective CDEM Group ECCs. 2. Ensure Welfare services are planned for and delivered within affected areas and communities, including at CDCs, community emergency centres, evacuation assembly areas, transit and reception centres – in conjunction with respective ECC welfare/WCG and planning functions. 3. Coordinate with all agencies in respective welfare services sub-functions and relevant emergency community response through WCGs. 4. Plan for and provide welfare services to evacuees and displaced people within, in transit from, and outside affected areas. 5. Plan to support transit of evacuees and displaced people, informed by and as part of evacuation planning and management. 6. Provide operational intelligence welfare contexts to Group ECC or Local EOC intelligence functions and respective Group WCG. 7. Be prepared to provide personnel, equipment, or facilities to support responses in directly and indirectly affected areas.

D6 IWI

AGENCY	RESPONSIBILITIES
IWI	1. Establish and maintain contact with respective Group Controllers and WCGs under the control of respective CDEM Group ECCs. 2. Rūnanga and marae are to establish and maintain contact with respective Local CDEM Controllers and local welfare management committees, where these exist, under the control of respective Local CDEM EOC or CDEM Group ECC. 3. Provide executive level representation to Group Controller situational awareness/planning meetings and briefings. 4. Provide senior liaison representatives to each activated Group ECC/EOC, to ensure effective and ongoing coordination. 5. Plan for and deliver marae and community-based welfare services within affected areas in conjunction with Te Puni Kōkiri and WCGs. 6. Coordinate with all agencies in respective welfare support functions and relevant emergency community response, within WCG coordination. 7. Provide operational intelligence on community contexts to Group ECC or Local EOC intelligence functions and respective Group WCG. 8. Be prepared to provide personnel, equipment, or facilities to support responses in directly and indirectly affected areas.

D7 TE PUNI KŌKIRI

AGENCY	RESPONSIBILITIES
TE PUNI KŌKIRI	1. Establish and maintain contact with respective iwi leadership, Group Controllers and Group Welfare Managers at and under the control of respective CDEM Group ECCs. 2. Plan for and deliver marae and community-based welfare services within affected areas in conjunction with Te Puni Kōkiri and WCGs. 3. Coordinate with all agencies in respective welfare support functions and relevant emergency community response, within South Island-wide welfare coordination. 4. Provide operational intelligence welfare contexts to Group ECC or Local EOC intelligence functions and respective WCG. 5. Be prepared to provide personnel, equipment, or facilities to support responses in directly and indirectly affected areas.

D8 NEW ZEALAND DEFENCE FORCE (NZDF)

AGENCY	RESPONSIBILITIES
NEW ZEALAND DEFENCE FORCE (NZDF) Units stationed in or deployed to South Island CDEM Groups.	1. Consistent with the National CDEM Plan 2015, establish and maintain contact with respective CDEM Group ECCs (see section 3.6.2 Telecommunications Guide). 2. On activation of the SAFER Framework, or at the request/tasking of a Group Controller or the NCMC, be prepared to act on requests to: a. Provide Local Emergency Response Groups, as required. b. Establish regional/national assembly areas (fixed-wing and/or helicopter) at military bases, and elsewhere as required, following direction from NCMC and/or tasking from respective CDEM Group Controllers. c. Support control of air asset loading and tasking at regional/national assembly areas in accordance with combined South Island CDEM Group SAFER coordination. d. Make ready logistics management and air, sea and rough terrain transport capabilities to assist the South Island response. e. Conduct reconnaissance consistent with section 3.6.1, under the control of NCMC, South Island-wide or respective CDEM Group intelligence. f. Coordinate foreign military contingents deployed for the response, within coordination and direction of respective CDEM Group Controllers. g. Assist sea asset tasking, loading/unloading at regional/national assembly areas (Sea), in accordance with CDEM priorities. h. Establish and control improvised beach landing sites in affected areas, in conjunction with respective CDEM Groups, consistent with NCMC tasking. i. In conjunction with respective harbour masters, survey key existing and potential expedient harbours for use in response and recovery, if required. j. Provide personnel and equipment to augment CDEM Groups, particularly field logistics comprising transport and supply functions. k. Provide personnel and equipment to support command, control, communication and intelligence functions in South Island CDEM Group ECCs, if required. l. Make military bases and facilities, including Burnham, Woodbourne and Tekapo, available for use as assembly areas and command and control facilities, if required.

D9 NEW ZEALAND TRANSPORT AGENCY [NZTA]

AGENCY	RESPONSIBILITIES
NEW ZEALAND TRANSPORT AGENCY [NZTA]	1. Establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. Actively participate in reconnaissance planning (consistent with section 3.6.2 Reconnaissance Component) in collaboration with supporting South Island CDEM Group ECC/EPCs Intelligence and lifeline utility coordinators. 3. Coordinate reconnaissance and impact assessment of state highways and special purpose roads, reporting immediately to respective CDEM Group ECCs and NCMC as reports are produced and/or situations change. 4. Ensure that reconnaissance resources, particularly helicopters, are used efficiently and to best effect within NCMC, South Island-wide and respective CDEM Group Controller priorities. 5. Provide transport infrastructure updates to CDEM Group ECCs and NCMC at least once daily. 6. Develop transport infrastructure immediate and medium term response and recovery plans under the coordination of NCMC and CDEM Group ECCs.

D10 MINISTRY FOR PRIMARY INDUSTRIES (MPI)

AGENCY	RESPONSIBILITIES
MINISTRY FOR PRIMARY INDUSTRIES [MPI]	1. Establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. Actively participate in reconnaissance planning with rural support trusts, Federated Farmers, rural advisory/coordination groups (consistent with section 3.6.2 Reconnaissance Component) in collaboration with supporting South Island CDEM Group ECCs intelligence functions. 3. Ensure that reconnaissance resources, particularly helicopters, are used efficiently and to best effect within NCMC, South Island-wide and respective CDEM Group Controller priorities. 4. Provide rural community and primary sector updates to CDEM Group ECCs and NCMC at least daily. 5. Lead animal welfare planning and operational coordination as part of CDEM Group WCGs. 6. Develop immediate and medium term rural response and recovery plans under the coordination of NCMC and CDEM Group ECCs.

D11 DEPARTMENT OF CONSERVATION (DOC)

AGENCY	RESPONSIBILITIES
DEPARTMENT OF CONSERVATION (DoC)	1. Establish and maintain contact with respective iwi leadership, Group 1. Establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. Actively participate in reconnaissance planning (consistent with section 3.6.2 Reconnaissance Component) in collaboration with supporting South Island CDEM Group ECC/EPCs intelligence. 3. Ensure that reconnaissance and search and rescue resources, particularly helicopters, are used efficiently and to best effect within NCMC, South Island-wide and respective CDEM Group Controller priorities. 4. Coordinate evacuation of visitors from DoC tracks and huts in conjunction with local CDEM response management and CDEM Group response coordination. 5. Provide DoC estate infrastructure and visitor status updates to CDEM Group ECCs and NCMC at least daily. 6. Develop DoC estate immediate and medium term response and recovery plans under the coordination of CDEM Group ECCs and NCMC.

D12 DEPARTMENT OF CORRECTIONS

AGENCY	RESPONSIBILITIES
DEPARTMENT OF CORRECTIONS	1. Establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. Coordinate support to and, if necessary, evacuation of corrections facilities in conjunction with local CDEM response management and CDEM Group response coordination. 3. Provide corrections infrastructure and client status updates to CDEM Group ECCs and NCMC at least daily. 4. Develop corrections immediate and medium term response and recovery plans under the coordination of NCMC and CDEM Group ECCs and Police. 5. Be prepared to make corrections facilities, personnel and appropriate clients available to support response activities, if required.

D13 LIFELINE UTILITIES

AGENCY	RESPONSIBILITIES
LIFELINE UTILITIES	1. Establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component), with national lifeline utilities maintaining contact with the NCMC. 2. Actively participate in reconnaissance planning (consistent with section 3.6.2 Reconnaissance Component) in collaboration with supporting South Island CDEM Group ECC/EPCs intelligence functions. 3. Ensure that reconnaissance resources, particularly helicopters, are used efficiently and to best effect within NCMC, South Island-wide and respective CDEM Group Controller priorities. 4. Provide lifeline utility infrastructure, service status and reinstatement estimate updates to CDEM Group ECC lifeline utility coordinators and NCMC, respectively, at least daily. 5. Develop lifeline utility immediate and medium term response and recovery plans under the coordination of CDEM Group ECCs and NCMC.

D14

FAST MOVING CONSUMER GOODS [FMCG]

AGENCY	RESPONSIBILITIES
FAST MOVING CONSUMER GOODS [FMCG]	1. Local supermarkets are to establish and maintain contact with respective Local CDEM EOCs or CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. National FMCG organisations (Foodstuffs and Progressive Enterprises) to establish and main contact with NCMC and Canterbury CDEM Group ECC (See section 3.6.4 Logistics Component). 3. Actively participate in logistics planning (consistent with section 3.6.2 Reconnaissance Component) in collaboration with supporting South Island CDEM Group ECC planning and logistics functions, to provide food and other critical supplies to isolated or displaced communities. 4. Ensure that logistics resources, particularly helicopters, are used efficiently and to best effect within NCMC, South Island-wide and respective CDEM Group Controller priorities. 5. Provide FMCG infrastructure, service and reinstatement status updates to CDEM Group ECC and NCMC logistics functions, respectively, at least daily. 6. Develop FMCG immediate and medium term response and recovery plans under the coordination of CDEM Group ECCs and NCMC Planning and logistics functions

D15

REGIONAL TOURISM ORGANISATIONS [RTOS]

AGENCY	RESPONSIBILITIES
REGIONAL TOURISM ORGANISATIONS [RTOS]	1. Local RTOs are to establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. National tourism organisations are to establish and main contact with NCMC, MBIE and MFAT, through with the visitor sector emergency advisory group. 3. Actively participate in logistics planning (consistent with section 3.6.2 Evacuation Component) in collaboration with supporting South Island CDEM Group ECC/EOC, to provide support to isolated tourist and plan for and manage their evacuation. 4. Provide visitor tourism status updates to CDEM Group ECCs, at least daily. 5. Develop regional visitor tourism immediate and medium term response and recovery plans under the coordination of CDEM Group ECCs, in conjunction with Group Recovery Managers.

D16

MINISTRY OF EDUCATION [MOE]

AGENCY	RESPONSIBILITIES
MINISTRY OF EDUCATION [MoE]	1. Establish and maintain contact with all school, early childhood centres, tertiary education providers, CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. Actively participate in response planning in collaboration with respective South Island CDEM Group ECC and NCMC, to provide support to isolated schools and associated communities. 3. Provide local and regional education sector status updates to CDEM Group ECCs and NCMC intelligence functions, respectively, at least daily. 4. Develop education sector immediate and medium term response and recovery plans under the coordination of CDEM Group ECCs and NCMC planning functions

D17

TERTIARY EDUCATION PROVIDERS (UNIVERSITIES AND POLYTECHNICS)

AGENCY	RESPONSIBILITIES
Tertiary Education Providers (Universities and Polytechnics)	1. Ascertain impacts on facilities on campus and remote locations. 2. Undertake search and rescue and wider reconnaissance on campuses with available resources and, where possible, in conjunction with local emergency services (consistent with section 3.6.2 Reconnaissance Component). 3. Meet immediate physical and information needs of staff and students as best as possible with resources immediately available. 4. Establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 5. Actively participate in response planning and delivery in collaboration with respective South Island CDEM Group ECC and MoE, to provide support to affected tertiary education facilities and wider education sector. 6. Provide updates to CDEM Group ECCs Intelligence function, at least daily. 7. Develop organisational and tertiary sector immediate and medium term response and recovery plans under the coordination of respective CDEM Group ECCs Planning function. 8. Where appropriate, provide physical and social science support to respective CDEM Group ECCs, in support of effective coordinated responses.

D18 GEOLOGICAL AND NUCLEAR SCIENCE [GNS SCIENCE]

AGENCY	RESPONSIBILITIES
GEOLOGICAL AND NUCLEAR SCIENCE (GNS SCIENCE)	1. Establish and maintain contact with respective CDEM Group ECCs (see section 3.6.1 Telecommunications Component). 2. Actively participate in response planning and delivery in collaboration with respective South Island CDEM Group ECCs, universities, regional/unitary councils, and NCMC, to provide support to effective coordinated reconnaissance and response. 3. Lead hazard risk planning, reconnaissance, analysis, and reporting across the South Island, in close collaboration with NCMC, respective CDEM Group ECCs, and regional/unitary authority hazard analysis functions. 4. Coordinate the activities of all Crown Research Institutes (CRIs) in concerted support to the response and recovery planning and activities. 5. Provide updates to CDEM Group ECCs and NCMC intelligence function, at least daily. 6. Develop organisational and wider science immediate and medium term response and recovery plans under the coordination of respective CDEM Group ECCs planning functions, NCMC, and MBIE. 7. Coordinate and support science response in affected CDEM Group areas, in collaboration with supporting CDEM Groups in particular in the first three days of response.

D19 MINISTRY OF BUILDING, INNOVATION AND EMPLOYMENT [MBIE]

AGENCY	RESPONSIBILITIES
MINISTRY OF BUILDING, INNOVATION AND EMPLOYMENT (MBIE)	1. Mobilise and prepare to deploy Tier 1 and Tier 2 building assessors nationally and regionally. 2. Provide a liaison person to appropriate CDEM Group ECCs. 3. Support CDEM Groups in planning for, provision of, and management of temporary accommodation. 4. Provide the support necessary to the National Controller and NCMC on building safety matters. 5. Provide WorkSafe advice and support to CDEM Groups and partner response organisations.

D20 REGIONAL ECONOMIC DEVELOPMENT AGENCIES / CHAMBERS OF COMMERCE

AGENCY	RESPONSIBILITIES
ECONOMIC DEVELOPMENT AGENCIES / CHAMBERS OF COMMERCE	1. Mobilise and prepare to business response and recovery. 2. Provide a liaison person to appropriate CDEM Group ECCs and recovery management offices, providing connection between response coordination and recovery management 3. Support CDEM Groups in planning for, provision of, and management of employer and employee support schemes. 4. Provide economic and business sector advice and support to CDEM Groups and partner response organisations.

D21

MINISTRY OF JUSTICE

AGENCY	RESPONSIBILITIES
MINISTRY OF JUSTICE	1. Establish and maintain contact with respective CDEM Group ECCs and NCMC (see section 3.6.1 Telecommunications Component). 2. Coordinate support to and, if necessary, evacuation of Ministry of Justice facilities in conjunction with Local CDEM response management and CDEM Group response coordination. 3. Provide Ministry of Justice infrastructure and client status updates to CDEM Group ECCs and NCMC at least daily. 4. Coordinate establishment of temporary mortuaries and temporary pathology facilities, supported by Police and DHBs, under the control of respective CDEM Group Controllers and the NCMC. 5. Be prepared to make Ministry of Justice facilities, personnel and appropriate clients available to support response activities, if required. 6. Develop Ministry of Justice immediate and medium term response and recovery plans, in conjunction with CDEM and Police, including including the establishment of temporary court and remand facilities.

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