# 2023 North Island Severe Weather Events

## NEMA's Internal Operational Lessons Report

National Emergency Management Agency
Te Rākau Whakamarumaru

New Zealand Government

**2023 North Island Severe Weather Events**
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National Emergency Management Agency
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National Emergency Management Agency
PO Box 5010
Wellington 6145
New Zealand
Tel: +64 4 830 5100
Fax: +64 4 817 8554

Email: emergency.management@nema.govt.nz
Website: www.civildefence.govt.nz

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# Section 1 Introduction

The Auckland severe weather event in January 2023 and Cyclone Gabrielle in February 2023 (collectively referred to as the North Island Severe Weather Events) resulted in widespread impacts across the North Island.

Our thoughts are with the whānau of the fifteen people who tragically lost their lives during these events, with the whānau of the person still missing. We acknowledge that local communities are still recovering and will wear the scars of these events for some time.

We also acknowledge and recognise the efforts and sacrifices of those who worked on the response. The event stretched the entire emergency management system's capabilities and capacity, but those involved put in an extraordinary effort to support their communities and each other.

Following any significant emergency NEMA reflects on its role in the response. This NEMA internal operational lessons report was commissioned to ensure NEMA identifies and shares its lessons from these events and identifies areas for improvement.

NEMA is committed to ensuring our leadership and operational improvements reflect the findings from this report.

This NEMA internal review is separate from all other reviews and the Government Inquiry into the Response to North Island Severe Weather Event. [1]

We identified 19 lessons with associated recommendations.

The lessons are consistent with those of other reviews and reports which show there is a lack of emergency management leadership experience and depth within NEMA and across the emergency management system.

The full list of recommendations for each of the lessons are listed in Appendix A.

[1] Government Inquiry into the Response to the North Island Severe Weather Events - dia.govt.nz

# Section 2 The North Island Severe Weather Events

### The Auckland severe weather event

Over the 48-hour period beginning Friday 27 January 2023 (leading into the Auckland Anniversary holiday weekend), Auckland experienced a significant, rapidly evolving, and widespread flooding event. It involved loss of life, major transport and infrastructure disruption, mass evacuations, damage to property, infrastructure and the natural environment. The highest one-day rainfall during this event was 265mm, recorded at Māngere on 27 January, with the heaviest period of rain occurring during the afternoon and evening.

MetService issued an Orange Severe Weather Warning on 26 January for Auckland from 6am to 10pm on Friday 27 January. The following morning, on 27 January, a Severe Thunderstorm Watch was issued for Auckland being valid to 7pm.

During the early afternoon of 27 January, reports about sewage overflowing and impassable roads started to emerge. There was disruption to trains and bus services for the Elton John concert scheduled for that evening, which was later cancelled. By mid-afternoon, MetService issued the first of twelve consecutive Severe Thunderstorm Warnings advising further heavy rain and surface flooding was likely.

The event unfolded with extraordinary speed. Auckland Emergency Management stood up an Incident Management Team (IMT) at 4.30pm. From around 5pm emergency services advised the Incident Management Team that people were stuck on roofs, the Westpac Helicopter and Surf Lifesaving were performing rescues, and evacuations were underway while the conditions made it difficult to establish evacuation centres.

A State of Local Emergency was declared at 9.27pm (announced at 10.17pm) on Friday 27 January[2].

The event was marked by impacts across the Auckland region including flooding, landslips, water and power outages, property damage and road closures. By 28 January there were three fatalities and over 50 people sheltered overnight in Civil Defence Centres.

Approximately 4,000 customers were without power (also impacting several cell sites), and approximately 3,000 homes in West Auckland were without water. The wastewater network and treatment plants were overwhelmed by stormwater causing numerous overflows across Auckland. State Highway 1 was closed at multiple locations, and about 30 local roads were closed.

The impacts extended to other regions, including Northland and Coromandel. Waitomo District declared a State of Local Emergency on 28 January[3] due to flooding, slips and inundation across the district. The State of Local Emergency in Waitomo District was terminated on 30 January.[4]

Due to Auckland flights being diverted to Christchurch, Canterbury Civil Defence Emergency Management (CDEM) Group worked with the Christchurch Airport to establish support for people who were expected to overnight in the terminal.

By 31 January, a second weather front began to move in, prompting MetService to issue a Red Severe Weather Warning for Northland and Auckland north of Orewa. This led Northland to declare a State of Local

[2] https://gazette.govt.nz/notice/id/2023-gs402
[3] https://gazette.govt.nz/notice/id/2023-gs325
[4] https://gazette.govt.nz/notice/id/2023-gs328

Emergency during the afternoon of 31 January[5] in anticipation of new impacts. At this time in Auckland, there were still approximately 3,000 homes without water, and approximately 680 customers without power, 604 people requiring alternative accommodation, and 92 people were accommodated in Civil Defence Centres. By 2 February the number of people requiring alternative accommodation rose to 1,417, and 99 people were still accommodated in Civil Defence Centres.

On 3 and 9 February, Auckland extended its State of Local Emergency[6]. A State of Local Emergency was also declared in Thames-Coromandel[7] on 3 February in response to identified land deformation and debris dams that threatened some communities.

On 5 February, the Auckland Mayor commissioned an independent, 'rapid review' of four dimensions of Auckland Council's emergency management response over the first 48 hours of the Auckland Anniversary weekend event. The Auckland independent review report is published on the Auckland Council website.

## Cyclone Gabrielle

On 3 February, MetService notified CDEM agencies of a weather system that would later become Cyclone Gabrielle. MetService advised there was moderate risk of a cyclone by 8 February, increasing to high risk on 9 February. Some models showed the system possibly tracking towards New Zealand as a significant sub-tropical low from the weekend of 11/12 February, but there was considerable uncertainty regarding this outcome.

By 7 February MetService advised that the tropical low in the Coral Sea was likely to develop into a tropical cyclone in the coming days. Models showed the cyclone to the north of New Zealand late on Sunday 12 February.

Tropical Cyclone Gabrielle was named late on 8 February, and on 9 February it was forecast to track southeast bringing severe weather to northern and central New Zealand by 12 February. There was a high risk that this would be a significant event for several regions across New Zealand. Subsequently, the State of Local Emergency in Thames-Coromandel (declared on 3 February) was extended for a further seven days.[8] Over the following days the confidence of the forecasts increased. By 10 February there were Red Severe Weather Warnings in place for the Coromandel Peninsula for 48 hours from 3am Sunday 12 February. Red Severe Weather Warnings were also in place for Gisborne north of Tolaga Bay for 36 hours from 3pm Sunday 12 February.

By 12 February Gabrielle had gone through a technical change of cyclone structure and became an ex-tropical cyclone. MetService continued to refer to the system as "Cyclone Gabrielle" to not diminish its potential impacts in any public messaging. By now, Red Severe Weather Warnings were in force for Northland, Auckland, Coromandel, and Gisborne. Orange Severe Weather Warnings were in place for all remaining North Island regions and the Kaikoura Coast with the potential for these to be expanded further. Northland declared a State of Local Emergency.[9]

Early on Monday 13 February, Cyclone Gabrielle was located 315km north of Great Barrier Island. Impacts were already being felt across northern parts of

[5] https://gazette.govt.nz/notice/id/2023-gs382
[6] https://gazette.govt.nz/notice/id/2023-gs410 and on 9 February further extended the 27 January declaration a further 7 days (https://gazette.govt.nz/notice/id/2023-gs496 )
[7] https://gazette.govt.nz/notice/id/2023-gs456
[8] https://gazette.govt.nz/notice/id/2023-gs488
[9] https://gazette.govt.nz/notice/id/2023-gs515

the North Island with 55,125 customers without power across Northland, Auckland, Central Waikato and Coromandel (mostly due to wind damage). Most international flights into and out of Auckland Airport were either delayed or cancelled and all domestic flights were cancelled. Port operations were suspended at the Port of Auckland, Northport, Hamilton, and Tauranga. The impacts were expected to spread across the rest of the North Island and into northern parts of the South Island through the day and on Tuesday 14 February. On 13 February, States of Local Emergency were also declared in the Waikato District[10], Bay of Plenty[11] , and Tairāwhiti[12]. These were in addition to the already existing States of Local Emergency in Northland, Auckland, and Thames-Coromandel. MetService extended the Red Severe Weather Warning to include Taranaki and Hawke's Bay.

Given the scale and breadth of the unfolding event a State of National Emergency was declared by the Minister for Emergency Management on 14 February 2023. The impacts in Tararua became clear and following discussion with the CDEM Group, a second State of National Emergency was declared by the Minister to include the Tararua District.[13]

By 14 February, Cyclone Gabrielle had caused significant impacts to the northern and eastern parts of the North Island and was expected to continue to do so until Wednesday 15 February. There were widespread power outages across many regions which would take days or weeks to restore in some areas. Communities in Coromandel, Tairāwhiti and Hawke's Bay were isolated due to significant road and bridge damage. There were also widespread communications outages, particularly in Tairāwhiti and Hawke's Bay, isolating communities further. Slips and debris flows caused significant damage to land and properties, with evacuations and rescues continuing into 14 and 15 February. Large numbers of people were being accommodated in Civil Defence Centres and these numbers would increase further.

By 15 February the rain in the Hawke's Bay and Tairāwhiti eased, with the cyclone located approximately 400km east of Tairāwhiti. By then there were four fatalities confirmed, approximately 9,000 people were displaced in the Hawke's Bay and approximately 60 in Tairāwhiti. Evacuations were still ongoing, and approximately 450 people were rescued. 225,000 customers were without power across the North Island.

There were substantial infrastructure impacts across affected regions – in particular power, communications, roading, bridges and water. The widespread impacts to infrastructure made it difficult to coordinate and supply critical resources such as food, fuel and fresh water to impacted areas and isolated communities. There were 11 fatalities and one person reported missing. The psychosocial, economic, and environmental impacts will become clearer as the recovery process continues.

The States of National Emergency declared on 14 February 2023 over the Northland, Auckland, Waikato, Bay of Plenty, Tairāwhiti and Hawke's Bay CDEM Group areas and the Tararua district were extended for an additional

[10] https://gazette.govt.nz/notice/id/2023-gs1871 which followed declaration over the Hauraki district (https://gazette.govt.nz/notice/id/2023-gs838)
[11] https://gazette.govt.nz/notice/id/2023-gs883 which followed declarations over the following districts Whakatāne (https://gazette.govt.nz/notice/id/2023-gs884), Opotiki (https://gazette.govt.nz/notice/id/2023-gs886) and Western Bay of Plenty (https://gazette.govt.nz/notice/id/2023-gs888 )
[12] https://gazette.govt.nz/notice/id/2023-gs768
[13] https://gazette.govt.nz/notice/id/2023-go573 (this followed a state of local emergency over the Tararua district https://gazette.govt.nz/notice/id/2023-gs715 )

seven days on 20 February 2023 and again on 27 February for all areas except the Bay of Plenty CDEM Group area.[14]

On 3 March the States of National Emergency over the Northland, Auckland and Waikato CDEM Group areas and the Tararua District were terminated.[15] The State of National Emergency remained in force for the Tairāwhiti and Hawke's Bay areas and on 6 March was further extended for an additional seven days, expiring on 14 March 2023.[16]

On 3 March 2023, the Minister for Emergency Management gave notice of a National Transition Period for Northland, Auckland and Waikato CDEM Group areas and the Tararua District to support the recovery from the impacts of Cyclone Gabrielle in these areas.[17]

On 7 March, the Minister gave notice of a further National Transition Period over the Masterton, Carterton, and South Wairarapa districts to support their recovery.[18] On 13 March 2023, notice of a third National Transition Period was given over the Hawke's Bay and Tairāwhiti CDEM Group areas, which came into force on 14 March 2023 (on the expiry of the State of National Emergency).[19]

## NEMA's Response

### Auckland Severe Weather – Mode 3 (Assist)

NEMA stood up its National Coordination Centre (NCC)[20], in the Beehive sub-basement, at activation Mode 3 (Assist)[21] during the evening of 27 January to support the response in Auckland and to coordinate any central government support that may be required. During the activation, the NCC Public Information Management (PIM) function supported Auckland Emergency Management's PIM function.

NEMA deployed Regional Emergency Management Advisors, a Public Information Manager, as well as specialists from the Emergency Management Assistance Team to support Auckland Emergency Management on the ground. Our Safety function also provided remote support. NEMA commenced daily coordination meetings with CDEM Groups and agencies on 28 January.

NEMA activated the National Welfare Coordination Group to assist with the regional provision of Welfare services in affected areas. NEMA also supported Auckland and Canterbury CDEM Groups with displaced people at Auckland and Christchurch airports and arranged for New Zealand Defence Force support and CDEM surge staff for Auckland. NEMA's Kaitohutohu function provided advice to Māori liaison in Auckland.

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[14] Northland, Auckland, Waikato, Bay of Plenty, Tairāwhiti and Hawke's Bay CDEM Group - https://gazette.govt.nz/notice/id/2023-gs664, https://gazette.govt.nz/notice/id/2023-go795 / Tararua district - https://gazette.govt.nz/notice/id/2023-gs665 and https://gazette.govt.nz/notice/id/2023-go796

[15] https://gazette.govt.nz/notice/id/2023-go843 (Northland, Auckland, Waikato) and https://gazette.govt.nz/notice/id/2023-go844 (Tararua)

[16] https://gazette.govt.nz/notice/id/2023-go892

[17] https://gazette.govt.nz/notice/id/2023-go845 – A National Transition Period is in force for 90 days, unless terminated earlier.

[18] https://gazette.govt.nz/notice/id/2023-go893 - these areas did not have prior states of emergency

[19] https://gazette.govt.nz/notice/id/2023-go1094

[20] NEMA's National Coordination Centre (NCC) is in the sub-basement of the Executive Wing of the Parliament Building. NEMA activates the NCC to coordinate national level support of a locally led response (i.e., the initial response to the Auckland severe weather event that was led by Auckland Emergency Management).

[21] National CDEM Plan, Appendix 2

**Cyclone Gabrielle – Mode 3 (Assist)**

Tropical Cyclone Gabrielle was forecasted on the 8 February to track southeast bringing severe weather to northern and central New Zealand by 12 February. The NEMA NCC roster was extended to 19 February in anticipation of the incoming weather. At that stage NEMA had already deployed 62 NEMA and sector surge staff into Auckland. The NCC deployed further personnel into Auckland and other potentially impacted regions (Northland, Waikato, and Tairāwhiti) ahead of the cyclone.

The NEMA NCC began to operate on a 24-hour roster which extended to 22 February and continued running daily virtual information and coordination meetings with all CDEM Groups and stakeholder agencies. NEMA also commenced a regime of formal assessments every four hours to support the Minister for Emergency Management in his decision around the need to declare a State of National Emergency.

**NEMA as Lead Agency - Mode 4 (Direct)**

On the morning of Tuesday 14 February, NEMA assessed that the situation had reached a stage where the conditions for the declaration of a State of National Emergency had been met and advised the Minister for Emergency Management accordingly.

A State of National Emergency was declared by the Minister at 8:43am on 14 February covering Northland, Auckland, Tairāwhiti, Bay of Plenty, Waikato, and Hawke's Bay.[22] This superseded the States of Local Emergency that were declared earlier for Auckland, Northland, Thames-Coromandel, Waikato (District), Bay of Plenty and Tairāwhiti.

NEMA became the lead for the response, and the NEMA NCC subsequently moved to Mode 4 (Direct), its highest mode. The National Crisis Management Centre (NCMC)[23] was also established as part of the National Security System arrangements, to run in conjunction with the NEMA NCC (out of the same physical facility in the sub-basement of the Beehive).

## NEMA's major outputs

The National Controller made resource commitments in support of the affected regions that included the purchase and distribution of satellite communications, bulk fuel supply, helicopter capability to deliver supplies, and set-up of distribution facilities.

Flood and hazardous waste management work from the Auckland Severe Weather Event continued into the response to Cyclone Gabrielle, growing NEMA's engagement with national, regional, and local stakeholders to manage the hazardous waste resulting from the severe weather events. The national Scientific Technical Advisory Committee (STAC) was stood up at the request of the National Controller to support all levels of the response. The STAC supported worker and environmental health; handling

[22] https://gazette.govt.nz/notice/id/2023-go545

[23] The National Crisis Management Centre (NCMC) is the facility from where an all-of-government response is managed by a lead agency. NEMA's NCC and the NCMC share the same facility and infrastructure. When a State of National Emergency is declared, or an emergency otherwise requires a significant national response, NEMA becomes the over-all lead and transitions the NCC to the NCMC.

contaminated soil, silt, and slash; and creating a National Risk Assessment for all affected regions covered by the State of National Emergency.

NEMA provided advice to the Minister for Emergency Management to enable contributions to the mayoral relief funds of affected councils. The scale of the events, as well as their cumulative impact, dictated that in addition to the standard Government financial assistance provisions, special funding arrangements were required. These were needed to directly reimburse iwi and community organisations that provided welfare support to affected communities.

Special funding was also required to support councils with the removal of contaminated household solid waste. Bespoke funding arrangements were established for Community Organisation Welfare Support Grants ($15 million) and Solid Waste Management by councils ($15 million). This was done under urgency by NEMA to support Cabinet decisions and to provide guidance on the application of the funding in the affected regions.

A team consisting of staff from the NEMA Chief Executive's Office was established to support Governance, the Minister for Emergency Management, and the Prime Minister during the response. The team anticipated, received, and conveyed the Minister's support requirements to the NCC/NCMC, and provided situational awareness to senior Government stakeholders. With the agreement of the Minister, it managed a 'hotline' for Members of Parliament.

## Deployments

One of the outputs of the NCC/NCMC was to deploy personnel to support the regions.

NEMA's 10 Regional Emergency Management Advisors were deployed to affected CDEM Groups. Deployments were sustained until the end of April.

NEMA coordinated 709 deployments of non-NEMA personnel. These comprised personnel from Emergency Management Assistance Teams, New Zealand Response Team volunteers, and others from central and local government.

Other agencies, including New Zealand Defence Force, Fire and Emergency New Zealand, and Police also deployed personnel.

A contingent of international personnel deployed into New Zealand with the coordination of the NCC/NCMC. Offers from Australia, Fiji and the USA were accepted (see Table 1) and deployed to the regions and NCC/NCMC.

*Table 1. Number of International assistance personnel by nation*

| Nation | Number of personnel |
|---|---|
| Australia | 33 |
| United States of America | 11 |
| Fiji | 33 |
| **Total** | 77 |

# Section 3 Methodology

Throughout this review process our staff have been encouraged to share and learn from their experiences and embrace things that didn't go well as opportunities to improve. Our people have been willing to share and discuss their experiences, both positive and negative, with others.

NEMA recorded more than 1000 observations during the response and in debrief sessions once the NCC/NCMC had deactivated. The observations were developed into insights from which 19 lessons were identified.

NEMA has applied the Lessons Management methodology as described in the Australian Lessons Management Handbook.[24] Our report process concludes at lessons identified and does not deal with implementation.

Relevant material was tested through external engagement workshops held with CDEM Group Managers and external agencies, including surge staff and liaison officers deployed to the NCC/NCMC.

[24] Lessons Management Handbook, 2019 (aidr.org.au)

# Section 4 Things that must improve

## Lesson 1. Resourcing medium to large-scale emergency responses

**People, capacity and capability**

**Medium to large-scale emergencies will always require surge staffing to supplement NEMA's core staffing resource.**

Significant numbers of surge staff had to be mobilised from other agencies and CDEM Groups. Most of NEMA's staff were rostered from the beginning of the response. However, at the time of the declaration of the State of National Emergency, several NCC/NCMC functions and sub-functions still struggled to stand up and/or scale up.

This re-confirmed that in a medium to large-scale emergency, some Coordinated Incident Management System (CIMS) functions (particularly Intelligence and Logistics) require specialist skills that NEMA does not currently possess. New Zealand Defence Force and Fire and Emergency New Zealand provided support with handling these taskings.

At the peak of the response, the NCC/NCMC had about 135 staff (from NEMA and other agencies), operating 24/7, running 13-hour shifts.

At the time of the response NEMA had about 160 staff (around half having less than two years emergency management experience) covering operational, strategic and corporate functions. Even if all staff were fully trained, NEMA on its own could not staff a 24 hour shift.

The Logistics function is an example of where we needed surge capacity. This function plays a pivotal role assisting the regions and a solid, experienced capacity is essential. 48 staff from multiple agencies, including some from overseas, were surged into the function over the course of the activation. Most of these staff received 'just in time' training. The lack of experienced staff created challenges in upskilling at pace, task prioritisation and tracking.

NEMA's pre-existing geospatial capability (platform and expertise) was not adequate and was enhanced by the injection of external subject matter expert surge support.

Other examples from the functions and sub-functions where capacity was raised as an issue include:

- The designated National Controller was acting as the Director CDEM due to a vacancy during these events. NEMA's three Alternate National Controllers stepped in to cover the National Controller role in accordance with pre-established delegations. During the peak of the response, they were supplemented by a CDEM Group Manager to cover all shifts and rest periods. It highlighted the need for a larger National Controller resource pool.
- Resourcing Response Managers and Controller's Assistants was sometimes challenging. The high demands on the National Controller meant that in-person shift handovers between the outgoing and incoming National Controllers were not always possible. The Response

Manager and Controller's Assistant roles played an important part in supporting continuity between the National Controllers.

- NEMA has a limited number of staff for the Policy and Legal functions. For a response of this scale, they should draw on other policy agencies and the Government Legal Network.
- While the personnel who were recruited for the NCMC through Te Kawa Mataaho Public Service Commission Workforce Mobility Hub brought different skills, they were generally not experienced in their allocated response roles and required training. This again illustrated the need to create greater emergency management workforce depth among central government agencies.
- The Australian AUS-1 Disaster Assistance and Response Team (DART) reported a delay in initiating their deployment due to the speed at which NEMA (as Lead Agency) provided coordination information. Fire and Emergency New Zealand had to wait for coordination information from NEMA before they could pass the information to the DART. Capacity to sustain the Operations International Assistance sub-function was a causal factor behind this issue.

It is noted the Safety function was successful in building an all-of-government team. Codifying the lessons learnt in establishing the Safety Function will help ensure future responses benefit from the same level of participation and expertise.

From the insights, there were causal factors identified including:

- While most NEMA staff have a background in emergency management, many staff had no previous experience in a response of this scale. This placed a high demand on NEMA's experienced staff, while at the same time, inexperienced staff felt pressure to perform in an unfamiliar environment. There were gaps in surge capacity and capability for the volume of deployments into the NCC/NCMC and affected regions, and limited availability of staff with specific expertise e.g. finance.
- Onboarding processes for non-NEMA staff were inconsistent and/or did not provide sufficient information for them to be able to do their job in the NCC/NCMC.
- Capacity was lost while we tried to make improvements on the fly. We were revising processes in an attempt to meet the pace and scale for this event.
- Difficulty – for a variety of reasons - using those working remotely to their full capacity.

Despite the above, NEMA, other agencies, and councils stepped up to support this response. Strengthening and expanding the pool of people that are ready to be called on across the public service will greatly aid the emergency management system's ability to function.

### Lesson 1 recommendations:

**1.1** NEMA must continue to work in 'peace time' with the emergency management system to build surge capability, and ensure arrangements are in place with agencies/organisations where their skill sets best align.

**1.2** As part of 1.1, NEMA must build a dedicated team of CIMS function specialists and formalise pathways for staff to become function managers or take on control roles.

**1.3** NEMA should ensure protocols maximise remote workers' capacity and connectivity with the NCC/NCMC.

## Lesson 2. NCC/NCMC processes and procedures

### NCC/NCMC processes and procedures

**The NCC/NCMC processes and procedures were unable to meet the pace and scale of this response.**

**Standard Operating Procedures**

In this response, sub-functions and processes were developed and/or changed as the response evolved, sometimes without adequate documentation. This meant it was challenging for staff to adjust to new arrangements across rostered shifts. Handover notes and function-to-function alignment varied between the NCC/NCMC and regional ECCs.

The Standard Operating Procedures (SOP) for the NCC/NCMC functions are live documents that are reviewed and enhanced as lessons are identified during and after response and simulation exercise activities. They have stood up reasonably well to smaller scale events.

Most NCC/NCMC functions with existing SOPs found their processes in many cases were not fit for the scale and pace of this event. Examples of processes found wanting included deployment, tasking, information management, resource requests, international assistance and assessment tools. Most functions also found the technology created limitations.

The response highlighted a gap in the Critical Infrastructure Operations sub-function with the Banking and Fast-Moving Consumer Goods sectors not being included as lifeline utilities under the CDEM Act.

There were functions, sub-functions and processes in development before the response. These include:

- **Governance support:** There is a need to clearly describe the role and processes of Governance, Strategic Communications, and VIP support, and include these in NEMA's NCC training and exercise regimes. The VIP Visits role should be separated from Strategic Communications. Both roles require a role card.
- **Finance sub-function:** The function lacked a resource pool with appropriate expertise. Consideration should be given to where this sub-function is best positioned in CIMS.

- **Policy:** Considering the dynamic nature of policy development, instead of the development of SOPs, the focus might better be placed on the establishment of principles for policy development and the activation of the Policy function in the NCC/NCMC (vs covering Policy via normal business arrangements).

There were sub-functions without SOPs that need to be developed.

**Onboarding processes for surge staff and international assistance teams**

Many surge staff were not experienced in Coordinated Incident Management Structure (CIMS) functions. As more surge staff started to work in the NCC/NCMC, the Logistics function initiated a daily NCMC facility orientation.

In addition to 'just in time' functional CIMS training, insights illustrated that:

- Understanding NEMA's responsibilities within the emergency management framework is equally important for staff external to NEMA. Observations from surge staff indicated that an introductory pack about the NCC/NCMC would have been beneficial.
- Agencies' personnel in Liaison Officer roles reported that they were not initially aware of tasks allocated to them, as they only discovered the tasking portal in the Emi system later in the response. This indicated inconsistency in the effectiveness of the onboarding processes.

The United States Agency for International Development (USAID) team raised that understanding the New Zealand Government system and the operational and cultural contexts in a response setting is critical for international responders. They need to establish themselves easily and be effective during their deployment. The USAID team welcomed the response overview ("in-brief") that was provided to them upon their arrival. However, they noted that the brief did not cover Māori tikanga considerations, maps of the affected areas, the CDEM structure/hierarchy (local, regional, national), or a State of National Emergency.

**Processes to support personnel deployments**

The processes to support personnel deployments in the NCC/NCMC mainly span the Operations (resource requests, tasking, field staff management), Logistics (completing tasks, personnel, matching requests with offers, transport, accommodation, health and wellbeing), and the Safety Functions (dynamic risk assessments on deployment processes).

The Health and Safety responsibility was delegated to the Safety function by the Operations function due to staff constraints.

The *GetHomeSafe* app was used with mixed success (including unfamiliarity with the app and internet outages). The use of manual telephone calls for daily check-ins with deployed staff was found to be very resource-intensive. Feedback indicates that some of the questions posed in the calls could be improved.

The Emergency Management Assistance Team (EMAT) early notification (via a warning order) was timely and effective allowing for sufficient planning

of their personal situations. The logistical arrangements worked well and was an improvement over previous deployments. Most deployed CDEM Group staff reported that the processes [25] (including selection, travel, accommodation, and wellbeing) worked well. More than 90% indicated they would be willing to deploy again in the future. New Zealand Response Teams (NZRT) volunteers were generally happy with logistical arrangements and the wellbeing support they received.

The REMA deployment roster was managed by the Operations function. Some REMAs found the deployment process challenging due to last minute changes in where they were deploying to, but this improved once a system was established that allowed for better forward planning. The ability to book their travel directly with NEMA's travel provider also supported this. When travel was booked for them by the NCC/NCMC they often did not have their itinerary until the day of travel.

In some cases, personnel were found unsuitable for the role they were deployed to perform. This was in part due to allowing personnel to register themselves for availability without being vetted by their manager.

Additional deployment issues included:

- **Flights**: It was hard to secure seats on flights as there was high demand before and during the event. Air New Zealand subsequently arranged some special flights to support deployments.
- **Vehicles:** NEMA Regional Emergency Management Advisors and EMAT personnel experienced difficulties securing appropriate rental vehicles, particularly 4WDs. The NEMA Regional Emergency Management Advisors hybrid vehicles were not suitable for use in flood events.
- **Accommodation:** Finding suitable accommodation for deployed staff was an ongoing challenge, especially in Hawke's Bay.
- **Handovers:** Deployed NEMA staff observed some issues with handover protocols between incoming and outgoing surge staff in the field, leading to outputs/tasks being repeated.
- **Rotations:** Deployed surge staff were often challenged by the short deployment schedule of 1-5-1 (one day travel to incident – five working days – one day travel home) which created challenges in terms of integration into their roles. As a result, the deployed USAID team members inadvertently supported ongoing continuity by providing institutional knowledge to incoming response staff in the field. They recommended that allowance be made for an optional 1-10-1 or 1-14-1 approach when required, particularly for function managers.
- **Matching requests with offers:** Deployed staff availability and matching requests required manual data entry processes by the Logistics function.

[25] Based on a post survey sent to the CDEM Group staff that were deployed

- **End-to-end management of field staff:** There was a lack of clarity between Logistics and Operations functions regarding the responsibility for the end-to-end management of field staff.

**Sub-optimal tasking processes**

The Emergency Management NZ ('Emi') Microsoft Teams tool does not support task management. It does not offer the ability to link tasks, set hierarchies of tasks, and match offers with requests/tasks.

While the Operations function problem solved as issues presented themselves, the tasking process was underdeveloped for the scale and pace of this event. Taskings were often vague or inadequate to act upon, and at times functions were tasked directly instead of via the NCC/NCMC Operations function. There was an absence of tasking templates, standard terminology/naming conventions, prioritisation criteria, and a receipt and actioning process for requests, and at times some functions were unaware of the actions taken by another e.g. between Operations and NEMA's MAR centre.

Deployed Regional Emergency Management Advisors (REMAs) observed that many NCC/NCMC requests or tasks did not go directly to the appropriate Emergency Coordination Centre function. Rather, they passed through the deployed REMAs in those regions. This added to the already heavy workload of the REMAs, risking requests or tasks being left unattended or delayed.

### Lesson 2 recommendations:

**2.1** NEMA will ensure that each function and sub-function refines their SOPs based on the lessons from this event and presents their SOPs to the National Controller.

**2.2** NEMA must increase the frequency of training and exercising to test function SOPs and processes.

**2.3** NEMA should test the NCC/NCMC procedures for alignment with equivalent procedures at CDEM Group level.

**2.4** NEMA should review and update its arrangements for inbound aid, including standards/credentials and border exemption requirements, via the International Assistance Working Group.

**2.5** NEMA must ensure there are response staff assigned to deliver onboarding processes.

**2.6** NEMA must ensure onboarding covers 'just in time' training on basic CIMS, the CDEM framework, and tasking processes.

**2.7** NEMA should develop an online orientation package for international responders to complete before they arrive, covering the emergency management system (national and regional/local settings), CIMS, and te ao Māori.

2.8 NEMA should explore additional accommodation readiness arrangements in collaboration with CDEM Groups.

2.9 NEMA should review its response vehicle fleet requirements including 4WD training for deployed staff.

2.10 NEMA should work with Air New Zealand on a plan for prioritising NEMA's flight requirements in large scale emergencies.

2.11 NEMA must establish an electronic system, accessible to multi-agencies and all levels, for surge staff contact details, qualifications, experience, availability, and rostering.

2.12 NEMA must improve end-to-end processes across resource requests, tasking, and matching processes including templates and standards.

## Lesson 3. Development of the Intelligence function

### NCC/NCMC processes and procedures

**Science, intelligence and geospatial capability and capacity need to be enhanced to build situational awareness and support decision making during emergencies.**

#### Science input

The capability and capacities of the science system by the NCC/NCMC was ad-hoc and uncoordinated across functions.

There was opportunity for science agencies to surge in, providing more timely advice and products, support and enhance analytical capabilities across a range of functions, and better direct requirements of science agencies.

The main insights were:

- The national Scientific Technical Advisory Committee (STAC) found it difficult to answer questions with limited information.
- The lack of pre-established processes and protocols for science input in extreme weather events (as compared with geophysical events e.g., earthquake and volcano) hindered this response.

#### Intelligence capability

At the time of the event, NEMA did not have dedicated Intelligence capability. Holistic consequence analysis process was not taught so it was not applied, and the focus was instead on numbers and dashboards. The New Zealand Defence Force was deployed to support the function.

There was an absence of pre-established inter-agency information sharing protocols. For example, inconsistent Situation Report (Sitrep) schedules across agencies and emergency coordination centres (or schedules not kept to) resulted in outdated or incomplete information in the NCC/NCMC

Sitrep. Some agencies also advised they were uncertain what to report and Sitreps were out of date quickly.

Information came in via multiple channels and had to be manually collated, assessed, and managed. In the absence of Common Operating Picture tools, Intelligence staff were performing as a data collection and collation function. This meant repeating information that already existed elsewhere rather than focussing on producing value-add intelligence outputs about impacts and the 'so what'. They were unable to produce, in a timely manner, maps or interact with data for analysis.

### Geospatial capability

At the time of this event NEMA had very limited geospatial capability. Through the support of Geospatial Emergency Management Aotearoa (GEMA) the geospatial capability (platform and expertise), and our processes to request surge support, improved during the response.

### Geospatial imagery and Light Detection and Ranging (LiDAR) data

Geospatial imagery and LiDAR data was essential for supporting the response and recovery – particularly given the scale of the event across multiple regions. Applications included post-event hazard and impact mapping and forward hazard and risk assessment modelling to support land use, infrastructure and wider social and economic decision making. This was, however, hindered by challenges with regards to timely access to appropriate geospatial imagery and data, resulting in duplication of effort and purchasing.

The two critical issues were the lack of a clear central government funding mechanism for purchasing imagery collection, and (at least initially) coordination of this effort which consumed considerable time across agencies and CDEM Groups. There is a need for clear pre-event identification of requirements and determining agency or function responsibility for the coordination and commissioning of geospatial imagery collection and analysis.

The SOP for the sub-function was under-developed. There was a general lack of understanding about how geographic information systems (GIS) fits into the intelligence cycle, i.e., how it should be used (analysis vs dissemination), and what it is and isn't capable of doing. This was coupled with a disconnect between NEMA and some of the regions regarding pre-established data sharing protocols. This prevented the utilisation of pre-existing data for local risk components (e.g., demographics, inundation areas, etc.) and limited NEMA's ability to conduct risk assessments and to provide accurate information.

Councils were cautious about sharing geospatial data with NEMA due to privacy concerns. Data from some regions that use different GIS platforms required the conversion of data from one format to another. There were security constraints with bringing in geospatial data from the New Zealand Defence Force. Tairāwhiti was off-line for a considerable period, so no digital data was available. The NCC/NCMC GIS output was not widely accessible.

### Lesson 3 recommendations:

| | |
|---|---|
| 3.1 | NEMA should develop science sub-function processes, protocols, and resourcing. |
| 3.2 | NEMA should develop common GIS protocols and standards to ensure consistent and timely situational awareness products across all agencies and levels of response. |
| 3.3 | NEMA must strengthen its capability in conducting holistic consequence analysis. |
| 3.4 | NEMA should clarify central government funding mechanisms for imagery collection before events. |
| 3.5 | NEMA should use Geospatial Emergency Management Aotearoa's (GEMA) surge support process, adopted by NEMA during this response, for effective placement of GIS capability |
| 3.6 | NEMA should invest in further intelligence and GIS capacity and capability (both inhouse and via surge support). |

## Lesson 4. Development of the finance function

**NCC/NCMC processes and procedures**

**There was an administrative burden for the National Controllers to record financial commitments themselves, mostly via handover notes.**

The Standard Operating Procedures (SOP) for the finance sub-function were under development at the time of these events, and the function lacked a staff pool with appropriate expertise. Tracking the decisions and paperwork later proved challenging.

During emergencies, the National Controller must make resource commitments in support of the affected regions. Decisions are based on requests received from the regions for national level support. These need to be actioned swiftly, often without complete information, which means normal business financial processes need to be fast-tracked.

Frequent decisions about financial commitments in support of this response were made. They included the purchase and distribution of satellite communications, bulk fuel supply, helicopter capability to deliver supplies, and set-up of distribution facilities.

It was sometimes difficult to find an approver for financial commitments due to the limited number of roles that have authority to approve expenditure (particularly over $50,000). Provisions were made for some roles to commit up to set amounts, on the basis that they follow up on the contract side with legal as soon as practical. This was not always done.

Earlier establishment of a special cost-code for the response would improve the ability to track expenditure.

Pre-established agreements with key suppliers might have simplified the contracting process. In some instances, there were differences in understanding between NEMA and CDEM Groups (during and after the response) on amounts and what costs were covered with regards to procurements made at their request.

### Lesson 4 recommendations:

**4.1** NEMA must complete the financial management Standard Operating Procedures and clarify where costs fall with CDEM Groups pre response.

**4.2** NEMA must ensure it has staff with appropriate delegations covered in each shift, pre-established and consistent cost codes, and form pre-established master agreements with key suppliers.

## Lesson 5. Information management protocols in the NCC/NCMC

### NCC/NCMC processes and procedures

**There was an absence of clear (or well understood) information management protocols and effective record keeping.**

In the NCC/NCMC, this issue included approaches to information requirements, data sharing, the recording and filing of decisions, actions and documents, and for the categorisation of emails.

Restricted emails could not be saved in Emi (the response information management tool), resulting in functions using workarounds. There was no template for the functions' email signatures, also resulting in inconsistencies across shifts and functions.

The inconsistent information management protocols lead to a significant amount of time spent finding common information such as rosters, contact and distribution lists, and Situation Reports. Post-response, going through the records to inform various post event reviews and outputs took significant effort and exposed gaps in the recording of actions.

### Lesson 5 recommendations:

**5.1** NEMA must define its information management standards and include them in staff training and exercises.

**5.2** NEMA must improve the processes and systems in the NCC/NCMC, with a particular focus on tasking and records management. These are critically important to create efficiencies and supporting post response audits and reviews.

## Lesson 6. Working with known gaps

**Technology, equipment and facilities**

**There continues to be a need for a shared, system-wide "single source of the truth".**

The National Controller observed that the absence of an integrated Common Operating Picture (COP) meant that changes to the situation that could affect decisions were not readily and continuously visible. The lack of a shared, system-wide "single source of the truth" COP impacted decision making, resource utilisation, and workflows at a national, regional, and local level.

The Intelligence function found that the inability of stakeholders to directly access information from a central repository led to a high demand on them to respond to individual information needs from various stakeholders.

During this event issues were identified caused by the absence of a COP including:

- Deployed staff found it challenging to access information across multiple locations and CIMS functions.
- The inability to provide layered map data in relation to the removal of solid waste from households.
- The lack of te ao Māori-specific intelligence gathering relating to marae locations and key contacts.
- Intelligence received was response centric and did not support the development of a consequence matrix suited for a focus on recovery.

The absence of data sharing protocols between NEMA and other agencies also led to an inability and sometimes unwillingness among agencies to share information with the NCC/NCMC. Likewise, several NCC/NCMC functions found it difficult to establish direct and open lines of communication with their counterparts at the regional Emergency Coordination Centre level. They had to work through NEMA's on-site Regional Emergency Management Advisors (REMAs) to find or clarify information.

The lack of a nationally consistent tool for welfare registration and needs assessment results in coordination challenges and inefficiencies across agencies, adversely affecting the delivery of welfare services to affected communities. The specific requirements, such as end-to-end functionality, the ability to cater to community and marae-based needs, as well as the incorporation of health and animal welfare considerations, underscore the complexity and varied nature of the needs this system must address.

### Lesson 6 recommendations:

**6.1** NEMA must define what a Common Operating Picture for NEMA and the NCC/NCMC looks like, and how it will be utilised, with an eye towards scalability and future integration into broader system-wide solutions.

6.2 NEMA must work with CDEM Groups and Welfare agencies to define the processes and requirements for a nationally consistent tool for welfare registration and needs assessment.

## Lesson 7. NCMC facility and infrastructure

### Technology, equipment and facilities

**The NCC/NCMC facility is not fit for purpose especially for a response of this scale. NEMA and NCC/NCMC IT was not reliable.**

This response re-confirmed the findings of the 2017 Technical Advisory Group in the Ministerial Review: Better Responses to Natural Disasters and Other Emergencies in New Zealand.

The current facility lacks a scalable or modular approach for larger scale events. It has insufficient operating space and meeting rooms to accommodate all the functions, poor disability access, poor cell phone reception and wi-fi in some areas, and poor lighting and ventilation. There are insufficient toilets and a lack of parking nearby. In this response, there were also challenges in maintaining COVID-19 infection prevention and control protocols.

As the response scaled up, functions (or parts of functions) were moved from the main Operations room into other parts of the facility. This resulted in a requirement to fit out these areas under urgency and some infrastructure needs not always being met satisfactorily (e.g., limited cellular and internet signal). Some functions were moved out of the facility completely, leading to suboptimal engagement with the NCC/NCMC.

#### Deployed NEMA staff devices

Deployed NEMA staff experienced difficulties in utilising their normal work IT equipment in the regions. The limitations mainly pertain to the security settings on NEMA/DPMC equipment that limited internet access via external connections.

Templates for briefings and handovers were not always accessible when there was no internet connectivity, and accordingly should be part of the deployment kit.

Satellite phones were used for some emergency calls when conditions allowed (e.g. satellite connections holding, suitable weather), but are unsuitable for the wider work environment and are not a replacement, or even partial replacement, for standard mobile phones.

#### IT Outage

On 12 February, an IT outage in the NCC/NCMC resulted in no wi-fi or access to shared files, email, and Microsoft Teams for several hours. CASS IT staff were called in to resolve the issues, but this period of communications outage showed a vulnerability in the NCC/NCMC infrastructure.

**Landlines**

The landlines in the NCC/NCMC were not easily transferable when a function relocated, resulting in staff using personal or work mobile phones which in turn contributed to the loss of generic contact points for the functions. Staff also subsequently received calls when they were not rostered and were supposed to rest.

**Lesson 7 recommendations:**

7.1 NEMA should explore options to address the limitations posed by the security settings on NEMA's standard equipment during deployment.

## Lesson 8. Systems, applications and IT support

**Technology, equipment and facilities**

**Limitations of the systems and applications within the NCC/NCMC and the critical importance of Central Agencies Shared Services (CASS) IT support.**

The functionality offered by Emi (the response information management tool) was leveraged by the NCC/NCMC functions. However, there were limits to its functionality and inconsistencies in its use. Some support agency personnel did not have access due to profile issues. Deployed staff (including to the NCC/NCMC) found access to Emi was problematic due to security settings on NEMA and NCC laptops. The Emi SharePoint tool did not support the tasking process well. In the absence of a more fit for purpose tool, this highlights the need for supplementary processes that will ensure taskings can be communicated, received, and tracked.

Applications that worked well also had some limitations. The Control function and NEMA Chief Executive's Support team found the use of the Signal app worked well for scheduled and ad-hoc updates to the Chief Executive and the Minister for Emergency Management. It was, however, limited to mobile phones. Staff noted that the app needs to also be available on desktop/laptops to speed up its use and for filing of messages. Emergency Management Assistance Team (EMAT) and New Zealand Response Team (NZRT) personnel found the use of WhatsApp, group chats on Microsoft Teams and email useful to address issues encountered 'on the go'.

Issues identified with systems and applications included:

- The *GetHomeSafe* application used for deployed personnel was used with mixed success (including unfamiliarity with the app and internet outages).
- There was limited access to a GIS Enterprise platform. The Intelligence function had to secure temporary licences to the platform with urgency.
- Establishing a dedicated email address for NCC/NCMC Legal and Procurement will support the function better in the future.

It is essential that response staff have reliable and secure access to critical tools. Bespoke systems may be required for specific communication purposes, which can create multiple communication channels to check for information.

Where possible, deployed Regional Emergency Management Advisors (REMAs) dialled into the NCC/NCMC shift handover briefings. However, because deployed staff are bound to the daily schedule applicable at their deployed location, they often experienced conflicting schedules for meetings and were unable to attend. This resulted in the REMAs feeling like they were missing important information as result. They received information via different platforms/channels, making it challenging to navigate them all.

**IT Support**

Due to limited CASS IT staff capacity covering 24/7 shifts there were impacts on resolving issues around the clock, both in the NCC/NCMC and those deployed to the field. NEMA's Operational Systems team initially provided technical support.

Insights described the need for CASS IT staff to have a greater depth of understanding about the operational arrangements in the NCC/NCMC and how to support an emergency response. This is covered by the induction they receive about the NCC/NCMC upon their appointment. However, it was also noted that CASS support staff need a better induction upon activation or arrival for their first shift in the NCC/NCMC.

### Lesson 8 recommendations:

**8.1** NEMA should ensure Emi (the response information management tool) is accessible, consistent, and functional across all user groups.

**8.2** NEMA should assess the effectiveness of informal communication tools and integrate them more formally into response protocols where appropriate.

**8.3** NEMA must develop evaluation criteria for integrating bespoke systems, ensuring they add clear value and do not unduly complicate response processes.

**8.4** NEMA must provide training and familiarisation opportunities on both standard and bespoke systems.

**8.5** NEMA should work with Central Agencies Shared Services (CASS) IT on options for ensuring CASS staff are trained and exercised for NEMA's NCC activation and response.

**8.6** NEMA should consider embedding the CASS IT staff within the Logistics function during activations.

*Also refer to the onboarding processes recommendations (Lesson 2).*

## Lesson 9. We were not clear about what we expected of staff

**People, capacity and capability**

**Policies and systems about working during an event were not as sufficient and consistent as they should be.**

BAU work programmes are often heavily impacted when staff are assigned to respond to emergencies. However, some of NEMA's BAU must continue alongside its response.

The prioritisation of BAU activities that needed to continue during the event was not made clear. Some rostered staff felt obliged to attend to BAU outside of their rostered hours, or alongside their response tasks. Some staff also found it challenging transitioning back to their BAU role and associated workload, while attempting to regain normal sleep and rest routines, especially following night shifts.

Some NEMA and surge staff felt their wellbeing was not prioritised in the early stages of the response, with communications not making it clear who had responsibility for staff wellbeing.

Staff had to navigate multiple communication channels, including Emi (the response information management tool), email, and Microsoft Teams chats to find answers or information. There was an absence of a central communications tool to keep staff up to date with priorities, decisions and changes, both in the NCC/NCMC and on corporate matters, along with return-to-work templates for people leaders. Urgent reprioritisation and communication with staff was needed to provide clear direction.

Other issues identified included:

- Inconsistencies in contractual arrangements that require NEMA staff to support a response.
- NEMA's on-call and call-back policy is open to interpretation.
- The rostering system was Excel-based and not fit for purpose. It couldn't track staff rostered for more than a few days at a time or actual hours worked.
- Better advance notice of shifts would assist staff with forward planning, cost savings and efficiencies with flights and/or accommodation.
- NEMA's weekly staff newsletter, Pānui, stopped during the response, but the void was not filled by an alternative.

### Lesson 9 recommendations:

**9.1** NEMA must review the On-call and Call-back policy.

**9.2** The Control function and those making BAU decisions must ensure regular and consistent communication to staff about response and BAU decisions, priorities, and other matters

**9.3** NEMA must develop a fit-for-purpose rostering system.

# Section 5 Things that need to improve

## Lesson 10. We do not have enough well trained NEMA staff or surge staff to deploy

People, capacity and capability

**Deployment of emergency management professionals into the regions was vital to support emergency response operations at local and regional levels.**

The NEMA and surge staff that were available to be deployed did a good job, we just did not have enough of them.

Surge staff in the form of New Zealand Response Teams (NZRT), Emergency Management Assistance Team (EMAT), international teams (including United States Agency for International Development (USAID), Australian AUS-1 Disaster Assistance and Response Team (DART), Republic of Fiji Military Force personnel, Fiji National Fire Authority and National Disaster Management Office (NDMO) personnel), CDEM and NEMA's Regional Emergency Management Advisors (REMAs) undertook taskings. These included:

- supporting Urban Search and Rescue (USAR) activities
- evacuations
- reconnaissance
- property checks
- house to curb debris removal
- welfare needs assessments
- helicopter loading for essential deliveries
- supporting isolated communities
- managing essential deliveries
- supervising river crossings
- managing/staffing cordons
- staffing functions in Emergency Operation Centres (EOC) and Emergency Coordination Centres (ECC).

**It was difficult to sustain surge staffing at all levels during the response.**

NEMA only had nine Regional Emergency Management Advisors (REMAs) at the time of this event. Two of these REMAs were required for the NEMA duty roster in case of another concurrent event (e.g. earthquake or tsunami).

REMAs were deployed in pairs (when possible) to support Auckland, Hawke's Bay, and Tairāwhiti. There weren't enough REMAs available to deploy to the Tararua District and the Wairarapa.

REMAs found it challenging to be across everything in their respective emergency coordination centres and the NCC/NCMC. Like many involved

in the response REMAs experienced long deployments and high intensity long days. This impacted on their BAU, i.e., servicing their allocated CDEM Groups, and their ability to support CDEM Groups with the recovery.

There were ongoing requests from CDEM Groups to deploy recovery subject matter experts, but these requests could not be fulfilled due to limited NEMA resources. Instead, expertise was deployed from non-affected CDEM Groups.

EMAT's early deployment meant that EMAT capacity was largely exhausted by the time high priority requests came through later in the response. This highlights the limited EMAT capacity for large-scale and geographically dispersed events.

Overall, the scale of the event and the number of skilled/experienced staff required often outstripped the number of those available for deployment.

**Lesson 10 recommendations:**

**10.1** NEMA should build on the selection, training and exercising for emergency management sector deployments (e.g. REMAs, EMAT, NZRT, CDEM) to grow capability and capacity to meet future demand.

## Lesson 11. Financial assistance and policy under urgency

**NCC/NCMC processes and procedures**

**The roles and responsibilities of agencies, the spectrum of funding options available, and their general clarity (so they are understood by all) should be improved in the next iteration of the National CDEM Plan and Guide.**

NEMA provides financial support to local authorities as outlined in Section 33 of the Guide to the National CDEM Plan[26]. These arrangements include reimbursement of welfare costs incurred by local authorities when supporting affected communities, which may in turn choose to reimburse community organisations for the welfare costs they incur during the response.

There appeared to be a lack of understanding and different interpretations of the Section 33 arrangements. In several cases there appeared to be an assumption among agencies, councils, and private/commercial providers that NEMA, as lead agency under the State of National Emergency, would be responsible for all coordination and costs associated with the national emergency (which is not the case).

Cabinet approval is required for any new bespoke funding arrangements. Bespoke funding arrangements were quickly established for community organisations to access *Welfare Support Grants* ($15 million), and councils to access a *Solid Waste Management* ($15 million) fund.

[26] Guide to the National CDEM Plan 2015

Developing ad-hoc funding mechanisms under urgency draws on already stretched resources, leaves little time for consultation, and has potential to introduce errors.

**Welfare Support Grant implementation insights**

While NEMA communicated about this funding option using all the channels it had available, the uptake was low.

Issues identified included:

- Both the Ministry of Social Development (MSD) and NEMA fund welfare related costs. This created uncertainty and conflicting views about what should be covered by NEMA and MSD respectively, as well as raising the risk of duplication of expenditure. NEMA, MSD and other agencies met regularly to manage this risk and triage applications to the right fund.
- Adding to potential confusion or risk of duplication there was a range of other funding mechanisms administered by other agencies available to the same community organisations.
- NEMA was perceived to be slow at releasing funding in comparison with other agencies. Existing Government policy requires NEMA to work on a reimbursement basis whereas MSD and other agencies can work on a grant basis.

**Lesson 11 recommendations:**

11.1 NEMA should consider reviewing Section 33 (of the Guide to the National CDEM Plan) policy and supporting documentation to ensure government financial support to local authorities is fit for purpose.

## Lesson 12. Transitioning from response to recovery

**NCC/NCMC processes and procedures**

**The understanding of recovery across the NCC/NCMC-based functions appeared to be limited.**

There was a lack of understanding of, and capacity for, 'operational recovery' at all levels. NEMA's engagement with CDEM Group Recovery managers should have been more regular and strategic.

Intelligence needs for recovery were not met, including for iwi Māori.

A positive was the Welfare function identifying the importance of mid to long-term consequences, particularly emerging needs that would impact the social services system, and defining a lead agency early.

It was challenging to hold some NCC/NCMC-based functions (e.g. Planning, Intelligence, Public Information Management, Kaitohutohu, Policy, Legal) in place during the transition from response to recovery.

### Lesson 12 recommendations:

**12.1** NEMA should ensure the appropriate agencies are identified as quickly as possible to support an effective transition from response to recovery.

**12.2** NEMA should ensure Planning, Intelligence, Public Information Management, Kaitohutohu, Policy and Legal personnel are available to support the transition from response to recovery.

# Section 6 Things that improved during the event

## Lesson 13. Development of the Kaitohutohu function

**NCC/NCMC processes and procedures**

**NEMA established the 'Kaitohutohu' ('Advisor') function in 2021 to support the management of issues pertaining to iwi, hapū and whānau during a response.**

During the response the Kaitohutohu function covered strategy, policy, planning, Māori specific communications, specific data and insights, relationship management and tikanga Māori.

Specifically the Kaitohutohu function:

- Supported NCC/NCMC functions by providing advice on work that had an impact on Māori communities.
- Facilitated connections between NEMA, CDEM Groups and iwi Māori (e.g. National Iwi Chairs Forum, Iwi Communications Collective, Iwi Radio).
- Identified priorities and risks for the transition to recovery including housing, infrastructure, employment, business, Te Taiao (the natural environment), and psychosocial.

Following the response NEMA refocused the function to better reflect the purpose of the function and renamed it to Tākaihere. The name translates to "tākai" being to wrap-around and "here" which means to tie together, recognising the purpose of the team to connect and support throughout emergency management.

**Lesson 13 recommendations:**

**13.1** NEMA must develop Standard Operating Procedures for the Tākaihere function.

## Lesson 14. NEMA's 24/7 Monitoring, Alerting and Reporting (MAR) Centre

**NCC/NCMC processes and procedures**

**The MAR Centre has enhanced NEMA's capacity.**

NEMA's 24/7 Monitoring, Alerting and Reporting Centre (the MAR Centre) has enhanced NEMA's capacity to monitor, report, and coordinate in the initial stages of an event. After the activation of the NCC, the MAR Centre worked closely with the NCC Intelligence function.

An operating 24/7 MAR Centre meant that a separate on-duty team to respond to any concurrent events was not needed, unlike major responses prior to its establishment.

MAR staff were completing tasks for Control, Intelligence, and Safety (via Logistics) while also fulfilling their BAU responsibilities[27]. Something to be mindful of for future responses is to ensure capacity is maintained to respond to a concurrent event, e.g. earthquake or tsunami.

### Lesson 14 recommendations:

**14.1** NEMA should further define the MAR Centre's role and responsibilities during activation of NEMA's NCC/NCMC.

[27] 24 hours a day, seven days a week, NEMA's Monitoring, Alerting and Reporting (MAR) Centre monitor, assess, report and where necessary, alert the public about threats to life or property at the national level, or on behalf of CDEM Groups and other agencies.

# Section 7 Things that went well during the event

## Lesson 15: NEMA's operational response capability and capacity

**People, capacity and capability**

**NEMA's staff fostered an effective work environment under challenging circumstances.**

Given this was the first response for many NEMA staff, coming into teams with an existing positive culture was of great benefit. The leadership and overall culture in the NCC/NCMC and NEMA workforce not only helped mitigate the challenges with the systems, processes, and staff capacity during this event, but also supported staff to make improvements and adaptations during the event.

The benefit of the positive culture did not work as well for those working remotely. While Microsoft Teams was helpful for meetings, remote workers experienced limited awareness and interaction with team members and other functions. They felt having a physical presence in the NCC/NCMC would have been more effective.

**Lesson 15 recommendations:**

**15.1** NEMA continues to invest in the operational capability of its staff and builds on its positive culture to develop depth in the number of competent and approachable function managers and leaders.

## Lesson 16. Benefits of relationships and function specific coordination groups

**NCC/NCMC processes and procedures**

**NEMA's well-established relationships across the all-of-government network, and internationally, served us well in our lead agency capacity.**

The NCC/NCMC Welfare function maintained regular situational awareness and triaging of queries. This was done through an established rhythm of meetings with the National Welfare Coordination Group, CDEM Groups' Welfare Coordination Groups, and connecting directly with deployed REMAs and EMAT staff. This ensured that where there were information gaps across the system, there was always a point of contact. The function could loop into and support the deployed REMAs to support welfare issues in the regions (via the regional ECC) as they arose. It also enabled timely reassurance to both NEMA and agencies that issues were being assessed.

Lifeline utilities coordination at the national level was deemed effective, benefitting from well-established relationships and processes. Operations observed challenges with the movement of essential supplies into the impacted areas. Cordons impacted delivery, and often required multi-agency action in the NCC/NCMC to resolve. Some agencies undertook supply initiatives independently without coordinating with the NCC/NCMC,

leading to duplication or unwanted/unnecessary supplies being delivered locally.

**Lesson 16 recommendations:**

16.1 NEMA should consider establishing other function specific interagency and national/regional groups.

## Lesson 17. Communication

**NCC/NCMC processes and procedures**

**Elements of communications support are worth noting.**

A number of the elements of communications support are worth noting. These include:

- The development of a digital version of the all-of-government factsheet for the NEMA website by the Welfare function and PIM function was a good initiative. The all-of-government factsheet provides information about available welfare services and aid.
- The fact sheet was translated into multiple languages and alternate formats to ensure diverse ethnic communities and disabled people had access to information about how to access support.
- Having the Policy and Legal function in the NCC/NCMC was helpful for the PIM function when developing communications and preparing speaking points about the State of National Emergency.
- The PIM function worked well with Strategic Communications to develop talking points for the Minister, Prime Minister, and the Director CDEM.

**Lesson 17 recommendations:**

17.1 NEMA needs to continue to apply these elements in future events.

17.2 NEMA should continue working with DPMC in socialising the Strategic Communications function among partners.

## Lesson 18. Governance support

**NCC/NCMC processes and procedures**

**Governance support worked well but needs better role clarity.**

The Governance support team provided support to the Minister for Emergency Management and the Prime Minister during the response. This worked well but needs better clarity on its role and processes.

Feedback from the Minister and his Office was that they felt well supported. However better access to accurate, current information via a Common Operating Picture will support the Governance support function, reducing its requests of other NCC/NCMC functions.

Many NCC/NCMC staff were unfamiliar with the governance support role and there were no role descriptions.

**Lesson 18 recommendations:**

18.1 NEMA must develop Standard Operating Procedures for the Governance function.

## Lesson 19. Approach to State of National Emergency declaration

**NCC/NCMC processes and procedures**

**The approach taken to assess NEMA's advice to the Minister for a declaration of a State of National Emergency was thorough and proved effective.**

The Policy Unit and Legal team developed a set of triggers for determining if the thresholds for a State of National Emergency were met. From 12 February, a dedicated team conducted four-hourly assessments of the situation to support advice to the Minister for Emergency Management in this regard. This team was made up of the following personnel:

- National Controller – providing operational advice,
- NEMA's Chief of Staff (or delegate) – providing strategic advice,
- NEMA's Manager Policy (or delegate) – providing policy advice, and
- NEMA's Chief Legal Advisor (or delegate) – providing legal advice.

NEMA advised the Minister to declare a State of National Emergency on the morning of 14 February. NEMA considers the relatively early declaration of a State of National Emergency contributed to public confidence in the Government's commitment to the response and enhanced response capability.

**Lesson 19 recommendations:**

19.1 NEMA should review their respective National Controller, Policy Unit and Legal team's induction and operating documents against this lesson and update accordingly.

# Appendix A Summary of Lessons and recommendations

For each lesson we have identified recommendations to address causal factors.

## Lesson 1. Resourcing medium to large-scale emergency responses.

Medium to large-scale emergencies will always require surge staffing to supplement NEMA's core staffing resource.

*Recommendations*

**1.1** NEMA must continue to work in 'peace time' with the emergency management system to build surge capability, and ensure arrangements are in place with agencies/organisations where their skill sets best align.

**1.2** As part of 1.1, NEMA must build a dedicated team of CIMS function specialists and formalise pathways for staff to become function managers or take on control roles.

**1.3** NEMA should ensure protocols maximise remote worker's capacity and connectivity with the NCC/NCMC.

## Lesson 2. The NCC/NCMC processes and procedures

The NCC/NCMC processes and procedures were unable to meet the pace and scale of this response.

*Recommendations*

**2.1** NEMA will ensure that each function and sub-function refines their SOPs based on the lessons from this event and presents their SOPs to the National Controller.

**2.2** NEMA must increase the frequency of training and exercising to test function SOPs and processes.

**2.3** NEMA should test the NCC/NCMC procedures for alignment with equivalent procedures at CDEM Group level.

**2.4** NEMA should review and update its arrangements for inbound aid, including standards/credentials and border exemption requirements, via the International Assistance Working Group.

**2.5** NEMA must ensure there are response staff assigned to deliver onboarding processes.

**2.6** NEMA must ensure onboarding covers 'just in time' training on basic CIMS, the CDEM framework, and tasking processes.

**2.7** NEMA should develop an online orientation package for international responders to complete before they arrive, covering the emergency

management system (national and regional/local settings), CIMS, and te ao Māori.

**2.8** NEMA should explore additional accommodation readiness arrangements in collaboration with CDEM Groups.

**2.9** NEMA should review its response vehicle fleet requirements including 4WD training for deployed staff.

**2.10** NEMA should work with Air New Zealand on a plan for prioritising NEMA's flight requirements in large scale emergencies.

**2.11** NEMA must establish an electronic system, accessible to multi-agencies and all levels, for surge staff contact details, qualifications, experience, availability, and rostering.

**2.12** NEMA must improve end-to-end processes across resource requests, tasking, and matching processes including templates and standards.

## Lesson 3. Development of the Intelligence function

Science, intelligence and geospatial capability and capacity need to be enhanced to build situational awareness and support decision making during emergencies.

*Recommendations*

**3.1** NEMA should develop science sub-function processes, protocols, and resourcing.

**3.2** NEMA should develop common GIS protocols and standards to ensure consistent and timely situational awareness products across all agencies and levels of response.

**3.3** NEMA must strengthen its capability in conducting holistic consequence analysis.

**3.4** NEMA should clarify central government funding mechanisms for imagery collection before events.

**3.5** NEMA should use Geospatial Emergency Management Aotearoa's (GEMA) surge support process, adopted by NEMA during this response, for effective placement of GIS capability.

**3.6** NEMA should invest in further intelligence and GIS capacity and capability (both inhouse and via surge support).

## Lesson 4. Development of the finance function

There was an administrative burden for the National Controllers to record financial commitments themselves, mostly via handover notes.

*Recommendations*

**4.1** NEMA must complete the financial management Standard Operating Procedures and clarify where costs fall with CDEM Groups pre response.

**4.2** NEMA must ensure it has staff with appropriate delegations covered in each shift, pre-established and consistent cost codes, and form pre-established master agreements with key suppliers.

## Lesson 5. Information management protocols in the NCC/NCMC

There was an absence of clear (or well understood) information management protocols and effective record keeping.

*Recommendations*

**5.1** NEMA must define its information management standards and include them in staff training and exercises.

**5.2** NEMA must improve the processes and systems in the NCC/NCMC, with a particular focus on tasking and records management. These are critically important to create efficiencies and supporting post response audits and reviews.

## Lesson 6. Working with known gaps

There continues to be a need for a shared, system-wide “single source of the truth”.

*Recommendations*

**6.1** NEMA must define what a Common Operating Picture for NEMA and the NCC/NCMC looks like, and how it will be utilised, with an eye towards scalability and future integration into broader system-wide solutions.

**6.2** NEMA must work with CDEM Groups and Welfare agencies to define the processes and requirements for a nationally consistent tool for welfare registration and needs assessment.

## Lesson 7. NCMC facility and infrastructure

The NCC/NCMC facility is not fit for purpose especially for a response of this scale. NEMA and NCC/NCMC IT was not reliable.

*Recommendations*

**7.1** NEMA should explore options to address the limitations posed by the security settings on NEMA’s standard equipment during deployment.

## Lesson 8. Systems, applications and IT support

Limitations of the systems and applications within the NCC/NCMC and the critical importance of Central Agencies Shared Services (CASS) IT support.

*Recommendations*

8.1 NEMA should ensure Emi (the response information management tool) is accessible, consistent, and functional across all user groups.

8.2 NEMA should assess the effectiveness of informal communication tools and integrate them more formally into response protocols where appropriate.

8.3 NEMA must develop evaluation criteria for integrating bespoke systems, ensuring they add clear value and do not unduly complicate response processes.

8.4 NEMA must provide training and familiarisation opportunities on both standard and bespoke systems.

## Lesson 9. We were not clear about what we expected of staff

Policies and systems about working during an event were not as sufficient and consistent as they should be.

*Recommendations*

9.1 NEMA must review the On-call and Call-back policy.

9.2 The Control function and those making BAU decisions must ensure regular and consistent communication to staff about response and BAU decisions, priorities, and other matters.

9.3 NEMA must develop a fit-for-purpose rostering system.

## Lesson 10. We do not have enough well trained NEMA staff or surge staff to deploy

Deployment of emergency management professionals into the regions was vital to support emergency response operations at local and regional levels.

*Recommendations*

10.1 NEMA should build on the selection, training and exercising for emergency management sector deployments (e.g. REMAs, EMAT, NZRT, CDEM) to grow capability and capacity to meet future demand.

## Lesson 11. Financial assistance and policy under urgency

The roles and responsibilities of agencies, the spectrum of funding options available, and their general clarity (so they are understood by all) should be improved in the next iteration of the National CDEM Plan and Guide.

*Recommendations*

11.1 NEMA should consider reviewing Section 33 (of the Guide to the National CDEM Plan) policy and supporting documentation to ensure government financial support to local authorities is fit for purpose.

## Lesson 12. Transitioning from response to recovery

The understanding of recovery across the NCC/NCMC-based functions appeared to be limited.

*Recommendations*

**12.1** NEMA should ensure the appropriate agencies are identified as quickly as possible to support an effective transition from response to recovery.

**12.2** NEMA should ensure Planning, Intelligence, Public Information Management, Kaitohutohu, Policy and Legal personnel are available to support the transition from response to recovery.

## Lesson 13. Development of the Kaitohutohu function

NEMA established the 'Kaitohutohu' ('Advisor') function in 2021 to support the management of issues pertaining to iwi, hapū and whānau during a response.

*Recommendations*

**13.1** NEMA must develop Standard Operating Procedures for the Tākaihere function.

## Lesson 14. NEMA's 24/7 Monitoring, Alerting and Reporting (MAR) Centre

The MAR Centre has enhanced NEMA's capacity.

*Recommendations*

**14.1** NEMA should further define the MAR Centre's role and responsibilities during activation of NEMA's NCC/NCMC.

## Lesson 15: NEMA's operational response capability and capacity

NEMA's staff fostered an effective work environment under challenging circumstances.

*Recommendations*

**15.1** NEMA continues to invest in the operational capability of its staff and builds on its positive culture to develop depth in the number of competent and approachable function managers and leaders.

## Lesson 16. Benefits of relationships and function specific coordination groups

NEMA's well-established relationships across the all-of-government network, and internationally, served us well in our lead agency capacity.

*Recommendations*

**16.1** NEMA should consider establishing other function specific interagency and national/regional groups.

## Lesson 17. Communication

Elements of communications support are worth noting.

*Recommendations*

**17.1** NEMA needs to continue to apply these elements in future events.

**17.2** NEMA should continue working with DPMC in socialising the Strategic Communications function among partners.

## Lesson 18. Governance support

Governance support worked well but needs better role clarity.

*Recommendations*

**18.1** NEMA must develop Standard Operating Procedures for the Governance function.

## Lesson 19. Approach to State of National Emergency declaration

The approach taken to assess NEMA's advice to the Minister for a declaration of a State of National Emergency was thorough and proved effective.

*Recommendations*

**19.1** NEMA should review their respective National Controller, Policy Unit and Legal team's induction and operating documents against this lesson and update accordingly.