



Exercise Phoenix V
Evaluation Report
20 February 2009

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Executive summary

The aim of Exercise Phoenix V was to *test the Wellington Civil Defence Emergency Management Group's (CDEM) arrangements for responding to a major disaster resulting from a movement of the Wellington Fault*".

Exercise Phoenix V was based on a major disaster caused by a shallow (10 km) earthquake measuring 7.6 on the Richter scale along the Wellington Fault, with its epicentre located at Petone. The initial earthquake and aftershocks had caused widespread damage.

A local state of emergency for the Wellington CDEM Group was declared by the Chairman of the CDEM Group on 10 November 2008. The weather conditions were as on the day of the exercise and as forecasted for the following three days.

The exercise setting was the commencement of the third day, 12 November.

All staff appointments of the Group Emergency Operations Centre (EOC) were filled. The Wellington CDEM Group territorial authorities participated in the exercise and were asked to take the opportunity to activate and exercise their own EOCs. They were required to make inputs to the Group EOC and responded to directives and requests. Other emergency management services and agencies also took the opportunity to exercise their own response facilities.

The exercise was limited to the response phase of post-disaster assistance on days 3 (12 November) and 4 (13 November) of the event and day 10 (17 November) of recovery.

The Group EOC, under the Group Controller, conducted operations in accordance with the CDEM Group Plan and standard operating practices. Certain decisions and directives were assumed as being achieved in order to play "peace time" functions and responsibilities, such as requisitioning equipment, broadcasting public warnings and information. There was no physical deployment of resources.

Three core exercise objectives (roles and responsibilities of participating agencies, planning arrangements of participating agencies and connections between participating agencies) and three supporting objectives (welfare arrangements, business/service continuity planning and public information management) were tested during the exercise.

In conjunction with the main phase of the exercise, Greater Wellington Regional Council (GWRC) also exercised its Business Continuity Response Plan.

A comprehensive programme of debriefing and evaluation was established to assess the effectiveness of the response and recovery and how well the exercise met its objectives. The information collected from these debriefings was analysed and several lessons were learnt from it.

The exercise was a success with no major issues arising. However, the issues that did come up were very minor and the majority of them can be fixed quite easily.

Once again, Exercise Phoenix V was a valuable learning experience for all agencies that

have participated in it.

The issues associated with a large-scale emergency in Wellington requiring significant support from other CDEM Groups were also demonstrated.

The understanding and performance of all the exercise role-players have improved significantly, when compared with previous exercises.

Exercise Phoenix V is considered to have met all its objectives and, as a bonus, several other major achievements were also reached.

1. Background

The purpose of Exercise Phoenix V was to provide a realistic scenario in which employed and voluntary emergency management personnel and first responders at national, regional and local.

level would be brought together in a co-ordinated manner, in order to enhance the Wellington Region's overall performance in a future major earthquake.

Project Phoenix began in 1998 as a joint project between Auckland and Wellington. Participants included:

- Regional councils
- Territorial authorities
- Emergency Services
- Health providers
- Other response agencies

The exercise was based on a major disaster caused by a shallow earthquake measuring 7.6 on the Richter scale along the Wellington Fault with its epicentre located at Petone. The initial earthquake and aftershocks caused widespread damage.

A state of group emergency was declared by the Chairman of the CDEM Group on 10 November.

The exercise setting was the commencement of the third day going through to the end of the fourth day and each day was of 12 hours duration.

The Wellington CDEM Group territorial authorities exercised their own emergency operations centres. They were required to make inputs to the Group Emergency Operations Centre (Group EOC) and responded to directives and requests. All participating emergency management services and agencies used the opportunity to exercise their own response facilities.

The exercise was limited to the response phase of post-disaster assistance but also included the tenth day of recovery.

Exercise PHOENIX V was an operational exercise with control affected by scheduled input from players, local authorities and other agencies, to the Group EOC and monitored by the Exercise Control staff working from a master sequence of events.

The Group EOC, under the Group Controller, conducted operations in accordance with the CDEM Group Plan and standard operating procedures.

2. Exercise aims and objectives

The aim of Exercise Phoenix V was to *test the Wellington CDEM Group's arrangements for responding to and the co-ordination of a major disaster (Level) resulting from a movement of the Wellington Fault.*

There were three core exercise objectives and three supporting objectives.

The three core exercise objectives were:

- **Roles and responsibilities:** practise the respective roles and responsibilities of local, regional and national agencies in response to the exercise scenario
- **Arrangements** for participating agencies to exercise their operational procedures and processes
- **Connections:** confirm the connections between local, regional, national and international agencies

The three supporting objectives of Exercise Phoenix V were:

- **Plan** for evacuees and stranded people – the welfare arrangements regarding emergency shelter, water, food, counselling, etc.
- **Plan** for the continuance of essential services, including local government (Business Continuity Planning), lifeline utilities (service continuity regarding water, roads, energy, fuel, communications, disposal of sewage, refuse and debris), emergency services (service continuity), and Government agencies (business continuance and support to CDEM Groups)
- **Manage** public information.

3. Exercise preparation

The exercise was designed to cover:

- Staff procedures, including call-out and the preparation of shift rosters
- The use of alternate communications
- The employment of the Group Controller's team (Incident Management Team)
- The employment of participant teams
- The maintenance of operational records and displays
- The continuation of impact assessment and planning
- The co-ordination of internal support including support from other Groups
- Continually reviewing the priorities for restoration (recovery)
- Maintaining communications with local EOCs and the other participating emergency management agencies

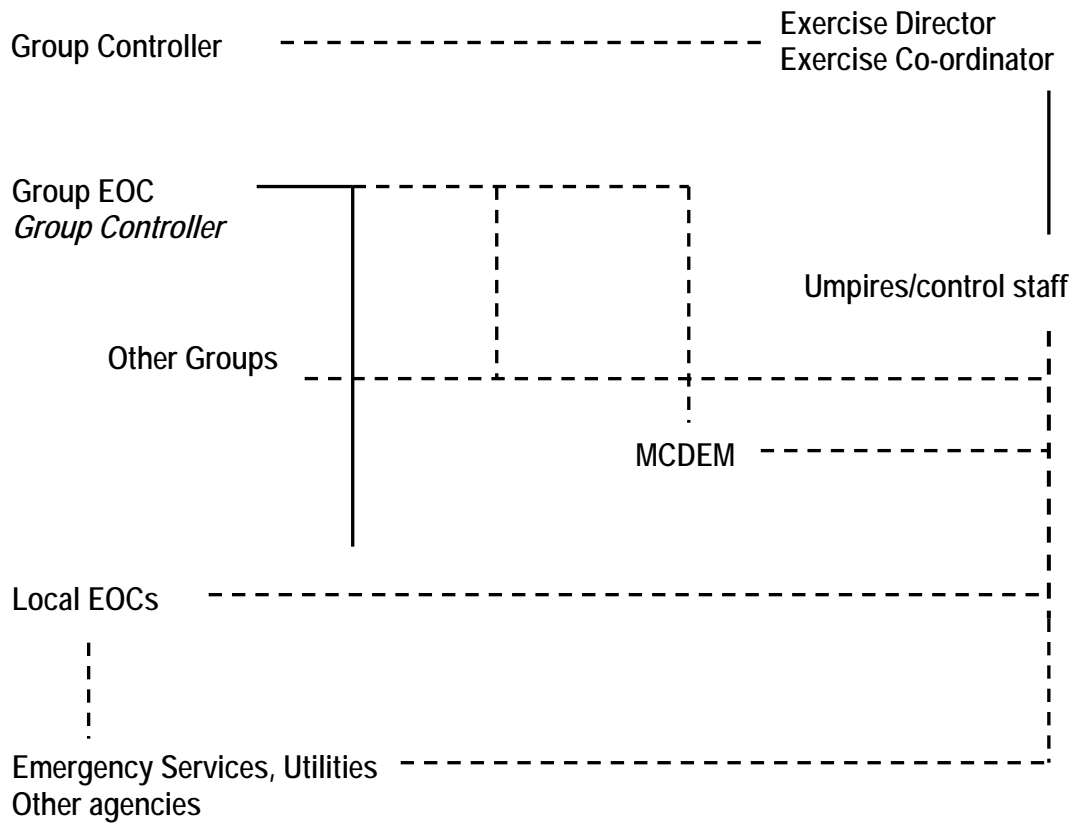
- Continuing to inform and warn the public
- Maintaining media communications
- In preparation for *Exercise Phoenix V*, several activities were conducted to ensure a smooth running exercise. These activities included:
 - Meetings and workshops to engage stakeholders/participants
 - Finalising an acceptable scenario
 - Preparing the Exercise General Instructions
 - Developing a Master Sequence of events
 - Training of volunteer emergency management staff
 - Testing the region's facilities, systems and tools prior to the exercise
 - Running days 1 and 2 of the event at the alternate Group Emergency Operations Centre in Masterton as an introduction to the exercise

4. Participants

Participants to Exercise Phoenix V included:

- CDEM Group members (Greater Wellington Regional Council, CDEM Group Office, and territorial authorities)
- Emergency Services (NZ Police, NZ Fire Service, Ambulance Services)
- Health/Medical (District Health Boards, Regional Public Health)
- Welfare agencies (members of the RWAG) – accommodated in the Alpha Room on Level 8 of The Regional Council Centre.
- Lifeline Utility Services
- Communications/public information/media
- Ministry of Civil Defence Emergency Management (MCDEM)
- National Transport Cluster – accommodated in the Committee Room on Level 5 of The Regional Council Centre
- Auckland, Manawatu-Wanganui, and Hawke's Bay CDEM Groups

5. Exercise organisation



**Participating agencies:
Director, Co-ordinator**

Group EOC

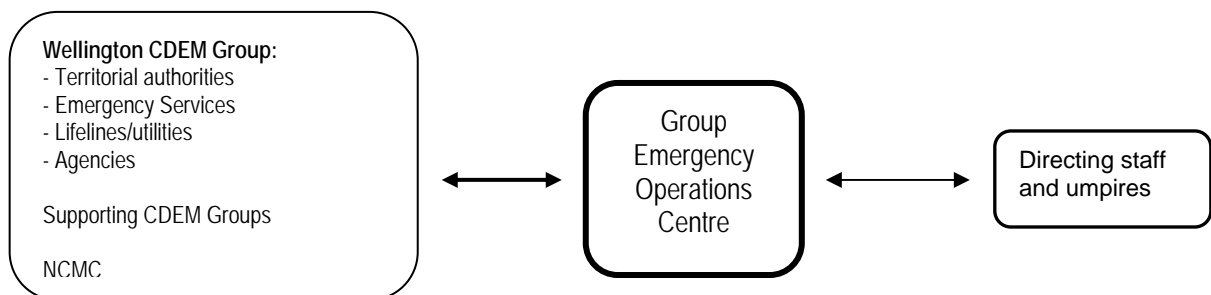
Exercise and Umpires

Exercise input:

- Co-ordinate local response
- report to Group EOC

- Co-ordinate/support to TAs
- Co-ordinate resource support
- Impact assessment
- co-ordinate CD welfare
- Lifelines co-ordination
- Disseminate information
- Public information
- Report to NCMC

- Supervise exercise flow
- Advise on progress
- Evaluate performance
- Evaluate exercise content
- Adjudicate
- Co-ordinate inputs



6. Key exercise appointments

Group Controller	Jane Bradbury
First Alternate	Ian Gunn
Second Alternate	Craig Hamilton
Third Alternate	Rian van Schalkwyk
Group EOC Managers	Chris Killeen, Craig Hamilton, Jessica Hare
Group Lifelines Co-ordinator (and alternate)	David Brunson, Sandra Pedersen
Group Recovery Manager (and alternates)	Francis Ryan, Barry Leonard, Tim Porteous
Exercise Director/Co-ordinator	Rian van Schalkwyk
Umpires	Brian Toomey, Marshall Hyland

A detailed nominal roll of participants and visitors was maintained by the Group EOC Reception.

7. Assessment process

The control staff appointed comprised an exercise director, an exercise co-ordinator and two neutral umpires. The Group EOC also accommodated about 10 observers from different organisations, such as the National Transport Cluster, University of Canterbury, consultancy agencies, etc.

The work of the control staff principally evolved around the control of the exercise, specifically to ensure that it was conducted within the parameters of the objectives, the scenario and the master sequence schedule, to evaluate the effectiveness of the exercise and to identify any management and organisational issues for future corrective action.

To capitalise on the lessons derived from the exercise, it was important that critical issues were recorded.

The following forms and logs were used during the exercise and retained for later analysis:

Exercise Report	This was completed by each control staff member commenting on meeting the aim of the exercise and how the objectives were practiced.
Group EOC Observation Sheet	A summary sheet relating to the organisational layout and systems within the Group EOC was completed by control staff during each shift
Key Event Response forms	These were used to monitor key messages listed in the master sequence schedule or designated by the Exercise Co-ordinator. Details of the event and response actions were noted.

Problem Logs	These were used by Group EOC staff, including lifelines co-ordination, and liaison staff, to identify problems in exercise responses as they occurred.
Exercise Survey form	A personal form completed by all exercise players at the end of their shift. Its purpose was to provide those personnel not attending the formal debrief or those unwilling to contribute to group discussions, an opportunity to identify problems they have observed during the exercise.

8. Exercise scenario - Days 3 and 4 during the major earthquake

The scenario below was distributed to all participants. The detailed situation and assessments of Days 1 and 2 of this particular emergency event were published as supplementary information prior to Day 3.

- 8.1 At 8:27am on 10 of November 2008 an earthquake occurred on the Wellington Fault. The weather is as it is on the day.
- 8.2 The earthquake measured 7.6 on the Richter scale and was shallow at a depth of 10 kilometres. The epicentre was located by Petone approximately 200 metres from the shoreline and some 100 metres from the Pak 'n' Save building on the corner of Jackson and Victoria Streets, Petone. Severe ground shaking occurred for at least 45 seconds in the Wellington/Hutt Valley basin and sedimentary areas over a 100 kilometre radius had amplified ground shaking for varying periods.
- 8.3 The earthquake created a surface rupture of 75 kilometres from Cook Strait to Kaitoke north of Upper Hutt. Along the fault the ground was displaced horizontally by 5 metres and vertically by up to 1 metre.

Aftershocks are continuing constantly and are expected to continue for many days, weeks and even months. One aftershock of M6.8 magnitude occurred at 5:00pm on the 11th and another of M6.5 magnitude occurred at 4:30am this morning. Several smaller aftershocks (between M5.5 and M6.0) have occurred over the last couple of days following the main shock.
- 8.4 Damage is widespread through the Wellington Region, as well as Nelson, Marlborough, Wairarapa, Horowhenua and Manawatu. Major damage has been caused to the infrastructure of Wellington, Hutt Valley, Porirua and Kapiti areas. Christchurch has also been briefly but severely shaken in places.

This is now regarded as a 'Central New Zealand' earthquake because of impacted areas ranging from Christchurch to Taupo.

- 8.5 Movement of the Wellington Fault has depressed parts of the Petone foreshore and the lower Hutt valley throwing utility services out of alignment. The lowering of the land on the eastern side of the fault has drowned harbour perimeter beaches (with associated local inundation) and slumping is affecting drainage.

Brittle underground water and sewerage pipes in the lower part of the Hutt Valley and Wainuiomata are believed to have suffered severely due to underlying soft soils. Parts of Porirua, Kapiti and Wellington have also had many breaks. Many roads in flat areas by rivers and inlets have slumping and surface cracking.

Stopbank failure because of lateral spreading occurred in the lower Hutt Valley.

Severe fault rupture damage was caused in Wellington City. Several buildings have collapsed and many tons of debris and glass are covering inner CBD streets. The Karori Dam suffered damage as well and several cracks are visible.

The violent horizontal and vertical motions that lasted for about one minute also caused widespread liquefaction and slumping in Wellington City. Severe damage has occurred around the harbour perimeter and the Wellington CBD and has carried through to Courtney Place and the Basin Reserve, following the old waterway (mainly along Kent and Cambridge Terraces) to the Basin Reserve and up to the Wellington Hospital site in Newtown. Many structures have collapsed, sunk or tilted and severe damage was caused to underground services.

The wharves in the harbour were severely damaged with at least one crane toppled over and another derailed from its tracks.

- 8.6 The earthquake did not create a tsunami. However, there was significant seiching in Wellington Harbour impacting on Eastbourne and the Hutt Road, as well as the harbour perimeter during the first two days after the earthquake.

Seiching occurred in Porirua Harbour with reported swells of at least one metre.

- 8.7 In areas within a radius of 75 kilometres of the epicentre where reclaimed land and flexible soils are predominant there is heavy damage and various amounts of settlement and slumping with sand/mud boils evident and some localised ponding. Landslides have occurred on hillsides in many areas within this radius.

Landslides have occurred on hillsides across the region. These have restricted road access and affected many of the main river systems.

The Tauherenikau has formed a dam because of a large rock fall in the river's upper reaches.

8.8 Reconnaissance

Local authorities, lifelines companies and other organisations have carried out initial reconnaissance where access allowed it. There are still areas between cities and towns where major lifelines reticulated services have not been accessed for checking. The picture is unclear of what is working (operations centres, treatment plants, etc.) but there is still much uncertainty about the means of delivery of service to customers through reticulated services.

Local authorities have made an initial assessment of the damage to respective suburbs and towns. These assessments have to be confirmed in detail. Many rural areas have not been checked entirely.

Conflicting information is coming into Local and Group EOCs regarding the state of roading.

8.9 Firefighting

There is a pall of smoke over the region as a result of fires. The Fire Service cannot access fires by vehicle and they do not have the ability to extinguish them with their existing resources. No water pressure to fight fires because of reservoirs being shut down by automatic seismic shut-off valves.

The number of fire appliances available for the Wellington and Hutt CBDs is low because of vehicles either trapped in damaged fire stations or because of difficult road access.

8.10 Urban Search and Rescue (USAR)

USAR Task Force Teams 1 and 3 are working in the Wellington CBD with 11 international USAR teams, which arrived over the last 24 hours. USAR Task Force Team 2 is still deployed in Marlborough/Nelson areas. Fire Service teams are being reinforced from northern regions. At least 26 buildings in Wellington CBD, 4 in Porirua City, 9 in Hutt City, 2 in Upper Hutt and 2 in Masterton are assessed as requiring technical rescue. Landslips in Wellington, Lower and Upper Hutt, and Porirua City suburbs have demolished many houses – these are still being assessed for technical rescue in some cases while others have been cleared of casualties.

Not all the buildings have been surveyed for entrapments in the Wellington CBD but most locations of other entrapments in the region are known. Search and rescue actions are continuing in CBD and industrial buildings throughout the region.

Increasing difficulties are experienced with families of entrapped people arriving at rescue sites. Another difficulty is the heavy TV coverage at some of these sites.

Wellington and Pukerua Bay rail tunnels entrapments still being investigated as to how digging resources can be safely deployed. There are no entrapments in the Rimutaka rail tunnel.

Vehicles thought to be buried along Centennial Highway SH1 Kapiti Coast and Rimutaka Hill SH2 under massive landslips.

Extra Fire Service and Ambulance personnel arriving in numbers by helicopters from day 2 after the major shock but they are effectively only relieving weary local personnel at rescue sites.

Additional structural engineers are expected but huge demands for checking buildings for USAR activities will extend shortfall for several weeks.

There is a dire need to organise effective movement and disposal of debris.

8.11 Transportation

The Wellington Airport is badly damaged with large cracks and broken tarmac visible on the runway and with slumping of the surrounding land. Other local airports at Kapiti and Masterton have significant ground cracking and are marginal for light aircraft. A shortage of heavy equipment is limiting the preparation of a shortened runway at Wellington Airport to cater for C130 aircraft. Heavy earthmoving equipment is in short supply in all cities and districts because major contractors were caught with most of their plant outside the region.

Both rail lines north blocked in several places with some rolling stock derailed en route.

State Highways 1, 2 and 58 are blocked in places by major slips. Fault movement and ground deformation has almost destroyed parts of SH2 beside Wellington Harbour and Hutt Valley. Bridge spans have slipped off over bridge piers at the Melling, Normandale, Silverstream and Moonshine bridges. The approaches to the Kennedy-Good Bridge and Paremata Bridge have been damaged. The Pukerua Bay and Paekakariki Rail Overbridges are closed by severe damage with limited bypasses in operation.

The approaches to the Otaki Bridge have been damaged and telecommunications cabling in these areas have been severed. The Waikanae Bridge is still intact.

On SH53 the Tauherenikau Bridge has failed causing access problems into Martinborough. A number of slips have blocked

access on SH2 over the Rimutaka Hill and commuters are believed to be stranded or trapped.

The Masterton-Castlepoint Road is restricted in access by a number of bridge collapses at Taueru, Tinakori and Kahurangi.

Ongoing rock falls during aftershocks are endangering ground reconnaissance and repairs and have caused injuries among commuters trying to walk home.

Wellington Harbour has suffered extensive damage to port facilities and the impact of the earthquake on the depth of the harbour is unknown at this time. Extensive damage has been reported to wharves and ships alongside. Several vessels have overturned in the harbour. Timber logs were washed into the harbour causing damage to moored vessels. The road around the Westpac Stadium is covered with logs and other debris while the fuel terminal at Seaview was severely damaged by the logs as well. The logs are still a danger for boats and ships in the harbour.

Oil leaks (oil slicks) present in harbour from broken fuel pipes and damaged ships.

Many cars and trucks are abandoned in Wellington CBD and particularly around the northerly exits.

Transit NZ is striving to reopen SH1 from the north with urgency to enable movement southwards of heavy supply trucks and earthmoving equipment. Several older bridges through Kapiti and Horowhenua are damaged and require detailed inspection, further restricting access. Severe constraints with getting Bailey Bridges across from the Napier Depot with numerous slips in the Manawatu Gorge affecting road and rail access.

8.12 Hospitals and medical care facilities

All hospitals had damage to fittings and equipment and are working at reduced capacity. All hospitals are overwhelmed with casualties but medical evacuation is strictly limited to severe cases who can handle movement. Medical staff from other parts of the country and from abroad is starting to arrive via a helicopter air bridge to support local staff and casualties in hospitals.

The Wellington, Hutt and Masterton Hospitals, and the major private hospitals in Wellington City are being compromised with great difficulty in water supply and waste services. Urgent disposal methods of sewage and organic waste are required. Kenepuru Hospital is managing own water and sewage with assistance from Porirua City Council.

Suburban medical centres in all cities and towns are facing heavy demand but are only capable of operating at a much reduced level

and having severe restraints on water supply, waste handling and medical stock resupply.

8.13 Communications

Landline and cellular networks remain unserviceable. The increasing impact of electricity shortages is running down the exchange batteries and back-up generators fuel supply. It is very difficult to get fuel to some of the sites where generators are operating.

Occasional successful calls are being made in some small pockets of the community on both the mobile and PSTN networks. Mobile phones are still limited due to breaks in the links to Control Centre. Most of the community has no service or experiences severe overload.

The Wellington, Porirua and Hutt Cities and Paekakariki and Raumati exchange areas are isolated from the rest of New Zealand and the world.

Fleetlink and Teamtalk are working within the Wellington Region but are not working out of region.

Because of the damage to buildings and staff not able to get to their workplaces, public radio and TV broadcasting is now taking place from Auckland. There is an increasing frustration with the Auckland staff's lack of local geographical knowledge of the Wellington Region and the north of the South Island.

Emergency Operations Centres of Councils and Lifelines are still largely using VHF radio with data transmission limited by damaged landlines. VHF and UHF radio networks using landline control systems are not operating.

8.14 External Supply Chain

An air bridge has been established between the Ohakea Air Force Base and the Wellington Region. North Island supplies are accumulating at the Ohakea Base for distribution to the region by helicopters.

The flight distance to Wellington is taking its toll of flying time and efforts are now being made to bring the assembly area closer to Kapiti and/or Porirua. The diversion of supply helicopters for local duty, to replace damaged local units, etc. is lowering the supply capacity. The local supply reception points in the region's cities and districts are not yet fully functional.

8.15 Commuters

There is still an accumulation of northbound commuters sheltering rough en route to Hutt Valley, Kapiti and Wairarapa. Foot travel has

been slowing after commuters got injured during aftershocks and with continuing rock falls along the Wellington Harbour Motorway and Centennial Highway.

Urgent efforts are being made to shuttle people towards Kapiti and Upper Hutt but there are major concerns with the available shelter capacity.

8.16 Emergency response capacity

Personnel working at EOCs (local authorities, emergency services, health, lifeline utilities, and other emergency management agencies) are showing signs of exhaustion.

Contractors' plant and equipment are unserviced after very heavy use because of the lack of workshops. Diesel fuel is becoming short in supply in various areas due to the low capacity of manual pumping from underground tanks, with no immediate prospect of re-supply.

8.17 Water supply

The initial reconnaissance identified many areas of ground movement along the bulk pipeline route. It will take several days to detail the likely number of breaks along the line. The bulk supply has been shut down since day 1.

The pumping station at Haywards is not operating and water has drained through breaks on the supply line.

An effort is being made to repair the damage at the Te Marua Treatment Plant. The first mutual aid teams available were deployed to the treatment plant.

Many suburbs in Wellington City are in very short supply and people and vehicles jam the roads to reservoirs and other water collection points.

Porirua, Lower and Upper Hutt Cities are starting to get water into the centre of some suburbs through existing pipes but they are also under pressure with local water supply for residents. The districts are getting water from rivers although sewage pollution is an issue.

The lack of water treatment plants is critical because the Army Treatment Units delivery from Palmerston North is held up by SH closures. These units are trailer-drawn and can't be airlifted.

Power to critical pump stations is limited and back up facilities require urgent fuel supply.

8.18 Sewage

All cities and districts have damage to treatment plants and piping

within CBD and suburbs. Failures of water supply systems mean that sewage cannot flow, and the extent of damage to pipes is therefore unknown. Effectively there is no working sewage collection and disposal in the cities.

Sewage run-off from overloaded pump station wells and broken pipes is present in some suburban valleys, roads, rivers, and streams and coming into harbour areas. This will be a problem when reticulated water services resume.

8.19 Electricity

Electricity is not working in many parts of the Wellington Region and the full detail of the damage to electricity reticulation and hence estimates of service restoration time are not yet known.

Access to critical substations is problematic and backup facilities only have 12 to 24 hours battery supply.

8.20 Food supply

Supermarkets usually have many truckloads of supplies delivered each day. Due to restricted road access no supplies can be provided from the Palmerston North bulk stores.

It is expected that most supermarkets and dairies will be running out of food supplies within the next day or so because they usually operate on a 2-3 days stock turn. Much food has been given away from supermarkets because of spoilage and no cash processing capacity.

Late attempts to hold back food stocks are only working in a few stores and requiring high Police presence.

8.21 Shelter

The attempts to provide shelter in halls (councils, schools, churches, marae, etc.) for residents displaced from their houses and also for commuters are breaking down due to little bedding, water and sewage capacity at these venues.

Most displaced people are being directed to billeting although with most houses out of water and with no sewage and low food stocks, frustrations are growing.

There are reports of many commuters sheltering rough en route to Kapiti and Wairarapa.

8.22 Public health

The sewage problem is surfacing as a major public health issue with safe water close behind it.

The potential for food and water contamination, appropriate waste disposal, risks associated with fires and hazardous chemicals, and general risk and surveillance for disease are areas that now require urgent attention.

There is already general public and political dissatisfaction with the sewage, water and food situation.

Staff safety in the work environment is not guaranteed due to damage to their buildings, especially with all the aftershocks that are occurring.

8.23 Casualties and Entrapped people

Approximately 530 people are dead. Building damage has led to at least 1,300 people who require hospital treatment and another 2,500 requiring medical treatment. Significant numbers of victims from vehicle crashes, rail transport incidents and secondary hazards have yet to be assisted.

Many people (approx.550) are still entrapped in badly damaged and collapsed apartments, predominantly in the Wellington City area, and other buildings and houses within the region

8.24 Housing

Over 18,000 homes have been severely or extensively damaged while more than 50,000 people have been displaced from their residences.

About 30,000 people are living in apartment buildings in the Wellington CBD, many of which were converted from old commercial buildings into apartment dwellings. Many of these have been compulsorily evacuated for safety reasons.

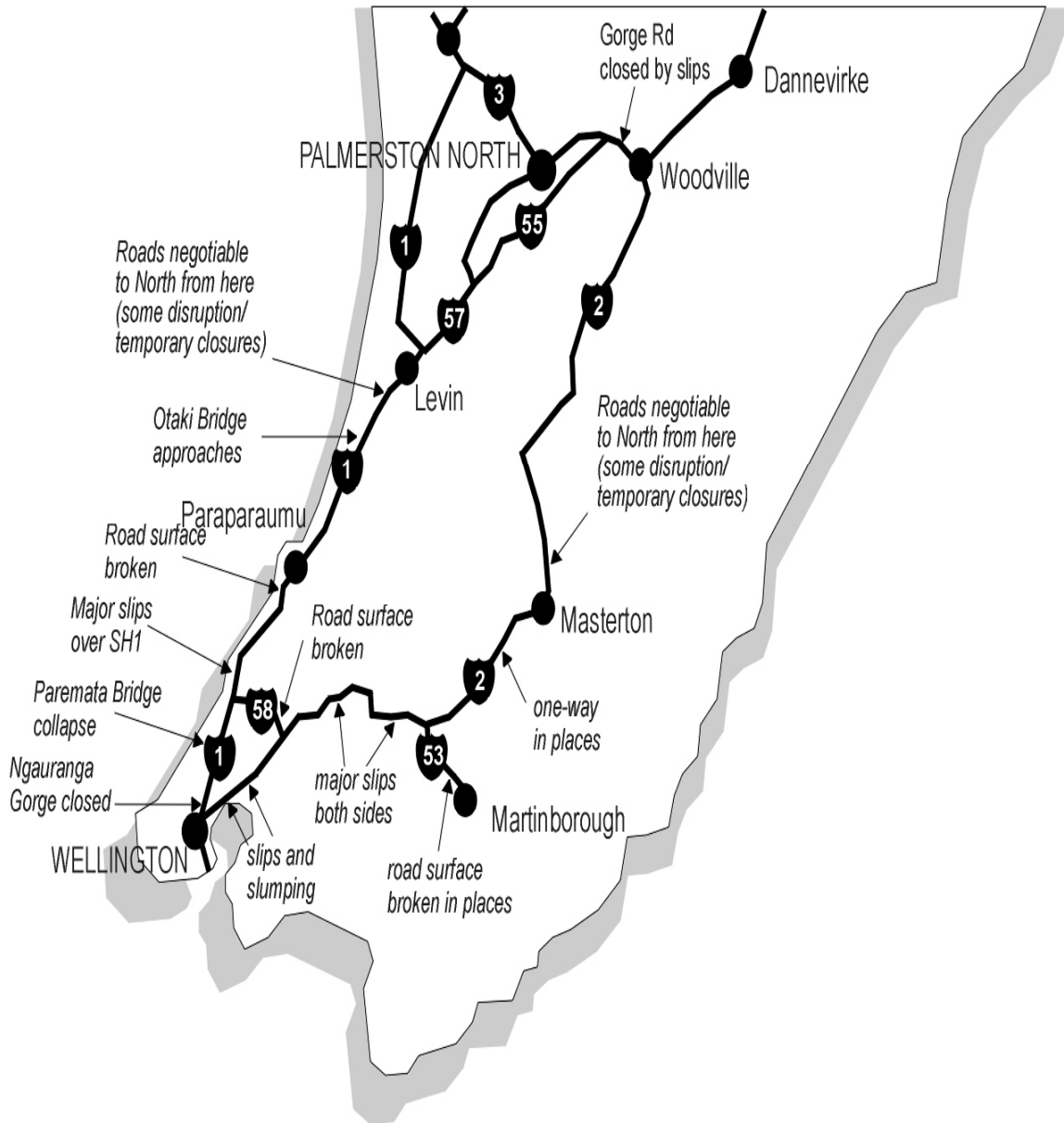
8.25 General

It appears that increasing numbers of the public are losing confidence in their respective authorities ability to handle the situation effectively with the obvious under capacity of search and rescue efforts to effectively locate entrapped people, an under capacity of fire appliances, a lack of water, food and shelter, and the escalating sewage situation.

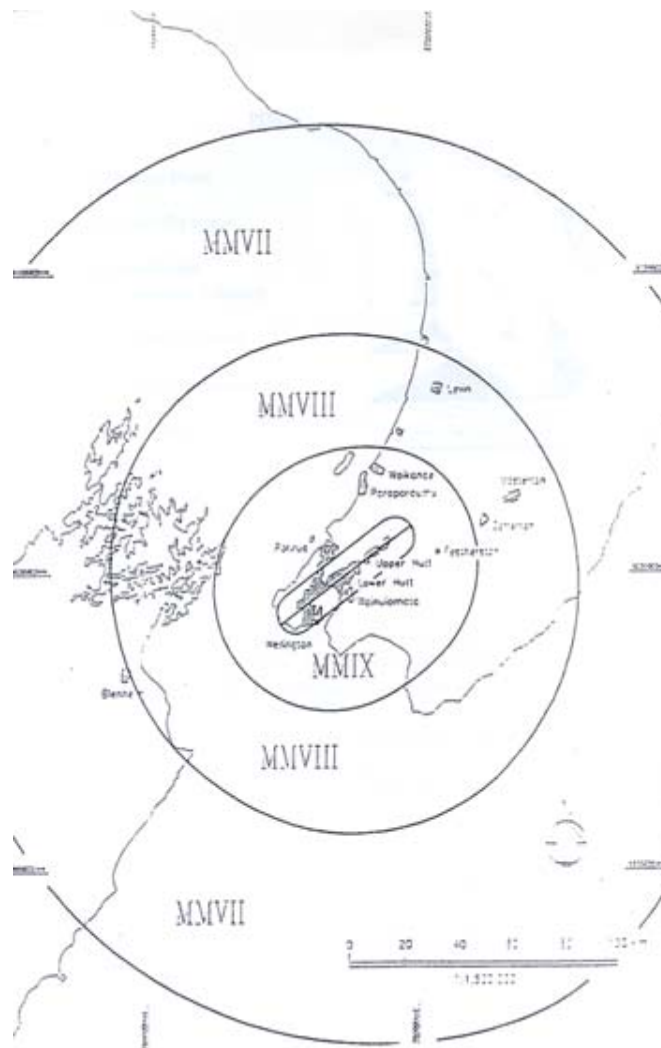
The affected, frustrated, frightened and worried people are demanding information and action at council buildings. Police need to attend because of disorderly behaviour.

Communities are putting pressure on politicians (local, regional and central government) to speed up response and recovery efforts while politicians counter it by re-directing the pressure onto tired and weary officials.

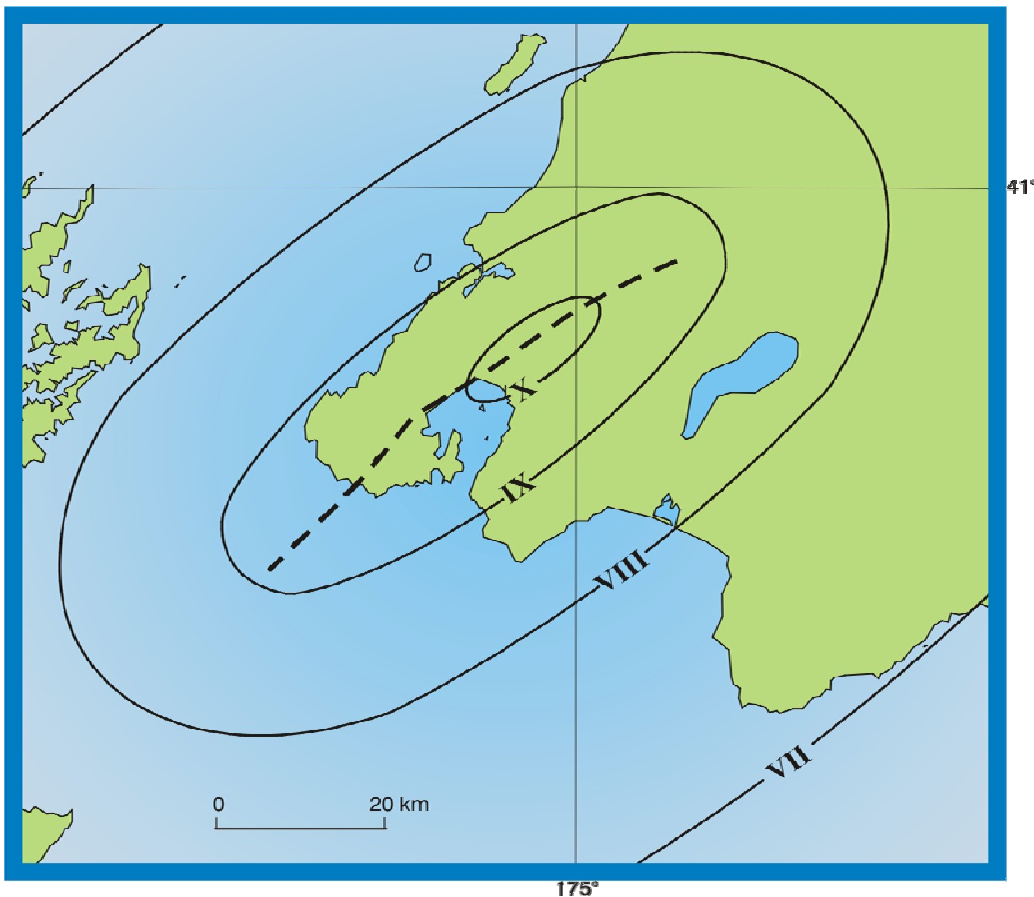
Exercise Phoenix Road State Summary



Expected extent of severe ground shaking



Modified Mercalli Isoseismals for a Wellington fault scenario of magnitude 7.6



Explanation of Mercalli Intensity

- I. People do not feel any Earth movement.
- II. A few people might notice movement if they are at rest and/or on the upper floors of tall buildings.
- III. Many people indoors feel movement. Hanging objects swing back and forth. People outdoors might not realize that an earthquake is occurring.
- IV. Most people indoors feel movement. Hanging objects swing. Dishes, windows, and doors rattle. The earthquake feels like a heavy truck hitting the walls. A few people outdoors may feel movement. Parked cars rock.
- V. Almost everyone feels movement. Sleeping people are awakened. Doors swing open or close. Dishes are broken. Pictures on the wall move. Small objects move or are turned over. Trees might shake. Liquids might spill out of open containers.
- VI. Everyone feels movement. People have trouble walking. Objects fall from shelves. Pictures fall off walls. Furniture moves. Plaster in walls might crack. Trees and bushes shake. Damage is slight in poorly built buildings. No structural damage.

- VII. People have difficulty standing. Drivers feel their cars shaking. Some furniture breaks. Loose bricks fall from buildings. Damage is slight to moderate in well-built buildings; considerable in poorly built buildings.
- VIII. Drivers have trouble steering. Houses that are not bolted down might shift on their foundations. Tall structures such as towers and chimneys might twist and fall. Well-built buildings suffer slight damage. Poorly built structures suffer severe damage. Tree branches break. Hillsides might crack if the ground is wet. Water levels in wells might change.
- IX. Well-built buildings suffer considerable damage. Houses that are not bolted down move off their foundations. Some underground pipes are broken. The ground cracks. Reservoirs suffer serious damage.
- X. Most buildings and their foundations are destroyed. Some bridges are destroyed. Dams are seriously damaged. Large landslides occur. Water is thrown on the banks of canals, rivers, lakes. The ground cracks in large areas. Railroad tracks are bent slightly.
- XI. Most buildings collapse. Some bridges are destroyed. Large cracks appear in the ground. Underground pipelines are destroyed. Railroad tracks are badly bent.
- XII. Almost everything is destroyed. Objects are thrown into the air. The ground moves in waves or ripples. Large amounts of rock may move.

9. Exercise activities

- The Wellington CDEM Group Emergency Operations Centre was activated at 06:00 on 12 November 2008 and closed down at 18:00 on 13 November 2008.
- The Co-ordinated Incident Management System (CIMS) and the Response Management Database System (Information Management system) were put into operation.
- Radio and satellite communications were established with participating agencies (territorial authorities, Emergency Services, district health boards, etc.)
- Information received from participating agencies was processed and analysed.
- Assessments of damage and needs were carried out (urban search and rescue, treatment and movement of the injured, welfare, medical/health, sanitation, and the restoration of lifelines services).
- Group Controllers activated their emergency management teams (EMTs) to prioritise the critical needs and to make the necessary decisions to save lives and to protect property.

- Situation reports were prepared and distributed to all participating agencies.
- Action plans were prepared
- Media releases were made and media interviews were held.
- A Recovery Workshop was held on 17 November and was attended by various recovery agencies

Greater Wellington also exercised its Business Continuity Response Plan by addressing the following questions:

1. What is the personal plan for each member of the Business Continuity Management Team?
 - Family/home?
 - Activation (how)?
 - Communicate (how, when)?
2. What are the Council's core activities regarding:
 - Governance
 - Corporate continuance
 - Lifeline services, e.g., water, transportation, harbours
 - Other services such as pollution control, flood protection?
3. Given that The Regional Council Centre at 142-146 Wakefield Street, Wellington, is unlikely to be useable for several days – maybe weeks, if at all – how will the Council continue to function?
 - What arrangements are in place for safety inspections and shutdown of council buildings (when required), services and equipment?
 - What essential items / records would staff need from the building to continue their work?
 - How would essential items / records be salvaged from the building if it is unusable?
 - What alternate arrangements are in place for the Council to operate from?
4. Assuming that the Council will need to relocate,
 - Where will the Council relocate to?

- How will the relocation be managed?
 - What legal, administrative and logistical issues will have to be addressed?
 - What staff will be needed at work?
 - What are the arrangements for communicating with staff?
 - What are the arrangements for the transportation of required staff?
 - What are the arrangements for obtaining fuel for the continuation of council activities?
 - What are the arrangements for equipment, material and record keeping?
 - How will staff record their work?
 - What roles will staff undertake to both support existing and new clients / customers
 - What can staff work with if they cannot salvage equipment / items / records from their offices
 - How will staff be remunerated?
 - What are the arrangements for working staff/family welfare?
5. What happens with key paid staff not required to work, who can't get to work or who are in need of help?
- how will they be contacted?
 - how will you keep track of staff and their safety during the extended emergency period?
 - how will you get information from staff about work and home support needs?
6. Where do the Councillors fit in? What is expected of them?
7. What arrangements are in place regarding the Council's contractors?
- Are the contractors exclusively available to the Council after an earthquake?
 - Have the contractors got a realistic plan and do they have available the resources they need to provide the required services after an earthquake?
8. What arrangements are in place for financial control and funding streams?

9. How will the Council manage its information to clients / customers about providing critical services?
10. What arrangements are in place for managing extra capacity to meet extraordinary demands?

10. Umpire/participant feedback

10.1 Umpire 1 – Brian Toomey

Good morning Jane,

Just a brief note to congratulate you on a very well prepared and well managed exercise. It was a pleasure to umpire such an event.

From my viewpoint your EMO team under Rian did a wonderful job in preparing and training the team.

The Staff in the HQ were knowledgeable and worked very hard. Commitment was at the order of the day and showed that a number of your staff are passionate about their role - this was particularly pleasing to see.

There are always lessons learnt during an exercise but both Marshall and I were very impressed with the standards now reached from the Controllers down. People knew their job and the management of the operation was expertly handled.

Your team have come a long way in the last ten years and it is a pleasure to see a major exercise so well prepared and the event so well managed. (As good as I have seen in 50 years). Credit is due to you and your EMO team. As you well may know these exercises are critical to maintain and improve standards but they take a lot of time and energy to prepare and it takes very knowledgeable people to set the exercise in place with such a high degree of accuracy.

However I can't let the opportunity go without commenting that it would give me great assurance if your team was to have a dedicated HQ operating from within a new GWRC building! I dream of that happening in the future and I know you are always trying to achieve on this front.

I believe that your organisation is now at the stage where GWRC would acquit itself very well in a real event which of course is the main outcome sought from the exercise.

Again my congratulations to you and Rian on a major task well done. If I can be of assistance in the future do not hesitate to contact me. My best wishes to all.

Brian Toomey, Umpire.

10.2 Umpire 2 – Marshall Hyland

General impressions

- Exercise was comprehensively and inclusively written.
- It is a continuation of a series based on the Wellington “Central NZ” earthquake.
- GEOC connected with NCMC and local EOCs but, as this was a Tier 3 Exercise, the other EOCs were not activated.
- Liaison staff from Fire Service, Police and regional Public Health and MCDEM attended but not from district health boards.
- Regional Welfare Advisory Group operated over the two days and the National Transport Cluster operated on day two.
- GEOC staffed by regional council volunteers.
- All participants took part fully and enthusiastically and all would have learnt a lot during the exercise.
- GIS was used for recording and after prompting by umpires, efforts were made to project status / action maps onto the projector screen, but this needs further development.
- The operations room was well laid out but became cluttered with people and this was not conducive to a heads-up focus, as staff tended to keep within familiar zones of their information pools related to their desk function.
- Passage through the communications room must be discouraged and the comms room would become unbearably noisy with four operators and many radios, although the main radios had headphones capability.
- Resources in the operations room were adequate but the many wall mounted whiteboards need reorganising for timeframes and actions focus, referred to later.
- A very worthwhile exercise that would be improved with greater involvement by national and local authorities.
- It is of concern that the continuing exercise event of the Wellington Earthquake

will render the GEOC building unusable. A robust alternate GEOC capacity should be developed recognising a need for proximity in Wellington City.

10.3 Feedback from CDEM Group Lifelines Co-ordinators - David

Brunsdon and Sandra Pedersen

Please find below our comments on the achievements and shortcomings of both the lifelines function and the GEOC during Exercise Phoenix.

The lifelines overall role clarity improved e.g. Lifeline Utility Co-ordination (LUC) established a strategy for access routes within region - while others implemented it.

NCCM /TRT established a strategy to get resources to the region and how to make it happen.

Learnings

- Clearer view of level of pre-event detailed information and arrangements required to make emergency water operations work
- Identified that desalination plants are the principal medium term option for Wellington City
- McAlister Park reservoir would be the current emergency water solution for Wellington Hospital
- Alternate SH1 route behind Wellington CBD was identified
- Good indications of fuel contingency plan elements (local requirements and national level of responsibility)

Achievements of LUC

- Allocated roles within LUC team worked effectively e.g. production/process focus vs issue/problem solving
- Liaison personnel (NZTA, GWW) played valuable role e.g. sending these representatives physically to WEMO was effective in developing solutions
- GEOC LUC sitrep template seemed to work well

Shortcomings of LUC

- Didn't connect effectively with P & I (sitrep co-ordination; use of GIS)
- We were not able to assimilate NCCM sitreps
- Did not manage effective QA on our own reports due to timelines
- Couldn't keep up, even with limited no of participants
- One PC not adequate on lifelines desk, and the need to have good typing skills
- Lifelines staff did not have confidence in RMD,

- Whiteboard display not optimal (inadequate whiteboard area; appropriate scale maps)

Issues in the LUC

- Group sitreps were not cohesive; did not add value
- Action plan forms useful but resulting formal GEOC AP did not seem to add value
- Not enough use of information /templates already established e.g. logistics - supplies needed / emergency water - duration of reservoir supplies
- Having lifelines info in two different areas/whiteboards by two different groups was not effective use of resources, and lead to outdated or incorrect information being displayed. (duplication)
- Implications of TA's participating fully
- Information overload on all desks
- Specific issues to be worked on e.g. collation of requests for external assistance/resources, allocation of external resources, issues that require TA taking a common approach
- RMD proved to be a 'handbrake' for both incoming and outgoing messages

10.4 New Zealand Transport Authorities - Richard Mowlls

- The NZTA liaison person at CDEM works well. NZTA would be keen to continue with this arrangement.
- Serious concerns over the understanding of recovery issues generally, and the lack of clear plans for this aspect (from NZTA's side and for coordination with others).
- NZTA put some work into understanding better the stability and likely “outage” time of the Coast Road between Paekakariki and Pukerua Bay.

10.5 Feedback from external participants (formal debrief - 10 December 2008)

10.5.1 MCDEM

- Master Schedule – injects needed times and more detail.
- Exercise Control – needed to be a sit in for TA’s that weren’t playing.
- Whiteboards needed to be filled in prior to day 3. Not enough info for people to work from.
- Need a bigger exercise control team

- GEOC struggled with logistics
- Encourage 'no daily comms' in future exercises
- Suggest having categories for participants e.g. playing full, half, partial, not.

10.5.2 Fire

- Management of the exercises has come a long way in the last two years. Good job.
- Would like to take part in a re-run of the same scenario next year.
- Think TA's shouldn't be able to opt out of exercises.
- Access will be a huge issue. The fire service is useless without access.
- Need ongoing training on the Response Management Database for external parties.
- Can the RMD database be used from outside the GEOC?
- GEOC very noisy. Possible installation of acoustic absorption materials
- GEOC very hot!!
- Very well worth it exercise with lots of valuable outcomes.
- Satellite phone problems. Mainly because of experience and coverage.

10.5.3 Victim Support

- Frustrating on day one with no injects.
- Not enough main players to make decisions.
- Really needed the TA's input.
- RWAG room had no whiteboards, maps, facilities etc.

10.5.4 Lifelines

- Some confusion about lifelines roles.
- Desalination plants will be in demand.
- Fuel distribution will be very difficult.
- The utilities that played were effective and helpful.
- Overload of information at the Lifelines desk. Even with only half the players, more desk staff will be required.

10.5.5 Transpower

- Satellite phone use was a problem (need aerials on the roof).
- Getting staff (contractors etc) into effected locations will be difficult.
- Contractors' vehicles have been held at road blocks in past events when they should have access. Vehicles must be branded or cards given to Contractors or companies that may be required.

- The transportation of equipment (poles, lines, concrete) will be difficult.

10.5.6 Kapiti EMO

Radio Communications worked very well.

- Sit Reps need work (Short sharp statements of fact)
- Controllers need to communicate regularly.
- Should the RWAG be convened? Suggest having only the chair in the GEOC.

10.5.7 Te Puni Kokiri

- RWAG lacked information to work from.
- Unsure of the collective role as the RWAG.
- Better organisation on second day with specific actions to work on.
- Sit Reps don't include who is doing what?
- Is it an RWAG or a resource group??
- BCP and contacts came in handy.

10.5.8 Regional Public Health

- Very helpful exercise
- Inject format worked Well
- Staffing the RWAG may not work
- Some questions asked of them should have been directed to district health boards
- Comms – New to the equipment. Need training on procedures etc
- Information from the operational front to the GEOC didn't move as fast as needed. May need reps on the ground to relay information.
- Prefer October for future exercises.

10.5.9 Hutt City EMO

- Played fully on first day.
- IPSTAR test worked well.
- August is a good window of opportunity for exercises.
- Day 1 with limited comms actually worked better than day 2 with all comms. Emails, phones etc caused confusion.

10.5.10 District health boards

- Appreciated and learnt from the exercise.
- New comms were tested.

- Web EOC tested.
- Operational ward tested (live practice).
- Operated from secondary EOC and realised it was too small.
- Not enough staff to send to the RWAG.
- Want IPSTAR on budget for next year.
- Workshops for food and water procurement and distribution are needed.

10.5.11 BP Petroleum

- Challenged BCP.
- No capability in the region for the first few days.
- Engineers to certify equipment, drivers etc will be hard to find.
- Communications is an issue.

10.5.12 Department of Prime Minister and Cabinet - Pat Helm

- Testing needed as opposed to assumptions
- Test all supply chains
- Pat Helm (DPMC) has been working with others to determine the government's response.

11. Recovery management

A recovery workshop was held on 17 November representing Day 10 of recovery. Several agencies attended this workshop, including territorial authorities, Emergency Services, district health boards, lifelines organisations, welfare agencies, the Department of the Prime Minister and Cabinet, transport agencies, etc.

The following were addressed during the workshop:

- Group Recovery structure (*section 2.2 of Group Recovery Plan*)
- Engagement during response (*section 3 of Group Recovery Plan*). This section includes the recovery management team, the setting up of the recovery office, the tools that will be used (finance, RMD, GIS etc) the communication with local recovery managers.
- Key recovery activities / issues of participating agencies during Day 3 and Day 4.
- Temporary shelter
- Fast moving consumer goods
- Psychosocial (community well-being)
- Psychological (individual well-being)

- Benefits
- Mayoral relief funds
- GP/Medical Centre
- Hospitals (public and private)
- Disease Assessments
- Environmental health
- Health Needs assessments
- Lifeline Utilities – roading, water, sewage, fuel
- Residential housing - cleanup, repair, reconstruction, demolition
- Commercial/industrial property - cleanup, repair, reconstruction, demolition
- Debris disposal
- Solid waste management
- River, water, air pollution
- Insurance payments
- Economic impact

The Group recovery managers engaged the Group Controller and GEOC based response agencies during Days 3 and 4. This allowed them to develop some early recovery priorities, objectives and transitional activities.

The exercise highlighted some of the constraints of recovery planning during the early stages of response. Many of those organisations with the responsibility, knowledge, skills and resources for recovery activities were already fully committed to the urgency of response, therefore limiting the focus on the longer term recovery issues.

The limited experience of exercising recovery highlighted the need for more engagement and understanding of the key issues to be tackled and the transitional arrangements.

The absence of some key organisations during Day 3 and 4 and also for the Day 10 workshop limited the extent of discussion and planning around some of the critical issues to be faced during recovery.

Those organisations that did attend the workshop acknowledged the need for the exercise to have a component specifically for recovery and recommended that it should be included in all future exercises.

Participants in the workshop determined that although priorities were established during day 3 and 4, Day 10 was still very much response mode. This did provide a further challenge to focus on recovery activities given the ongoing concerns with response issues, such as access around the cities and districts, ongoing water supply and power outage.

The ongoing management, coordination and prioritisation of critical resources to restore key services following a Wellington fault event may require powers under the CDEM Act which Recovery Managers do not have. This prompted discussion on the powers of a Recovery Co-ordinator, appointed by the Minister of CDEM (section 29 (1) of the CDEM Act 2002) and under the direction of the Director of CDEM (section 30 (2) of the CDEM Act 2002).

Given the anticipated damage of this earthquake through liquefaction, slips, inundation and fire, the need for temporary shelter is a major issue. Discussion focused on the options available, the risks involved and the demand this will place on responsible agencies.

The rebuild of cities and districts requires priority and policy setting from Central and Local Government with specific objectives for local and regional regeneration. This would eliminate the problem of territorial authorities working alone and rebuilding in ways that were contrary to the ideal. It may also address the prioritised allocation of rebuilding materials, staff and equipment that will be in high demand for months, if not years.

It was acknowledged that the Group Recovery Plan does identify that this event requires heavy Central Government involvement which should be addressed under a National Contingency Plan.

The link / transition between response and recovery require further discussion and clarification with the results being incorporated into the CDEM Group Recovery Plan. This includes the handover from the Group Controller to the Group Recovery Manager.

During the recovery phase the Recovery Manager will need a direct link to the Chief Executives. This was not broached during the exercise but will need some work either in specific recovery workshops or future exercises.

The location of the Recovery office will be a major problem during a real event. Arrangements need to be made for an alternate location to be available specifically for recovery managers and that also allows access to the main Emergency Operations Centre. The current arrangements are unsatisfactory while the emergency is in the response phase.

12. Summary of feedback, key issues and recommendations

12.1 Exercise design, play and control

Positive

- These exercises are getting better and better organised and the GEOC is now incredibly well set up with an excellent volunteer training programme in place. Full credit to the GWRC CDEM team on organising a great exercise!
- Having done this for the first time I thought the exercise was a very worthwhile learning experience and definitely served to put some of the training into practice.

- Despite not being completely involved, it was observed that the exercise aim to "test the Wellington CDEM Group's" arrangements for responding to a major disaster (Level 3) resulting from a movement of the Wellington Fault" appeared to be have been met albeit within limitations e.g. TA commitment as well as from agencies and the emergency services.
- Each objective appeared to have been met and judging by the background noise of the 'hive of activity' in the GEOC that came through the radio mikes, people got a lot from the exercise. The lessons are many!!
- Really well-planned scenario.
- Great instructions leading into the event.
- It did not feel as stressed out as the last Phoenix, and there did not seem to be as many incoming emails.
- The exercise seemed more "real" than previous ones. Good general organisation.
- I thoroughly enjoyed participating in the exercise. I felt we made a much better stab at it this year than the previous Phoenix.
- Best exercise so far.
- Enjoyable and great learning experience.
- Good exercise pace. Not swamped with injects which enabled us to work through the issues.
- Positive about the learning we get from exercises.
- The GEOC team created a sense of realism with the scenario and their actions and behaviour generated a feeling of trust both them in us and us in them
- Took a long time to get going due to little comms, but the positive was we could get well organised rather than being caught up in the usual info overload.
- The pleasing thing was info flowed and folk could see some results from their actions

Issues arising

- P&I board- did not include the relevant info on start of day 3- useful for all but I guess it made it more real for us on the day.
- Desks used different info on the start of day 3. We used the current data from the RMD whereas other used the previous SitRep. Needed to use both info, which we eventually did after a catch up period.
- At the Welfare desk we needed hard relevant data. Lack of information on Welfare desk.
- Lack of lifeline utility participation in the exercise.

- TA participation (unrealistic/limiting).
- Information not accurate enough to use.
- Need TA's playing without it disable key tasks such as planning without key intelligence.
- No details from TA's.
- Timeframes – compressed and added huge pressure on deadlines.
- Lack of information / detail from the TA's restricted progress and was frustrating
- For myself (Controller) I think 4 hrs in hot seat was not enough.
- I realise that the TAs weren't really playing, but in the GEOC I didn't feel that there was an understanding of what was actually going on out there. We didn't really get a handle on the issues for each TA.

12.2 GEOC tools and equipment - Geographical Information System (GIS)

Positive

- The GIS was a vast improvement on last time. The provision of a basic template to use on the day, rather than trying to organise it on the day helped get started.
- It was good have a decent sized monitor to run the GIS and a dedicated GIS computer.

Issues

- The GIS equipment wasn't really organised on the first day and approximately two hours were spent getting the equipment up and running.
- We could use this so much better. We need a PC specifically for loading up GIS jpegs and they can flash up in a slide show on the projector. Would allow a 'world view' so much quicker and easy to see what is going on.
- GIS took too long to get up and running.

Recommendations / Suggestions

- There needs to be a display for the GIS, one way to do this would be to have a two monitor setup, or something like it (I believe there is software that can do this with one monitor), and to have one display dedicated to the GIS work and the other hooked up to the data projector displaying maps.
- The GIS still has a bit of work to go. The template is a good start. We need to add to this, and to put in some layer templates. We could have templates

for each of the six critical needs and tables with vital information in them that can be displayed in a mouse click, rather than having to enter it all in on the day. There will always be some critical sites, and these can all be entered in before hand. This would free up the GIS person to produce more customised maps for the each of the tables.

- Have the GIS displayed on the screen all the time. Might require another computer? – as GIS person has to continue inputting data. All the standard features of interest, such as public water supply tanks should already be loaded but aren't.

12.3 GEOC tools and equipment - Response Management Database (RMD)

Positive

- RMD worked well.
- The information appeared to pass through the electronic system well.
- The passing of information through the electronic system.

Issues

- RMD database got easier with practice, which is another illustration of the value of the exercise. However, there are some areas of its use which aren't that intuitive and do respond to practice.
- Familiarity with RMD continues to be a bit of a problem. The need to print so much and get it suggests a printer on each desk would be helpful.
- Logging out messages with RMD was problematic.
- RMD system - not able to print off the whole message box so have to print off the event summary log , specific pages as well.
- RMD is a powerful tool but only 5% used.
- RMD limitations – multi desk messages, printing, differentiating urgent and priority messages.

Recommendations / Suggestions

- New system for logging outgoing messages (the RMD 'refer to hardcopy' message is pretty poor for actually tracking messages. Might as well just have a log of ALL hardcopies of outgoing messages which essentially does the same thing).
- Highlight "priority" logs with a different colour so easy to pick up.
- Use key words for subject line.

- Limit the redirecting to messages electronically to just Ops Manager.

12.4 GEOC tools and equipment - General

Issues

- Arriving at 7.50am, **again** I found that I had no way of getting into the GWRC building to start my shift.
- Satellite phone confusion with using and reception. Satellite phone had no dial tone and contact numbers were out of date. The sat phones on the 1st morning didn't work.
- One more radio on regional network.
- Noise and disturbance in the communications room. Communications room cluttered and noisy.
- Templates were hard to use.
- GEOC capacity. Operations room became full of people.
- RWAG had no communications with their agencies.
- Only one computer in the PIM room was linked to a printer.
- The outward comms procedure / logging didn't work.
- The outward message form should be redesigned for its purpose and procedure.
- Our desk logging system didn't work that well. Manual logging of actions not done and tracking of actions should have been logged to assist with next shift. Suggest word document to capture this or at least a paper copy as a minimal, as per the training instructions- discipline!
- SitRep template - formatting problem with cut and paste, editing etc.
- P& I board not set up to match the info e.g. most issues within WTN area so need the box's on board to be bigger. Did not have time to change this.
- Comms with MCDEM was a mess. It took all morning (day 3) to get contact with them. That really isn't good enough. The sat phone instructions are not clear, and people were not aware of the extra '0'.
- Too much paper (get RMD reviewed)
- System and processes between communications room and GEOC needs to be developed

Recommendations/Suggestions

- Perhaps we need to issue non-GWRC staff volunteers with access cards that can be activated in times of emergency, or something? –They might also need some kind of identification to prove to authorities that they are a GEOC volunteer.
- On the P&I table we need 4 computers: 1 dedicated for the GIS, 1 for the RMD monitoring, 1 for the SitRep, and 1 for the IAP and internet (if up and running) and anything else that needs researching or writing up
- Enough jerkins for all staff.
- Fans in the communications room
- A better ‘in’ and ‘out’ message system for communications room to GEOC
- Laptop and radio for each communications room operator
- 4th Radio where marine radio sits and Channels 10 & 13 maritime for monitoring
- Relocate the satellite phone to a location so that if the Group Controller wants to use it to make calls to TAs, then the radio operator at the nearby workstation doesn’t get distracted and/or have to give up their space.
- P&I board should have a summary / SitRep section with priority issues - was modified on the day
- A few small improvements could be made to the task form (maybe include a box to be filled in by hand explaining who was getting the message and why and nay instructions)
- Change the procedures so that Ops desk passes the hard copies to other desks when there are multiple receivers of messages
- Have another printer or 2 available in the GEOC
- We should develop some kind of protocol with the TAs and other agencies that have satellite phones (such as ONTRACK, power supply, etc) that instructs them to instruct a team member to take their phone outside and turn it on so that we can communicate with them. When trying to establish contact via satellite phone, I could only get hold of HCC.
- In addition, we should see if all of our key lifeline stakeholders can get a radio as we had real issues contacting the like of ONTRACK who only had a satellite phone, that wasn’t turned on.
- Easy to use templates
- Add SitRep and IAP folder / info to all manuals

- 2 computers on logistics
- Another laptop for lifelines
- Request, supply allocation on logistics boards
- Continual radio checks / roll call
- Add regional checklist to logistics for future exercises
- Need bigger whiteboard for lifelines

12.5 Desk functions - planning and intelligence

Positive

- Good having so many people and computers on P&I (Day 3).
- Better organised in having a P&I current situation board. Clearer tasks that needed doing.

Issues

- We were a bit understaffed on the P&I desk on Day 4. We really needed an extra body and we needed people who were trained in the P&I role. We did recruit in a couple of extras, but the manager (me) on day to end up writing both the IAP and the SitRep – which was no good because I couldn't concentrate on liaising with the other managers or respond properly to their enquiries.
- SitReps from Lifelines out of date and still repeating old information.
- The contents of the GEOC SitReps need to be broader > -> too much small detail and again repetitive
- It was not clear if the HMS Canterbury could/would stop at 2 places i.e. Evans Bay and anchor near Somes Island. Need to sort out these possibilities beforehand. Could also work out sea access to Porirua. To what useful extent could the Canterbury be used as a self-sufficient floating hospital? (as well as carting supplies?)
- P+I questions need to be detailed and specific. 'We need water trucks' is not good enough – it should be 'We need x2 water trucks that can carry 20,000L each to WEMO, x1 water truck to KCDC' etc.
- I found the only real access from the position on the desk was to the overall position (big picture) was through reading (fairly long) situation reports, which inevitably are not up-to –the minute by the time they have been circulated.

- Not managing time to allow for forward planning or developing strategies or preparing the SitRep
- Did not work initially, spent all my time writing on the white board. Afternoon session worked better and became productive on the specific areas after we split the roles as per Day 2 of this exercise in Masterton.
- Roles did not reflect the objectives of the desk and no actions / proactive tasks were being done- bogged down on admin- need another person for that task alone.
- Cross over of roles between desks and getting priorities assigned- full briefing after every IMT meeting from the Controller, so we all get the same message, E.g. request for water supply, P&I request it from logistics and then have to check for location details and provide info on water containers etc..... Need a document on "How To" provide water (who owns this logistics, P&I or Lifelines?), what is required, the practicality, capabilities and resources. Should not have to make it up as we go along, takes up to much time. Another example is when the Welfare Centres were set up, no consideration was given for access for water or even knowing the addresses. Co-ordination of any welfare centre should be done with discussion with each desk.
- SitReps numbers and dates were not consistent. Some desks did not receive SitReps and IAPs – GEOC Manager role
- Collation of information was difficult (SitReps and IAPS). Struggled with producing SitReps and IAPs to acceptable standards
- Briefing on the role of P&I (training). IAP content did not reflect the sheet used for IMT
- P&I could not see the overall picture
- Under staffed P&I (Day 4)

Recommendations / Suggestions

- There is also a need for some to work on the whiteboards and wall maps. This person could then work in with the SitRep writing as well, which really needs a couple of people reading through all the material that comes in. Whiteboards should reflect situation report and be cleaned. A stronger tie with P&I and whiteboard use
- Thus, I think the optimum number of people is 6. One at each of the computer stations, one on the whiteboards and a manager to oversee the operations and to liaise with the other managers and attend meetings etc... One of these people could be appointed to a deputy manager when the manager is in meetings.
- The minimum would be 5 people, one at each of these stations and a

manger. That would then leave the IAP writer to work on the blackboards as well – which wouldn't be a bad thing. 4 is too few and the job becomes unmanageable.

- Detail of supply by sea should be worked out: in circumstances with/without use of wharves; with/without power to harbour unloading gear; possible gear accumulation areas near to unloading sites; how far up the Hutt River can various vessels/barges go on a high tide; what gear is possible on a beach to off-load various vessel types.
- Would Marlborough District also have a state of emergency in a Wellington earthquake? Would the fleet of barges and tugs be available to Wellington if MDC also had trouble? What are the procedures for loading barges at Picton if all the wharves were out of action?
- The detail of how to do stuff could have been worked out already. For example, water from council tanks will be required in many types of emergencies, and practical things like how you get into them, how to extract water without power, what kind of tankers can be cleaned out to carry water (assuming normal water tankers are all in use) could all be sorted out before an emergency. The same goes for supply by sea – details may vary on the event, but the fact that only a very few ships are capable of unloading themselves, and only a few do not need a wharf to unload, could all be worked out beforehand.
- Needed one person on P&I desk to manage the RMD and keep the SitRep up to date. Desk manager can then focus on forward planning and tracking priority issue / interfaces with other areas. More admin support for each desk?
- Data on water resources / locations needs to be documented. Similarly for wastewater as well.
- Suggest splitting planning and intelligence
- Typist for P&I desk
- 6 people on P&I

12.6 Desk functions - operations

Issues

- It was plainly apparent that the information sent in was not circulated for example the Lifelines Agency and CD Welfare organisation kept asking for details that had been sent already in SitReps and memos to the GEOC.
- Neither were requests acted upon for example our Local Controller is still waiting for the Group Controller to reply to requests.
- Sometimes task appeared to be randomly allocated throughout the

exercise.

- Need to be able to prioritise messages and make them visible
- Information going to the wrong desk

12.7 Desk functions - welfare

Positive

- Well staffed welfare desk (could function in 2 maybe)

Issues

- The role and use of the RWAG still maybe not right. Does it have a role? This is a nagging question. Maybe an exercise primarily for welfare may expose the right answer
- The RWAG didn't seem to be functioning again.
- Stronger tie needed between RWAG and welfare desk.
- RWAG no communications, confusion about role and responsibilities, need stronger link to welfare desk and GEOC, felt isolated

12.8 Desk functions - logistics

Issues

- I came away with the feeling that the activities of other teams ours (Logistics) interacted with wasn't as closely co-ordinated as I had expected or thought was necessary. This was partly because there seemed to be some confusion (or in some cases simple lack of knowledge) about the remit of each team, and there were a couple of occasions where it was clear that people were working on the same thing in different areas. Of course that's the value of the exercise, to find these things out, and there's no doubt that the situation was improving (particularly during the second day). Some of it is no doubt me not having paid sufficient attention during the training, but I think some of it is the consequence of communication between team managers not always taking place.
- Better understanding of who carries out what tasks, especially regarding logistics (ie, does logistics do all procurement or is that something that they delegate to other teams when only a small number of items are required).
- Confusion over responsibilities (logistics) which meant a loss in time to get things moving
- Need a better understanding of how the whole logistical process should work, with clearly defined roles and responsibilities and ability to track information

- Struggled with roles and connections between logistics, lifelines and NCMC
- Confusion in National versus Regional resources

Recommendations / Suggestions

- Workshop on logistics role

12.9 Desk functions - liaison agencies

Positive

- NZTA liaison at lifelines desk was great.
- Fire and Police liaison were a great help and key members of controller's team.
- Found the fire and police very constructive and tolerant.

Recommendations / Suggestions

- Instructions to partner organisations as to how to write concise comms messages. For example, Regional Public Health were writing out near essays that comms staff were then forced to try and paraphrase
- Harbourmaster and Centreport need to be included earlier
- I'd like to know how Police & Fire run an incident. Do they assume both the incident action plan and the SitRep have been read by the whole team? Do they come to the meeting with just their critical issues or is it Planning and Intel's job to summarise that at the meeting (an impossible task) how do they focus on the essentials and get the team to contribute to the decisions...most not all.

12.10 Desk functions - lifelines

Issues

- The lifelines table worked quite well though there is a little of the two outsiders doing their own thing as they have built up a strong relationship over the years. Dave was very good though at making sure we were all included. It helped to have a finite task like concentrating on updating the white board.
- Communications between Lifelines and the Planning and Intel stations could be improved - may be a more formal protocol - mainly comms occurred informally which can of course work except that head of P & I was a bit out of his depth on day 3.
- Lifeline connection to planning and intelligence unclear and did not function

- Rep from NZTA worked well and also able to go to WEMO to establish an alternate route through Wellington
- Lifelines did not connect well with P&I but did with logistics

Recommendations/Suggestions

- Need more water supply people as volunteers
- NZTA liaison for lifelines desk

12.11 Desk functions - Incident Management Team (IMT)

Issues

- I think consideration should be given for making senior positions of significant responsibility, such as group controller, positions that are earned, rather than automatically allocated to certain GWRC staff because they might be a Divisional Manager. -In my opinion, we should want the best, most highly trained and experienced people running the operation in emergencies, and often these people will be staff, rather than management.
- I thought that the meetings between team managers were too lengthy and that as a result the team activity was undirected and left to its own devices during the periods they were away (with the potential to stray). From one of them there was no real feedback to the team either.
- Specific direction and action plan not clear and decisive.
- Not aware of their specific roles and how to manage their teams to get the best out of them or change things when it is not going right.
- Not carrying out effective briefings
- Limited leadership skills for this exercise
- Managers not taking the role to the necessary level of the exercise i.e. the urgency of the actions
- Managers requesting that actions from other desk should be logged onto the system, rather than a paper system and then not tracking or passing actions to their teams.
- The IMT meetings need to be looked at. Perhaps developing a set agenda? The meetings are now happening which is great and issues are discussed, but there didn't seem to be the direction coming from it. Priorities were identified, but what we were going to actually do was not really clear. Certainly, GEOC staff was not informed of specific tasks as well as I would have liked.
- Too many people at IMT meetings

- IMT process a big problem
- GEOC Manager needed to stay in the GEOC during IMT meetings
- IMT too long. IMT took managers away from the desks for too long and not sure what they were intended for

Recommendations / Suggestions

- Confidence in ourselves as a team is obviously pretty important in an emergency situation, so maybe in future you need to make sure the Controllers know what they're doing and are therefore able to give the team the confidence we need
- Managers having shorter meetings.
- Suggest a specific training package for desk managers and a selection process, not just a volunteer. This may not be a practical solution.

12.12 Human factors - training

Positive

- The table organised into tasks quite well this time – much better than capital quake. I think this is a reflection of the training that we have had over the past 12 months, which has been good.
- The EOC was pretty well organised. This too, is a reflection of the training and feedback from the training sessions over the past 12 months and its good to see the effort Chris has put into this bearing results.
- All the hard work that Chris did doing the year to prepare for this event. – Ran so much more smoothly this year
- Prior training to the exercise.
- The year's training really helped with understanding various systems used for the exercise.
- Training from previous days at Masterton was very effective and provided what our roles were.
- Most important - With the level of training, we all delivered the goods, depends on how much more training is required or resourced to step up to the next level of response?

Issues

- Having to train people up on the day is difficult, better than nothing of course, but it is time consuming and there are jobs that don't get done because of this.

- Better explained communications pathway for desks
- Still fuzzy on the exact roles of the different teams and what they do and don't do. Could be made clearer in training sessions.
- RMD – not enough practice
- People not understanding their role lead to a lack of confidence in others getting things done.

Recommendations / Suggestions

- We might also want to identify and train up more than one volunteer to take specified management positions within the GEOC, e.g. logistics, comms, welfare, lifelines manager.
- We need to keep up the training and keep learning about the RMD and the specialist roles within the P&I team. Everyone needs to have training in the various roles of operating the RMD, writing SitReps and IAPs, so that they can move around the team depending on staff levels during different shifts and to keep the roles rotating throughout an emergency to relieve people and bring a fresh perspective when others get tired.
- Lots of opportunities to practise on the database.
- Also, if people only trained for one specialised position, this would create greater confidence and knowledge, ie, say whoever does my GW job (Corporate Publisher) has it in their JD to be in a PIMs role, so if I left then the next person would fill that slot. (maybe have one backup slot for each person to allow for flexibility)
- SitRep and IAPs. Many of the people on the P&I desk weren't that clear on what they need to do with these, and what was produced wasn't always that great. More training is required in this area.
- Welfare. There were some real issues on the welfare desk, and I think that more training is required.
- It seems that the volunteers essentially know how to use the software etc. But still do not have an understanding of EM, and how they need to THINK to manage an emergency. They still rely very heavily on us to make even the smallest decisions. I think more work needs to be done on the thought processes and not just focusing on entering a message. All these messages get pushed around to each desk, but nothing seems to happen.
- More training on RMD through the manuals
- Good training on process but need more training on content. Training on content, not process.
- Cross training required
- Specific training for desk managers

- Exercise based training sessions focused on issue / solutions
- RWAG needs training on what they would do during an event
- Small training session for end of year do
- It is clear to me that the different desks needs specific skills and one on one training plus an inputter who understands the capabilities of the RMD program.

12.13 Human factors - general

Positive

- All Radio Operators need to be congratulated. Their patience was superb.
- GEOC team fantastic support for those of us that got lost from time to time.
- Good atmosphere in GEOC – balance between calmness and serious effort
- Very helpful, calm, patient assistance from Rian’s team.
- Lucky to have a lot of fairly ‘experienced’ people
- P&I desk staff from Masterton worked very well together and with the other Masterton staff on the different desk. Took proactive actions when things were not working as well as expected.
- Generally all staff worked well together and more experience would be beneficial in building the skills.
- Overall, I think that the exercise went really well. It did seem to be quite calm in the GEOC. No panic from anyone.
- Good assistance from Wairarapa team in terms of knowledge and ideas from Days 1 and 2.
- Clearer understanding of roles.

Issues

- Staff geographical knowledge somewhat amiss - unfamiliar with the Kapiti Coast District
- The shift briefings between desks didn’t seem to work that well. When I was coming back onto a shift it wasn’t always easy to know what was going on, maybe a checklist could be developed. The controller briefings were ok, but again the directions were not clear from some controllers.
- Different styles of controllers

Recommendations / Suggestions

- Perhaps we should look at other ways of encouraging more CDEM volunteers, and even consider widening the intake to people beyond GWRC staff members?
- Given that there is a 50/50 probability that GEOC volunteers might be at home when disaster strikes, I really think there might be some value in introducing volunteers to their local TA CDEM centre and staff as presumably this is where we would report to if we couldn't make it to the GEOC? –I personally live in Titahi Bay and a couple of years ago sent Hyland an email to this effect and never heard anything back.
- On the subject of direction, I felt that the overall GEOC manager role would benefit from being quite a bit more high profile, which would also help the co-ordination point mentioned above and introduce more of a feeling of overall team cohesion and common purpose. This is not a comment on the individuals who occupied the role but I thought there was an opportunity for that person to physically call everyone's attention periodically or at critical stages, and to give a brief (e.g., one minute) status or situation update and to give immediate priorities.
- Administration assistance for Controller to keep them on track with appointments, meeting agendas, circulate minutes, etc.

13. Recommendations

- All issues identified during the exercise and reported under section 12 of this report need to be addressed before the next Phoenix exercise in 2009
- Training and development of appointed, permanent and volunteer staff need to continue to ensure an effective and efficient response to an emergency event
- The capacity and capability of the CDEM Group EOC (GEOC) needs attention in the areas of building safety, communication and an electronic back up system for the Response management Database
- Exercise Phoenix VI should be based on exactly the same scenario and injects of Exercise Phoenix V to ensure that staff (appointed, permanent and volunteer) fully understand what is expected from them
- That the existing strategic relationships with emergency management stakeholders are strengthened through exercises and collective planning.