



Media backgrounder

12 November 2007

Ruaumoko

Ruaumoko is the guardian of earthquakes and volcanoes. He is the youngest child of Ranginui the sky and Papatuanuku the Earth. When his parents were separated he was buried beneath his mother, with fires placed below them to keep them warm. This is the source of Ruaumoko's fire.

Introduction

In November 2005 government approved the National Civil Defence Emergency Management (CDEM) Plan to come in to effect on 1 July 2006. At that time government directed that there be two national-level disaster preparedness exercises to test New Zealand's all-of-nation arrangements for responding to a major disaster. The first of these, Exercise Capital Quake, took place in November 2006 and tested arrangements for responding to an earthquake in Wellington.

Exercise Ruaumoko is the second of these national exercises. It is to be based on a volcanic eruption in Auckland. The exercise will be conducted in two phases over four months from November 2007 to March 2008. The initial exercise phase takes place during the period November to February, with the main exercise phase occurring in March, culminating in two days of operational activity, 13-14 March 2008. It will be conducted at local, regional and national levels.

How CDEM is organised in New Zealand

In New Zealand CDEM is organised into 16 CDEM Groups, based on regional boundaries. Each CDEM Group coordinates the planning and emergency responses of local authorities and partner agencies such as emergency services, utilities and welfare agencies within their region. The Group is the key agency in a response.

If an emergency affects a number of regions, national coordination by the Ministry of Civil Defence & Emergency Management helps link the CDEM Groups and the other agencies involved, and provides access to central government support if required. The Ministry also manages the National Crisis Management Centre (NCMC), which can be used to monitor and support regional and local responses, and as a national operations centre.

A national level response would be overseen by Cabinet's Domestic and External Security Committee (DESC), which is chaired by the Prime Minister and includes the Minister's whose responsibilities are relevant to the emergency.

Senior officials from those Ministries, a group called ODESC, advise DESC and carry out its decisions. The Department of Prime Minister and Cabinet co-ordinates ODESC.

Overall, the sector operates through national, regional and local arrangements including CDEM plans, memoranda of understanding, exercises, guidelines, meetings and daily formal and informal contact.

Exercise scenario

Exercise Ruaumoko will be played in real time from November 2007 to March 2008. There will be no compression of timelines or artificial times/dates for exercise purposes. The timeframe for the scenario is as realistic as possible, according to the latest volcanological research.

The scenario will be a volcanic eruption somewhere in the wider Auckland metropolitan area.

The exercise will commence with the identification of precursor activity in the form of seismicity in the Auckland region in November 2007. The initial phase of the exercise from November 2007 until end February 2008 will involve meetings of relevant agencies to respond to this threat. In early 2008 unusual and sustained seismicity in the Auckland region will prompt further attention. As the source of seismic activity becomes shallower, it will become clear that a volcanic eruption is imminent. This leads into the main phase of the exercise in March.

Exercise Ruaumoko focuses on the lead-in to a volcanic eruption, stopping shortly before or after the eruption itself starts.

Scientific Alert Levels (SAL)

Scientific Alert Levels for New Zealand volcanoes are based on a six-level system, with each level defining a change of status at the volcano or field. The lowest level ('dormancy') is signified by '0' and the highest ('large hazardous eruption') by '5'. GNS Science is primarily responsible for assessing the level of activity of Auckland's volcanoes and issuing Scientific Alerts via a "Science Alert Bulletin".

Early changes in seismicity (SAL 0 to 1) provide the most valuable warning of impending eruption because such changes occur over a time period in which responses can be reasonably implemented. This is the period where emergency managers have an opportunity to prepare for response to a volcanic eruption. Once volcanic activity progresses beyond SAL 1, increases in SAL can become much faster.

Scientific Alert Levels – Reawakening Volcanoes

<i>Scientific Alert Level</i>	<i>Indicative Phenomena</i>	<i>Volcano Status</i>
0	Typical background surface activity; deformation, seismicity, and heat flow at low levels.	Usual dormant or quiescent state.
1	Apparent seismic, geodetic, thermal or other unrest indicators.	Initial signs of possible volcano unrest. No eruption threat.
2	Increase in number or intensity of unrest indicators (seismicity, deformation, heat flow etc).	Confirmation of volcano unrest. Eruption threat.
3	Minor steam eruptions. High increasing trends of unrest indicators, significant effects on volcano, possible beyond.	Minor eruptions commenced. Real possibility of hazardous eruptions.
4	Eruption of new magma. Sustained high levels of unrest indicators, significant effects beyond volcano.	Hazardous local eruption in progress. Large-scale eruption now possible.
5	Destruction with major damage beyond active volcano. Significant risk over wider areas.	Large hazardous volcanic eruption in progress.

Consequences and Impacts

A volcanic eruption in Auckland could block roads, destroy buildings and affect essential lifelines such as water supply, sewerage reticulation, electricity, and telephone and radio services. In the vicinity of a volcano vent, total destruction would occur. Evacuations may be needed, as well as an extensive public information programme. Significant economic, political and social issues could follow.

The exercise will consider all of these issues in the face of ambiguous information on the size, location and timing of an eruption. While the possible location of the vent may be refined over the period of a few days or weeks, much uncertainty will remain, and organisations will have to make significant decisions, with far reaching consequences, based on imprecise information.

Participants

This exercise involves the direct participation of approximately 100 local and national agencies, along with inputs from other organisations. Those directly involved include:

- Auckland CDEM Group organisations, including:
 - Auckland Regional Council
 - Rodney District Council
 - North Shore City Council
 - Waitakere City Council
 - Auckland City Council
 - Manukau City Council
 - Papakura District Council
 - Franklin District Council
 - Waitemata District Health Board
 - Auckland District Health Board
 - Counties-Manukau District Health Board
 - St John Ambulance
 - NZ Fire Service
 - NZ Police
 - associated CDEM Group advisory groups

Participants continued:

- Northland, Waikato and Bay of Plenty CDEM Groups as principal evacuee-receiving regions
- Wellington and Canterbury CDEM Groups in support.
- Government agencies including:
 - Ministry of Civil Defence & Emergency Management
 - Department of the Prime Minister & Cabinet
 - The Treasury
 - Reserve Bank of NZ
 - Ministry of Economic Development
 - Ministry of Health
 - NZ Police
 - NZ Fire Service
 - NZ Defence Force
 - Ministry of Foreign Affairs and Trade
 - Ministry of Education
 - Ministry of Justice
 - Department of Corrections
 - National Welfare Recovery Co-ordination Group agencies (led by the Ministry of Social Development)
 - Transport Emergency Management Co-ordination Group response agencies (led by the Ministry of Transport)
- Lifeline utilities, with representation from the transport, electricity, water, petroleum and telecommunications sectors.
- Business theme agencies, with representation from finance, insurance, construction, manufacturing, food and grocery, and tourism sectors.
- Scientific institutes, including GNS Science, Auckland University, Massey University, and the MetService.
- Other agencies, as necessary.

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