



**AGENDA FOR A MEETING OF THE EMERGENCY SERVICES SPECIAL COMMITTEE  
TO BE HELD IN THE CIVIC CENTRE, 6 WAIPAREIRA AVENUE, LINCOLN,  
WAITAKERE CITY, ON TUESDAY, 13 JUNE 2006  
COMMENCING AT 9.30 AM**

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**1 APOLOGIES**



**2 URGENT BUSINESS**

Section 46A(7) of the Local Government Official Information and Meetings Act 1987 provides that where an item of business is not on the agenda, it may only be dealt with at the meeting if:

- (i) the Committee by resolution so decides; and
- (ii) the Chairperson has explained at the beginning of the meeting (when open to the public) that the item will be raised for discussion and decision, why the item is not on the agenda, and why it cannot be delayed until a subsequent meeting.

The Committee may make a decision on a matter determined to be urgent.

**NOTE:** Urgent Business need not be dealt with now and may be delayed until later in the meeting.



**3 CONFIRMATION OF MINUTES**

Meeting Minutes - Tuesday, 4 April 2006.

**RECOMMENDATION**

That the minutes of the Meeting of the Emergency Services Special Committee held on Tuesday, 4 April 2006, as circulated, be taken as read and now be confirmed.



#### 4 CIVIL DEFENCE EMERGENCY MANAGEMENT ACTIVITY AND THE LOCAL AUTHORITY HAZARD LIAISON GROUP

##### PURPOSE OF THE REPORT

The purpose of this report is to outline work being done on Reduction and Hazards within Waitakere City and to give the Emergency Services Special Committee an update on work of the Local Authority Hazard Liaison Group which operates across the region. This group undertakes tasks to fulfil the requirements of the Civil Defence Emergency Management Group Plan for the Auckland Region.

##### BACKGROUND

The Civil Defence Emergency Management Act 2002 introduced a new framework for Civil Defence and Emergency Management in New Zealand. The legislation has established a regional basis for the leadership of emergency management with the establishment of Civil Defence Emergency Management Groups, and Co-ordinating Executive Groups to support them. In fulfilment of sections 48-55 of the Civil Defence Emergency Management Act, the Auckland Civil Defence Emergency Management Group Plan ("The Group Plan") was prepared.

The broad purpose of the Group Plan is to enable the effective management of regionally significant hazards and risks that may affect the Auckland Region. The mission statement of the Plan is 'Creating a resilient Auckland Region together,' and the key goals of the Group Plan are that:

- Risk is reduced to an acceptable level, and
- individual self reliance, and
- Effective response recovery capability.

Alongside this regional framework there is still a strong responsibility for local emergency management that lies with district/city councils. The basis for this management is summarised within the "4R's" of emergency management, namely Reduction, Readiness, Response and Recovery.

In the context of emergency management, those teams are defined as follows:

**Reduction** – Identifying and analysing long term risks to human life and property from natural or man-made hazards: taking steps to eliminate these risks where practicable, and where not, reducing the likelihood and the magnitude of their impact.

**Readiness** – Developing operational systems and capabilities before an emergency happens. These include self help and response programmes for the general public, as well as specific programmes for emergency services, utilities and other agencies.

**Response** – Actions taken immediately before, during or directly after an emergency, to save lives and property, as well as help communities to recover.

**Recovery** – Activities beginning after initial impact has been stabilised and extending until the community's capacity for self help has been restored.

Concurrently, the establishment of the Local Authority Hazard Liaison Group occurred, to help coordinate the management of hazards between the district, city and regional councils within the Auckland Region. This Group, which includes a Waitakere City Council officer, produced the Hazard Guidelines, formally known as Auckland Regional Council Technical Publication No 106. *"These guidelines had the aim to achieve consistency both within and between councils in the way that risk is managed .....and ... provide a selection of tools and methods that can be utilised by local authorities to manage risk within their city or district"* (Introduction to the Guidelines P6).

There are three guidelines, being:

Guideline No 1: Hazard Information Management;  
Guideline No 2: Hazard Identification and Risk Assessment; and  
Guideline No 3: Risk and Monitoring for Hazards

The Hazard Liaison Group and the three guidelines have been acknowledged within the abovementioned Group Plan. A Waitakere City Council officer has attended the Hazard Liaison Group for a number of years. To ensure Waitakere City Council's cross Council contribution to this liaison group, officers from a range of disciplines within Council meet, as required, to contribute to the tasks required to be undertaken as part of the Local Authority Hazard Liaison Group.

## **STRATEGIC CONTEXT**

The work of officers contributing to the Local Authority Hazard Liaison Group is part of the work required of Council under the Civil Defence Emergency Management Act 2002. Civil Defence Emergency Management contributes to community wellbeing and building strong communities by increasing community readiness for all resilience to emergency events, reducing exposure to such events, and providing for emergency response in the case of such events. The requirement for local planning and co-ordination is essential to meeting these requirements.

## **DISCUSSION**

The remainder of this report discusses the Waitakere City Council hazards prioritising project, and the information consistency project. In the context of the 4 R's of Emergency Management work, being readiness, response, recovery, and reduction, the work that has been undertaken will contribute to a future focus on the reduction of (the impacts of ) hazards.

These works are the most recent tasks undertaken in fulfilment of the requirements of the Group Plan, and the Hazard Guidelines – in particular the work required by Target 5.1 (of the Group Plan). This target requires territorial authorities to prioritise the hazards and risks in their districts, and undertake work in relation to the actions of hazard guideline one relating to Hazard information management.

### **1. Local Hazard Prioritisation Project**

*A1-A18*

The Auckland Region Civil Defence Emergency Management Group Plan describes the hazards and risks that the region is prone to. Under this plan every local authority had to achieve Target (5.1) and the associated Action in the plan. The target is to prioritise hazards and risks in their local area, and undertake as a priority, research on the consequences of hazards, with an emphasis on those hazards having a priority in the area. The report that prioritises the hazards is attached at pages A1 to A18. The discussion below outlines how the task of prioritising the hazards was undertaken, and the future tasks that have been identified from that process.

Hazards and their corresponding risks were summarised, and prioritised in a two-stage process. The initial list of hazards was developed after cross Council consultation. In selecting the hazards the focus was given to those that have the potential to create a significant emergency event in Waitakere City, and which would most likely require some degree of co-ordination to manage. The list is as follows:

Flooding, Ex-Tropical cyclone, Tsunami – Far-field, Tsunami – Near-field, Earthquake, Land Instability, Volcanic Eruption – Local, Volcanic Eruption – Distant, Fire – Rural, Biological – Introduced pests and animal diseases, Biological – Human epidemic, Lifeline Utility Failure – Water, Lifeline Utility Failure – Electricity, Lifeline Utility Failure – Communications and IT, Hazardous Substances, Dam Failure, Major Passenger Transport Crash, and Criminal Acts.

Some hazards were not specifically included, as they would not require Waitakere City Council to play an active role in pre-event civil defence emergency management readiness and/or post-event response activities. These hazards include: climate change, storm surge, coastal erosion/ instability (occurring over time), urban fire, road/ rail accidents and space debris.

A8 The first stage of prioritisation involved a broad Likelihood and Consequences rating in accordance with the risk management standard AS/ NZS 4360:1999. (See table on Page 8 of the report attached at page A8). This rating acted as an initial screening process to give an indication of the level of risk (Low, Medium, High and Extreme). The High and Extreme rated hazards and risks were then analysed in more detail during the second stage prioritisation process using the Seriousness, Manageability and Growth (SMG) model adopted by the Ministry of Civil Defence & Emergency Management (MCDEM).

The Seriousness, Manageability and Growth model suggests that ‘seriousness’ (consequences), ‘manageability’ and ‘growth’ should be the criteria used for prioritisation. The Seriousness, Manageability and Growth model enables prioritisation of those hazards which represent the greatest risk, and those hazards that can be effectively treated in the future by putting effort into managing the risks posed by these hazards, across each of the 4R’s (reduction, readiness, response, recovery).

Using this methodology the model indicates that the highest priority hazards are:

- Biological – Human Epidemic (example: bird flu);
- Tsunami – near field;
- Ex tropical Cyclone;
- Volcanic eruption – local;
- Biological – introduced pests and animal diseases.

It should be noted that in the prioritisation process that flooding, which is a well known local hazard achieved a low score, and as such it is not rated as a high priority hazard. This is due primarily to the localised nature of flooding events, which accordingly does not require a cross Council response, which was the key trigger for this prioritisation process. However, as flooding has a high profile within the City, it is discussed in the body of the report. It is noted that the high level of activity around flood reduction, results in the current tasks being continued, and no particular additional tasks being identified at the current time.

#### **Implications of recommendations for work for priority hazards**

A16-A18 The priorities are those hazards that have the most potential to impact on the City. These hazards also have a high residual risk, being the level of risk that remains after the risk treatment measures have been implemented, and therefore have the potential to create a significant emergency even in the City. Accordingly the report recommends further work that is to be undertaken on a short and long term basis, as outlined in the final pages of the report attached at pages A16 to A18.

It should be noted that the recommended work will take place over several work streams of Council, and in some cases in conjunction with the external agencies such as the Auckland Regional Council, and the Regional Civil Defence & Emergency Management Group. The implications of the work are discussed below:

- *Undertake further gap analysis work with regard to the priority hazards to determine further areas of technical work for example effects of tsunami on bays and harbours.*

The gap analysis is to ensure that all technical information currently available is part of the consideration when finding solutions to reducing the impacts of emergency events on the community. It may be that further technical or scientific information has to be researched. This will be undertaken by the existing cross Council groups, and is also likely to involve the Auckland Regional Council, particularly in regard to coastal matters.

- *Redraft public education / information messages about hazards and risk, to focus on the highest priority hazards in Waitakere City.*

The local civil defence group would initiate this work; however, this would have to be undertaken in direct consultation with the Regional Civil Defence Emergency Management group and relevant agencies at a national level, to ensure consistency.

- *Include research on the consequences of hazards into the Long Term Council Community Plan (LTCCP), to get a representation of the consequences in number terms of a hazard on Waitakere City.*

This recommendation is consistent with the requirements of the Auckland Regional Policy Statement, regarding the development of new land, such that it should be free of hazards. This Council's forward planning is required to give effect to the Regional Policy statement. It is anticipated that this reduction work would be undertaken on a council wide basis.

- *Update council plans and business unit plans with the information that has emerged from the hazards prioritisation project.*

This is a cross Council project.

- *Develop and implement a strategy to work jointly with stakeholders to review and monitor risk activities, including land use planning.*

This cross Council piece of work will again give effect to regional policy, in terms of the strategic planning of new development areas to be free of hazard impacts, in addition to fulfilling an upcoming requirement of the Local authority Hazard Liaison Group of developing a Hazard Strategy for each Local Authority. The Hazard strategy would ensure cross Council contribution to hazard work, across the region.

- *Develop a plan for the long term recovery of Waitakere City communities after a significant emergency event.*

The Civil Defence Group and council already have a plan in place, and designated recovery managers, however, there is potential to make this more extensive. This would be a cross Council initiative in conjunction with regional and national agencies.

- *Undertake a city wide plan change to reflect new information that comes out of that recommended work.*

This work is dependant on the outcomes of the work, and potentially also encompasses work that may come out of the Proposed Plan Change to the Auckland Regional Policy Statement: CH11 Hazards, that is about to be notified for further submissions.

## **2. Information Consistency Project**

This project is being coordinated by the Auckland Regional Council, as part of the work being undertaken by the Hazard liaison Group, to meet the requirements of Guideline One: Hazard Identification and information Management for Local Authorities. This work is seeking a consistency in the terminology used when refereeing to hazards, and that similar levels of information are stored and are accessible to the public throughout the region. All aspects of this work are being legally reviewed to ensure that the methods chosen do not compromise Council's liability.

### **CONCLUSION**

The Hazard Prioritisation project has identified the key hazards that have the potential to create a significant emergency event in the City. The report also recommends work to be undertaken to assist in understanding the range of hazards that impact on the City, and how to further reduce the impacts of an emergency event on the City. The recommendations will build on work that is currently being undertaken throughout the Council to ensure that the Council achieves a robust level of preparedness for a significant emergency event.

### **RECOMMENDATION**

That the Civil Defence Emergency Management Activity and the Local Authority Hazard Liaison Group report be received.

Report prepared by: Carolyn McAlley, Senior Planner: Policy Implementation.



## **5 OVERVIEW OF CIVIL DEFENCE EMERGENCY MANAGEMENT ACTIVITY**

### **PURPOSE OF THE REPORT**

The purpose of this report is to give the Emergency Services Special Committee an overview of Civil Defence Emergency Management activity since the last report, and to outline future planned activity.

### **BACKGROUND**

The Civil Defence Emergency Management Act 2002 introduced a new framework for Civil Defence Emergency Management in New Zealand. The legislation has established a regional basis for the leadership of emergency management with the establishment of Civil Defence Emergency Management Groups and Co-ordinating Executive Groups to support them. Alongside this regional framework there is still a strong responsibility for local emergency management that lies with district/city councils. The basis for this management is summarised within the "4R's" of emergency management namely Reduction, Readiness, Response and Recovery.

**Reduction** - Identifying and analysing long terms risks to human life and property from natural or man made hazards: taking steps to eliminate these risks where practicable, and where not, reducing the likelihood and the magnitude of their impact.

**Readiness** - Developing operational systems and capabilities before an emergency happens. These include self help and response programmes for the general public, as well as specific programmes for emergency services, utilities and other agencies.

**Response** - Actions taken immediately before, during or directly after an emergency, to save lives and property, as well as help communities to recover.

**Recovery** - Activities beginning after initial impact has been stabilised and extending until the community's capacity for self help has been restored.

Rural Fire is an integral element of the City's Civil Defence Emergency Management response organisation, although generally involved on a daily basis in dealing with fire events. In this regard they work in the same way as the volunteer forces of the New Zealand Fire Service but under the auspices of the Waitakere Rural Fire Authority. In an emergency Rural Fire Forces become an element of the overall Civil Defence Emergency Management response and would be tasked accordingly by the Local Controller.

## STRATEGIC CONTEXT

Civil Defence Emergency Management is a responsibility of Council under the Civil Defence Emergency Management Act 2002. Civil Defence Emergency Management forms part of Council's strategic framework in that it contributes to community well being and building strong communities by increasing community readiness for and resilience to emergency events, reducing exposure to such events, and providing for emergency response in the case of such events. The requirement for local planning and co-ordination is essential to meeting these requirements. Rural Fire contributes to the Green Network through protection of rural forest areas and strong communities through its volunteer programme, supporting communities to meet their own emergency needs.

## ISSUES

### 1. New Emergency Operations Centre

The Committee is aware that at the full meeting of Council on 19 April 2006, the preliminary design for the new Emergency Operations Centre was approved, pending the submission of a final design and cost estimate report to the Special Projects Committee in July, for final approval.

At the meeting of the Auckland Region Civil Defence Emergency Management Groups on Friday, 5 May 2006, there was discussion and agreement regarding the need for a dedicated Group Emergency Operations Centre within the Auckland Region. Currently the designated Group Emergency Operations Centre is situated in office spaces adjacent to the Auckland City Emergency Operations Centre which are otherwise used on a daily basis by Council staff. The area available is limited and has to be set up for operations and staff that normally work within the designated areas are required to vacate their work stations if required for emergency management reasons. An element of the evaluation examining the national tsunami Exercise Pacific Wave held on Wednesday, 17 May 2006 will highlight the adequacy of the current arrangement.

Current planning for the new Waitakere City Emergency Operations Centre includes the capacity to be able to function as a Group Emergency Operations Centre, but the area designated for this may need to be expanded if required on a permanent basis as the Group Emergency Operations Centre for the Auckland Region. At the Civil Defence Emergency Management Groups meeting mentioned above, the Chairman of the Coordinating Executive Group advised the Committee of the design inclusion and has since directed that further work be carried out on the current design to include additional space for dedicated Group Emergency Operations Centre requirements. In addition to increasing the size of the area already designated for Group Emergency Operations Centre purposes, additional offices and areas for specific functions would likely be required. To achieve this, the area currently allocated for garage space could be used and a stand alone garage for the volunteer rescue trailer and equipment would be required as an addition to the current design. This work would obviously increase the current cost projections for the new Emergency Operations Centre, but as a regional facility, the costs associated with the designated Group Emergency Operations Centre space could conceivably be borne as a Group requirement rather than a direct cost to Waitakere City. Group Emergency Operations Centre office space could also be used by Civil Defence Emergency Management Group funded staff on a permanent basis. It is intended to give the Committee a more comprehensive update on this proposal at the meeting, and the proposal will be reported by the Civil Defence Emergency Management Groups in July 2006, alongside other options.

#### Pandemic Planning

Since the last meeting, the Council's Pandemic Response Plan has been completed and signed off by the Directors Group for use within Council. This was a significant achievement and a first for local government within the region. The plan was developed by a working group under the chairmanship of the Manager: Emergency Management, with additional assistance from the two Emergency Management officers.

Further work now requires all managers to review their Business Continuity Plans (BCP's) to ensure consistency with the Pandemic Plan, and all Business Continuity Plans are required to be raised for review by the end of May 2006.

The programme for upgrading workplace hygiene practice across Council has been completed and the issue of personal and workplace cleaning material has been completed.

While the threat of an avian bird influenza pandemic still exists, publicity surrounding the possibility has waned considerably over the last couple of months. Nationally, however there is still a considerable amount of planning ongoing and all health plans are due for completion by the end of June 2006 and Ministry of Civil Defence Emergency Management plans completed by September 2006.

#### Tsunami Alert

It is now acknowledged that the Ministry of Civil Defence Emergency Management's response to the recent tsunami alert from a major earthquake near Tonga was inadequate and that established procedures for warnings to the public required urgent review. This was particularly highlighted when world media were broadcasting that a tsunami had been generated when at quite an early stage the Ministry's evaluation indicated that no tsunami had in fact been generated. If the Ministry had broadcast this fact when first known instead of some two hours later, and then only after the media had broadcast incorrect information, community panic in some areas would have been averted.

The Ministry has since acknowledged that traditional response procedures were inadequate given modern communication techniques and has reviewed its procedures. Advisory notices will be made available at an early stage, whether in fact a tsunami has been generated or not. This will be followed by warning or cancellation messages. The new procedure was exercised at the national tsunami Exercise Pacific Wave on 17 May 2006. A verbal report on the effectiveness of the new procedure will be advised at the meeting.

Locally, the response to the threat was triggered by a combination of public concern from calls received at the call centre and a telephone call from the Group Duty Officer. Action taken was to activate Emergency Management staff and advise the Group and Local Controllers accordingly. The Emergency Operations Centre was opened and just as staff were about to commence callout procedures, media broadcasts and a call from Ministry of Civil Defence Emergency Management indicated that there was no tsunami threat and staff were stood down. The Waitakere City activation process worked well. The only area for improvement was that, once the stand down had been received, no immediate contact was made with the Mayor. Procedures have been reviewed to ensure there is an assigned responsibility for calling the Mayor, as part of the stand down process as well as the activation.

As a consequence of the incident, political interest from the Finance and Operational Performance Committee required a report to be made to the Committee on current tsunami response plans and options for improvement in terms of the installation of a dedicated siren system for tsunami response. This will be done as a separate report.

## **2. Activity**

Current activity being undertaken by Emergency Management staff and Council management with Civil Defence Emergency Management responsibilities is as follows:

### Nationally

- Auckland Regional Civil Defence Emergency Management representative to the Ministry of Civil Defence Emergency Management for pandemic planning.
- Auckland Region Civil Defence Emergency Management representative on the National Exercise Programme Operational Planning Team.

### Regional

- Exercise Pacific Wave Coordinator;
- Local Government Urban Search and Rescue and General Rescue Coordinator;
- Member of the Welfare Advisory Group;
- Member of the Regional Rural Fire Incident Management Team;
- Member on the Group Training and Professional Development Working Team;
- Coordinator of the Civil Defence Emergency Management Group Pandemic Planning Team;
- Coordinator for the Civil Defence Emergency Management Group Warning Systems Development Group;
- Team Leader for the Civil Defence Emergency Management Working Group for Exercise Pacific Wave to be held in May 2006;
- Member of the Civil Defence Emergency Management Group Capability and Capacity Advisory Group;
- Provision of assistance as directing staff for regional training activities;
- Chair of the Co-ordinating Executive Groups;
- Deputy Chair of the Civil Defence Emergency Management Groups;
- Group Civil Defence Emergency Management Controller.

### Local

- Welfare Centre and Volunteer Expansion;
- Cross Council Hazards Working Group;
- Child Safe Working Group;
- North West Emergency Management Committee Chair;
- Waitakere Welfare Advisory Group;
- Initial Response Unit (NZRT3) training and development;
- Ongoing staff professional development courses and training;
- Monthly Co-ordinated Incident Management Systems Training courses;
- New Zealand Qualifications Authority Unit standard training and assessment;
- Rural Fire management, training and organisation;
- Refresher training for Council Emergency Operations Centre staff.

In addition normal day to day work activities have been carried out by the Emergency Management staff. Considerable support has been given to Group Civil Defence Emergency Management activity over the past two months. Much of the work relates to the development of Standard Operating Procedures and plans based on the recommendation for improvement identified in the Exercise Jaffa report following the exercise last December 2005. The newly developed procedures were exercised during Exercise Pacific Wave.

The Manager Emergency Management has also been heavily involved with Exercise Pacific Wave as the exercise coordinator for the Civil Defence Emergency Management Group. Both Emergency Management officers have also provided support for exercise requirements. Local activation and response were also exercised in Pacific Wave. A verbal report will be made on the outcomes from the exercise, both regionally and locally. Waitakere City Council provided a significant component of staff for the Group Emergency Operations Centre, in addition to exercising two shifts of staff locally.

### **3. Rural Fire**

The restricted fire season was lifted at the end of April and with the exception of the large coastal vegetation fire at Mercer Bay, there were no other fire responses by Rural Fire officers of significance during the season. New protective and dress clothing have been purchased for all Rural Fire volunteers as part of an overall upgrade and all equipment and fire appliances are operational.

Courses have been held for first aid, pump operators and drivers and the weekly training programme for all crews remains ongoing. Rural Fire volunteers have also undertaken Urban Search and Rescue training as delivered by qualified trainers from the volunteer Initial Response Unit. A mini field training day was also held at Cascade Falls Park which was well attended by New Zealand Fire Service, Rural Fire and Initial Response Unit volunteers. Despite the heavy rain on the day, the day was successful and culminated with a tug of war competition which saw the Initial Response Unit team defeat all comers.

### **CONCLUSION**

The last two months continues to be an extremely busy time for all staff from a local level perspective and Civil Defence Emergency Management Group co-ordination activity. Civil Defence Emergency Management Group support activity has been particularly demanding, but with the culmination of requirements for Exercise Pacific Wave, some pressure has been removed. While some local activity has had to be curtailed to facilitate Group requirements, the emergency management and rural fire capability continues to be effective.

## **RECOMMENDATION**

That the Overview of Civil Defence Emergency Management Activity report be received.

Report prepared by: Bill Morley, Manager: Emergency Management Services.



## **6 TSUNAMI RESPONSE WARNING SYSTEMS FOR WAITAKERE CITY**

### **PURPOSE OF THE REPORT**

The purpose of this report is to give the Emergency Services Special Committee an overview of the tsunami threat to Waitakere City, warning response procedures currently in place and recommendations for future improvements for public warning and evacuation procedures.

### **BACKGROUND**

The requirement for this report stems from concerns expressed by the Finance and Operational Performance Committee Meeting of 8 May 2006, regarding the measures in place to warn and evacuate coastal communities in a tsunami threat situation. The Committee also enquired as to whether there was not a system in place for the use of existing Fire Service and Rural Fire siren equipment. This concern was prompted by the Tongan earthquake on Thursday, 4 May 2006, and subsequent publicity regarding national warnings to the public of a possible tsunami threat.

### **STRATEGIC CONTEXT**

The Ministry of Civil Defence Emergency Management has the responsibility for issuing national warnings for tsunami threats. This may be for a distant source (greater than 3 hours notice) or regional source (3 hours or less notice) tsunami. A local source (less than 1 hours notice) tsunami would not likely allow a formal warning to be made.

The Pacific Tsunami Warning Centre based in Hawaii is the primary source for all tsunami warnings in the Pacific Region. The centre monitors an array of seismic and tidal sensors around the Pacific Ocean. Current procedure is that an "advisory bulletin" will automatically be generated to all receipt agencies the moment an earthquake or other seismic event with potential to cause a tsunami is recorded. This does not mean a tsunami has been generated, simply that some seismic event has occurred. In the case of an earthquake occurring in excess of 7.5 or greater on the Richter scale, a "tsunami watch" bulletin will be issued. If/when it is confirmed that a tsunami has been generated, a tsunami warning will be issued to countries likely to be affected.

Obviously, the sooner a warning or advice of the possibility of a tsunami can be generated, the sooner action can be taken to advise the public and if considered necessary, commence evacuating communities in likely to be affected areas. Unappreciated by many is that the lead responsibility for public evacuation lies with the Police supported by the Fire Service and other response agencies as per local plans. Civil Defence Emergency Management organisations do not have a direct responsibility for evacuation and are primarily concerned with the welfare of the population that has been evacuated. There is, however, a responsibility to ensure there is close liaison with Police for the provision of additional resources as may be required to assist with a large scale evacuation and as may be determined in local Civic Defence Emergency Management plans.

Since the 2004 Boxing Day Tsunami, there has been widespread concern regarding New Zealand's readiness to respond to a major tsunami, and the lack of a recognised public warning system other than media broadcasts. There has been research undertaken on this at the Civil Defence Emergency Management Group level, and considerable debate regarding instituting cell broadcasting of messages as a means of warning the public on a regional and national basis. Siren technology was not favoured. Following the Tongan earthquake event, the Civil Defence Emergency Management Groups has conveyed to the Government through the Minister of Civil Defence Emergency Management for 'the need to take urgent action to put into place cell broadcasting and/or other electronic measures for issuing of tsunami broadcasting'. A further recommendation was 'the need for clear, common sense leadership statements from Government to notify the community in emergency events, or rumoured emergency events'.

A19-A98

Additionally, the assessment of the Civil Defence Emergency Management Groups Warning System options report, as attached at pages A19 to A98 conducted by Geological and Nuclear Sciences, comprehensively looks at methods for short, medium and long term improvements to warning systems for the Auckland region. The Civil Defence Emergency Management Groups short term is proceeding with the implementation of those recommendations.

## ISSUES

### 1. What is the Tsunami threat to Waitakere City

Historically the threat of tsunami for Waitakere City is low. Of the 40 plus tsunamis that have occurred in New Zealand in the last 165 years, none have had any impact upon the City. Local/regional source risk for the majority of events that could cause tsunami impacts on the West Coast is low, although at greater risk from local/regional source events, the eastern areas are also not significantly at risk, given their geographic location. The risk from a distant source tsunami is higher, but distant source event would also allow for a much longer warning period. In the 2005 Geological and Nuclear Sciences report conducted for the Ministry of Civil Defence Emergency Management the general assessments for tsunami wave heights above mean sea level for Auckland and at the Manukau Heads for a 2500 year return cycle are as follows;

#### Local Sources

- Manukau 0
- Auckland 2.3m

#### Distant Sources

- Manukau 2.0m
- Auckland 5.4m

An interesting fact from the same report highlights the potential for landslide generated tsunami from West Coast beaches and north side of the Manukau Heads, which could possibly cause waves of several metres over a distance of up to 1 km. There would be no warning for an event of this nature, given the closeness of the source.

In summary, the overall local source tsunami threat is minimal on the West Coast and moderate on the East Coast. It should also be appreciated that any tsunami affect on the East Coast would have been broken up considerably before it reached the upper harbour area. The distant source threat is greater but will also allow for considerably longer warning periods.

## **2. Improvements to the Ministry of Civil Defence Emergency Management Warning Procedure**

As a result of the 4 May 2006 Tongan earthquake and in particular the lack of official information released to the public, the Ministry of Civil Defence Emergency Management have revised their procedures for events of this nature in the future. The policy now is that upon receipt of any advisory message from the Pacific Tsunami Warning Centre or other credible source, the Ministry will immediately issue an advisory message to Civil Defence Emergency Management Groups and the emergency services. This will be later followed by a warning when it has been determined that a tsunami threat exists, or a cancellation message if there is no threat. In the Tongan earthquake scenario, this would have given the emergency services in particular, some two hours advance warning to marshal resources and commence procedures for evacuation purposes. The new procedure will also give a far greater lead time for informing the public and issuing releases accordingly. The new procedure will also allow a far greater lead time for activating the Civil Defence Emergency Management response, notifying essential staff and commencing preparations to support the emergency services. It will also mean, however, that there are a greater number of "false starts" in placing Emergency Operations Centre's and emergency services on stand-by, and the sector will need to guard against complacency and the "boy that cried wolf" syndrome.

## **3. Current Local Warning Arrangements**

Current local warning, evacuation and response for Waitakere City consists of a Standard Operating Procedure (SOP) for use by the Police, Fire Services and the Waitakere City Civil Defence Emergency Management organisation, to notify warning to the community in areas to be affected. The response will be a combination of telephone calls to surf clubs, pager activation of all Fire Service and Rural Fire Forces, plus Police resources, to concentrate vehicle mounted sirens and loud hailer messages in areas that need to be evacuated. With sufficient warning time, Civil Defence Emergency Management response vehicles can also be used for this purpose. In a real event, permanently installed sirens at the Piha and Huia Fire Stations would also be activated. Auckland Regional Council Rangers are also an element of the response organisation. Surf clubs at the West Coast beaches will be an invaluable asset for effecting evacuation (subject to how many personnel live locally) and they too would also be activated via a 24 hour alerting system. Emergency services would also be conducting a similar operation for east coast areas such as Te Atatu Peninsula, West Harbour and Herald Island.

In addition, there would also be regionally based messages by the Police to the public. For a distant source tsunami warning of any kind, it is considered that an effective evacuation could be conducted for Waitakere City without any great difficulty night or day. With the new procedure to be used by the Ministry of Civil Defence Emergency Management, the ability to undertake an effective evacuation for a near source tsunami will also be greatly enhanced. The established Standard Operating Procedures for tsunami evacuation within Waitakere City has been exercised as part of Exercise Pacific Wave held on 17 May 2006, and recommendations for improvement will be formulated following this.

For any evacuation system to be effective the most important element is public education, and in that respect there is work to be done. The community need to be made aware of response and warning procedures that currently exist and what is expected of them and what they should do. The saying that an informed public doesn't panic is never truer than in a tsunami situation.

Radio and television broadcasting is also an essential element of warning and evacuation systems. In the case of the Auckland Region, messages to the public must be undertaken on a regional scale and with fixed messages. Waitakere does not have any dedicated radio or television station suitable for local warning messages.

#### 4. Future Options

It is appreciated that there is some political interest for the installation of siren warning systems in areas threatened by tsunami. Other options include the introduction of cell broadcast messaging and other options that can be created with modern technology. In looking at systems, one consideration is whether there should be a consistent system. It is important that whatever is decided on a regional basis, rather than ending up with a proliferation of different systems.

For local Emergency Operations Centre activation and response it is intended to introduce a text messaging system through Outlook where messages can be sent to selected groups for either warning notification or activation purposes. Recipients can reply as required by text message which will come to Outlook and in the case of a non response individual telephone, calls can be made. This procedure will save a considerable amount of time on current procedure which requires individual telephone calls to be made to all as required. This system could also be expanded considerably to other groups or contacts external of Emergency Operations Centre response requirement. Coverage would include 021 and 027 cellular telephone coverage with a start up cost of \$200 and monthly rental cost of \$30. Sent messages would be charged at a rate of 17 cents per call.

A78-A93

Cell broadcasting is also being pursued by the Group as an option for use nationally. It is, however, new technology and not yet internationally tested and as can be seen at Appendix 3 of the attached Geological and Nuclear Sciences report attached at pages A78 to A93, considerable infrastructure work would be required for this system to be implemented. For the purpose of consistency, it is the recommendation of this report that any mass communication telephone system should be implemented as a regional/national response initiative rather than at district/city level.

Another option for consideration is the installation of dedicated siren systems such as that being installed in the Western Bay of Plenty. Again there are several issues with such systems not the least of which is cost and maintenance as well as being specific for only one threat. While the overall threat of tsunami impact for Waitakere is such that this system may not be the top recommendation, it is open to Council to consider it as an augmentation of regional systems. This option is discussed in Appendix 3 of the Geological and Nuclear Sciences report section.

A preliminary cost estimate for such a system has been undertaken. To install a coastal siren network on the east coast from Herald Island down through West Harbour, Te Atatu, Span Farm, Kelston and New Lynn, and on the West Coast/Manukau from Green Bay around to Bethells, in areas of population, would likely require 30 sirens. The capital installation costs for the sirens and the activation equipment and network would be in the order of \$450,000 (GST excl.). Maintenance costs and testing would likely amount to \$30,000 (GST excl.) per annum.

Direction on this system is sought from the Emergency Services Special Committee.

A99-A109

A preferred option would be the introduction of a portable siren/light/audio system that could be used not only for tsunami warning response but any number of other response uses as well. This would be additional to sirens and loudhailers as already fitted to emergency services vehicles. An example of such a system is attached at pages A99 to A109. While only one system of the type is available, its portability and ease for deployment would make it an excellent support tool for use at specific locations. It is known that the Rodney District Council is considering a similar option and also North Shore City are also investigating a warning system option as well. The system as shown on the attachment only costs about \$3,000 per unit and an estimated 12-15 units would complete the overall requirements. Some could be placed strategically for use at surf clubs and other dedicated locations, while others could be held in reserve and deployed as required. The benefit of the system is that it has the facility for a pre-recorded message to be played repetitively while also having a siren and strobe light for attracting attention. It is a recommendation of this report that this type of system be further investigated with urgency in conjunction with the Rodney District and North Shore Emergency Management Offices with a view to incorporating a system common to all in the North West Civil Defence Emergency Management Zone. The system identified in the attachment would be estimated to cost about \$50,000 for 15 units and if the recommendation is agreed, the amount would need to be included in the Long Term Council Community Plan 2006/2007.

## **CONCLUSION**

With the changes introduced to the Ministry of Civil Defence Emergency Management national warning system, considerable extra time will now be available to commence initial response to any tsunami related event. In the case of the Tongan earthquake event, some two hours additional notice would have been available had a tsunami been generated. Although the threat of tsunami exists for Waitakere City, the overall risk is not as high as in some other areas of the region/country. The Emergency Operations Centre activation system is to be greatly enhanced by the introduction of an electronic text messaging system utilising Microsoft Outlook and Council's Information Management section have been asked to assist in its implementation. A siren based portable warning system with message capability is suggested as being an excellent tool for supplementing current warning emergency services warnings and siren based vehicles. It is also proposed that further urgent work be done in conjunction with the Rodney and North Shore Councils with a view of creating a common system for the North West Emergency Management Zone. Mass messaging using cell broadcasting is being explored by the region for use at a national level.

## **RECOMMENDATIONS**

1. That the Tsunami Response Warning Systems for Waitakere City report be received.
2. That a proposal to pursue the introduction of a portable siren based warning system with messaging capability be endorsed and that negotiation with the North Shore City and Rodney District Councils be commenced immediately for a common system to be implemented for the North West Zone.
3. That it be recommended to the Financial and Operational Performance Committee that \$50,000 be included in the Long Term Council Community Plan 2006/2007 for the warning system purchase.
4. That a copy of the Tsunami Response Warning Systems for Waitakere City report be forwarded to all Councillors, Community Board Members, and Te Taumata Runanga for their information.

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