

25 January 2013

Committee Secretary  
Senate Standing Committees on Environment and Communications  
PO Box 6100  
Parliament House  
Canberra ACT 2600  
Email: [ec.sen@aph.gov.au](mailto:ec.sen@aph.gov.au)

Dear Secretary

**Submission to the Environment and Communications References Committee's inquiry on recent trends in and preparedness for extreme weather events**

Telstra welcomes the opportunity to respond to this inquiry. We have confined our remarks to addressing item (c) of the terms of reference for the inquiry.

Telstra networks and infrastructure are more important than ever in times of extreme weather events. Whether it's calling for help, finding critical information, or staying in contact with emergency services, being able to communicate is vital. Furthermore, being adequately prepared to respond to a crisis situation depends not only on the capacity of the communication networks themselves, but equally importantly on the systems and processes different organisations use to ensure co-ordination during and after the crisis.

Yours sincerely

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Director, Government Relations

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**TELTRA CORPORATION LIMITED'S SUBMISSION TO THE SENATE ENVIROMENT AND  
COMMUNICATIONS REFERENCES COMMITTEE'S INQUIRY INTO RECENT TRENDS IN AND  
PREPAREDNESS FOR EXTREME WEATHER EVENTS**

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# Telstra Submission

## Introduction

Telstra welcomes the opportunity to respond to this inquiry.

Telstra networks and infrastructure are more important than ever in times of disaster. Whether it's calling for help, finding critical information, or staying in contact with emergency services, being able to communicate is vital. Furthermore, being adequately prepared to respond to a crisis situation depends not only on the capacity of the communication networks themselves, but equally importantly on the systems and processes different organisations use to ensure co-ordination during and after the crisis.

### 1. Operational resilience

Telstra has a strong tradition of operational resilience and effective incident management. The concept of resilience is built into network redundancy, the monitoring capability of our Global Operations Centre (GOC) and Major Incident Management's (MIM) response capability. In the field, Telstra's technical staffs are provided with the resources and the training to be highly effective in responding to extreme weather events and natural disasters that may have an impact on our network and customers. Telstra has extended this resilience through corporate wide activities such as its business continuity programming, crisis management team and pandemic planning program.

The importance of a resilient culture is being increasingly recognised as underpinning the capabilities of organisations such as Telstra, and such a culture involves leadership and behaviours that support both formal and informal responses to crisis situations; responses that can be proactive, imaginative, courageous, flexible and business focused. To ensure staff are in the best position to respond this way, Telstra has developed internal policies and programs that support staff response activities to crisis situations (such as disaster relief packages, community service leave, emergency communications) and which are appropriately flexible so as to provide line management with the ability to tailor assistance depending on the situation.

The overall incident management framework at Telstra includes a corporate Crisis Management Team (CMT) which is made up of senior representatives from across the business. The CMT helps manage the most serious incidents that may impact Telstra, its networks and its customers. The CMT's principal function is to provide corporate direction on resolving the problem and to reduce the impact on Telstra's customers, the company's reputation, its employees/third parties, assets and earnings and the environment. The CMT is also responsible for anticipating operation-related crisis, and planning and implementing strategies to deal with such crises. Tactical support during a major crisis is available from business unit incident management teams, and internal and external emergency services.

Major Incident Management (MIM) provides a 24x7 centre for incident management of networks, platforms, IT applications and products managed by Telstra. The objective is to minimise the impact of incidents and to reduce the number of avoidable or repeat incidents. Telstra has a robust Emergency Management Framework which includes links into the Crisis Management Team and the MIM processes. The framework covers threats, emergencies and natural disasters which may impact Telstra's network and customers and is applicable across a Business Units within Telstra. MIM forms part of the tactical governance layer of the Emergency Management framework and has the overall authority during Severity 1 and 2 emergency related incidents and responds appropriately either pre, during or post an emergency.

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Where an extreme event has the potential to lead to an incident that adversely impacts on Telstra's telecommunications network, Telstra engages its MIM group to manage, co-ordinate and communicate in relation to the incident. This group takes on the role of 'primary point of contact' and focus in relation to the incident within Telstra. MIM will engage and coordinate all of the appropriate resolution teams from across the entire field of network and engineering staff to ensure efficient and effective incident management (including service restoration where necessary).

MIM is also responsible for impact assessment, prioritization and communication. Each incident is assessed, prioritized and communicated based on its individual circumstances, ie. major cable cuts require a different approach to bushfires and flooding. For example, during the Queensland Floods of 2010-11, the MIM team identified all impacts across all networks, the reason for the impact and the services that had failed due to the failure of the underpinning network. In conjunction with the field teams, network and engineering teams, MIM established a restoration priority plan which set the order in which services would be restored. Priority was given to services such as the E000 network used by the Emergency Call Person for Triple Zero, locations and areas where emergency services and hospitals were located (including evacuation centres) and the Telstra core network. This plan was very fluid and was in a constant state of update as more detail was obtained and as areas changed from Red Zones to Amber and Green Zones (as determined by QLD Emergency Management). Where the Telstra core network could not be restored to normal operation, Telstra MIM reviewed options for patch or interim solutions to get services working as fast as possible.

### 2. Emergency Alert

The Telstra-developed world's first Emergency Alert warning system sends text (SMS) alerts to landlines and mobile phones during an emergency and was launched in November 2012.

Emergency Alert issues a voice recorded message to landlines with a registered service address within a defined area. If the call is unanswered, the landline is retried once. The service address and phone number comes from the Integrated Public Number Database, which contains all public and private phone numbers in Australia.

There are two ways the system works for mobile phones:

- The original system sends a text message to mobile phones with a registered service address within the warning area.
- From December 2012, the system has the capability to send a text message to mobile phones on Telstra's networks with a last known location within the area to be warned. (This improvement will be available for mobile phones on Optus and Vodafone networks from November 2013.)

The Commonwealth Government contributed \$60 million to assist states and territories to establish Emergency Alert and develop the location-based capability. Victoria has led the procurement of the new technology on behalf of the Commonwealth and all states and territories.

Further information is available at [www.emergencyalert.gov.au](http://www.emergencyalert.gov.au)

### 3. Delivering 4G/LTE mobile broadband for Emergency Services

Telstra recently launched a White Paper on delivering 4G/LTE mobile broadband for emergency service organisations. The White Paper puts forward a proposal on how future vital telecommunications resources could be delivered to emergency services organisations across Australia.

The availability and use of mobile broadband and voice services over an expansive coverage footprint by emergency services is becoming not just a convenience, but a necessity. Australian emergency

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service organisations (ESOs) want to utilise this mobile broadband technology to enable their operations and enhance the services they provide to the Australian community.

Today, in addition to the myriad of private voice and narrowband data networks in use, the ESOs are increasingly using the public mobile telecommunications networks for broadband services to complement their operations. Given its extensive footprint in Australia, the availability of fast upload and download speeds and service reliability, the Telstra Next G® network offers ESOs an invaluable communications tool. However to support their business requirements, the ESOs are seeking greater certainty about the service levels of mobile network options such as the Telstra Next G® network, especially in times of disaster or other disruptive events, before being prepared to migrate mission critical applications to public networks.

The White Paper discusses the options and presents an evolutionary path for ESOs to most effectively adopt 4G/LTE technology to deliver their mobile broadband data needs combined with the introduction of "quality of experience" functionality to give priority access and certainty of throughput for designated users. The paper promotes the parallel operation of 4G/LTE technology not just in the Australian Digital Dividend (DD) 700MHz band for public network operations set down by Australian Communications and Media Authority (ACMA) , but also in the Public Protection and Disaster Relief (PPDR) spectrum for use by the ESOs. Through this coordinated allocation of scarce and valuable radio spectrum, Telstra sees that utility will be maximised while achieving the stated need of the ESOs for "exclusive" spectrum.

The paper discusses various business models, including ESO ownership or ESO leasing of network and spectrum assets, to deliver an emergency-service grade broadband network which can be used in extreme weather events.

The paper also considers that having emergency broadband traffic on commercial infrastructure, with appropriate service levels, network hardening and resiliency will deliver the broadband communications capabilities ESO demand in preparing resources for extreme weather events. Cooperation between the ESOs and the network operator can be most effectively directed towards the duplication of critical network infrastructure, including the physical and electrical diversity of supporting services such as power and network interconnection. Improved power and battery backup systems will maximise survivability of the network under exceptional weather events or other adverse conditions.

Experience shows that the increased capabilities of an interoperable mobile broadband network will deliver significant benefits to emergency services through improved response capabilities, enhanced situational awareness, command, control and coordination. This is evident today in the extensive use made by ESO personnel of the public mobile broadband networks, particularly the Telstra Next G® network.

The full text of the 4G/LTE White Paper can be found at:

<http://www.telstra.com.au/business-enterprise/resources-insights/case-studies/whitepapers/index.htm>

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### **4. Telstra's submission to the Senate Environment and Communications References Committee Inquiry into the Capacity of Communication Networks and Emergency Warning Systems to Deal with Emergencies**

In 2011, the Senate Environment and Communications References Committee conducted an Inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters. Telstra provided a lengthy submission, and extracts from the Executive Summary of that submission which summarise the key points made are extracted here:

*Telstra believes that the performance of its networks, its emergency procedures and efforts undertaken by its staff in the wake of the numerous disasters over the 2010/11 summer season were highly effective. Natural disasters and emergency situations are inevitable. The sheer ferocity of these types of events means that the resultant impacts on a communications network are, in many cases unavoidable and apply regardless of whether such networks have been established for commercial or other community based purposes. However such impacts can be reduced if networks are planned and operated with this inevitability in mind. While Telstra's networks and communications operations did suffer damage as a result of the various disasters during the summer of 2010/11, its fixed, mobile and managed radio service networks and associated disaster recovery operations and processes operated very effectively. Telstra staff worked quickly and effectively and in many cases around the clock to restore services efficiently, once it was safe for our people to access impacted areas. In many cases the existence of multiple networks in affected areas meant that alternative forms of communication were still able to be maintained.*

*Telstra has worked closely with emergency service organisations (ESOs), regulators and other Government agencies before, during and after these significant disaster events. It is essential that good working relationships exist between telecommunication providers and ESOs. Telstra works closely with ESOs in all phases of the emergency management lifecycle of planning, preparedness, response and recovery. Using these relationships Telstra was able to facilitate a number of innovative solutions to assist ESOs in the field. For example, Telstra relocated the flood threatened National Relay Service and its staff to our Mt Gravatt exchange during the Queensland floods to ensure these essential services were maintained.*

*Some consideration may need to be given to additional strategies to better preserve the supply of electricity in the event of disasters. The ferocity of the major disasters during the 2010/11 summer season caused power black outs that impacted on the community at large, including the ability to deliver services over telecommunications networks that need power to operate. While Telstra uses battery backup and generators to try to ensure continuity of service for as long as possible, these have a limited life, and cannot ensure the longer-term availability of telecommunications services in areas where electric power cannot be restored quickly.*

Telstra's full submissions to the 2011 Senate Environment and Communications Reference Committee can be viewed at:

<https://senate.aph.gov.au/submissions/comitees/viewdocument.aspx?id=b5e221ea-ad84-40c3-a5e0-b354ec184658>

<https://senate.aph.gov.au/submissions/comitees/viewdocument.aspx?id=e13a75c5-8db1-4875-a24d-639a2859fa25>



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### 5. Emergency Call Person for 000

Telstra is the Emergency Call Person (ECP) for Triple Zero (000) and 112 in Australia.

The ECP operates and maintains two national Emergency Service Answer Points (ESAPs or call centres) which have additional redundancy measures designed to ensure reliability during extreme weather or life threatening events. The two ESAPs are physically separated (NSW and VIC) and each is equipped with dual exchanges for full redundancy. The dedicated 000 network operated and maintained by Telstra will also direct or overflow emergency calls to the ESAPs to the PSTN in extreme situations. This allows call traffic isolation as required to ensure emergency calls outside the surge demand area can be answered without delay from the impacted State / Territory. In preparing for extreme weather events or natural disasters, the ECP has put in place a range of measures to help mitigate extreme or surge events.

The ECP has the ability in the event of an extreme weather condition to:

- maintain anticipatory staffing capacity (the ability to send an immediate recall to all ECP operators within the call centre vicinity); and
- employ a number of recorded voice announcements (RVA) which are used to inform emergency callers that there is a large volume of emergency calls being made and encourage them to stay on the line or utilise information numbers if emergency assistance is not required.