Lake Macquarie City Council

25 May 2011

Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
CANBERRA ACT 2600

Dear Sir/Madam

Subject: **Submission to the Senate Inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters**

Lake Macquarie City Council wishes to make a submission to the Senate Inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters.

The effective functioning of emergency communication networks and warning systems are vital to reducing the damage, injury and loss of life that natural disasters and other emergencies are capable of causing. Council's primary concern is the development of resilient communication networks and emergency warning systems that are able to respond to emergencies including floods, bushfires and severe storms, taking into account the likely impacts of climate change.

Council has an obligation to consider:

- the specific risks that natural disaster emergencies might pose to the Lake Macquarie community, including the impacts of climate change on the risk of natural disasters;
- the ability of local residents to receive reliable, timely early warning alerts to enable them to prepare for and respond to natural disasters and other emergencies;
- the ability of local residents to access information about emergencies through a variety of channels, including through social media and radio broadcasting; and
- the capacity of communication networks and infrastructure to function effectively in preparedness, response and recovery stages of any incident; including the resilience of these networks to the impacts of natural disasters.

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Our Ref: F2004/09152 Your Ref:

1) Vulnerability of Lake Macquarie to natural disasters

The City of Lake Macquarie is vulnerable to many types of natural disasters including floods, severe storms, bushfires and tsunamis due to its coastal location, low-lying settlements and large areas of bushland.

Council actively supports the inter-agency Local Emergency Management Committee, in coordinating emergency response and delivering an effective communications capacity during natural disaster emergencies.

In order to address the risk of flooding in the particularly low-lying suburb of Dora Creek, the Dora Creek FloodWatch alarm system has been established. This system automatically notifies NSW State Emergency Service (SES) and volunteer residents when specific water levels are reached. The Dora Creek FloodWatch alarm system provides information that informs SES Local Flood Advices.

As average global temperatures continue to rise as a result of human-induced climate change, the City of Lake Macquarie is likely to experience an increase in the occurrence and intensity of extreme weather events, including extreme precipitation events, as well as heat waves capable of creating dangerous bushfire conditions.

The City of Lake Macquarie, due to its coastal geography, is likely to be affected by rises in sea-level and related tidal inundation, and to storm surges, attributable to climate change. Projections for increased frequency and/or intensity of natural disasters reinforce the need for the Australian Government to consider climate change impacts, in both the increased risk and scale of natural disaster threats and of climate change impacts on emergency communication networks and early warning systems. An anticipatory approach must be incorporated into decisions about emergency communication networks and emergency warning systems.

2) Developing a national early warning network

The ability to issue early warnings rapidly can play a critical role in avoiding loss of life in emergencies, as well as reducing property damage and economic disruption resulting from severe weather. For example, early warnings provide time for people to move cars to shelter and to cover roof-top solar panels before the onset of a hail storm. Early warnings also allow time for business owners and residents to sandbag door-ways before floodwaters approach (Melbourne Storm Report, Australian Early Warning Network 2010).

Council has successfully promoted the Australian Early Warning Network (AEWN) as part of its community natural disaster awareness/preparedness program. The AEWN provides emergency and severe weather warnings in the form of text messages sent to mobile phones, pagers, emails, desktop alerts and in some circumstances, messages to landline phones. As a result of Council's promotion of the AEWN over the past 12 months, the number of residents in the City receiving alerts has increased by 75%. A potential partnership agreement between Council and the AEWN is presently under consideration, which would enhance the local emergency alert service.

Facilitating early warning networks (such as the AEWN) to access data from flood warning systems installed by Councils in areas prone to flash flooding (e.g. at Dora

Creek in the City of Lake Macquarie) broadens the range of information sources, and therefore strengthens the resilience of emergency communications systems.

Despite examples of growing uptake, however, opt-in participation in fast and effective early warning networks remains relatively low across Australia. A national Emergency Alert system does exist, supported by all state Governments, with financial assistance from the Commonwealth Government, with the ability to send text messages and leave landline messages. However, unlike the AEWN, which is an opt-in system, the Emergency Alert system uses the Integrated Public Number Database to issue alerts based on property addresses and billing addresses. People using pre-paid phones (for example many young people) will receive alerts based on the original address they gave when they bought their phone, which is likely to be outdated for a significant proportion of people. The system is also limited to providing 1000 landline voice messages in a minute, making it likely that many people would not receive the alert in a timely manner.

Furthermore, the Emergency Alert system appears to have been inadequate in integrating information from various emergency services organisations and issuing timely alerts. For example during the recent flooding in Toowoomba, Lockyer and Brisbane Valleys, Emergency Alert warnings were not received until after the event (Submission to the Queensland Floods Commission of Inquiry, Australian Early Warning Network, 2011).

There is a clear need for the Federal Government to support the development of a national early warning network, with primary responsibility for issuing early alerts for severe weather, natural disasters and other emergencies. The dedicated role of this network would be to monitor and integrate the information from various emergency services organisations, and minimise the elapsed time between the realisation of a threat and the issuing of a warning.

This network should utilise landline, mobile phone and web-based communication technologies to issue warnings instantly, on a mass scale and with a high degree of geographical sensitivity. Public education campaigns should accompany investment in early warning networks in order to build awareness of their importance and increase overall uptake.

While it is not directly related to maintaining the capacity of emergency communications systems in Australia, it is nonetheless important to recognise that many developing countries have a need to develop improved early warning systems as well. In particular, given the leap-frogging of mobile phones over landline technology in many developing countries, the Federal Government could also play an important role in providing support for the expansion of modern emergency warning networks within its international AID programs.

3) Utilising multiple channels for emergency communications

Radio broadcasting has an important role to play in complementing landline and mobile-based early warnings and emergency updates. Council strongly supports maintaining and enhancing the capacity of the Australian Broadcasting Corporation (ABC) as Australia's primary provider of emergency broadcasting services. The ABC

played a vital role in broadcasting timely, accurate and useful information during the June 2007 storms that affected large areas of the Lower Hunter region.

Social media present another significant opportunity for disseminating information about emergencies and natural disasters, not only in complementing other emergency warning strategies, but in providing updates and information on recovery. Emergency management authorities have traditionally held concerns about the associated lack of control over information. However, the *Emergency 2.0 Australia Taskforce* that reported to the *Government 2.0 Taskforce* on how social media can assist in emergency management found that the public is willing to trade-off accuracy and reliability for timeliness in some situations. It also reported that many people will resort to social media anyway in the absence of information from authorities.

Social media may also be useful for the emergency services to collect information, for example by monitoring location-based tweets. As the Taskforce report highlighted, "Emergency Services Organisations need to actively engage with the community using Social Media, or risk being left behind."

4) Building the resilience of emergency communication and early warning networks

It is critical that telecommunication-based early warning networks and emergency communication systems are as resilient as possible to the shocks and impacts of natural disasters.

With respect to bushfires, at present many telecommunications towers are located on hilltops in bushland areas that are highly vulnerable to fire, placing emergency warnings and emergency communications at risk of failure during a bushfire. Taking steps to mitigate these risks to telecommunications infrastructure should be a priority for the Federal Government, particularly given the likely increase in the frequency and intensity of bushfires arising from climate change. This should include the development of national bushfire protection standards for telecommunication towers, as already exists for dwellings in bushfire-prone areas. These standards would provide the various authorities responsible for emergency management with a clear understanding of their specific obligations to protect telecommunications towers. It would also provide a reference to Councils and other public land managers in relation to undertaking works to protect towers by building masonry heat shields or undertaking clearing.

In addition to building the resilience of fixed telecommunication networks, it is also important that public address systems transported by emergency vehicles remain able to operate in the event of telecommunication tower failures. In particular, it is essential that this service is resilient in scenarios where sudden interruptions to oil supply occur. There are many credible reports that a peak in oil production has already occurred, or will occur within the next two decades, and emergency services must begin planning for this eventuality now. Communication plans therefore need to be implemented that enable capacity for vehicle-based emergency warnings to be maintained as the availability of traditional fuel supplies declines, including, for example, through implementing fuel stockpiling and/or readying vehicles for the use of alternative fuels.

It is also essential that radio broadcasting services are resilient in the event of power failures arising from emergencies. Policies should be implemented to ensure that the ABC emergency communication services remains functional in such circumstances, by using back-up power sources.

By taking steps to address the issues highlighted in this submission, the Federal Government has an opportunity to greatly improve emergency communication networks and early warning systems. This will have major benefits in terms of reducing injury and loss of life, as well as reducing economic disruption and damage to property.

Should you require further information, please contact Dr Geoff Evans, Coordinator, Environmental Security, on 02 4921 0410.

Yours faithfully

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