AMTA and Communications Alliance

Questions taken on notice from SSCEC hearing 9 August 2011

Senator Fisher's Questions

Below are the Associations responses to questions taken on notice from **Senator Fisher** after the ***Senate Environment and Communications Committees*** hearing on 9 August as part of its **"*Inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters*".**

1. **Can you explain, based on your understanding, what is intended to be covered in Phase 2 of the implementation of the National Emergency Warning System?**

The Associations suggest referral of this question to the Commonwealth Attorney General's Department.

AMTA and Communications Alliance understand there are a number of non-disclosure agreements in place with the Victorian Government (on behalf of Australian Governments) in relation to the National Emergency Warning System (NEWS). The Associations are not parties to those agreements, however information received from their members is that parties subject to the agreements are not in a position to comment on the NEWS.

2. **To what extent have mobile operators relied on temporary network arrangements such as self-contained, transportable mobile base stations in recent natural disasters in Australia? Is this the most efficient and timely answer in circumstances where rapid deployment is needed to restore the networks?**

AMTA and Communications Alliance refer the Committee to section 4.16 of their joint submission which outlines the use of temporary mobile base stations in recent natural disasters.

The Associations also note that transportable mobile base stations or Cells On Wheels (COWS) are often used to provide additional coverage at major events to improve local coverage as well as to restore networks during disasters.

The carriers have used COWs, SatCows (a satellite COW) and MEOWS (Mobile Exchanges on Wheels) effectively during natural disasters such as Black Saturday and the floods and cyclones in Queensland and Western Australia. Telstra's SatCOW can be set up in 1.5 hours and can be transported via light aircraft, helicopter or

standard 4WD vehicle and was most recently deployed to Palm Island, Qld after Cyclone Yasi. Within 12 hours of the cyclonic event the SatCOW was providing telecommunication services to the community of Palm Island.

3. Do you agree that the 20Mhz of spectrum being sought for use by the emergency services for mobile broadband use is an efficient use of this available digital spectrum? Will this create appropriate harmonisation of services?

No, the Associations do not agree that the 20 MHz of spectrum being sought for use by emergency services organisations (ESOs) would be an efficient use of the digital dividend spectrum. As well as reducing the economic benefits of public mobile broadband use of the digital dividend spectrum, it would also not be cost effective for ESOs to use this spectrum to build a standalone network. In the absence of a Government business plan and commitment to fund the roll out of a standalone network, there is a high risk that any spectrum reserved for ESOs would remain largely unused, and this would also clearly be an inefficient outcome.

We believe that the requirements of ESOs for mobile broadband services would be best met through reaching commercial arrangements with mobile carriage service providers. This view is supported by the report '*Radiofrequency Spectrum Options for Public Safety Agencies* ' that was prepared by Access Economics for the Attorney General's Department on 10 September 2010 (and since provided to the Committee by the Associations). The report concludes that the optimal outcome would be for emergency services organisations to enter into commercial arrangements for access to public mobile broadband services.

The requested 20 MHz allocation of spectrum would not allow for harmonisation as there are no globally or regionally harmonised plans for ESO use of the spectrum within the 700 MHz digital dividend band. AMTA considers that the 806-824/851-869 MHz frequency segments provide the best opportunity for harmonisation, noting that these segments have been identified for advanced Public Protection and Disaster Relief communications in the Asia-Pacific region by the ITU, and that the international 3GPP standards forum is working on plans for the deployment LTE equipment in the segments. Furthermore, the technical performance of this spectrum in the 800 MHz band is almost identical to the spectrum in the 700 MHz band.

We also refer the Committee to the comments made on this issue by the ACMA and DBCDE in the hearings.

4. **What do you consider should be the government's approach in seeking expressions of interest by relevant parties regarding the promotion and provision of new and potentially improved equipment systems? Who should retain the intellectual property associated with such equipment, if ultimately utilised by the government?**

It is not possible for the Associations to comment on "the promotion and provision of new and potentially improved equipment systems" without an indication of the nature and scope of such "equipment systems".

Matters of intellectual property are very dependent on the nature of what is being acquired e.g. use of existing commercial services vs. building a new system to address custom requirements.

The Associations note that Australia is generally a "technology taker" and that there are established laws and regulations governing intellectual property rights in Australia.

5. **Are you at all concerned that the removal of the copper public switched telephone network (PSTN) may itself cause issue for contacting emergency services given that fibre optic cable does not carry electricity as such?**

The Associations would like to refer to our existing submission at 5.11, 5.12 and 5.13 where we address the NBN and battery backup.

There are both advantages and disadvantages to the use of copper and/or fibre optic cable based access technologies.

Where a person may need to make an emergency call to an ESO or the SES the fact that copper cables carry electricity to power the customer's telephone handset from the local telephone exchange is an advantage if there is a power outage.

There are, however, generally more advantages than disadvantages with optical fibre cables particularly where optical fibre installation practices use the latest jointing and fibre manufacturing technologies. Both optical fibre and copper cables are waterproof but pits and joints can fill with water particularly when these pits, joints and cables suffer physical damage or are exposed by flood waters.

Mobiles can be a better alternative as mobiles can provide access to emergency services when fixed line services are not working. Of course, mobile services are dependent on the user being in range of the mobile network and the mobile cell site having power. Also the mobile user will require access to a charged mobile device, noting that mobiles can be charged from various sources (e.g. cars) with appropriate adaptors and can even run on 'AA' batteries with suitable adaptor units.

6. What do you see as the most appropriate way of improving caller location accuracy and subscriber identification? Is this achievable with the current technology and infrastructure?

The IPND (Integrated Public Number Database) which is used to provide location (service address) information to both Triple Zero (000) and NEWS relies on the customer providing accurate and up-to-date address information to their service providers (who send the address information to the IPND). The ACMA has conducted a number of audits of the IPND and undertaken some education of customers regarding the importance of providing accurate and up-to-date address information.

The Associations believe that the ACMA should take on a greater role in educating consumers about the importance of providing accurate and up-to-date service location information to their service provider for both mobile and fixed- line services.

The Associations refer to our original submission at 8.2, 8.3 and 8.4 where we outline the work occurring in relation to location information for Triple Zero calls from mobiles (Enhanced MoLI).

The Associations note that in the first instance, callers to emergency services should always convey their location information. Network information should only be relied upon in "caller no response" situations.

With regard to mobile networks, industry is working with the ACMA on a proposal to send mobile location information automatically with each call to emergency services (Enhanced MoLI). In the interim, the ACMA has already included regulatory requirements in the *Telecommunications (Emergency Call Service) Determination 2009* for carriage service providers to supply the most accurate location information available to ESOs on request. Location information derived from mobile networks at best can only provide a general indication of the area within which the mobile may be located, rather than a precise location. In areas where individual mobile cells are large (e.g. rural areas) any information about the location area of any mobile device will similarly be broad.

The latest mobile devices can determine their own location accurately, akin to navigation devices, using GPS satellite information. Extracting location information from mobile devices is expected to be more beneficial than attempting to upgrade the accuracy of information derived from network based systems. In the coming years, mobile devices with GPS capabilities are expected to dominate the market with models already available at under one hundred dollars.

Further information can be found at the ACMA's website.

7. Does the widely available and relatively cheap option of using the UHF Citizen's Band (UHF CB) still have a place in the technological hierarchy for communications between individuals? Should such equipment be upgraded?

The Associations suggest that UHF CB should not be regarded as a primary service for communications in an emergency but is viewed as a useful back-up. The UHF CB service is not secure or private and as a shared service is subject to congestion and interference.

The Associations note that the ACMA's website facts sheets and other information relating to the use of CB radio during emergencies.

The Associations are unclear as to what is meant by an "upgrade" of UHF equipment and it is unclear who would be responsible for upgrading private citizens' equipment.

The use of a UHF (CB) transceiver is currently governed by a class licence as prescribed by the ACMA. The Associations refer to work currently being undertaken by the ACMA to replan the use of spectrum associated with UHF (CB) channels where narrow band radios will be introduced in two stages over a 5 year period, relieving congestion and doubling the channel capacity in this segment of spectrum.

What this means to the user:

- Current 40 channel wide band radios will continue to work on the original channel frequencies and will operate effectively past 2016.

- Current 40 channel UHF CB Radios will not become obsolete and will continue to operate on the original 40 channels, however they will not be able to converse on the newer channels 41 - 80.

8. What capabilities are there, under the Long Term Evolution (LTE) mobile telecommunications to enable prioritisation of services?

LTE allows for prioritisation of services.

The Associations note that some prioritisation capabilities can be deployed using 3G mobile networks currently available.

9. **Do you consider that LTE advances will aid the provision of future emergency services?**

Yes, if ESOs adopt LTE services it is likely that such services will aid in the provision of future emergency services.

For example, LTE supports faster data rates than on current mobile broadband services, which could support enhanced applications by emergency service organisations e.g. higher resolution real-time video links between emergency sites and command centres.

Prioritisation for emergency services is covered under question number 8.

Senator Bilyk's Questions

Below are extracts from the hearing transcripts and responses from the Associations regarding the questions taken on notice from Senator Bilyk.

1. **Senator BILYK: Concerns were brought up in regard to access of 106, especially for people who are deaf. I am happy to put some further notes to you if you are happy to take that on notice.**
   Mr Althaus: We are very happy to take that on notice. As I say, we have a good working relationship with the bodies involved and have been actively engaged with them for many years now.

106 is a service provided by the National Relay Service (NRS). 106 is a free number that can be dialled by TTY users and provides access to emergency services. More detailed information about the 106 service and how to use it can be found at the NRS website.

As 106 is a text-based service it cannot currently be accessed from mobile phones (or fixed phones without a TTY). Industry has been working with DBCDE to investigate the option of providing an SMS- to-106 service which would allow mobile users to send SMS (text messages) to 106. While industry would be able to implement the necessary changes to make such a service possible, there are significant limitations to the service due to the nature and limitations of the underlying SMS legacy technology. Deciding whether the benefits outweigh the risks of offering such a service is a matter for Government policy. This is an ongoing project between industry and DBCDE and it is also, in some part, dependant on work being undertaken by DBCDE to investigate a smartphone application that would provide access to emergency services for NRS users. The Associations refer the Senator to DBCDE for further information about the development and trial of a smartphone emergency service application.

2. **Senator BILYK: The Tasmania Fire Service and the Tasmanian government, in their submissions, which you may not have seen or read, suggested that text**

messages from emergency service organisations be prioritised higher than other traffic to ensure that these messages do not get caught up in network congestion causing dangerous delays. For your members that are carriage service providers, do you know whether they currently prioritise those messages in any of the jurisdictions?
Mr Althaus: I will take it on notice but the capacity exists to prioritise. SMS is a more challenging environment than most. Let me take that on notice and come back to you with detail.
Senator BILYK: Is it technically possible or feasible to prioritise those messages?
Mr Althaus: It is and will increasingly be so in the future given the technology.
Senator BILYK: If it is possible, but is currently not being done, are there any steps being made by carrier service providers to work with ESOs to prioritise their traffic?
Mr Althaus: The answer to that question would be yes but I am happy to provide more detail.

The capability to prioritise text messages using the SMS (short message service) does not exist on any of the national mobile networks in Australia.

The Associations note that SMS is an established legacy technology that operates on a "store and forward" model with no assurances around delivery. While SMS can be an effective method of mobile communications it is subject to network capabilities and congestion.

The Associations note that as it is anticipated that ESOs will adopt LTE services, as outlined in question 3 (from Senator Fisher), SMS will have limited use and functionality for them in the near future.

Prioritisation is possible with LTE services as per the response to question 8 (from Senator Fisher) above.