

**Australian Broadcasting Corporation**

submission to

**Senate Environment and Communications  
References Committee**

**The capacity of communication networks and  
emergency warning systems to deal with  
emergencies and natural disasters**

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# **ABC submission to the Senate Environment and Communications References Committee inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters**

## **Introduction**

The Australian Broadcasting Corporation (ABC) welcomes the opportunity to provide input into the Senate Environment and Communications References Committee's inquiry into the capacity of Australia's communication networks and emergency warning systems during times of emergency and natural disasters. As Australia's primary national broadcaster, with 60 local radio services around the country, the Corporation functions as Australia's emergency broadcaster.

The ABC uses its radio, television and online services to deliver timely, accurate and relevant information to affected communities during fires, floods and other natural disasters and emergencies. This is supported by agreements with all State and Territory emergency services.

The Corporation provides emergency broadcast training for ABC Local Radio staff to ensure that they are adequately prepared for emergency situations. The ABC also plays an important role in building community resilience and the ability to prevent, prepare, respond and recover during times of adversity.

There is no legislative requirement for the ABC to broadcast warnings, nor is the Corporation provided with any funding to assist with disaster coverage. However, there are strong audience expectations that the ABC will provide such services. It is well-recognised that listening to ABC radio services leaps during emergency periods, as there is very high community recognition of the ABC's role in providing timely and accurate information. Research into emergency broadcasting has shown that listeners are inclined to seek out trusted local personalities and stay with them for the duration of the event.

## **ABC Emergency Broadcasting**

Radio and television broadcasting are very effective methods of communicating important information to large groups of people before, during and after emergency situations. Local radio services are particularly effective, as broadcasters have established relationships with local communities and detailed local knowledge that may assist listeners.

Accordingly, the ABC's primary platform for emergency broadcasting is the 60 local radio stations throughout regional and metropolitan Australia that comprise the ABC Local Radio network. Local Radio has an estimated national penetration rate of 99.4% and is often the

only source of vital weather and emergency service information for regional and rural Australians.

### *Preparation*

The Local Radio Manager of Emergency Broadcasting assists with editorial direction, training, strategic policy and resource allocation, and liaises with emergency agencies and other specialist bodies.

ABC Radio's emergency broadcasting is governed by Local Radio's Emergency Broadcasting Plan, which is reviewed annually. Among other procedures, the Plan involves:

- a commitment to being local;
- broadcasting all emergency warnings provided to the ABC by emergency agencies repeatedly and for as long as necessary;
- being pro-active – i.e. not waiting until a disaster unfolds to provide information;
- identifying whatever resources are needed to maintain emergency broadcasting; and
- building strong relations with external emergency agencies.

Local Radio has also placed a premium on training its staff in emergency broadcasting procedures and responsibilities, and in ensuring that this training is kept up to date. The Corporation believes that this investment in responsible, broadly-based training of staff on whom the public may depend for correct information and sensible advice is critical to its ability to perform its emergency broadcasting function, especially over a long-running emergency.

ABC Radio staff are also trained in the responsible use of talkback radio to enhance emergency coverage, as this often provides crucial information from the emergency site more quickly than via official means. Talkback is also invaluable during recovery phases, but again, broadcasters do require expertise in its effective use.

Key to the ABC's ability to deliver accurate and timely emergency information to audiences is the set of relationships it has developed with State and Territory emergency services agencies. During the Brisbane flood crisis in January 2011, for example, an ABC Local Radio staff member was able to sit in on all State Emergency Management Committee Meetings and hear first-hand information about the weather threats, serious problems and likely emergency agency response. This dictated the daily editorial and planning response, and enabled Local Radio to readily liaise with the Government of Queensland regarding required resources.

The ABC has memoranda of understanding or partnerships with the emergency bodies in all States and Territories that commit the Corporation to use its best endeavours to provide emergency warnings and working to help emergency service agencies. These MOUs are reviewed regularly. This is consistent with the recommendation of the Council of Australian

Governments (COAG) 2005 National Inquiry on Bushfire Mitigation and Management was that “each state and territory formalise non-exclusive agreements with the ABC as the official emergency broadcaster, providing an assured standing arrangement” (Recommendation 7.1).

In addition, Local Radio Regional Program Managers and Metropolitan Program Managers are active members of most State and local emergency management committees, with the exception of Western Australia and Tasmania. The ABC has formal and informal arrangements allowing emergency agencies and recovery specialists to use the Local Radio network to deliver emergency warnings.

The Corporation also participates in the Trusted Information Sharing Network (TISN), which is operated by the Attorney-General’s Department and is the primary mechanism for delivering the Australian Government’s Critical Infrastructure Resilience Strategy. TISN seeks to build resilience within the health, energy, water, transport, food supply, banking and finance and communications sectors by working with both public and private entities. As a result of its emergency broadcasting role, the ABC is recognised and represented as a key broadcaster within the Communications Sector Group (CSG). During 2010, the ABC participated in three strategic desktop exercises conducted by the CSG at the request of the Western Australian, South Australian and Northern Territory Governments, which examined communications between the sector and state government.

The ABC relies on information provided by emergency agencies for timely and effective warnings. It notes that there are variations in the manner in which this information is provided around the country. The Corporation has also experienced situations in which it has proved difficult to obtain vital contextual information on a natural disaster as it unfolds. It would welcome more consistent mechanisms for ensuring emergency agencies provide broadcasters with effective and timely warning information. This will assist both emergency services agencies and broadcasters in undertaking their roles by providing certainty as to the type and timeliness of information to be provided to the community.

### *Responding in Emergencies*

In recent years, Local Radio has provided emergency broadcasting for fires in all States; for cyclones in three States and Territories; for flooding in Queensland, Western Australia, New South Wales and Victoria; and for equine flu outbreaks, tsunamis, locust plagues, heatwaves in Western Australia and South Australia, and storms in all States and Territories.

ABC Local Radio has worked hard to develop mature and robust procedures for emergency broadcasting. During the rolling emergencies of the 2010–11 Summer, Local Radio stations in all affected regions rapidly switched into 24/7 emergency mode when required. Local Radio is able to get a warning to air within moments during prime broadcast times and with minimum delay at other times of day. It is also able to use its unparalleled network of

transmitters to maintain local broadcasts even if individual transmission towers are threatened during the emergency at hand.

In addition, the ABC delivers emergency information to analog and digital television viewers in the form of on-screen text “crawls” on its primary channel ABC1. The Corporation’s dedicated digital television news channel, ABC News 24, also broadcasts emergency warnings throughout affected areas. However, as the Corporation’s television services are delivered on a state- or territory-wide basis, they are less able to be localised than radio broadcasts.

The ABC also uses online and mobile platforms to deliver emergency information to its audiences. During the 2010–11 Summer, it published weather warnings, emergency services advice and coverage of events (articles, images, audio and video) to websites and social media platforms such as Facebook and Twitter. It is a general guideline at Local Radio that all warnings will appear on online sites shortly being issued. All sites are expected to carry the most up-to-date information, and headlines and by-lines are used to show the viewer that the information is relevant and accurate, and most important, timely.

The Corporation considers that attention should be paid to the issuing of warnings in foreign or Indigenous languages where appropriate, and to the issue of contacting members of the deaf community via television subtitling, online sites and mobile platforms. The ABC has conducted some limited trials with cyclone warnings in the Northern Territory within its available budget. It would be interested to extend these further, subject to funding.

#### *Assisting with Post-Disaster Recovery*

With the assistance of disaster experts, the ABC has developed a highly effective approach to providing information and reassurance after a disaster to the affected communities. This includes building partnerships with emergency and recovery agencies to ensure communities are provided with useful information. Likewise, the Corporation has developed guidelines for “recovery broadcasting” to assist communities with recovery information and support for many weeks after an event. However, just as with emergency broadcasting, recovery broadcasting requires significant resources and infrastructure. ABC Radio has proved effective in this role, although it continues to find the balance of providing these services at a desirable level without additional resources challenging.

The ABC has three portable (“flyaway”) FM transmitter units with mixing desks, antennas and satellite receivers that can be deployed rapidly by road, rail or air for broadcasting Local Radio to affected communities. The transmitters are based in Townsville, Perth and Melbourne, while a fourth, less-portable unit is located in Darwin.

During the bushfires in Victoria in 2009, the ABC used a flyaway unit to establish a temporary ABC Kinglake Local Radio service to support the recovery and rebuilding of that

fire-ravaged community. The ABC simultaneously deployed a flyaway unit to the flood-affected community of Ingham in Queensland. During the 2010–11 Summer, the Corporation used flyaway transmitters in the flooded town of Emerald and to support communities in The Cassowary Coast Shire that had been affected by Cyclone Yasi.

### *Network Resilience*

The ABC's ability to deliver emergency broadcasting is dependent on the resilience of its transmission and distribution infrastructure.

Local Radio is broadcast on some 240 transmitters around the country, as well as some 130 self-help installations. While all of the metropolitan services and most major regional services have a stand-by program source (such as a satellite feed) and standby power (emergency generators) available, this is not the case with many of the transmitters covering smaller communities in regional Australia. Indeed, some Local Radio transmitters covering major regional populations centres – including the Gold Coast, Toowoomba, Emerald, Albury/Wodonga, Bega, Orange, Grafton, Tamworth, Glen Innes, Kempsey, Broken Hill, Horsham and Karratha – have no stand-by program source available. Similarly, many transmitters covering populations of around 10,000 or fewer people do not have standby power available. A major capital injection would be required to address these shortcomings in the network and secure the services in times of emergencies.

The ABC's transmission services provider, Broadcast Australia (BA), works closely with the ABC and alternative program feeds can be put in place to maintain service continuity. A new operations protocol agreed between ABC and BA in August 2010 resulted in substantial improvements to the process being out in place by BA. During natural disasters, Local Radio has the highest restoration priority, followed by analog and digital television.

The ABC's distribution network, which is used to deliver programs to transmitters for broadcast, uses Telstra and Optus communications networks and subject to the same risks as those networks. Flooding, when it occurs, can interrupt program distribution as parts of the Telstra network infrastructure fill with water. By comparison, the Optus satellite network appears relatively resilient, although cyclones and strong winds can damage satellite receiver antennas. While some particular services/transmitters use the Telstra network as the primary means of distribution and an Optus satellite dish as the secondary distribution method, very few sites in Australia are configured in that way.

Limited network bandwidth can and has delayed content delivery during emergencies. Most ABC regional stations are currently limited to 1Mb/second network links, which are too narrow to handle high volumes of network traffic. Reporters using domestic internet connections in the field have also encountered local congestion during emergencies, making it more difficult to access the internet and in turn affecting information gathering and dissemination.

Similarly, unreliable mobile/wireless connections have created problems for field reporters working in regional and remote locations. Mobile phones and “air cards” used to access the internet are difficult to use in areas of poor signal strength (“black spots”), and even when some signal is available, momentary signal losses (“drop-outs”) can break network connections, disrupting operations as computers and connections are reset in order for production to continue.

## **Public Education**

The ABC contributes to educating the Australian public about the use of communications technologies before, during and after emergencies through the delivery of education campaigns to help communities understand potential and actual threats, providing information that people can use to respond to events and recovery information. This is supported by the Local Radio’s Emergency Broadcast Plans.

ABC Local Radio has funded emergency road signs throughout Victoria and in a small number of locations in South Australia. The signs provide information on the local frequency used by the ABC to broadcast during emergencies. The Corporation would like to see this initiative expanded to all States and Territories, should further funding be made available for this purpose.

ABC Television, particularly ABC News 24, promotes local frequencies when there is a major event occurring. The Corporation encourages emergency agencies using “state alerts” to include the broadcast frequency on which people can hear more information about a disaster. Currently, this only occurs in Victoria.

The ABC is keen to expand its promotion of digital literacy and emergency awareness by providing comprehensive, reliable emergency preparation information online in a well-developed, accessible and attractive ABC Emergency site.

There is also scope for the Corporation to increase its communication to the public about what information it is able to make available during an emergency, online, on mobile and on air, and how best to utilise this in the lead up to, during, and in the recovery period following an emergency, should further funding be made available to the Corporation.

## **New and Emerging Technologies**

### *Digital Radio*

In July 2009, national and commercial broadcasters commenced DAB+ digital radio broadcasting in the five mainland state capital cities. The technology has witnessed solid growth in both audiences and receiver sales. However, over one-third of Australians live beyond the current digital radio footprint. The radio industry is currently looking to government for a timetable for the rollout of digital radio services to regional Australia.

Industry responses to a discussion paper on technologies for digital radio services in regional Australia issued by the Department of Broadband, Communications and the Digital Economy in late 2010 were unanimous in calling for a DAB+ rollout in regional centres to occur as soon as possible.

During the Queensland floods in January 2011, the ABC broadcast emergency information in Brisbane using digital radio. It also employed the capabilities of digital radio to retransmit its emergency coverage on a temporary channel in the other capital cities to allow people elsewhere in the country with an interest in the floods to follow the unfolding events. It created a similar temporary digital channel to provide a live relay of overseas disaster coverage following the Christchurch earthquake.

It is important to note, however, that DAB+ transmissions cover roughly the same geographical area as FM radio broadcasts. By comparison, AM radio, which is currently used for the majority of the ABC's emergency broadcasts, has a considerably greater coverage area, allowing it to be received in smaller and remote communities and in the wide spaces and roads between population centres. To date, digital radio standards capable of achieving comparable wide-area coverage in rural and remote areas have yet to be a proven proposition commercially. Moreover, as manufacturers are not including AM receivers in digital radios, it is foreseeable that, as digital radio continues to be adopted without a digital wide-area radio standard, many Australians are likely to be unable to receive emergency radio broadcasts beyond the borders of regional towns.

The Corporation has advocated the further investigation of supplementary digital radio standards (e.g. DRM30 and DRM+) capable of achieving wide-area coverage in regional/remote areas. For clarity, it does not believe that the need to identify a wide-area standard should delay the rollout of DAB+ services in regional Australia, as DAB+ is an efficient and effective technology for delivering digital radio to the roughly 98% of the population currently able to receive FM radio.

The Corporation also notes that existing legislation prohibits the inclusion of animation and short-form video in digital radio broadcasts. As such, it prevents the inclusion in emergency broadcasts of such things as animated weather maps and live weather radar, which could be of considerable value during natural disasters such as cyclones or floods. The ABC proposes that the current definition of "digital program enhancement content" in the *Broadcasting Services Act 1992*, which currently restricts digital radio enhancements to text and still images, should be extended to include animation and short-form video to enable such specific purpose uses.

#### *Online and Mobile Services*

The recent emergencies in Australia also demonstrated a growing public demand for information across a range of platforms other than traditional radio and television



broadcasts, particularly mobile phones and online, including social media networks. It is expected that demand for universal access to timely and relevant information across all communication channels will increase.

The ABC delivers significant services to audiences online and is well positioned to strengthen its role as Australia's emergency broadcaster, should funding be made available. The Corporation has recently piloted mobile and crowd-sourced emergency services, although it is yet to determine the resources required to expand services on such platforms.

The Corporation sees the potential to further develop emergency services for mobile given the number of Australians with mobile phones and the likelihood that people in affected areas will have their mobile phone with them. If emergency related information is transmitted to one person via mobile it is extremely easy for that person to forward information to their immediate personal networks. The ABC believes that reliable mobile services with near-to-real-time warnings, alerts and situation updates are likely to play an increasingly important role during emergencies.

The increase in social media networking on phones also points to a potential to use such platforms for distribution of information. Recent experience shows increasing expectation and demand for real-time updates via social media networks, such as Twitter and Facebook. The ABC has observed similarly increasing interest in near-to-real-time mapping applications that show relevant details, such as satellite weather and projected weather patterns and warnings, road closures, emergency services warnings and reports. The Corporation would be interested in further developing such applications. It notes that work will be required to build consistent frameworks that support the sharing and syndicating of data between the ABC, emergency services agencies, Bureaux of Meteorology and other government agencies.

In a similar fashion, the Corporation has observed that "crowd-sourcing" reports from the public through social media networks and dedicated tools has the potential to supplement official sources of data from emergency services, government agencies and media outlets. This form of hyperlocal reporting can be of great value both to people on the ground in affected areas and to friends and relatives viewing events from afar. GPS-enabled mobile devices greatly enhance the capacity of the public to submit these reports and updates.

The Corporation's ability to deliver mobile and online emergency information to Australians is also heavily dependent on the underlying network and server infrastructure. During a crisis it is not uncommon for emergency websites to become crippled by the increased traffic loads on their server. Similarly, as noted above, telecommunications networks may become unreliable as a result of flooding or other natural disasters affecting their infrastructure. Currently, such networks do not share information about disruptions, with the result that the ABC is unable to push and pull its content and audiences across these different communication channels according to availability and reliability. The ABC would welcome

mechanisms by which it could acquire information directly from telecommunications companies on interruptions to their services during times of emergency, along the lines of the reports it receives from Broadcast Australia about its transmission capability.