

Appendix 3

Inquiries into recent natural disasters in Australia

Inquests and inquiry into the Canberra firestorm

Between 8 and 18 January 2003, Canberra experienced a firestorm that resulted in the loss of four lives, injury to 435 people, the destruction of 487 homes across several suburbs, total property losses valued between \$600 million and \$1 billion, and almost 70 per cent of the ACT (157 170 hectares) being burnt.¹

In January 2003, a Coronial inquest into the Canberra bushfires was established.²

Recommendations

On 19 December 2006, the ACT Coroner Maria Doogan handed down her report on the Canberra firestorm. With respect to emergency communications and warning systems, Ms Doogan made the following recommendations that:

- the Emergency Services Agency adopt a more rigorous risk management approach to incident management and prediction—with particular emphasis on the development of improved community information strategies and protocols;
- the Emergency Services Agency review the communications systems used by the four services (the ACT Ambulance Service, the ACT Rural Fire Service, the ACT State Emergency Service and the ACT Fire Brigade), by the Australian Federal Police (AFP), by the NSW emergency services and by aircraft and ensure the systems are compatible;
- measures be taken to ensure that ACT and NSW Rural Fire Service radio communications systems are integrated, so that ACT and NSW firefighting units can communicate with each other;
- consultations and negotiations occur between the Emergency Services Agency and the NSW Rural Fire Service to ensure that fire risk and safety messages to the community are co-ordinated. Maximum use should be made of television and radio announcements throughout the ACT and southern NSW, consistent with NSW timetables for targeted programs in conjunction with the United Firefighters Union ACT Branch and volunteer fire brigade representatives. The Emergency Services Agency should consider using ACT Fire Brigade staff

1 Coroner Maria Doogan, Coroner (ACT), *The Canberra Firestorm: inquests and inquiry into four deaths and four fires between 8 and 18 January 2003*, December 2006, p. 3.

2 ACT Magistrates Court, *ACT Coroner's Court 2003 Bushfire Inquiry*, available: www.courts.act.gov.au/magistrates/page/view/596/title/act-coroners-court-2003-bushfire (accessed 30 June 2011).

and ACT Rural Fire Service volunteers to talk to groups in the community on request, thus furthering face-to-face community education in high-risk suburban areas of the ACT;

- the Emergency Services Agency publicise and demonstrate the use of the Standard Emergency Warning Signal and provide to the community adequate explanation of the application of the signal. This should occur at least annually, in conjunction with any pre-summer fire awareness initiatives;
- the Emergency Services Agency develop a clear policy for disseminating information to the public and the media in times of emergency and that, as required, that policy incorporate advance door-knocking of homes in the area affected, as well as regular broadcasts by local radio and television stations and regular updates on the relevant website;
- the Emergency Services Agency conduct investigations—and liaise with emergency services agencies in other jurisdictions—in order to ascertain what technologies exist and are effective for use in disseminating warnings and associated information to the community of the ACT; and
- a system of public warnings that uses grid references shown on the maps in the Canberra telephone directory be adopted.³

ACT government response

In February 2007, the ACT Government released its response to the Coroner's report.⁴ With respect to the recommendations made about emergency communications and early warning systems (above), the government agreed or agreed in principle with all of these recommendations and advised that many had already been implemented.⁵

2009 Victorian Bushfires Royal Commission

On 7 February 2009, Victoria experienced a devastating bushfire disaster that resulted in the deaths of 173 people.⁶ This day has been called "Black Saturday".⁷

3 Coroner Maria Doogan, Coroner (ACT), *The Canberra Firestorm: inquests and inquiry into four deaths and four fires between 8 and 18 January 2003*, December 2006, pp 217, 222 and 223.

4 ACT Government, *ACT Government response to recommendations of the Coroner's Court in the Canberra Firestorm: inquest and inquiry into four deaths and four fires between 8 and 18 January 2003*, February 2007.

5 ACT Government, *ACT Government response to recommendations of the Coroner's Court in the Canberra Firestorm: inquest and inquiry into four deaths and four fires between 8 and 18 January 2003*, February 2007.

6 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, p. vii.

7 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, p. vii.

On 16 February 2009, the 2009 Victorian Bushfires Royal Commission was established.⁸ The Royal Commission examined 15 of the most damaging fires, including the five fires at Kilmore East, Murrindindi, Churchill, Beechworth-Mudgegonga and Bendigo where people lost their lives.⁹

In its final report of July 2010, the Royal Commission found:

...that the state-level emergency management arrangements still faltered because of confusion about responsibilities and accountabilities and some important deficiencies of leadership. True integration was not achieved: the [Country Fire Authority] and [Department of Sustainability and Environment] followed operating procedures that were not fully consistent, used separate technology systems, and in many cases performed duplicate functions.¹⁰

The report also made the following observations:

Those [Incident Management Teams] that were poorly prepared or did not have access to fully qualified staff also often had the greatest difficulty managing information flows, which are crucial to the issuing of public warnings and informing firefighters of changing conditions and potential danger...skilled officers need to be supported by robust, consistent and coordinated information and systems for tracking fire vehicles and mapping fires. When the State's approach to fighting ferocious fires is so highly dependent on cross-agency coordination it is unacceptable that effective coordination of information systems has not been achieved.¹¹

And:

Communications systems on 7 February were also hindered by poor coverage, lack of interoperability between emergency services agencies, and insufficient investment in new technology. For example, the transmission speed of the paging system had been reduced in order to expand reception coverage, and this caused serious delays in other than the most urgent messaging. There were also communication difficulties between metropolitan and regional police because of incompatible radio systems. Further, radio 'black spots' meant that reception was poor or non-existent in some areas, and there was channel congestion and insufficient channel availability. These problems were exacerbated when fire damaged or destroyed radio and telecommunications infrastructure.¹²

8 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, p. 1.

9 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, p. 4.

10 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, p. 8.

11 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, p. 9.

12 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, p. 11.

Recommendations

Ultimately, the Royal Commission made several recommendations with respect to emergency communications and early warnings:

- the State revise its bushfire safety policy. While adopting the national Prepare. Act. Survive. framework in Victoria, the policy should include the following (amongst other criteria):
 - enhance the role of warnings – including providing for timely and informative advice about the predicted passage of a fire and the actions to be taken by people in areas potentially in its path;
- the Country Fire Authority (CFA) and the Department of Sustainability and Environment (DSE) standardise their operating systems and information and communications technologies with the aim of achieving greater efficiency and interoperability between agencies; and
- the CFA review and improve its communications strategy as a matter of priority and develop a program for identifying and responding to black spots in radio coverage.¹³

Victorian government response

The Victorian Government has responded to the recommendations made in the Royal Commission's interim report of August 2009.¹⁴ The government has not yet responded to the recommendations in the final report.

In the response to the interim report, the Victorian Government was supportive of recommendations that suggested improvements to bushfire communications and warnings, including the following recommendations that:

- the State ensure that bushfire warnings issued in Victoria are founded on the principle of maximising the potential to save lives; embody the principles encapsulated in the Council of Australian Governments (COAG) report titled *National Inquiry on Bushfire Mitigation and Management* (2004);
- the State ensure the content of bushfire warnings issued in Victoria reflects the principles set out in the Commonwealth policy paper *Emergency Warnings – Choosing Yours Words* (2008);
- the State ensure bushfire warnings in Victoria are confined to two categories or stages: "bushfire information" and "bushfire warning";

13 2009 Victorian Bushfires Royal Commission, *Final Report: summary*, July 2010, pp 23 and 28.

14 Government of Victoria, *Response to the 2009 Victorian Bushfires Royal Commission Interim Report*, October 2009, available: www.justice.vic.gov.au/wps/wcm/connect/justlib/DOJ+Internet/resources/4/a/4aa53600404a495fbd29fff5f2791d4a/Response_to_2009_Victorian_Bushfires_Royal_Commission_Recommendations.pdf (accessed 28 June 2011).

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- the State ensure that the Standard Emergency Warning Signal (SEWS) be used in Victoria to precede each bushfire warning or group of warnings that are dangerous or extremely dangerous;
 - the State invite commercial operators to enter into a Memorandum of Understanding (MOU) on the dissemination of bushfire warning messages and the use of the SEWS by those operators;
 - the Australian Government, COAG and the State determine whether it is technically possible to implement the second phase of Emergency Alert (that is, the delivery of warning messages to mobile phones based on physical location of a handset at the time of the emergency) with a view to implementation for the 2009–10 bushfire season;
 - the State ensure that a single, multi-agency portal for bushfire information be designed to allow incident control centres to directly post information and warnings;
 - the State ensure the Victorian Bushfire Information Line is funded to enable it to provide greater surge capacity during extreme events and to improve the efficiency of its internal information function;
 - the State and its agencies implement an advertising and awareness campaign on the changes to policy and practices as set out in the Royal Commission's report, such as the SEWS, Emergency Alert, use of sirens by local communities, refuges and relocation;
 - the State amend the *State Emergency Response Plan* so the control agency for a fire is responsible for issuing and communicating warnings; and to remove from emergency response coordinators the responsibility of ensuring the control agency gives consideration to alerting the public to dangers and potential dangers arising from an emergency;
 - the Office of the Emergency Services Commissioner formally advise the Emergency Services Telecommunications Authority (ESTA) and Telstra Triple Zero of forecast severe fire risk days and particularly days where there is a risk of extremely dangerous bushfires;
 - the State ensure ESTA is funded to provide greater surge capacity during extreme events, including establishing additional work stations for fire calls at ESTA centres; and
 - the State further promote, through COAG, more effective emergency call service arrangements throughout Australia.¹⁵

15 Government of Victoria, *Response to the 2009 Victorian Bushfires Royal Commission Interim Report*, October 2009, available: www.justice.vic.gov.au/wps/wcm/connect/justlib/DOJ+Internet/resources/4/a/4aa53600404a495fbd29fff5f2791d4a/Response_to_2009_Victorian_Bushfires_Royal_Commission_Recommendations.pdf (accessed 29 June 2011).

Queensland Floods Commission of Inquiry

During December 2010 and January 2011, Queensland experienced an unprecedented flooding disaster which impacted 70 per cent of the state.¹⁶

On 17 January 2011, the Premier of Queensland, the Hon Anna Bligh MP established the Queensland Floods Commission of Inquiry.¹⁷ The terms of reference for the inquiry included:

...to make full and careful inquiry in an open and independent manner with respect to the following matters:-

- (a) the preparation and planning by federal, state and local governments; emergency services and the community for the 2010/2011 floods in Queensland,
...
- (c) all aspects of the response to the 2010/2011 flood events, particularly measures taken to inform the community and measures to protect life and private and public property, including
 - immediate management, response and recovery
 - resourcing, overall coordination and deployment of personnel and equipment
 - adequacy of equipment and communications systems; and
 - the adequacy of the community's response.
- (d) the measures to manage the supply of essential services such as power, water and communications during the 2010/2011 flood events,
- (e) adequacy of forecasts and early warning systems particularly as they related to the flooding events in Toowoomba, and the Lockyer and Brisbane Valleys...¹⁸

The Floods Commission released an interim report on 1 August 2011 'on matters associated with flood preparedness to enable early recommendations to be implemented before next summer's wet season'.¹⁹

Recommendations

Recommendations in the interim report relevant to the current inquiry included:

16 Queensland Floods Commission of Inquiry, *Home*, available: www.floodcommission.qld.gov.au/home (accessed 20 June 2011).

17 Queensland Floods Commission of Inquiry, *Terms of Reference*, available: www.floodcommission.qld.gov.au/terms-of-reference (accessed 20 June 2011).

18 Queensland Floods Commission of Inquiry, *Terms of Reference*, available: www.floodcommission.qld.gov.au/terms-of-reference (accessed 20 June 2011).

19 Queensland Floods Commission of Inquiry, *Terms of Reference*, available: www.floodcommission.qld.gov.au/terms-of-reference (accessed 20 June 2011).

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- before the next wet season, local governments susceptible to flooding should conduct community education programs which provide local information about (at least) the following topics:
 - the types of warnings that are used in the area, what they mean and what to do in the event of a warning;
 - where and how to obtain information before, during and after a disaster;
 - what is likely to happen during a disaster (for example, power outages and road closures); and
 - evacuation measures available for groups who require particular assistance (for example, the elderly, ill and people with a disability).
 - in issuing warnings for a district or region, local and state authorities should use a range of different warning mechanisms effective for the particular district or region, including methods which do not rely on electricity.
 - councils should prepare SMS alert templates covering a range of different flood scenarios before the wet season.
 - SMS alerts should direct recipients to websites or contact numbers providing more detailed information about flood locations and predictions, the location of evacuation centres and evacuation routes.
 - councils and Emergency Management Queensland should work together to ensure the approval process does not cause delays in delivering SMS alerts.
 - wherever possible, Emergency Management Queensland should consult with local disaster management groups before sending emergency alerts to residents. Emergency Management Queensland should inform the local disaster management group, as soon as it can, about any message already sent to residents in that local disaster management group's area.
 - individuals and businesses should be encouraged to acquire battery operated radios for use in emergencies.
 - councils should ensure that residents are aware of the frequency of the radio station or stations in their local area that will disseminate flood warnings and other information during disasters.
 - councils that have not already done so should consider how social media may be used effectively to provide accurate information about flood levels and local conditions to residents during a flood event.
 - councils, with the assistance of the Bureau of Meteorology, should consider the susceptibility of their regions to flash flooding, and whether it is feasible and necessary to acquire and operate an automated local evaluation in real time system (ALERT system) for particular waterways.
 - dam operators should plan to contact people identified by their emergency action plans about dam outflow in sufficient time for them to be able to respond to the information.

- dam operators should ensure each emergency action plan includes a clear statement as to the frequency of, and circumstances in which, warnings will be issued to people listed in the emergency action plan.
- dam operators should assess the effectiveness of using SMS and/or email as a bulk instantaneous communication to all people on the notification list while individually contacting those whom it is essential to inform immediately.
- the operator of each dam should, upon request, provide to any person on the notification list in the emergency action plan an explanation of the arrangements as to the type and frequency of communications required by that plan.
- operators of dams should publicise, in a newspaper circulating in the local area and by posting a notice on its website every year before the wet season, the opportunity for local residents immediately downstream of a dam to be included on the existing notification list, and:
 - consider whether an applicant for notification is so close to the dam that the warning time before water from the dam affects them is less than that available through the emergency management system;
 - consider whether they can be effectively notified by SMS or email;
 - if it is necessary to contact the applicant personally, agree with him or her a mode for that communication.
- in rural and remote areas where telecommunications are not effective, measures that do not rely on internet and mobile telephone services should be implemented to inform the travelling public of road conditions ahead, for example:
 - signs with detailed information;
 - providing tourist information centres and tourist radio stations with information on road conditions.
- the Bureau of Meteorology should endeavour to make clear the areas actually covered by its warnings, and specify what may be expected in particular areas, so that the relevance and significance of any warning is obvious to residents of the area at risk.
- councils should continue to take responsibility for issuing flash flooding warnings. However, where the Bureau of Meteorology becomes aware of weather conditions likely to cause flash flooding that is likely to endanger life or property in a particular council's region, it should, performing its functions in the public interest, directly communicate that information to the relevant council.
- councils should advise the Bureau of Meteorology of any information they possess about flash flooding (or the immediate prospect of it) likely to endanger life or property in their region, and of any warnings they issue about such flash flooding. The Bureau of Meteorology should consider in each case

whether any such warning should be re-published (whether as a warning emanating from the Bureau itself or as attributed to the relevant council) on the Bureau's website, or whether it should provide a link to any council warning or other information regarding flash flooding provided by councils or disaster management agencies.

- where the Bureau of Meteorology has information which leads it to anticipate flash flooding likely to endanger life or property in a specific area, it should publish a warning to that effect on its website.
- the Bureau of Meteorology should do its best to develop working relationships with all councils, particularly for the purpose of exchanging information in severe weather and flood events.
- the Bureau of Meteorology should expand its volunteer rainfall and river height networks to incorporate residents of the Lockyer Valley, particularly property owners living on watercourses who can provide manually obtained readings of water heights where no automatic gauge is available, or can confirm automatic gauge readings where there is concern about their accuracy.
- the Bureau of Meteorology should consider identifying amateur weather-watch groups it considers credible and likely to have useful local knowledge, and establish means (similar to those available to the storm spotters) by which they can expeditiously communicate with the Bureau.
- the Queensland Fire and Rescue Service should purchase waterproof radio equipment that:
 - is appropriate for swift water and normal fire fighting environments;
 - will attach securely to firefighters in a way that does not hamper their operations.
- the Queensland Fire and Rescue Service should work towards providing hands-free means of communications to swift water technicians for in-water operations.
- the Queensland Fire and Rescue Service should ensure that rescue technicians on deployment are provided with individual radios, rather than sharing a communications pack.
- during floods, councils should as quickly as possible provide people in the relevant areas with advice as to the location of and routes to evacuation centres.
- that advice should be given using as many mechanisms as appropriate, including text message, radio and door knocking.²⁰

20 Queensland Floods Commission of Inquiry, *Interim Report*, available: www.floodcommission.qld.gov.au/_data/assets/pdf_file/0008/8792/QFCI-Interim-Report-Recommendations.pdf (accessed 3 August 2011), pp 11, 12–14, 15 and 17.

Queensland Premier Anna Bligh has stated all recommendations relating to the Queensland state government will be implemented²¹ and in the formal response to the interim report, the Queensland Government stated:

The Queensland Government has accepted the Interim Report as a blueprint for implementation and advocates a collaborative approach in preparing for the 2011-12 wet season and beyond. The Interim Report made 175 recommendations, and detailed analysis has identified 104 recommendations for which the Queensland Government has implementation responsibility. While many other recommendations are directed towards local governments and the Commonwealth Government, these activities require a joint effort and the Queensland Government will provide support and assistance where necessary.²²

The final report of the Queensland Floods Commission of Inquiry will be handed down by 24 February 2012.²³

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- 21 Premier of Queensland, *Premier's newsroom: Commission of Inquiry's interim report*, available: www.thepremier.qld.gov.au/newsroom/2011/020811-inquiry-interim-report.aspx (accessed 3 August 2011).
- 22 Queensland Government, *Queensland Government response to the Floods Commission of Inquiry Interim Report*, August 2011, available: <http://www.premiers.qld.gov.au/publications/categories/reports/assets/response-to-flood-inquiry.pdf> (accessed 23 November 2011).
- 23 Queensland Floods Commission of Inquiry, *Terms of Reference*, available: www.floodcommission.qld.gov.au/terms-of-reference (accessed 20 June 2011).