Government of South Australia

STATE EMERGENCY MANAGEMENT COMMITTEE

SUBMISSION TO THE SENATE INQUIRY INTO RECENT TRENDS IN AND PREPAREDNESS FOR EXTREME WEATHER EVENTS

SENATE STANDING COMMITTEES ON ENVIRONMENT AND COMMUNICATIONS

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Introduction

The South Australian State Emergency Management Committee (SEMC) recognises that while no state or territory is immune to the impact of extreme weather events, Australians do have a strong record of preparing for, responding to and recovering from emergencies of all types. Similarly, governments at all levels have, over history, refined and improved disaster management arrangements based on risk management practices and lessons learned.

Recent disaster experiences, along with the likelihood of future increased exposure to hazards, changing vulnerabilities, escalating disaster costs and increased uncertainty of emergency risks, have been driving national reform in Australia's approach to emergency management and the building of community resilience, particularly for natural disasters. At the state level these reforms are focused on enhanced understanding of the risk environment and the mainstreaming of disaster resilience measures.

In South Australia, the primary legislation for emergency management planning (preparedness & prevention) response and recovery is the *Emergency Management Act 2004*. The Minister assigned responsibility for this Act is the Premier of the State (reflecting the significance of the legislation). Strategic advice and leadership for disaster resilience and emergency management is provided by the SEMC which is established under section 6 of the *Emergency Management Act 2004*. The SEMC is the peak strategic planning committee for South Australia and has oversight of the implementation of the Council of Australian Governments' (COAG) National Strategy for Disaster Resilience[1] within this state. The SEMC also provides support to the State's Emergency Management Council (a ministerial committee of Cabinet chaired by the Premier) in relation to emergency management, protective security and counter terrorism matters. Operational responsibility for management of and recovery from emergencies rests with the State Coordinator (Commissioner of Police) and the Emergency Services Chief Officers.

In undertaking its roles, the SEMC relies heavily on the work of its advisory groups which have been established under section 11 of the Act. These are the State Mitigation Advisory Group, the State Response Advisory Group and the State Recovery Committee. Advice is also sought from issue specific taskforces and working groups established on a needs basis. The emergency management architecture within South Australia provides a whole-of-government framework for the SEMC to fulfil its functions and pursue the disaster resilience agenda.

Responding to the terms of the inquiry

The SEMC is not in a position to respond to all the terms of reference as several of these are outside its scope or expertise. This submission will therefore focus mainly on issues associated with recent trends in the frequency of extreme weather events, costs arising from extreme weather impacts, preparedness of key sectors, preparedness and adequacy of resources for the emergency services and the roles and effectiveness of the division of responsibilities across the three spheres of government.

The aim of this submission is to address and highlight a number of themes across these terms of reference. These themes include:

- good practice at local, state and national levels;
- current initiatives and programs aimed at improving resilience outcomes; and
- areas of concern and opportunities for improvement.

In responding to this subset of the terms of reference, this submission will consider emergency management arrangements and programs that support disaster resilience in an all-hazards context rather than focus on climate change science or risk-specific capabilities. The SEMC also offers a number of recommendations to the Committee for consideration.

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[1] Council of Australian Governments. (2011). *National Strategy for Disaster Resilience* : building the resilience of our nation to disasters available from http://www.coag.gov.au/sites/default/files/national_strategy_disaster_resilience.pdf

Terms of Reference (a) Recent trends on the frequency of extreme weather events, including but not limited to drought, bushfires, heatwaves, floods and storm surges.

Historically, the size, severity, timing, location and impacts from disasters have been difficult to predict. Although risk management approaches go some way to understanding hazards and supporting risk reduction; warnings from scientists that climate change is likely to see weather patterns become less predictable and more extreme[2] increases the uncertainty about Australia's future risk profile.

The SEMC does not maintain accurate data on the frequency of extreme events and is not in a position to provide evidence as to whether there has been any significant change over recent history. That said, there are trends which suggest there has been an increase in the frequency of weather-related emergencies.

At the state-level, response data from emergency service agencies supports the proposition that weather related emergencies are increasing in frequency. For example, response data from the State Emergency Service (SES) in South Australia indicates that there has been an increase in excess of 200% in annual call out rates over the 10-year period to June 2011. Additionally, flooding and storm events are proving to be more expensive with the State and local councils bearing increasingly significant costs associated with damaged, uninsured infrastructure, particularly to assets such as unsealed roads.

At a national-level, the Bureau of Meteorology has seen a tenfold increase in the annual number of warnings for severe weather issued nationally over a 15-year period to 2012[3]. In addition to the increase in frequency of weather warnings and call outs for emergency service agencies, there has also been a trend towards larger scale more severe events with recent examples including:

- Wangary (SA) Fires 2005
- Extreme heatwaves in Adelaide of March 2008, January 2009 and November 2009
- Extreme heatwave in Melbourne in January 2009
- Bushfires in Victoria in January 2009
- Kangaroo Island (SA) fires 2009
- Perth Hills fires of 2011
- Queensland Floods and Cyclone Yasi of 2010-2011
- Victorian floods of 2011
- Tasmanian and New South Wales bushfires in early 2013, which were associated with record high average maximum temperatures in Australia
- Extreme flooding in Queensland and New South Wales in late January 2013.

Globally there is strong evidence that natural disasters have increased in severity and frequency in recent years. In 2010 alone, 385 natural disasters killed over 297,000 people worldwide, impacted 217 million human lives and cost the global economy US$123.9 billion.[4]

The SEMC is not in a position to advise with any certainty as to whether there is a link between these trends and climate change but regardless of cause, the SEMC does have an interest in ensuring the State is adequately prepared and resourced for emergency events.

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[2] http://www.climatechange.gov.au/whitepaper/report/pubs/pdf/V1002Chapter.pdf (section 2.4)

[3] Munroe, C, 2011, Review of the Bureau of Meteorology's capacity to respond to future extreme weather and natural disaster events and to provide seasonal forecasting services, p iii. Available from www.environment.gov.au/about/bom/pubs/bom-review.docx

[4] See for example Guha-Sapir D, Vos F, Below R, with Ponserre S (2012) Annual Disaster Statistical Review 2011: The Numbers and Trends. Centre for Research on the Epidemiology of Disasters (CRED), Brussels.

Terms of Reference (b)(ii). Climate change and the costs of extreme weather events and impacts on natural ecosystems, social and economic infrastructure and human health

Growing costs from natural disasters

As population and the density of living continues to grow, the exposure of people, buildings and infrastructure to natural hazards and extreme weather increases. This exposure is exacerbated by pressures for urban development to extend into areas of higher risk from natural disasters. Demographic changes are also impacting on our vulnerabilities to disasters and increasing the reliance of some groups on interdependent systems and infrastructure and government emergency services. These factors, along with GDP growth, are contributing to the apparent ever increasing costs associated with extreme weather events[5].

Between the 1950s and the 1990s the reported global cost of natural disasters increased fifteen fold[6] and by 1999 the average annual economic cost from natural disasters in Australia was estimated at $1.655 billion[7]. This upward trend of disaster costs has continued and by 2008 in Australia, the economic cost of the five most significant events alone exceeded $2.49 billion[8]. In 2011, Munich Re, a multinational that insures insurance companies, calculated that the 2010/2011 summer flooding in Queensland alone caused $7.3 billion in economic losses of which a third was insured. Cyclone Yasi impacts were on top of these losses and were estimated at $2.5 billion[9].

In a South Australian context extreme weather economic costs have historically been spread across three hazard classes with average annual economic costs over the period 1967-1999 as follows[10]:

- Floods - $26.26 million pa
- Storms - $23.5 million pa
- Bushfires - $17.27 million pa.

These cost estimates are based on data and analysis from over a decade ago and its likely that more contemporary analysis factoring in recent high impact and high cost events in South Australia such as the 2005 Wangary Fires, 2005 Virginia Flooding, 2010 Penola Tornado and 2010 Stockport Flooding would make these average annual economic costs significantly higher.

Droughts are not usually considered by governments in a traditional emergency management context, but the 'Millennium Drought' of 1997–2009 was certainly an extreme weather event which had serious implications for South Australia as well as other parts of the country. The protracted drought conditions were costly in economic and social terms and required a major intervention by state and federal governments.

In addition to economic costs, extreme weather events in South Australia have also impacted on human health and created social costs with increasing concern about mortality and morbidity rates associated with extreme heat (heatwave). For South Australia, it is also recognised that other hazards have the potential to add to long run costs from extreme

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[5] See for example Roger Pielke Jnr, Laurens Bouwer, Ryan Crompton, Eberhard Faust, and Peter Höppe, 2007, Catastrophe Losses in the Context of Demographics, Climate, and Policy, Aon Re. Similar findings have been made by Ryan Crompton and John McAneney, 2008, The cost of natural disasters in Australia: the case for disaster risk reduction, The Australian Journal of Emergency Management, Vol. 23 No. 4

[6] Munich Re, 2002, Topics: Natural Catastrophes, 2002, Munich.

[7] BTE, 2001, Economic Costs of Natural Disasters in Australia, Report 103, Bureau of Transport Economics, Canberra. Based on data for the period 1967 – 1999 and translated into comparable 2011 AUD$ value using the RBA inflation calculator.

[8] Munich Re, 2009, Topics: Natural Catastrophes 2008 Analyses, Assessments Positions Australasia/Oceania version, Munich.

[9] Figures in USD are published in Munich Re, 2012, Natural catastrophes 2011 Analyses, assessments, positions, available from http://www.munichre.com/publications/302-07225_en.pdf

[10] Bureau of Transport Economics, 2001, Economic Costs of Natural Disasters in Australia, available from http://www.bitre.gov.au/publications/2001/files/report_103.pdf Figures are in 2011 dollars with AUD$ value calculated using the RBA inflation calculator

weather. In particular, damage to infrastructure and residential housing from sea inundation and coastal erosion is a growing concern, particularly for local government. Although long run economic costs are difficult to quantify, it is accepted that financial and economic impacts could be substantial if the frequency or severity of storm surge events increase. It is accepted that further research is required to better understand and quantify these potential risks to coastline communities.

Much of the state specific data on costs of natural hazards is outdated. There would be benefit in improving the national evidence base on the costs of natural disasters by refreshing the 2001 report completed by the then Bureau of Transport Economics (BTE) on the economic costs of natural disasters in Australia. Consideration could also be given to including other hazards associated with extreme weather, such as drought, heat wave and coastal inundation.

Recommendation 1. That consideration is given to improving the evidence base on the costs of natural disasters and that the Commonwealth Government review and update the 2001 publication by BTE on the economic costs of natural disasters in Australia.

Mitigation programs – reducing the cost from disasters

In 2002 the COAG report on natural disasters[11] recommended a 'paradigm shift towards increased, cost-effective investment in disaster mitigation by all three levels of government'. Since that time a number of mitigation programs have been introduced by governments, including the former Natural Disaster Mitigation Program; Regional Flood Mitigation Program; Bushfire Mitigation Program; National Emergency Volunteer Support Fund, and Local Grant Scheme. These programs were consolidated into a single scheme called the Natural Disaster Resilience Program (NDRP) in late 2009 under the National Partnership Agreement on Natural Disaster Resilience.

Although these programs, together with state and territory mitigation efforts, help to reduce the impacts of natural disasters, it is difficult to ascertain the exact benefit of mitigation efforts on recovery costs. Currently there is no nationally consistent approach to the identification and collection of post-disaster assessment information. Hence data is currently not captured or analysed in a way to allow nationally consistent analysis and comparison.

There would be national benefit in the establishment of a common and consistent system of data collection and analysis across all states and territories. This may provide an avenue for improving the knowledge base of natural disasters in Australia, and could be used to help guide or inform decision making - noting that resourcing to undertake a meaningful analysis and comparison of such data would also need to be considered.

Under the National Partnership Agreement for Natural Disaster Resilience the Commonwealth committed to funding support totalling $98.6m over four years to the Natural Disaster Resilience Program (NDRP). For South Australia this equated to around $7.88m over the four years to 2012/13 which was to be matched by state funds. The quantum funds constrain the application of mitigation funds to small scale activities. Physical flood mitigation infrastructure works such as levees, channel works, dams, flood retention basins, for urban areas are high cost - often orders of magnitude higher than the quantum of funds available under this program. Other mainstream funding platforms need to be better utilised if inroads are to be made with tangible physical mitigation works.

By way of comparison, recovery funding made by the Commonwealth in 2010/11 alone exceeded $3.41b which included a $2b advance to Queensland under the Natural Disaster Relief and Recovery Arrangements (NDRRA), a $500m advance to Victoria under NDRRA, $836m in Australian Government Disaster Recovery Payments (AGDRP) and around $148m in Disaster Recovery Income Payments.

[11] COAG, 2002, Natural disasters in Australia : reforming mitigation, relief and recovery arrangements, available online from http://www.em.gov.au/Documents/Natural%20Disasters%20in%20Australia%20-%20Review.pdf

Recommendation 2. That consideration is given to rebalancing Commonwealth funding platforms to better support disaster mitigation programs focused on prevention, preparedness and disaster resilience.

Leveraging recovery programs to support mitigation efforts

The NDRRA Determination includes an essential public asset betterment provision which allows for essential public infrastructure that is damaged by a natural disaster to be re-built to a more disaster resilient standard. This provision has not been well utilised since its introduction. This is in part due to the urgent need for jurisdictions to restore infrastructure following a disaster, their priority focus being on restoration of essential services and providing relief to affected communities. Another reason may be a potential lack of sufficient awareness of the provision by relevant state agencies and local governments.

The NDRRA Stakeholders Group, following approval in 2010/11 by the National Emergency Management Committee (NEMC), commissioned a working party during 2012 to develop a method for determining "cost effectiveness" of betterment of assets (or investments in disaster resilient infrastructure). This involved reviewing a detailed cost-benefit evaluation report developed by Griffith University, University of Queensland, Geoscience Australia, Commonwealth Attorney-General's Department and officers from state and territory governments on behalf of NEMC). The outcomes of this work are reflected in the updated NDRAA Guideline 7. Although this provides one tool to help decision making with regard to betterment, further work should be progressed as a matter of urgency to identify mechanisms to incentivise investment in infrastructure with greater resilience to withstand extreme weather impacts.

At the state-level the Local Government Association is working closely with State Government on reforming the State's local government disaster recovery arrangements with a view to adopting a more comprehensive approach consistent with the principles of the NDRRA.

Recommendation 3. That the Commonwealth Attorney-General's Department commission a project to identify mechanisms and incentives to encourage investment in disaster resilient infrastructure during recovery and restoration building programs including those funded under the NDRRA.

Hazard specific costs

The SEMC has identified ten priority hazards for the State of South Australia and this focus is embedded within the State's emergency management arrangements including the appointment of Hazard Leaders for each. In this context SEMC concerns itself with consequences of and responses to a range of extreme weather events including the apparent increasing frequency and severity of dangerous rural fire events, major flooding, extreme storms, heatwave and storm surge events. Across these classes of emergency hazards the SEMC has concerns about increases in costs and social and environmental consequences. More work needs to be done to understand the complex nature of extreme weather impacts on society. Extreme heat provides a good example where there is a glaring need for more research.

There is now a growing body of evidence indicating that heat-attributable mortality and morbidity is an important public health issue for the population of Adelaide, particularly with the prospect of a warming climate and more frequent and extreme heatwaves[12]. Even heat exposures that are typical for an Adelaide summer can cause adverse health outcomes, and this is not restricted to the elderly population.

[12] See for example Nitschke M, Tucker G, Bi P. *Morbidity and mortality during heatwaves in metropolitan Adelaide*. Med J Aust. 2007;187:662-5 and a recent report from the Victorian Chief Health Officer *January 2009 Heatwave in Victoria: an Assessment of Health Impacts* Melbourne: Victorian Government Department of Human Services; 2009

The impact of unprecedented extreme heat experienced across South Eastern Australia in early 2009 highlighted the importance of understanding the relationships between extreme heat and human health. Adelaide experienced nine days of temperatures over 35^{o}C, with six consecutive days over 40^{o}C between 26 January and 3 February 2009. These conditions led to over 60 heat-related deaths and challenged ambulance, hospital and community services as vulnerable Adelaide residents and interstate and international visitors succumbed to heat-related illness.[13] Other essential services, including electricity and transport, were also impacted, with obvious flow-on effects for population wellbeing[14]. The population of Melbourne was also significantly impacted by this extreme heat event, which culminated in devastating bushfires across rural Victoria.

Climate change is predicted to increase the frequency and duration of heat events across Australia, with a strong increase in frequency of warm nights. While Adelaide has historically experienced an average of two heat events (3-5 days of 35^{o}C or above) per year, this may increase to 3.6 heat events in 2030 and up to 7.6 in 2070.[15] Analysis of heat events in Adelaide (comprising three or more days of 35^{o}C or above) occurring between 1993 and 2006 has shown significant increases in hospitalisations (particularly for mental health, cardiac and renal admissions), ambulance call outs and emergency department attendances compared to non-heat event periods.[16][17][18] Evidence for heat-induced illness across a wide range of ages indicates that vulnerability to extreme heat extends beyond the elderly population. Results from these studies, combined with the experiences of early 2009, highlight the compelling need for effective extreme heat arrangements for not only Adelaide and regional South Australia but for the nation more broadly. For example, people in remote and regional communities can have additional challenges associated with security and maintenance of safe drinking water and access to health services. This is particularly the case in regional and remote Aboriginal communities.

At present there are few nationally agreed measures for the protection of communities from extreme heat events. Whilst individual state and territories may, on the basis of local research and evidence, have implemented local or state-based arrangements and warnings, there would be merit in working towards national agreement on tools, institutional arrangements and response options. Mainstreaming extreme heat as a hazard of significance and concern would warrant further consideration for agencies such as Geoscience Australia and the Bureau of Meteorology.

Of concern to the SEMC, the current rules under the NDRRA preclude safety net relief and recovery funding to states and territories for extreme heat disasters. This is a clear gap in arrangements and should be addressed by reforming the eligibility of extreme heat under the NDRRA.

Recommendation 4. That the Commonwealth give consideration to expanding the Bureau of Meteorology and Geoscience Australia's scope of their natural hazards programs to include consideration of extreme heat risk.

Recommendation 5. That national consideration be given to funding a collaborative program to develop agreed triggers for delivery of scaled warnings to the community in regional and metropolitan areas across the nation for extreme heat. The program could also develop and trial consistent community messaging to the community to encourage protective behaviours by individuals, households and institutions.

[13] Nitschke M, Tucker G. The unfolding story of heat waves in metropolitan Adelaide. Draft Report. Adelaide, 2009
[14] The Essential Services Commission of South Australia. Performance of ETSA Utilities during the heatwave of January 2009. Information paper. 2009. Available from: http://archive.escosa.sa.gov.au/site/page.cfm?u=27&c=1624
[15] CSIRO, Bureau of Meteorology, Australian Government. Climate change in Australia. Technical report. CSIRO; 2007
[16] Hansen A, Bi P, Nitschke M, Ryan P, et al. The effect of heat waves on mental health in a temperate Australian City *Environ Health Perspect*. 2008;116:1369-75
[17] Nitschke M, Tucker G, Bi P. Morbidity and mortality during heatwaves in metropolitan Adelaide. *Med J Aust*. 2007;187:662-5
[18] Hansen AL, Bi P, Ryan P, Nitschke M, et al. The effect of heat waves on hospital admissions for renal disease in a temperate city of Australia. *Int J Epidemiol*. 2008;37(6):1359-65.

Recommendation 6. That Commonwealth agree to the inclusion of extreme heat (heatwave) as an eligible hazard under the NDRRA framework.

Terms of Reference (c) Preparedness of key sectors for extreme weather events

The resilience approach envisages that individuals, households, businesses, governments and communities will recognise and understand current and potential future risk, take action to reduce exposure and vulnerability, and be better able to respond, recover from and adapt to change from emergencies and disasters of all types. The resilience approach is strongly supported by the concept of shared responsibility which recognises that emergency management is a whole-of-community responsibility and not just within the remit of emergency services. In some cases, emergency management is also a function undertaken by industry on behalf of and in partnership with government agencies, particularly in sectors with privatised essential services.

Disaster resilience is developed and enhanced through prevention, preparedness, capability development and relief and recovery programs and has its effect on outcomes during and after emergency events. Resilient communities are built through a cycle of:

- understanding risks and reducing exposure and vulnerabilities;
- preparing and building capability, capacity and programs to respond and recover; and
- learning, innovating and adapting for future risks.

This resilience approach goes beyond vesting responsibility in government or emergency service organisations to protect communities. It is also aimed at ensuring individuals and businesses recognise they are also responsible for making certain decisions that affect their own resilience and wellbeing. The 2009 Victorian Bushfires Royal Commission emphasised the need for all parties to assume greater responsibility in preventing and managing emergencies[19].

The SEMC supports the national policy shift towards building community resilience to natural disasters. Indeed, for hazards associated with terrorism and politically motivated violence there have been significant efforts, nationally and within individual states and territories towards implementation of this approach.

For example, South Australia has undertaken a Critical Infrastructure Protection program in line with the national critical infrastructure model. Under this program South Australian Government authorities collaborate with the owners and operators of critical infrastructure to ensure risk assessments are undertaken and protective mitigation measures implemented. Leveraging off a robust risk assessment process allows a streamlined approach to the determination of status of critical infrastructure and, once endorsed, designated businesses or sites are supported by the South Australian Police to ensure that business continuity and security plans are in place and that two-way information pathways are maintained to share information.

National collaborative arrangements have been established for governments, businesses and critical infrastructure owners to support each other under the Trusted Sharing Information Network (TISN) arrangements which have seen the establishment of the Critical Infrastructure Advisory Council, seven Industry Assurance Advisory Groups, two Expert Advisory Groups, an Oil and Gas Security Forum and a number of communities of interest[20].

These industry engagement arrangements reflect the intent of the resilience approach and the concept of shared responsibility. They are supported by a number of programs including

[19] 2009 Victorian Bushfires Royal Commission, Final Report, Vol II, Part Two, Parliament of Victoria, July 2010, p. 352.
[20] See full details on the TISN program at http://www.tisn.gov.au/Pages/the_tisn.aspx

technical risk modelling under the National Critical Infrastructure Modelling and Analysis Program (CIPMA) which has been utilised within South Australia to better understand complex risks and design prevention and mitigation solutions. This has had a measureable impact upon improving the State's resilience to the particular issues examined.

It would be appropriate to utilise the CIPMA program, or equivalent, to model the consequences of extreme weather events so that appropriate mitigation and response plans can be developed.

While significant inroads have been made in relation to building the necessary partnerships and collaborative infrastructure for security risks, the SEMC notes that there is further work required nationally to engage and partner with industry, NGOs and the community to build resilience to extreme weather risks.

Building on the strengths of the TISN model and the CIPMA program could be an initial starting point for improving collaborative efforts in this area.

Recommendation 7. That through the Standing Council on Police and Emergency Management, national consideration be given to establishing a collaborative framework to support industry and community sector engagement with governments from all levels with the aim of building whole-of-community resilience to extreme weather risks.

Terms of Reference (d) An assessment of the preparedness and the adequacy of resources in the emergency services sector to prevent and respond to extreme weather events

The SEMC is satisfied that within South Australia there is a high level of preparedness for emergencies regardless of cause. There are a number of programs within South Australia that highlight good practice and provide examples of how the State ensures its response and recovery agencies are well prepared and resourced. Some of these may be of interest to and relevant in considering national preparedness for extreme weather events and/or changes to jurisdictional risk profiles associated with extreme weather.

Robust adaptive capacity

South Australia has well established arrangements through the SEMC to allow adaptation to emerging issues and changing risks. These processes in turn allow for authoritative consideration of the levels of preparedness and adequacy of resources in the emergency management sector.

As an example of the State's adaptive capacity the SEMC routinely considers national and overseas events, reports and inquiries and contextualises findings and implications for South Australia. This supports informed decision making in relation to capability enhancements or changes to preparedness measures. To illustrate, a high-level overview of recent work in a number of such areas is provided below.

Bushfire Task Force review of recent bushfire inquiries

In response the Victorian Bushfire Royal Commission, the SEMC established a Bushfire Task Force to provide advice on a South Australian position in response to the 'Victorian Bushfires Royal Commission Interim and Final Reports'. This task force also reviewed the findings from 'A Shared Responsibility: The Report of the Perth Hills Bushfire February 2011 Review'; and 'Appreciating the Risk: Report of the Special Inquiry into the November 2011 Margaret River Bushfire'. As a result of this work there have been a number of reforms including the establishment of a new program titled *Prepare. Act. Survive*. which has been funded to increase community resilience to bushfires; a State Bushfire Coordinating Committee has been established to assume the responsibility of monitoring the implications and work plans taking place in South Australia arising from the abovementioned reports and a

Code of Practice for Fire Management on Public Land in South Australia has been established with a set of agreed targets to complement the State Bushfire Management Plan. In conjunction, a subcommittee of the Bushfire Taskforce was established by SEMC to undertake a project with residential aged care facilities and country hospitals. The intent was to empower these institutions so that in the event of a fire, they are well prepared to make decisions as to whether they shelter in place or evacuate. The long term mortality outcome of elderly and vulnerable people who evacuate is high in the 12 months following such an experience and the project focus has been to prevent this necessity wherever possible.

South Australian River Murray Flood Preparedness Review

Following the River Murray flooding event between December 2010 and March 2011, where 400 homes were inundated, the SEMC authorised the Flood Hazard Leader to conduct a review of River Murray flood preparedness in South Australia, in consultation with the Murray and Mallee Zone Emergency Management Committee (ZEMC). As a result of this work a new public warning regime was developed for the River Murray and floodplain mapping of the River Murray at regular intervals from high flow conditions (40,000 ML/day) up to 1956 flood levels (340,000 ML/day) was completed to inform emergency planning and risk assessments.

South Australian Flood Inquiries Taskforce

Following the extreme flooding events interstate, the SEMC created a Flood Inquiries Taskforce to review two interstate inquiries (the Queensland Floods Commission of Inquiry, and the Victorian Floods Review) and provide recommendations based on their findings, in a South Australian context. A total of 445 individual recommendations were made by the two inquiries. These were assessed by the taskforce and 15 themed recommendations were made to improve South Australian flood preparedness. The SEMC has now established a Flood Reform Taskforce to design and implement whole-of-government solutions for the identified gaps.

Review of extreme heat arrangements

The SES is responsible for the Extreme Weather Hazard Plan and in January 2012 convened an ‘Extreme Heat Reference Group’ to review presentations and information from a PriceWaterhouseCoopers Australia review of national extreme heat arrangements. The group amended the State’s plan and an associated extreme heat guide to encompass a number of the key findings. The SES continues to work with the Bureau of Meteorology and SA Health to review community information and publications to improve awareness of the potential impact of extreme heat.

Whole-of-Government Operating Principles on days of Catastrophic Fire Danger Rating

Following the introduction of new national scaled bushfire forecasts to include Catastrophic Fire Danger ratings, the State Emergency Management Committee commissioned work to develop and approve a policy outlining the government's operating principles on days of Catastrophic Fire Danger. These whole-of-government principles outline the responsibilities all public sector employees need to fulfil. At all times, the South Australian Government has an obligation to provide services to the community in balance with the need to consider staff welfare. Therefore, all public sector employees are required to attend work on such days unless otherwise directed, to ensure services are still provided to the community. Risk assessments will determine if any services are suspended. These principles require agencies to have plans for business continuity and employee communication; processes to risk assess business activities; and measures to promote adherence to public messaging of the Country Fire Service (including personal bushfire plans). However, staff are expected to work on such days to ensure the broader community is supported.

Adaptive capacity is a key element and principle of the resilience approach and such examples highlight the inherent capacity of the State's emergency management agencies to respond and prepare for changing risks and emerging threats.

Informed prevention and preparedness through risk assessments

Two key strategies in National Strategy for Disaster Resilience are to understand risks, and then communicate with and educate the community about those risks. The Standing Council on Police and Emergency Management has endorsed the National Emergency Risk Assessment Guidelines as the required risk assessment methodology. State risk assessments are a requirement under the National Partnership Agreement on Natural Disaster Resilience. To meet the requirement and timeline the SEMC approved the establishment of the State Emergency Risk Assessment System Project.

A strategic priority for establishing a better understanding of the risk environment, and for building adaptive and empowered communities, is the development of emergency risk management plans at state- and zone- levels. Additionally, the Local Government Association Mutual Liability Scheme has recently funded a Regional Disaster Resilience Program that will provide a base from which Local Government can develop a more consistent and rigorous approach to emergency risk management. This work is integrated by the State Emergency Risk Assessment process and framework. This work is being undertaken by the Hazard Leaders at state- and zone-levels.

This body work is allowing effective comparison of risks at local government, zone- and state-levels, leading to improved evidence-based decision-making and better informed mitigation investment decisions.

Well-developed hazard specific arrangements

Within South Australia there is a significant focus and investment in hazard-specific arrangements. In 2000 SEMC commissioned a review of specific hazards for South Australia and subsequently designated Hazard Leaders for different hazard types. Further, the SEMC has endorsed which agency is the control agency for each hazard and what the specific roles and responsibilities are for control agencies. Under the State's arrangements Hazard Leaders are State Government agencies which have the knowledge, expertise and resources to undertake a leadership role for the planning of emergency management activities pertaining to the prevention of, preparedness for, response to and recovery from its appointed hazard. They have the authority of the SEMC to bring together all agencies of government and any required Commonwealth, local or non-government entities to undertake this planning role. The Hazard Leader provides a facilitation and oversight role to the comprehensive planning process.

A good example of this role is found in the State's extreme heat preparedness arrangements.

Under the State Emergency Management Plan the SES is the Hazard Leader and Control Agency for extreme weather. Key South Australian Government departments, led by the SES, have worked together to prepare the State's Extreme Heat Plan[21]. The plan ensures a coordinated approach to increasing community preparedness, awareness and response to extreme heat events. The aim of the Extreme Heat Plan is for government agencies to work together to effectively deliver timely and accurate advice and support to the South Australian community. Public warnings will not usually be issued for one or two isolated days of hot weather. However, they will always be issued for periods of extreme heat in accordance with the threshold for heat warnings.

South Australia has developed a co-ordinated system to inform the public of hazardous hot weather and provide advice or interventions to reduce health risks. The trigger for providing

[21] More information on the State's extreme heat plan is available from http://www.ses.sa.gov.au/site/community_safety/heatwave_information/extreme_heat_plan.jsp

advice to the public about the risk of an extreme heat event commences with the Bureau of Meteorology temperature predictions. Trigger points for various actions are based on a formula using the average daily temperature (ADT). The trigger for issuing public warnings is based on a three-day rolling average of daily temperatures.

Throughout the summer the SES works closely with the Bureau on a daily basis to predict the ADT and initiate appropriate action. Response operations are limited to issuing of agency advisories, public warnings and coordination of whole-of-government support to the community during a heatwave crisis.

The 2011 PriceWaterhouseCoopers report *Protecting human health and safety during severe and extreme heat events: A National Framework*[22] identifies a number of elements of the South Australian extreme arrangements as leading practice including:

- *Statewide focus* - South Australia's Extreme Heat Plan provides a mechanism to coordinate the preparation and response of all relevant agencies and community organisations. This statewide focus helps to ensure that the full range of direct and indirect impacts of heat events are considered, and that the full spectrum of government and community responses can potentially be brought to bear during a heat event.
- *Nomination of hazard leader* - the South Australia State Emergency Service (SES) is nominated as the Hazard Leader for 'extreme weather' in South Australia. The SES is thus responsible for reviewing and updating the state's Extreme Heat Plan on an annual basis, and working with other relevant bodies to develop their functional heatwave plans. These arrangements provide a strong institutional foundation for heat event planning in South Australia, and help to ensure functional heat event plans are consistent and avoid duplication.
- *A focus on the vulnerable* - most planning and response arrangements have mechanisms that ensure those most at risk are prioritised during heat events. The Telecross REDi system in South Australia is particularly notable in this regard. The system provides reassurance phone calls to those nominated on a register. During extreme heat days, three phones calls are made to check on the health and wellbeing status of registrants. Individuals on the system are generally those that are isolated, aged or who have experienced mental illness or have a disability are either self-referred or referred through agencies such as the Royal District Nursing Service. Where issues are identified, the call is escalated and appropriate responses are made.

While further work is required to better define thresholds for warnings outside of metropolitan Adelaide there are robust arrangements in place to respond to these events. More work also needs to be done to promote disaster resilience at a local community level so that individuals, households and local organisations are well placed to take preventative, response and recovery actions.

Elements of South Australia's extreme heat arrangements are shared here as an example of specific preparedness arrangements for an extreme weather scenario at the state level. The SEMC notes that hazard specific arrangements do not exist nationally for any specific extreme weather hazard. This is not the case for other hazards e.g. biosecurity, marine transport emergencies, and terrorism, where well-developed national plans, intergovernmental arrangements and coordination mechanisms exist.

There may be benefit in developing national model arrangements and hazard specific plans for a range of hazards associated with extreme weather. This could allow all jurisdictions to

[22] PriceWaterhouseCoopers Australia, 2011, Protecting human health and safety during severe and extreme heat events: a national framework, PWC. This report was prepared by PriceWaterhouseCoopers Australia in collaboration with the Australian Government (through the Department of Climate Change and Energy and Efficiency) and is available from http://www.pwc.com.au/industry/government/assets/extreme-heat-events-nov11.pdf.

leverage off the successes and lessons learned from each other and for benchmarks to be set in relation to institutional arrangements and preparedness.

Recommendation 8. Consideration be given to developing national model arrangements and best practice approaches for managing hazards associated with extreme weather events.

Interoperable and Common Capabilities

South Australia strengthens its emergency services' preparedness through investment in interoperable and common capabilities for response, relief and recovery operations. Good examples of this approach include the adoption of a common incident command and control system; common warnings platforms; common coordination facilities; use of common functional services during response, relief and recovery; common planning frameworks, and a single government radio network and common computer aided dispatch system for police, fire and emergency services.

Incident command and control systems

In 2010 it was agreed that the agencies within South Australia would develop and adopt a Common Incident Command and Control System (CICCS). This common framework is designed to enhance incident management systems currently in use by agencies, for example the Australasian Interagency Incident Management System (AIIMS) and South Australia Police's Incident Command and Control System (ICCS) which is based on the National Counter Terrorism Committee ICCS+ model.

The CICCS recognises that fire, emergency service and police agencies have developed their own robust incident management system and arrangements so as to effectively and efficiently manage emergency incidents. However, many emergencies require response operations from more than one agency necessitating them to work together to resolve the incident. Whilst there is some divergence between agencies in the terminology used to describe levels of command (eg SA Health has adopted the Bronze, Silver, Gold framework for command and control while emergency service agencies adopt a local, regional and state command control framework), clear command, control and coordination responsibilities are established and well understood. Further, all emergency service agencies (Police, State Emergency Service, Country Fire Service and the Metropolitan Fire Service) are currently undertaking the implementation of CICCS with further work planned to expand across all response agencies in South Australia. This is a significant step forward and is the first of its kind across Australia. The SEMC considers this to be best practice based on the ongoing work and research across all incident command and control systems.

Common public information and warning platforms

The emergency management arrangements in South Australia allow for the establishment of multi-agency groups to support planning across common areas. A Community Emergency Information and Warnings Group was established to ensure that common and best practice public information was provided to the community. It brought together common platforms such as the AlertSA website which has been designed to bring together the social media feeds of all agencies into a single, resilient platform that allowed the public to see a common message from all agencies. This work has led to the development of a single plan for public information and warnings (annexed to the State Emergency Management Plan) that describes all current emergency information and warning systems available to all agencies and all hazards in the one central location. This has strengthened the ability of all agencies by ensuring that all tools are clearly available and described so as to spread information to the community as far as possible. The project has seen a seamless integration of emergency alert messages, and the ability to manage high call rates

using interactive voice response, state and national call centre capabilities and social media into the one package of information.

Common incident control and coordination capabilities

The South Australian emergency management arrangements allow any Control Agency to request the activation of the State Emergency Centre prior to any emergency occurring to share information and pre-plan a common approach. This allows information sharing and intelligence gathering to occur in advance of many incidents which in turn leads to a more prepared emergency services community. As part of this arrangement common messages and public information strategies are agreed so as to improve the information to the community. This common shared approach of the State's emergency services has consistently led to better prepared and informed communities. This approach is mirrored at regional levels with 11 Zone Emergency Centres available to any Control Agency to assist coordination with interagency support and coordination of taskings across the State's emergency Functional Services.

Common planning framework

South Australia has adopted a clearly defined planning framework within its emergency management arrangements. This framework is continually reviewed against the outcomes from exercises and post incident findings both internally and from other jurisdictional experience. The basis of the SA system is the ongoing work of the mitigation, response and recovery advisory groups of SEMC. Due to the pro-active work of those committees there is an almost continuous flow of information upon which to base systemic improvements to the arrangements. The SA plan assurance process requires all other committees to review any changes and provide advice/agreement before any changes are made. This ensures that a broad range of stakeholders are consulted before any change is submitted to SEMC for approval. A six monthly review and publication of the plan then ensures that every stakeholder is able to have the most up-to-date plan available at all times. Parallel to this process is the establishment of a central whole-of-government repository currently being implemented to store the most up-to-date copy of every plan in line with best practice document management and storage requirements.

Common emergency assessment and reporting system

Currently the Local Government Association in collaboration with key State agencies is developing an Emergency Assessment and Reporting System that will be capable of reporting on the developing "hazardous" situation and the impact of the hazard in a structured format that will reflect the State Rapid Damage Assessment Plan. The system should prove a valuable tool to assist the State issue appropriate warnings and collate damage impacts.

These common capabilities illustrate strong integrated planning and collaboration at state-levels and could serve as a model for other jurisdictions and/or enhanced arrangements nationally.

Arrangements for inter-jurisdictional and Commonwealth support

The COAG-agreed 'Model Arrangements for Leadership During Emergencies of National Consequence'[23] sets out how Australian governments would work together to coordinate the response to, and recovery from, emergencies of national consequence. These arrangements recognise that while states and territories have primary responsibility for the management of emergencies within their jurisdictions, the Commonwealth Government provides certain forms of physical and financial assistance to states and territories when it is requested to do so.

[23] Agreed by COAG and published in the Australian Emergency Management Arrangements available from http://www.em.gov.au/Documents/Australian%20Emergency%20Management%20Arrangements.pdf

For large scale and severe emergencies, the Australian Government Disaster Response Plan[24] (COMDISPLAN) and Defence Assistance to the Civil Community (DACC) arrangements remain the basis upon which such support is provided. In addition to Commonwealth arrangements, there are well-practiced bi-lateral support arrangements between police, fire and emergency service agencies between individual states and territories. This framework of mutual support provides a cost-effective mechanism to harness surge capacity for assets and personnel where additional response and recovery support may be required.

Perhaps of most relevance to this Inquiry are the national arrangements and Commonwealth capabilities that can be deployed or utilised during times of crisis. DACC is an arrangement to access Defence resources on the proviso that they are available for deployment and that the state or territory has either exhausted local resources or not had them available (e.g. heavy lift aircraft). Under long standing arrangements a further principle of DACC support includes that the Australian Defence Force (ADF) must not be seen to be replacing commercial alternatives.

It is the view of the SEMC that disaster response and recovery must be proactive and include strategies of early intervention by governments. Such strategies provide both a sense of security and early response to disaster events.

Recent programs have seen the implementation of seasonal briefings between State agencies and Commonwealth agencies including the ADF. There does however remain a gap in the policy arrangements that provide for defence assets and capabilities as a source of last resort but do not address the critical requirement for government to provide proactive and rapid response to assist communities in need.

With the exception of immediate local support by base and depot commanders (for the protection of life under DACC 1 arrangements), the existing DACC processes still require response agencies to wait for local resources to be exhausted and for all commercial alternatives to be explored before a request for ADF assistance is considered. This could be interpreted by the community as “just too late” rather than “just in time”. Once a request for ADF assistance is accepted by the Commonwealth there can be a subsequent delay while the planning and logistical elements are considered by Joint Operations Command. Given the physical location of South Australia and geographic disposition of ADF assets, availability and timeliness of support to South Australia is restricted when compared to other eastern seaboard states where Defence has a greater presence. This issue would apply for other states where there are limited Defence assets like Tasmania.

South Australia has addressed this gap, in part, through its emergency management arrangements where the ADF is identified as a Functional Service within the State Emergency Management Plan. Its role is to provide support as appropriate to the conduct of response and recovery operations by other Functional Services and in accordance with the policy and procedures contained in ADF instructions for assistance to the civil community. Under these arrangements the ADF participates within the State Emergency Centre environment and this mitigates to some extent possible delays in securing Defence support during times of crisis. While these measures go some way towards a truly “integrated” emergency management model, there is further scope to improve contingency planning and preparedness for extreme weather scenarios with the ADF.

Recommendation 9. That further consideration be given to improving the integration of ADF capabilities into contingency planning for extreme weather events so as to move beyond a provider of last resort to a more proactive integrated partner agency for the state and territory emergency service and policing agencies.

[24] The COMDISPLAN provides details on how Commonwealth agencies will respond to requests for assistance from the States and Territories but does not envisage any command or coordination role for the Commonwealth. Available from http://www.em.gov.au/Emergencymanagement/Preparingforemergencies/Plansandarrangements/Pages/AustralianGovernmentEmergencyManagementPlans.aspx

International mutual assistance

In situations where nationwide response capabilities are seriously stretched, Australia has a history of receiving support and assistance from countries with appropriate capabilities. South Australia supports continued engagement and participation in international fora associated with humanitarian assistance and relief. Such arrangements are primarily focussed on search and rescue, urban search and rescue, exercise activities and regional emergency management networks. There are further opportunities to strengthen arrangements beyond preparedness and response to include prevention and data exchange. SEMC also notes that in 2002 COAG agreed to a recommendation in the report *Natural Disasters in Australia reforming mitigation relief and recovery arrangements* that the Commonwealth consider opportunities for dialogue with the Asia Pacific countries on concrete regional cooperation in the area of large scale disaster response and relief operations. It is unclear whether this has been progressed.

Emergency service volunteers

In South Australia there are over 20,000 emergency management volunteers who give up their time to support their communities during times of crisis. It has been recognised nationally that Australia's capacity to respond to natural disasters is based largely on a range of specialised volunteer-based organisations, each of which relies on a small cadre of paid (or career) staff and a much larger workforce of (unpaid) volunteers who are mobilised and deployed on the basis of need in response to a particular disaster or emergency incident.

Like other jurisdictions, South Australia has experienced a decline in its emergency services volunteer base over the last decade. This is particularly the case in rural and regional areas where factors such as population decline, changing work-life patterns, lifestyle expectations, demographic changes, domestic migration, an ageing population and community fragmentation are creating a significant challenge for the recruitment and retention of emergency management volunteers.

Strategies are being implemented at local- and state-levels to address these issues. In addition, in 2012 the *National Emergency Management Volunteer Action Plan* was agreed. The strategies identified in this plan will complement the work of individual agencies and volunteer groups.

Role of the Bureau of Meteorology

In July 2011, a comprehensive review of the capacity of the Bureau of Meteorology to respond to future extreme weather and natural disaster events was announced by the Commonwealth's Parliamentary Secretary for Sustainability and Urban Water. Led by Chloe Munro the review process culminated in a final report that was completed in December 2011[25].

The SEMC supports the findings of this review which acknowledged an increasing demand and desire for enhanced products and services from the Bureau and noted the challenges the Bureau faces in managing the demands on frontline staff, which in South Australia are particularly acute, during protracted severe weather events. The review made recommendations involving the need to improve the arrangements for flood monitoring, forecasting and warning across Australia and identified opportunities to extend the Bureau's services, such as improved seasonal forecasting capability. Within South Australia there would be significant benefits in streamlining and simplifying arrangements for ownership and maintenance of flood gauges and river monitoring systems and networks. Currently responsibilities for this infrastructure is fragmented across local government agencies, state government agencies, Natural Resource Management authorities, utilities, the Bureau and a number of Government Business Enterprises.

[25] Munro, C. 2011, Review of the Bureau of Meteorology's capacity to respond to future extreme weather and natural disaster events and to provide seasonal forecasting services, report available from http://www.environment.gov.au/about/bom/index.html

The Bureau provides an invaluable role to emergency service agencies, particularly fire agencies, the State Emergency Service and Police. However, the limitations of local resources within the Bureau is very apparent and there would be significant benefits in fully acting upon those recommendations within Munro's report to enhance the sustainability of the service and severe weather and hydrology units in particular.

The SEMC also supports recommendations to build upon existing arrangements to enhance flood warning capabilities and improve flood risk management and modelling services in collaboration with Geoscience Australia. An agreed national standard for operation of flood monitoring networks would be beneficial provided that it was supported by improved flood early warning systems and enhanced monitoring networks which are also requirements to improve community awareness of threats and flood risks.

Another area of growing demand for services in South Australia is in the forecasting of extreme heat at regional and township levels. Whilst the Bureau has established an experimental solution for this service for metropolitan Adelaide, there is a broader need to progress routine excessive heat indices and forecasts for regional centres throughout the country.

In addition to research and response support, the Bureau also provides critical services to state and local agencies reliant on accurate short and medium term weather forecasts for mitigation and prevention programs such as fuel reduction burning. Under current arrangements these services are provided on a fee for service basis and consideration should be given to treating the provision of this service as a core community obligation responsibility.

Recommendation 10. That the Commonwealth give further consideration to the provision of additional resources to fully address the recommendations identified in the 2011 report Review of the Bureau of Meteorology's capacity to respond to future extreme weather and natural disaster events and to provide seasonal forecasting services and short and medium forecasting support for prevention and mitigation activities.

Terms of Reference (e) The current roles and effectiveness of the division of responsibilities between different levels of government (federal, state and local) to manage extreme weather events

Agreed roles

To promote a whole-of-nation focus on disaster resilience and to assist government and non-government parties understand and contribute to work in this area COAG has endorsed a statement on national disaster resilience[26]. The statement identifies that Australian governments have a role to:

- educate, communicate and inform Australian society including individuals, businesses and community organisations so they can play their part in building a more resilient Australia;
- work swiftly, compassionately and pragmatically to help communities recover from disasters and to learn, innovate and adapt in the aftermath of disasters;
- work collaboratively to embed disaster resilience into aspects of natural disaster arrangements, including preventing, preparing, responding to and recovering from disasters; and
- develop and implement effective mitigation activities, including risk-based land management and planning arrangements.

The Statement moves beyond the 2002 COAG agreed position on the roles of the three spheres of government in emergency management[27] and emphasises that disaster resilience is a shared responsibility among all sectors of society and all levels of governments. The role of individuals, businesses and community organisations in strengthening disaster resilience has also been highlighted.

The SEMC supports the roles identified in the 2011 COAG statement.

Mitigating risk through planning arrangements and the built environment

In 2005, the Ministerial Council for Local Government and Planning endorsed Emergency Management Australia's publication "Planning Safer Communities". According to this guideline, creation of safer, sustainable communities, requires land use planning strategies to consider:

- avoiding those areas where development will increase the likelihood of risk and/or the level of impact;
- creating incentives for removing or modifying structures in areas that increase risk; and
- prohibiting ways of doing development that are more likely to contribute to increased risk.

The guideline also recommends that zoning with associated overlays be established that create a continuum along which, as risks increase, controls on the use and development of land also increase such that planning schemes:

- prohibit development in high-risk areas through zoning and overlay controls;
- limit the types of development allowed in high to moderate risk areas – zoning such areas for recreation or other forms of public uses can reduce the potential impacts of hazard events; and

[26] A copy of the Strategy and COAG's statement is available from http://www.coag.gov.au/node/81

[27] Statements on the contemporary roles and responsibilities of Commonwealth, State and Local Government were articulated in recommendation 5 of the 2002 COAG report Natural Disasters in Australia: Reforming relief, recovery and mitigation arrangements.

- establish and apply appropriate development controls based on the assessed risk in moderate and lower risk areas. These controls can include minimum elevations, setbacks and lot sizes, as well as maximum densities and site coverage.

It is acknowledged that there are significant challenges in realising these principles in a consistent manner across the multitude of local councils and statutory planning authorities. Additional complexity is apparent where governments are required to consider different and sometimes competing policy imperatives.

Like all jurisdictions, South Australia has a number of regulatory and administrative instruments to support community safety outcomes with respect to natural hazards. A good example of this in practice has been how the State has regulated development along the River Murray following the extreme floods of 1956. These requirements have incrementally reduced the risk to the built environment through a combination of planned retreat and the introduction of specific building design obligations for structures in at risk areas.

South Australia is working to enhance disaster resilience in the built environment by its participation in the *National Review of Land Use Planning and Building Codes* project. This seeks to establish a common understanding of land use planning and building polices, regulations and codes across Australia and address priority areas focussed on hazard mapping and technology, legislation and policy, hazard assessment processes, governance arrangements and hazard and mitigation awareness[28].

Collaborative national capabilities

Examples of national cooperative approaches to realising disaster resilience do demonstrate the benefits of collaboration and partnerships. A few of the recent national capabilities developed by states and territories in partnership with the Commonwealth include the National Aerial Firefighting Centre, Emergency Alert and the Bushfire Cooperative Research Centre.

The National Aerial Firefighting Centre (NAFC) was formed to provide a cooperative national arrangement for combating bushfires. It achieves this by facilitating the coordination and procurement of a fleet of highly specialised firefighting aircraft that are readily available for use by state and territory emergency service and land management agencies across Australia. The National Fleet receives funding support from the Commonwealth Government as well as state and territory governments and provides the platform for a significant response capability for all jurisdictions.

Emergency Alert is the national telephone warning system used by emergency management agencies. This platform is jointly funded by all jurisdictions and has made a significant enhancement to Australia's capacity to deliver timely and targeted warnings and alerts to the community.

The Bushfire CRC was established by the Australasian Fire and Emergency Services Authorities Council (AFAC) in the wake of disastrous fires in NSW in 2002. AFAC successfully applied for research funding through the Commonwealth Cooperative Research Centre (CRC) Program. The Bushfire CRC was created and began operation in 2003. The initial funding was for seven years and further funding for a three year extension was provided after the 2009 Victorian Black Saturday fire. All jurisdictions contribute resources and funding for the operation of the CRC. Prior to the creation of the Bushfire CRC there was no coordinated national research effort in this (or any other) aspect of emergency management.

[28] More information on the project is available from the project website http://www.plandevbs.com.au/?page_id=142

Unfortunately funding for this CRC ceases shortly and at present there is no guarantee for an ongoing research capability. There remains however, a strong rationale and many benefits of a research capability for the nation in order to:

- inform government policy at all levels
- inform the practice of fire management and emergency management
- underpin the National Strategy for Disaster Resilience
- maintain and build on the academic base for fire and emergency management
- build on the newly developed cohort of researchers with interest and expertise in fire and emergency management.

The SEMC considers the need for a disaster research capability vital to the disaster resilience agenda, particularly in a climate change environment where natural hazard emergencies are expected to increase on both frequency and severity over much of Australia. Large natural events, and changing community and media expectations, are driving a strong focus on the services provided by governments and the fire and emergency agencies. Policy makers and practitioners need knowledge and evidence to support their decisions and programs.

A proposed Disaster Resilience Cooperative Research Centre to replace the Bushfire CRC is under consideration and a steering committee has been established by the ANZEMC with members drawn from all states and territories, however; funding is yet to be secured.

A revised Commonwealth policy agenda

On 23 January 2013, the Prime Minister announced new National Security Strategy[29] to build on the 2008 National Security Statement. The Strategy describes the scope of national security, our national security interests, principles and priorities. The SEMC notes that the Strategy has contracted the definition of national security articulated in by the previous National Security Statement of 2008, which encompassed natural disasters and climate change. This potentially signals a re-prioritisation in effort towards areas more traditionally regarded as national security, particularly cyber security. The Strategy also seeks to differentiate between the "National Security Decade" post 9/11, and move into a new period of consolidation of capabilities developed in that period.

The SEMC assesses this as a likely signal for prioritisation of Commonwealth expenditure to be re-focussed on emerging risks, threats and opportunities at the expense of addressing enduring challenges of counter terrorism and disrupting serious organised crime. In line with this a contraction of Commonwealth financial support to the states and territories is anticipated and for those jurisdictions embracing the true all hazards approach this will in turn reduce disaster management capacity that might otherwise be available.

These issues are of concern to the SEMC and highlight a need for more certainty and clarity about the Commonwealth's roles and responsibilities. This could be achieved through better legislative provisions or a more robust emergency management capability development agenda articulated with a long term vision and investment strategy. Australia is one of the few Western countries that does not have national legislative provisions associated with emergency management. This is a clear gap and possibly explains the shifting and ad hoc level of support and commitment to assisting states and territories with their disaster management efforts.

Recommendation 11. That consideration be given to reviewing and confirming the Commonwealth's role in disaster management.

[29] The Prime Minister's National Security Address is available from http://www.pm.gov.au/press-office/australias-national-security-beyond-911-decade. A copy of the strategy is available from the Department of Prime Minister and Cabinet website http://www.dpmc.gov.au/national_security/docs/national_security_strategy.pdf

Conclusion

There are a number of strengths to Australia's emergency management arrangements and preparedness for extreme weather events. The shift towards a model of shared responsibility and local-led resilience programs supported by top-down facilitation and expertise is a step in the right direction. There is also increased rigour being applied to severe weather risk assessments with the adoption of nationally consistent evidence-based risk assessment processes[30] for disaster risks and new flood risk management guidelines being developed by the National Flood Risk Advisory Group[31].

A commitment to transparent and easily accessible risk information to the public through the National Partnership Agreement on Natural Disaster Resilience will lead to better informed community and support disaster resilience initiatives. Other associated areas where progress with the resilience agenda is being seen is in state and territory engagement with business (and critical infrastructure providers), not-for-profit and community leaders. Supporting emergency management volunteers is a further area worthy of recognition with the National Emergency Management Volunteer Action Plan agreed to in 2012.

Perhaps most beneficial has been the policy shift towards integrating emergency risk assessments and land use planning and building code practices with work currently underway to implement a national road map[32] which identifies implementation activities required to achieve a future state of disaster resilience in the built environment.

The SEMC would also like to highlight a number of the extremely positive and beneficial national capabilities developed and sustained by states and territories in partnership with the Commonwealth over the last decade including NAFC, Emergency Alert, the National Emergency Call Centre capability and the Bushfire CRC to name a few.

Implicit in these strengths is the collective connectivity between local government, states, territories, and the Commonwealth with a clear resilience agenda and simple mechanisms to define and progress national reforms. There are however some areas for improvement.

A significant constraining factor is that the policy shift beyond response, reaction and recovery to anticipation and mitigation is not reflected in the national funding platforms. Not only has the funding model remained weighted on relief and recovery but the distortion continues to grow. Similarly, there would be benefits in better defining the role for the Commonwealth.

There are however opportunities to address these issues through mechanisms such as this Senate Inquiry and through existing arrangements established under COAG and the Standing Council for Police and Emergency Management. Rebalancing taxpayer-funded programs from post-impact grants to pre-impact mitigation should be a clear priority for governments and promoted as an opportunity for enhancing state and Commonwealth partnerships.

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[30] National Emergency Risk Management Guidelines were adopted nationally through the Standing Council on Police and Emergency Management and are available from the EMA website http://www.em.gov.au/Documents/National%20Emergency%20Risk%20Assessment%20Guidelines%20October%202010.PDF

[31] NFRAG has developed a consultation draft on national best practice in floodplain risk management to update and replace the earlier Emergency Management Australia and Standing Committee on Agriculture and Resource Management manuals. The manual is designed to provide an understanding of the flood risk management process in Australia and will complement the revision of Australian Rainfall and Runoff and state-based floodplain management manuals. The draft was circulated to key stakeholders for comment in August with a national flood workshop held in October 2012 to workshop the updated guide and to scope out supporting technical guidelines.

[32] Commissioned by the then National Emergency Management Committee and developed by PlanDev in June 2012. Copy available from http://www.plandevbs.com.au/?page_id=142