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Fire and rescue services in Australia are evolving in the face of new threats. Dr Paul Barnes explains

THE FIRE and rescue profession is paradoxical in that while it involves carrying out many day-to-day tasks that are similar and repetitive, they are carried out in unpredictable locations that often involve considerable uncertainty and clear and present danger. Beyond responding to fires (in various settings), hazardous materials incidents and vehicle accidents, the more extreme threats posed by chemical, biological, radiological, incendiary and explosive material is a factor that fire and rescue services contend with across the modernised world.

While such socio-technical threats are as critical in an Australian context as elsewhere, natural hazards – in particular, floods and bush fires – are often a more frequent scenario. This, together with the influence of future climate variation, means that natural hazards are a critical factor in future capacity development, not just for rural and urban fire services in Australia, but also for land management agencies and government authorities generally.

A historical reality in Australia is that, in addition to being predominantly a semi-arid continent, more than 80% of the population lives in coastal or near-coast urban settings. This creates a range of complex challenges to community safety, especially at the urban-rural interface.

Established protocols

Australia has a long experience of preparation for, response to, and recovery from natural and socio-technical disaster. This experience is embodied in the established protocols of emergency service agencies and state-based disaster coordination groups, which include representatives of the police, the Australian Defence Force, government agencies and the insurance industry.

Australia also has uniform standards and capabilities across its states and territories. Industry institutions such as the Australasian Fire Authorities Council facilitate conformity and capacity building via representation of all state fire and rescue services, as well as government. Other institutions, such as the Australian Building Codes Board, oversee regulation issues of health, safety, amenity and sustainability in buildings via nationally consistent building codes, standards, and regulatory requirements and systems. Similar coordination exists nationally regarding ambulance services and, importantly, diagnostic public and animal health laboratory networks.

All Australian fire services in urban settings have professional full-time personnel. Those in urban-rural interface areas are volunteer-based but these personnel are trained to very high levels and have regular interaction with professional colleagues. In more remote rural areas, different skill levels are maintained alongside bush fire response capabilities.

All state-based fire services have developed capacities to respond to so-called asymmetric threats such as chemical, radiological and incendiary devices: a capacity that was well-established before the Sydney Olympic Games in 2000 but received higher levels of attention in the lead up to that event. Some Australian services have employed full-time chemists as specialist first responders who, under the authority of an emergency commander, coordinate neutralisation and clean-up actions following an incident. Close linkages also exist with laboratory analytical services.
Special assistance

Of course, any escalating crisis or large-scale disaster would put intense strain on state-level capacities, and rapid national-level intervention would be needed. This eventuality is again not new to the Australian experience; for many likely crisis events, guidelines and protocols for rapid and coordinated emergency response have been in place for considerable periods of time.

Nevertheless, significant crises flowing from the biological or chemical contamination of public space would drain resources and test the endurance of response agencies. In the case of high-consequence chemical or biological terrorism, states would be able to seek the assistance of specialist elements of the Australian Defence Force. In addition, while Australian fire and rescue services are fully equipped to deal with extreme hazardous material incidents involving specific types of contamination (potentially linked to terrorism), emergency decontamination and crisis- triage capabilities would generally require a collaborative effort with police and ambulance services as well as public and private hospitals.

The specific military capacity referred to above currently resides in the Incident Response Regiment – linked to the Special Operations Command of the Australian Defence Force. Specialist military expertise is coordinated with that of specialist scientific and technical support by civilian and military scientists.

Future issues

On most reliable performance indicators, Australian fire and rescue services can match the functional capacities expected of any modern first responder agency. A real test of a flexible institution, however, is the capacity to adapt to changed operational contexts or emergent change within their operating environment. For Australia, beyond the obvious issue of terrorism and the impact of disturbances on trade, an increasingly important issue is the impact of climate variation both on land management and density of urban living – and, by extension, the future roles of fire and rescue services.

Uncertainties inherent in the context of climate variation create significant challenges in terms of governance and planning for emergency response management generally. In addition, given the interdependencies within and across systems of infrastructure, unmitigated emergencies are likely to have a considerable and unexpected impact on institutions and economies. The potential for rapid spread of consequences can render a comprehensive understanding of such emergencies beyond the grasp of a competent authority. As such, there are a number of evolutionary pressures on Australian fire and rescue services that need to be addressed. Three such issues are covered here.

Political conditions

The first factor relates to political conditions at the national level. Australia recently changed political polarity from centre-right to centre-left, after a number of years of conservative government. Prior to the general election, the then opposition Labour Party considered two innovations in security governance: a proposed Department of Homeland Security, bringing together agencies responsible for border security, counter-terrorism and emergency response; and the creation of a new role of national security advisor.

Subsequent to achieving government in late-2007, the Labour Party put the Department of Homeland Security concept on hold, subject to a wide-ranging review. This review is currently under way, with findings and recommendations to be provided to government
by mid-2009. Interestingly, the terms of reference for this review have not been made public – probably for reasons linked to the requirements of national security.

The new government has also confirmed that, if established, the position of national security advisor will not be a ministerial appointment. Some pundits suggest that it would most likely be a statutory role. A core function of a national security advisor could be to develop an overarching national strategy for the long-term security issues facing Australia. This could include examining the relative risk posed by varying sources of disturbance, such as terrorism, energy security and climate change, and the evolving geopolitical and trade-related landscape.

Given that many security challenges now transcend traditional mindsets and combine domestic and international issues and concerns, the institution behind the national security advisor would need to offer different types of advice from that current available from agencies such as the departments of defence or foreign affairs. It could also operate to bridge the gaps in coverage that existing sources of advice might miss. Such coverage would also logically include emergency management and coordination issues nationally, especially as they relate to resilience in the face of asymmetric threat.

**National Emergency Protocol**

The second development relevant to fire and rescue service activity is the recent decision by the Council of Australian Governments to develop a National Emergency Protocol (NEP) that will describe the communication arrangements across the three levels of governance in Australia: Prime Minister, Premiers and Chief Ministers (state level), and local governments. Key outcomes of the NEP are protocols for maintaining communication between senior decision-makers at each level of government and the public during emergencies of national significance. While detailing how multi-levels of government liaise together, the NEP suggests a degree of influence on how these groupings will collaborate during an emergency response. However, the role of a fire and rescue service within these arrangements is yet to be defined.

**Research and development**

The third issue relates to an opportunity to stimulate enhanced and coordinated research and development on fire (prevention and response) and emergency management at a national level.

There are currently plans to set up a Cooperative Research Centre that will focus on the relationship between fire, the environment and society in the future. This collaboration between government, academia and industry will attempt to deliver a number of outcomes that:

- are end-user focused
- are based on strategic research
- seek cross-over opportunities to consider an all-hazards focus
- seek synergies with other related fields (applied and conceptual)
- support the provision of information needed by the fire and emergency services sector to remain flexible into the future

As these current developments show, there is a drive in Australia to explore future fire and rescue service needs and capabilities by funding strategic and applied research, to establish protocols for communication during emergencies across government, and to
detail a policy framework for current and future homeland security needs. All of these factors will influence the function and roles for Australian fire and rescue services in the near to long term.

A critical issue as we move forward is to ensure that fire services continue to develop and sustain capacities and capabilities that match the uncertainties inherent in the contexts of future emergencies. Our emergency services must be ready for unexpected incidents in a range of emerging settings.

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