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FIT-FOR-ACTION

BY
**SCOTT
WILLIAMS**

Chief Executive
Officer, Fire Protection
Association Australia



FPA Australia has a simple goal for the fire protection industry: that all individuals will be 'fit-for-action' (which means trained, competent and accredited) by 2020.

We are committed to making this goal a reality and have listened to feedback from our members in order to make the training and accreditation process simpler and more affordable.

We recognise the cost of accreditation can be a barrier—so we have removed most of the costs.

The Association is removing fees associated with transitional accreditation (inspect & test) and business recognition for all Corporate members. This means you can obtain transitional accreditation for all of your inspect and test technicians right now, free of charge.

The Association also understands the cost of training can be prohibitive, so we are offering a major subsidy.

While you are free to choose the most cost-effective training provider to suit your needs, FPA Australia is now subsidising 40% of the cost of Inspect & Test training in order to ensure we can deliver on our 2020 Vision outlined above.

To ensure the success of our accreditation programs we need to partner with the entire industry and the community and actively promote the use of accredited individuals. The success of these important initiatives depends on the support of stakeholders at all levels, both within the industry as well as brigades, councils, regulators, facility managers and everyone with an interest in fire protection and life safety.

In order to demonstrate our commitment to accreditation as a key pathway to professionalising the fire protection industry, in future, only FPA Australia Corporate members who employ accredited technicians will receive promotion as "providers of choice" on the Association's website and in other promotional materials.

On behalf of our Association and the Board of Directors I ask you to support our efforts to improve the industry by only using and recommending accredited individuals for the inspection and testing of fire protection work in Australia.

Recognising and promoting businesses committed to best practice is the best way we can achieve good life-safety outcomes and deliver on our vision to lead and support a professional industry, to minimise the impact of fire on life, property and the environment, for a safer community. Thank you for taking the time to consider these important initiatives and please enjoy reading this edition of *Fire Australia*.

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FIRE AUSTRALIA



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OUR COVER

Building-safety reform has arrived in Australia.
PHOTO: SHUTTERSTOCK

ABOUT FIRE AUSTRALIA

Fire Australia is a joint publication of Fire Protection Association Australia, the Australasian Fire and Emergency Service Authorities Council and the Bushfire and Natural Hazards CRC. We aim to bring the latest news, developments and technical information to the fire protection industry, emergency services and natural hazards research organisations. *Fire Australia* is produced quarterly and distributed throughout Australia and New Zealand. Editorial submissions are welcome and can be sent to: joseph.keller@fpaa.com.au.

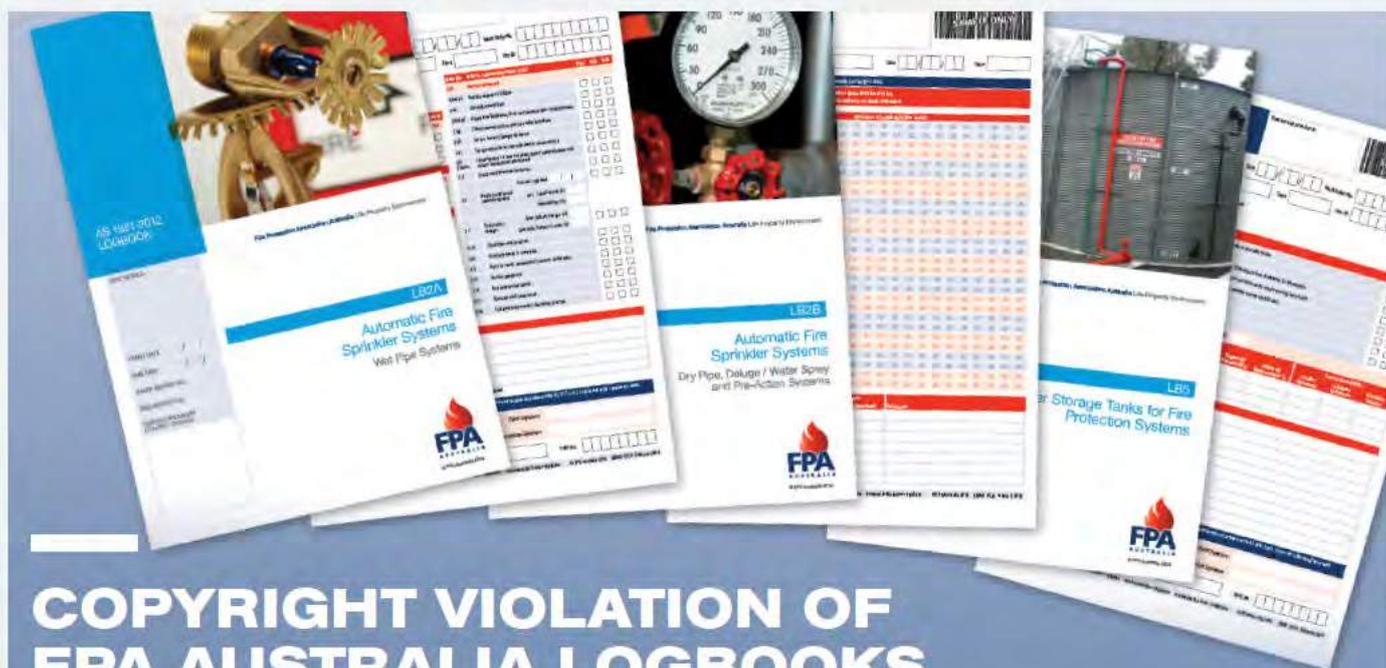
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COPYRIGHT VIOLATION OF FPA AUSTRALIA LOGBOOKS

FPA Australia has become aware of widespread duplication of AS 1851-2012 and AS 2293 FPA Australia logbooks.

After the release of the standards on which the FPA Australia logbooks are based, the Association undertook many months of work to customise the unique FPA Australia logbooks. From a design perspective they are easy to complete and contain additional information to assist technicians, and meet necessary regulatory obligations. The Association owns copyright on all FPA Australia logbooks.

Duplicated copies of the FPA Australia logbooks have recently been brought to the attention of the Association. These duplicated copies are near-exact reproductions of the FPA Australia logbooks and therefore they are a clear breach of the Association's copyright.

The Association takes this matter very seriously. The protection of Association (and its members) intellectual property rights is

paramount. The Association will vigorously pursue any individual or company involved in the reproduction of the FPA Australia logbooks. FPA Australia has successfully pursued several individuals and companies involved in similar activities in the past.

In order to protect yourself from any action that may be commenced by the Association for infringement of copyright, it is important that when you are acquiring logbooks, you ensure that you do not purchase products that violate the copyright of FPA Australia.

The Association will release more information soon and we thank you for your support in this important matter. If you believe you are in possession of, or are aware of, duplicated FPA Australia logbooks, we encourage you to contact the Association's Membership Services Manager Stephanie Viney at member@fpaa.com.au or on 03 8892 3131. ■

EAHL QUALIFIED PERSONS LICENCES NOW MANDATORY

It is now mandatory for fire protection technicians who handle scheduled extinguishing agents to have an Extinguishing Agent Handling Licence (EAHL)—Qualified Persons (Entitlement 1–5).

From 1 December 2015, any technician who has not undertaken the required units of competency is no longer able to hold an EAHL Experienced Persons (Entitlement 1–5) and cannot continue to work without a valid licence.

EAHL—Experienced Persons (Entitlement 6) will remain and you can apply for it either individually or in conjunction with EAHL—Qualified Persons (Entitlement 1–5).

FPA Australia congratulates the Fire

Protection Industry (ODS & SGG) Board on transitioning the majority of industry technicians from the experienced licence entitlement to a qualified licence.

On 30 November 2015, a total of 813 technicians successfully transitioned to a Qualified Persons (Entitlement 1–5). The transition program was initiated in 2014.

FPA Australia CEO Scott Williams said the licensing program had provided many benefits.

"The program has boosted the professionalism of the industry, built community confidence in technicians, assisted in the development of training materials for the industry and, importantly, generated improved environmental outcomes thanks to a reduction in discharges of scheduled extinguishing agents," he said.

Anyone suspected of working without a licence will be contacted by the Board regarding the non-compliance over coming weeks and months. ■

FIRE AUSTRALIA & HAZMAT 2016

DON'T MISS YOUR CHANCE TO GET INVOLVED

The newly combined Fire Australia & Hazmat 2016 is shaping up as the largest event ever held by Fire Protection Association Australia. If you would like to sponsor the event or participate as an exhibitor at the tradeshow, now is the time to secure your position as these options are limited and do sell out. Find out more by visiting www.fireaustralia.com.au or check out the feature on page 24 of this issue of *Fire Australia* magazine. ■





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SUCCINCT SCIENCE

Three Bushfire and Natural Hazards CRC PhD students demonstrated their swift communication skills by advancing to their three-minute thesis university finals in 2015. It is estimated that an 80,000-word thesis would take nine hours to present, but the three-minute thesis competition challenges PhD candidates to effectively explain their research in a much shorter time.

The students, Emma Phillips (Risk Frontiers, Macquarie University), Rachael Quill (University of NSW Canberra) and Caroline Wenger (The Australian National University), each progressed through their school and faculty three-minute thesis competitions to showcase their CRC science at their university finals.

The ability to communicate science concisely and in a user-friendly manner to a non-specialist audience is a key skill for any scientist, especially those beginning their research career. Each student received speaker training from the CRC, and had previously presented their three-minute thesis at the annual AFAC & Bushfire and Natural Hazards CRC conference in September.

Ms Wenger is exploring the ability of Australia's flood policies to cope with climate change. Her PhD is titled *Flood management in a changing climate: integrating effective approaches*.

Ms Phillips's PhD project is to develop a better understanding of infrastructure and critical services network behaviour, interconnectedness and exposure to

potential natural hazards. It is titled *Network disruptions during long-duration natural hazard events*.

Ms Quill is investigating wind characteristics over complex terrain to improve bushfire modelling. Her PhD project is titled *Spatial-statistical characterisation of wind fields*.

Watch all three-minute thesis presentations at www.bnhcrc.com.au ■

The ability to communicate science concisely and in a user-friendly manner to a non-specialist audience is a key skill for any scientist, especially those beginning their research career.

Caroline Wenger entertains the crowd during her three-minute thesis presentation.



PHOTO: THE AUSTRALIAN NATIONAL UNIVERSITY

FPA AUSTRALIA ENDORSES MFB REFORM PROPOSALS

FPA Australia has strongly backed the Metropolitan Fire Brigade's (MFB) Proposals for Reform of the Building Regulatory Regime. The Association wholeheartedly supports the need for meaningful reform as highlighted by the MFB and congratulates the Brigade on publicising these vital recommendations.

The proposals detail potential reforms that could better protect Victorians from the dangers of fire. They also create additional clarity for all individuals in the building process in Victoria. The document identifies regulatory failure in Victoria in the building and construction sector, which FPA Australia has consistently highlighted over many years.

Association CEO Scott Williams said change was long overdue.

"We are frustrated that after numerous independent reports recommending improvements to the role of the Victorian Building Authority and the performance of building practitioners in Victoria, there has been no progression of these important issues by government," he said.

Among the many important reforms proposed by the MFB, FPA Australia

is pleased to see a focus on targeted education and enforcement and the need to rebuild community and industry confidence in the building system.

"Targeted education and enforcement simply does not exist in the Victorian building industry," Mr Williams said.

"There is currently no incentive to increase the level of compliance by building practitioners. The VBA must play a leadership role and exercise core regulator functions. It is unacceptable that after more than 12 months there are not even any preliminary findings regarding the practitioner conduct investigations into the Lacrosse apartment fire.

"Unsurprisingly, after such a long period of complacency and neglect, there is a real lack of confidence in and respect for the current regulatory regime in Victoria.

"We need to restore confidence in the safety of Victoria's building stock. This can be assisted by the regulator leading strong education and enforcement programs and introducing robust regulatory reform that provide clarity regarding responsibilities for design, approval and maintenance of buildings and places of public entertainment."

MFB's proposals also include a recommendation to amend the Building Act and Building Regulations to introduce a category of registration for Essential Safety Measure contractors. The Association warmly welcomes this proposal and believes it supports FPA Australia's own efforts in professionalising the industry through the development of the Fire Protection Accreditation Scheme. Mr Williams said a tipping point had been reached and change must happen now.

"Here we have a Victorian statutory authority openly outlining critical changes that need to occur in the way the building industry is regulated," Mr Williams said. "What else is it going to take for the Minister to take notice of these issues, and to take action, if not this?"

"We call on Minister Wynne (Minister for Planning) to carefully consider the recommendations made by the MFB, and to take immediate steps to see them realised. This must start with acknowledging the depth of the problem with the building and construction industry in Victoria and be followed by robust and meaningful reform." ■

AS 1851-2012 NOW SUPPORTED IN VICTORIA

The Victorian Building Authority (VBA) has published a new Practice Note that prescribes the use of AS 1851-2012 (Routine Service of Fire Protection Systems & Equipment) as an appropriate standard for routine servicing of fire protection systems and equipment in all buildings.

The Practice Note recognises that "where an essential safety measure is maintained using AS 1851-2012, in lieu of previous nominated versions of AS 1851, it is considered that the essential safety measure will fulfil its purpose and maintain safety objectives."

This is a significant achievement for FPA Australia as Victoria was the final jurisdiction to acknowledge or adopt requirements that allowed AS 1851-2012 to be adopted for new and existing buildings.

The Association has worked diligently since the release of the latest Standard in December 2012 to consult all state and territory regulators to allow for adoption and to streamline the approach to routine servicing of fire protection systems and equipment. The FPA Australia Good

Practice Guide for the adoption and use of AS 1851-2012 will be updated to recognise the regulatory mechanisms that all jurisdictions implement allowing the use of AS 1851-2012.

The new VBA Practice Note represents a pragmatic outcome that FPA Australia had lobbied strongly for and working closely with the VBA to develop.

FPA Australia CEO Scott Williams said the VBA announcement was a positive outcome for ongoing fire protection maintenance of buildings in Victoria.

"This is a major step forward for the Victorian industry, which means that fire protection technicians and property owners can finally apply the latest best practice standard for routine service of fire protection systems and equipment to new and existing buildings with confidence and without the burden of additional administrative processes."

The Practice Note also provides recognition for the need to use competent persons and acknowledges that industry accreditation schemes (like FPA Australia's FPAS) are legitimate ways to demonstrate technicians are

fit-for-action. "This will ensure routine service activities increase in consistency and the likelihood of community safety objectives being achieved is increased."

FPA Australia will schedule a supportive seminar this year for those operating in the Victorian industry to learn of the advantages and changes incorporated into AS 1851-2012 and the new VBA Practice Note. The current suite of FPA Australia AS 1851-2012-compliant logbooks are available from www.fpaaustralia.com.au/sales/logbooks-as1851-2012. You can view the full VBA Practice Note by following the links at www.vba.vic.gov.au/practitioners.

FPA Australia would like to congratulate the VBA on taking this important step, which brings Victoria into line with the rest of the country. All states and territories in Australia now feature harmonised requirements for fire protection systems and equipment maintenance, as prescribed by AS 1851-2012. ■



MOST NSW NURSING HOMES NOW FITTED WITH SPRINKLERS

More than 80% of NSW nursing homes are now fire sprinkler compliant, according to the latest progress report released by the Department of Planning and Environment.

Changes made to legislation in 2013 require all nursing homes in NSW to install an automatic fire sprinkler system. FPA Australia has strongly and consistently supported these reforms, including publishing a Fire Sprinkler Provider List.

The reforms were part of the NSW Government's response to the coroner's recommendations following the tragic nursing home fire at Quakers Hill in 2011.

A Department spokesperson said there was a real commitment in the industry to help safeguard nursing homes by installing fire sprinklers.

"There are more than 60,000 residents in nearly 900 nursing homes across NSW and every single resident, visitor and staff member deserves to feel peace of mind about their protection in the event of a fire," the spokesperson said.

"Over 50 systems were installed over the past six months, which is good progress on this vital requirement."

Aged and Community Services NSW CEO Illana Halliday said the progress report revealed that almost all nursing homes in NSW had either fitted fire sprinklers or were in the planning or installation phase.

"Nursing home residents are precious to their loved ones and we never want to see a repeat of the Quakers Hill fire," Ms Halliday said.

In exceptional circumstances such as planned renovations, an extension has been provided to some nursing homes past the deadline of March 2016. Extensions are granted to a final deadline of March 2017 on a case-by-basis and only after a thorough assessment of safety implications.

The Fire Sprinkler Systems Implementation Committee monitors the installation of sprinkler systems, sets the requirements for implementation and publishes updates at www.planning.nsw.gov.au/firesprinklers. ■

CRC PHD STUDENT RECOGNISED

Bushfire and Natural Hazards CRC PhD student Rachel Westcott has been recognised for her work after South Australia's Sampson Flat bushfire in January 2015 as part of the Pride of Australia awards. Rachel was third in the environmental category of the awards, which are run by News Corp. Along with her team from South Australian Veterinary Emergency Management, Ms Westcott helped save—and, sadly, euthanise—hundreds of suffering and burnt animals, including western grey kangaroos, koalas, possums, livestock and domestic pets after the fire. Ms Westcott started South Australian Veterinary Emergency Management, a not-for-profit organisation, after Victoria's Black Saturday bushfires in 2009, to help animals after natural disasters. ■



Rachel Westcott shows her Pride of Australia award.

Funding is now available for research in the immediate aftermath of an emergency situation.



QUICK FUNDING TO GATHER IMPORTANT DATA

PHOTO: DAVID BRUCE, BUSHFIRE AND NATURAL HAZARDS CRC.

Funding is now available from the Bushfire and Natural Hazards CRC for researchers to access in the immediate aftermath of an emergency situation. Launching its new Quick Response Fund, the CRC aims to help research teams travel to areas affected by a bushfire, flood, cyclone, severe storm, earthquake or tsunami to gather an immediate understanding of any event and capture perishable data.

The new initiative was launched prior to Australia's 2015-16 severe weather season, with funding available for up to \$2,500 (including GST) per team, per event. The funds are principally designed to reimburse travel-related expenses such as airfares, car rental and accommodation.

Applicants do not need to be current CRC researchers to be eligible. PhD students are also eligible to apply where an understanding of the event directly relates to their PhD studies.

The Quick Response Fund was inspired by the Natural Hazards Centre in Boulder, USA, which runs a similar scheme. More information about the funding—including introduction, guidelines and an application form—is available at www.bnhcrc.com.au. ■

CQU AWARDS CRC RESEARCHERS

Professor Kevin Ronan receives his award from CQU Vice-Chancellor Professor Scott Bowman.



PHOTO: CQU UNIVERSITY

Bushfire and Natural Hazards CRC researchers Dr Kirrilly Thompson and Professor Kevin Ronan have been recognised by CQUniversity (CQU) for their outstanding commitment to research. The pair was among several CQU staff acknowledged as part of the Vice-Chancellor's Awards for Outstanding Researchers, which recognises those who have made a significant contribution to enhancing and supporting activities at CQU. Dr Thompson received the Mid-Career Research Award while Professor Ronan received the Award for Excellence in Research.

Dr Thompson was recognised for her research into community behaviour during the 2014 South Australia bushfires undertaken for the CRC and the Country Fire Service. She was also recognised for her work looking at animal-related risk and sociological research on risk analysis relating to her CRC project, Managing Animals in Disasters. Her research has a focus on real-world applications for increasing the safety of human interactions with animals.

Professor Ronan was acknowledged for his research, which focuses on the role of youth, families and schools in raising community awareness to prepare for disasters, including his role as CRC project leader for the Child-centred Disaster Risk Reduction study. ■

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The CRC's Utilisation Manager, Dr Matt Hayne, discusses how the CRC will work with emergency services to embed research findings into practice.



PHOTO: NATHAN MADDOCK, BUSHFIRE AND NATURAL HAZARDS CRC

RESEARCH ADVISORY FORUM

Physical science and engineering projects were the focus of the Bushfire and Natural Hazards CRC's Research Advisory Forum (RAF) held in late 2015. The two-day forum took place at the Queensland University of Technology (QUT) in Brisbane on 17 and 18 November with around 100 researchers and end users attending.

The forum focused on projects investigating coastal management, natural hazards monitoring and prediction, prescribed burning and catchment management, strengthening

buildings and other infrastructure and next generation fire modelling.

Each project team gave a 30-minute presentation, which included an overview on the state of the project and its findings so far. End user representatives discussed how they thought each project was going and where it was headed in terms of research utilisation.

The forum included scheduled breakout sessions that allowed each project team to undertake workshop activities with end users.

The RAF also featured three-minute thesis presentations, which are short overviews of research from CRC-funded and Associate Students at the PhD and masters level. The presenters gave snapshots of their research in just three minutes with students Melanie Baker-Jones (QUT), Chris Thomas (University of New South Wales) and Darryl Dixon (Charles Sturt University) all speaking.

Access presentations from the two-day event at www.bnhcrc.com.au ■

RESEARCH TO BE REFRESHED



The Bushfire and Natural Hazards CRC has begun a process to refresh the current research program to ensure the science is contributing to a more disaster-resilient Australia and continuing to meet the needs of the community and Australia's emergency management agencies. This process will see successful projects continue and vital new projects commence to meet the needs of the CRC's partners.

With the CRC entering its third year of operation and research utilisation beginning on the current projects, the refresh will help to ensure the original aims of the CRC are still in focus. The process will also guarantee

that the research program remains consistent with the outcomes of several subsequent reviews conducted at national, state and territory levels, and that appropriate resources are allocated to the areas they are most needed.

The refresh of the research program is already underway, with the plan to continue successful current projects and commence new projects of vital need to the industry from mid-2017. In addition, CRC partners and the wider emergency management sector, including the private sector, will be consulted to define a national agenda for natural hazards research.

The CRC will seek expressions of interest for undertaking research, initially from existing research partners, and from the wider research sector if required. ■

New research projects of vital need to Australia's emergency services will commence from mid-2017.

AFAC16 CALL FOR ABSTRACTS OPEN

Abstract submissions for AFAC16 are open to all those working in emergency services including management professionals, volunteers, researchers and academics, industry, community and all levels of government. AFAC16 joins the global INTERSCHUTZ family in a new partnership between AFAC and Hannover Fairs Australia. AFAC16 will be held at the Brisbane Convention and Exhibition Centre from 30 August to 1 September 2016.

Produced in collaboration with the Bushfire and Natural Hazards CRC, the three-day conference will explore the theme 'Mitigation, Response, Recovery: Getting the balance right', and will open with the Research Forum.

Emergency and disaster management has advanced dramatically over the past five years with fire and emergency service agencies worldwide implementing new and innovative ways to mitigate and respond to disasters.

Recent emergencies around the world have identified the need for better recovery capability. This year's conference will take a detailed look into how agencies are getting the balance right within new, diverse and inclusive multi-agency disaster management services.

TO EXPLORE THIS THEME, ABSTRACTS SHOULD ADDRESS:

- 1** Transformational leadership—exploring the critical role that leaders play in inspiring their workforce through change and transformation.
- 2** Predictive services—sharing an insight into how predictions shape community warnings, awareness, resource allocation and planning decisions with a focus on new data, techniques and models and capability building.
- 3** Capacity for coordination and recovery—considering the ways in which fire and emergency services organisations must develop methodologies and approaches to provide mitigation, response and recovery solutions.
- 4** Building back better—acknowledging the need to offer adaptive and dynamic solutions to ensure a resilient future, rather than simply rebuilding what was there before a disaster occurs.
- 5** Disaster resilience—providing an insight into what makes a community resilient to disasters and what approaches they take to ensure risks are managed.
- 6** Partnerships—reflecting on how we recognise and develop trust across sectors, services, industries and communities and how organisations identify all possible strategies to build safer communities.
- 7** Integration, diversity and inclusion—examining the shift in thinking within our industry that will build the foundation for a successful all-hazards workforce that reflects the communities in which organisations operate.

The closing date for abstract submissions is 15 February 2016. To submit an abstract, or for more information about any of the core topics, speakers, registration and post-conference development sessions, visit www.afaconference.com.au. ■



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AFAC AND FPA AUSTRALIA ATTEND SMOKE ALARM SENATE INQUIRY

Queensland Senator Glenn Lazarus secured Australian Senate support on 25 June 2015 to establish a senate inquiry into the use of smoke alarms to prevent smoke and fire-related deaths.

The report, due to be tabled on Wednesday 16 March 2016, is being built on investigations that include written submissions and two public hearings. The inquiry received a number of written submissions on behalf of related sectors, industries, emergency management agencies and several submissions reflecting on personal experiences with home fire-related tragedies.

In the public hearings both FPA Australia and AFAC were invited to speak on their written submissions.

The inquiry is considering:

- ◆ the incidence of smoke and fire-related injury and death and associated damage to property;
- ◆ the immediate and long-term effects of such incidences of injury and death;

- ◆ how the use, type and installation set-ups of smoke alarms could affect such injuries and deaths;
- ◆ what smoke alarms are in use in owner-occupied and rented dwellings and the installation of set-ups;
- ◆ how the provisions of the Australian Building Code relating to smoke alarm type, installation and use can be improved;

- ◆ whether there are any other legislative or regulatory measures that would minimise instances of such injury and death; and
- ◆ any related matter.

To view all submissions to the Senate Inquiry, including FPA and AFAC submissions, visit the inquiry website at: www.aph.gov.au. ■



PHOTO: iSTOCKPHOTO.COM

FPA AUSTRALIA APPEARS AT SMOKE ALARM INQUIRY

As outlined above, FPA Australia has appeared before the Federal Senate Inquiry into the use of smoke alarms to prevent smoke and fire-related deaths.

In 2015 the Association lodged a detailed submission to the inquiry. The Association believes that the current requirements for residential smoke alarms in the Building Code of Australia (BCA) can be further improved at

minimal cost by specifying the most appropriate detection technology for the type of fire expected at the period of highest risk. This is a photoelectric smoke alarm to cover smouldering fires that produce visible smoke when occupants are sleeping.

The BCA requirements can also be improved by providing more specific location requirements—especially that

smoke alarms are provided in egress paths—to ensure smoke alarms achieve their purpose.

At the Senate Inquiry hearing, the Association's representative, Chief Technical Officer and Deputy CEO Matthew Wright, and National Technical Advisory Committee Chair, Chris Orr, outlined the recommendations made in the Association's submission.

The submission also included the need to harmonise state and territory smoke alarm requirements for existing buildings. Mr Wright supported statements made by representatives from several state fire brigades on the issue.

Senators in attendance complimented the Association for the depth of its submission and understanding of the issues under discussion. The Association looks forward to recommendations from the inquiry and is confident these will include positive steps towards reforming the regulation of residential smoke alarms for protecting life safety in Australia. ■

[L-R] Senator Joseph Ludwig, FPA Australia Chief Technical Officer and Deputy CEO Matthew Wright, Senator Glen Lazarus and NTAC Chair Chris Orr at the inquiry.



▶ AFAC PRESIDENT APPEARS AT SMOKE ALARM INQUIRY

AFAC President and Fire & Rescue NSW Commissioner Greg Mullins spoke on behalf of AFAC at the smoke alarm inquiry, alongside Acting Deputy Chief Officer Adam Dalrymple from the MFB.

AFAC's detailed written submission of August 2015 was based on consultation with the broader AFAC membership.

Commissioner Mullins took the opportunity to use his personal experience as a career firefighter to detail the effect of injury and fatality on emergency management professionals, who are experiencing an increased incidence of post-traumatic stress in first-responders.

AFAC's submission advocates for changes to the use, type and installation set-ups of smoke alarms, believing changes could positively affect the number and severity of personal injuries and fatalities. AFAC advocates for the use of photoelectric smoke alarms in all residential buildings, in addition to a number of regulatory reforms to ensure their correct installation and use.

The AFAC submission and Commissioner Mullins's testimony detailed the variables in the use of

smoke alarms that contribute to the high number of fire-related fatalities in homes with smoke alarms. While smoke alarms have already changed the landscape for firefighters, Commissioner believes that with regulatory change, residential fire-related deaths and injuries are preventable.

Commissioner Mullins was invited to explain the effect of flashover in residential fires. Due to the significant changes in the fibres used to furnish modern homes, the point of flashover—the moment materials in the room ignite and the entire room becomes alight—is occurring far more quickly than it did 20 years ago. Flashover is often the point at which the fire extends beyond the room of fire origin, meaning there is less time for evacuation.

Mr Dalrymple reiterated the MFB submission, which included several recommendations to provide for the reduction of risk to vulnerable groups, to review feasibility of new and

emerging technologies to link smoke alarms to personal alarms, smoke alarms appropriate to the client's risk level, funding arrangements for smoke alarms for the deaf; and, nationally, a consistent approach in the type, use and application of smoke alarms in the domestic environment.

In addition to a rigorous examination into smoke alarms, AFAC believes there's opportunity to consider the use of domestic sprinklers alongside alarms because of their ability to suppress fires and increase the amount of time occupants have to escape harm.

AFAC supports the work of Senator Lazarus and believes the inquiry "will make a significant difference by adopting the recommendations from experts who know what needs to be done but just need the legislative and regulatory backing to realise the solutions that are readily available." ■

WA LAUNCHES BUSHFIRE REFORMS

The Western Australian Government has officially launched its bushfire reform package in response to planning and building recommendations from the Keelty Report into the Perth Hills bushfire of 2011.

Key measures of the reforms include:

- ◆ creation of a map that identifies the areas of WA that have been designated as bushfire prone by order of the Fire and Emergency Services Commissioner
- ◆ new bushfire planning requirements for development in designated bushfire-prone areas
- ◆ application of the bushfire construction requirements of the Building Code of Australia (BCA) for certain residential buildings.

FPA Australia has worked closely with the WA Government to see these important reforms realised and congratulates the WA Department of Planning for taking the lead for best-practice outcomes for planning and building in bushfire-prone areas in WA.

The WA Government recognises FPA Australia as an accrediting and training body for Level 1 BAL Assessors in accordance with the Western Australian Bushfire Accreditation Framework. These courses have been developed to support the WA Government's commitment to having a professional bushfire consultant industry with accredited practitioners. To learn more about FPA Australia's bushfire training visit www.fpa.com.au/training.

2015-16 FPA AUSTRALIA BOARD OF DIRECTORS CONFIRMED

The make-up of the Board of Directors of FPA Australia for 2015-16 has been confirmed. FPA Australia says goodbye to one director, Mr Alf Pelliccione, and welcomes two new directors, Mr Alan Wilson and Mr Patrick Conway. In addition, the Association is pleased to confirm the re-election of Ms Rhondel Johannessen.

Mr Wilson has more than 40 years' experience in the insurance industry, operating his own business for the last 30 years. He is a Senior Associate of the Australian and New Zealand Insurance Institute, a Qualified Practising Insurance Broker and holds a Diploma in Financial Services (Insurance Broking). In 2012, Mr Wilson was awarded the inaugural National Insurance Brokers Association Broker of the Year Award. In 2015, he was also awarded FPA Australia's most prestigious award, the AV Viscogliosi Award, for service to the fire protection industry through the fire protection industry insurance scheme.

Mr Conway is electrically trade qualified with a Bachelor of Business (Marketing and International Trade) from Victoria University. He has extensive experience in the fire industry, including senior business development/sales management roles with UTC. Mr Conway is currently the ANZ Sales Director for Tyco Fire Protection Products.

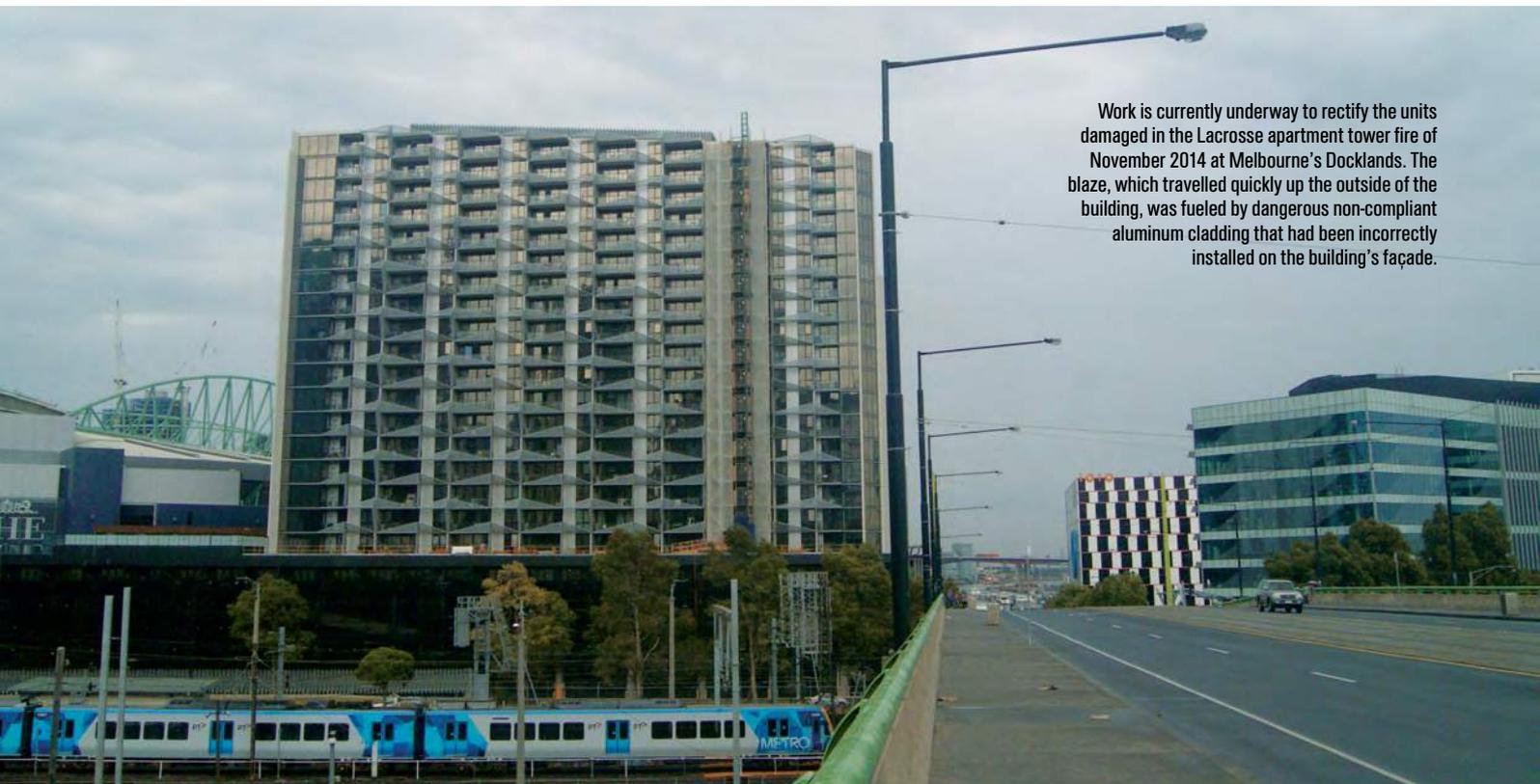
Ms Johannessen holds a Master of Education and Diploma in OH&S. She has been in the fire protection industry for more than 15 years and is the Founder and Managing Director of DELTRA Australia, an RTO specialising in the delivery of fire safety training. Ms Johannessen is involved in various committees within the industry. This will be her second term on the FPA Australia Board of Directors and the Association again congratulates Ms Johannessen on her re-election.

After the 2015 AGM, which was held on 10 November in Brisbane, the following Board executive appointments were made for 2016:

- ◆ National President—Trevor Voevodin
- ◆ Senior Vice-President—Chris Orr
- ◆ Junior Vice-President—Graeme Thom
- ◆ Treasurer—Bill Lea.

The Association thanks all past and present directors for their contributions.

AFTER YEARS OF COMPLACENCY, BUILDING COMPLIANCE REFORM IS COMING



Work is currently underway to rectify the units damaged in the Lacrosse apartment tower fire of November 2014 at Melbourne's Docklands. The blaze, which travelled quickly up the outside of the building, was fueled by dangerous non-compliant aluminum cladding that had been incorrectly installed on the building's façade.

Despite years of denial from the building, construction and fire protection industries, and little interest in meaningful reform from governments, a recent wave of publicity surrounding non-conforming products and poor practices means all options are now on the table to solve the crisis of confidence around Australian building safety.

BY **SCOTT WILLIAMS**

Chief Executive Officer, FPA Australia

Times certainly have changed. It was not so long ago the notion that governments would take up issues of non-compliant building products would have been laughable. And yet today we have multiple government inquiries into just that issue. Outcomes of these inquiries and other building and construction legislative

reviews will send shockwaves through the building, construction and fire protection industries—and with good reason. As an industry we must decide our own destiny, before governments decide it for us.

In Victoria, hundreds of buildings in Melbourne's CBD are being investigated for non-compliant cladding products at precisely the same time that a new Building Act is being drafted. Because of these high-profile issues it is not far-fetched to imagine that the new Act may pave

the way for state-based accreditation or licensing of building practitioners.

There is much internal rancour among the players in Victoria, with many unhappy with the performance of regulatory bodies, councils and the construction industry. The Victorian Coroner has been dragged into the fray, at the request of the MFB, over the dangerous Docklands 'Lacrosse' apartment fire. And all of this after multiple investigations over the past decade found major failings in the performance of the

Victorian Building Regulator. The gift of clairvoyance is not required to see that the Victorian building and construction industry will have more reviews and investigations in its future, but it is action that is needed, not investigation. The industry's flaws are plain to see and well known to all involved.

New South Wales faces its own upheaval. The most recent review into the *Building Professionals Act 2005* has recommended sweeping changes to the way individuals are recognised for their skills and competence. At the same time a Coronial Inquest into the Death of Pinkang (Connie) Zhang in the tragic Bankstown apartment fire of 2012 has echoed many of the sentiments of the Act review. It has also recommended changes to the Building Code of Australia (BCA) to require that all apartments under 25 m in height have automatic fire sprinklers in residential areas—a reform long championed by FPA Australia.

At the federal level a Senate Inquiry into non-conforming products will soon conclude and will likely recommend changes to the way building products are approved and sold in Australia. FPA Australia has lodged a strong submission to that inquiry, outlining the effect of non-conforming building products on the Australian marketplace. The submission outlines that non-conforming products are producing five key consequences:

- 1** Reducing the level of community safety expected to be delivered by products required to operate reliably as individual products and/or as part of holistic safety systems
- 2** Preventing an even playing field and reducing incentives for responsible corporate organisations to continue to fund research and appropriate product approvals

3 Increasing costs associated with repair and rectification work when non-conforming products are identified and are required to be replaced

4 Reducing the quality of Australian buildings

5 Creating uncertainty and reducing confidence in each aspect of the building supply chain.

At the same time, a recent meeting of federal, state and territory building ministers voted to consider changing the way Evidence of Suitability is demonstrated in the BCA to better reflect the potential safety risk of products. The meeting also recommended the Australian Building Codes Board (ABCB) consider whether sprinklers on apartment balconies should be included in the code (a reform to be introduced in Victoria in 2016).

These announcements demonstrate that the building ministers have listened to the industry and the community and acknowledged the extent of the issues. The future establishment of a national register of 'fit-for-purpose' products that are high risk will restore confidence and certainty to the building industry and the community.

The ABCB will report to the Building Ministers' Forum on the progress of the mandatory scheme for high-risk products shortly and we will support the ABCB and work with all stakeholders to ensure that any scheme is sound, robust and rigorous.

FPA Australia advocates for meaningful fire safety reforms every day. However, as an industry and as an association, we can only provide guidance to these political inquiries, reviews, investigations and committees. We can neither chart their course, nor perfectly predict their outcomes.

What we can do as an industry, indeed

what we must do, is get prepared—because change is coming and much is already here.

For example, it is certain that in future all individuals working on life-saving fire protection systems and equipment will require some form of accreditation (beyond the limited existing requirements). It is absurd that this is not already the case. In addition, it is certain that at some time in the future the nature of building design and approval will change so that only trained, competent and accredited individuals will be able to design, install, commission and certify important life safety measures in Australian buildings.

We can be certain of these changes because the community already expects they are in place. The rolling media interest in the safety crisis in Australian buildings highlights community disbelief and dismay that these safeguards do not exist.

Too many people have either died tragically or come terrifyingly close to losing their lives as a result of poor practices in the building and construction industry—practices which have been shown to be out of step with community expectations. The media has rightly highlighted these concerns, politicians have become nervous, and now suddenly all options for reform are on the table.

We can only hope that whatever changes come will lead to better fire protection outcomes for the community. We can increase the reputation of our industry through training, competencies and increasing professionalisation. In the new built environment the most successful companies and individuals will be those who saw this writing on the wall early and responded before their hands were forced. ■

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PERCEPTIONS OF RISK AND CONNECTION TO LANDSCAPE

Understanding people's sense of bushfire risk and connection to the landscape in which they live has helped researchers develop a visual mapping tool kit with residents of fire-prone areas.

BY **BRENDA LEAHY**

Communications Officer, AFAC

Flanked by the Bunyip State Forest, about 90 kilometres east of Melbourne, Tonimbuk (population 317) is one of Victoria's prettiest and, at times, most dangerous places.

In summer, when heat, wind and fuel conditions converge into severe fire weather, the natural beauty of this densely forested landscape turns Tonimbuk into a place of high bushfire risk.

Seasoned locals Mike and Elaine Harrison, like so many others around them, co-exist with the risk because Tonimbuk—reportedly derived from an Aboriginal word meaning 'to scorch or burn'—is 'home'.

Filled with about 40 years of memories of family, friends and lives lived and lost, home for the Harrisons means much more than the house, possessions or a place on a map. It is about deeper connections with the landscape, beyond the front gate to the local town hall, the scrubby ridges, pastures and thickly forested hillsides that trail into distance.

"No matter where you are, when you come back it's like putting on a good old comfortable coat. You're home," explained Mr Harrison. His story of home within his beloved landscape features in an innovative online training and development tool kit published recently by AFAC.

House, Home and Place: A Visual Mapping Tool Kit for fire and land managers uses stories to help explain why people want to live in fire-prone communities, illustrating some of the values and beliefs that shape their

connections to home and place.

The tool is based on the research of Professor Ruth Beilin and Dr Karen Reid, of the University of Melbourne, from their Social Construct of Fuels in the Interface project from the Bushfire CRC. It has evolved into a practical tool kit as a research utilisation initiative through the CRC, AFAC and member agencies.

In their studies, the researchers found that agencies could benefit from stepping into the shoes of locals to understand their perceptions on bushfire in the landscape and their responses to risk. They investigated factors such as what people meant by house, home and place and what things they valued in terms of their homes and communities, and why.

Using this local knowledge and insights, according to Dr Reid, agencies would be better equipped to support people to anticipate and reduce the risks to their homes and communities.

Place-based approach

Mike Wouters from South Australia's Department of Environment, Water and Natural Resources (DEWNR) wanted to understand why residents did not appear to assess hazard and risk on the same terms as agencies or respond as they had expected to their general fire safety messaging. The key question was: what did people value most in their homes and communities?

A place-based approach, according to Dr Reid, helped to explain to agencies how residents attached meaning to the landscape in their everyday lives and how this influenced their thinking about risk and the place of fire.

"The fieldwork with our colleagues

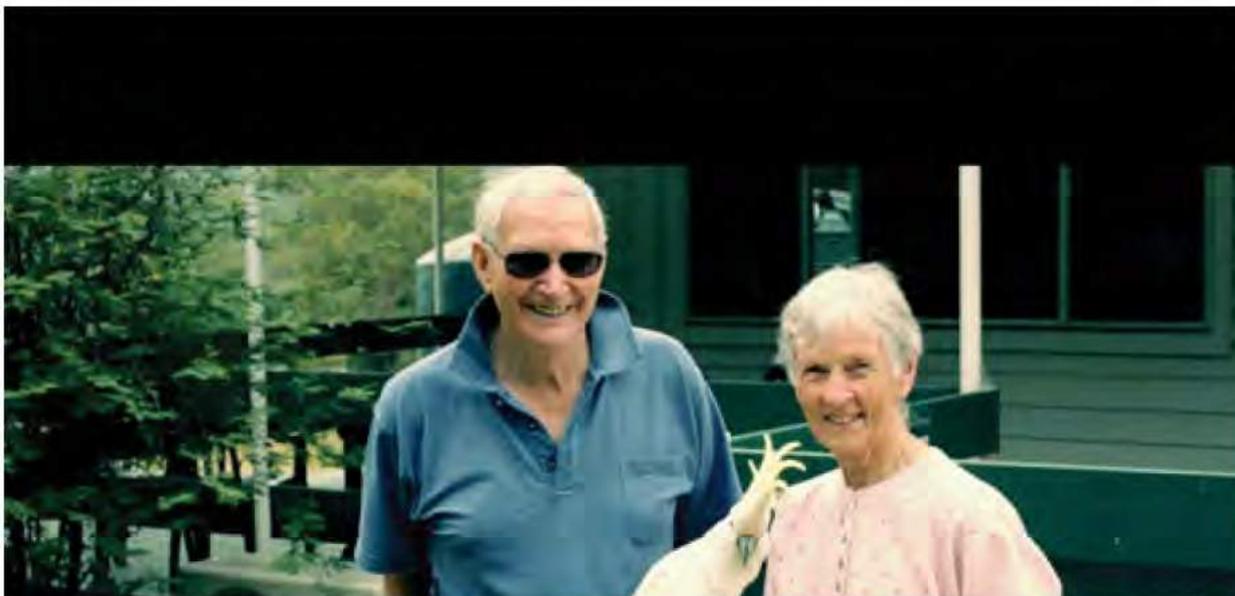
from DEWNR confirmed that people were not ignorant of bushfire risk. It showed that their understanding of that risk was far more complex, reflecting their sense of self and how individually valued assets, such as trees, wildlife and buildings were inseparable from the broader landscape context," she said. This laid the groundwork for the development of the tool.

The findings highlighted that people's sense of home and place extended well beyond the house to being part of the local landscape, according to Mike Wouters. This had implications for bushfire education, as traditionally, he said, some fire safety messaging had focused on the house and the structural or physical aspects of preparation, such as cleaning gutters and making fire-breaks.

During the project, the researchers also ran workshops with South Australia's Country Fire Service, the Tasmania Fire Service and Victorian fire and land management agencies – the Country Fire Authority, Department of Environment Land Water and Planning, Emergency Management Victoria and Parks Victoria.

House, Home and Place: A Visual Mapping Tool Kit, was released by AFAC in 2015. It features a package of videos, including personal stories and a range of printable resources on how to use and apply the tool.

The tool kit is essentially a visual mapping method and interview technique delivered in a workshop format. The method can be used by anyone interested in working closely with communities to strengthen their capacity to mitigate and recover from natural hazards.



For locals like Mike and Elaine Harrison of Tonimbuk in Victoria, a sense of connection to landscape is part of their response to bushfire risk.

Residents work in small, facilitated groups to sketch, or mud map, their home within the local landscape, reflecting on how they live within and use that space every day. As they talk, draw and interact, they are also encouraged to consider hazards and risks such as bushfire.

A key benefit of this method, according to Dr Reid, is that it can start productive conversations about risk and how to manage it. These free-flowing conversations reveal deeper insights that cannot be gleaned from typical question-and-answer style interviews or surveys.

"The process of visual mapping helps unlock deeper-held intuitive ways of knowing. It helps explain why certain things are important, and provides an opportunity to pause and reflect on the decisions we make and the actions we take ... In this way, the deeply held assumptions we make about the landscape are reflected right back at you on the paper.

"It doesn't matter whether you're a local, a land manager, firefighter or scientist, we all draw on our intuitive ways of knowing, as well as our rational knowledge. But the intuitive is much harder to access than the rational way of knowing, because it is deeply embedded in our thoughts and assumptions. By going through this process we can understand better where people are coming from."

The human side of risk

Communication consultant Tom Lowe, who was engaged to translate the research into a tool for practitioners, said he used video storytelling and narrative

to put a human face on complex and abstract concepts.

"Fire managers and practitioners often talk about people's values in broad terms. This may be because everyone has a slightly different take on the world, and it would be almost impossible to take into account the depth and breadth of views that are out there," he explained. "As a result, we tend to gloss over the reasons for people's connections to place in an attempt to avoid overcomplicating decision-making."

In developing the *House, Home and Place* materials, he aimed to demonstrate "what connects people to their surroundings" and bring to the fore the "stories behind people's view of the world".

"Fire and land managers don't necessarily need to remember every individual story, or respond to everyone's demands, but I do think it is important to be aware of the richness of experience that lies behind each story.

"By starting from the ground up, and engaging in discussions with local people about their connections to place, practitioners should be able to extract

a more detailed sense of where people agree and where they disagree.

"The *House, Home and Place* materials will not provide decision-makers or communities with all of the answers, but they should give people the confidence to start a discussion and not be afraid to listen to people's stories." ■

You can download the tool kit on AFAC's website at www.afac.com.au/insight/risk.



"The fieldwork with our colleagues from DEWNR confirmed that people were not ignorant of bushfire risk. It showed that their understanding of that risk was far more complex, reflecting their sense of self and how deeply held values were inseparable from the broader landscape context."

—Dr Karen Reid

AUSTRALIAN INSTITUTE FOR DISASTER RESILIENCE

A NEW APPROACH TO EMERGENCY MANAGEMENT

The launch of the new Australian Institute for Disaster Resilience (AIDR) signals the beginning of a fresh approach to the delivery of emergency management education, training and professional development for a stronger emergency management sector.

BY **FREYA JONES**

Delivering emergency management products and services around the country, the Institute is the result of a new partnership between AFAC, the Bushfire and Natural Hazards CRC, the Australian Red Cross and the Attorney-General's Department. Bringing together a great depth of experience, the Institute was launched in Brisbane on 18 November 2015.

The Hon Teresa Gambaro MP, Federal Member for Brisbane, launched the Institute on behalf of the Minister for Justice, the Hon Michael Keenan MP, at an event that coincided with the Bushfire and Natural Hazards CRC's Research Advisory Forum.

Dr John Bates, Director of AIDR, acknowledged that the Institute will provide a strong foundation and a new direction for the sector.

"The launch of the Australian Institute for Disaster Resilience marks an important step in building Australia's disaster resilience capability and we look forward to working with the broad emergency management sector and the Australian community to focus on improving community resilience," he said.

The partnership will deliver

professional development products, services, training and education developed by, and for, the emergency management sector. AIDR will be responsible for the delivery of many of the services that were previously provided by the Australian Emergency Management Institute and for implementing a range of new initiatives.

Australians will see the benefits of the Institute through sector-wide resource and knowledge sharing, professional development for all sector participants and school education support. These include initiatives such as the development and delivery of doctrine, the *Australian Journal of Emergency Management* and the Disaster Resilient Australia and New Zealand School Education network.

Speaking at the launch, the Australian Red Cross National Manager, Emergency Services, Andrew Coghlan, reflected on the diverse combination of expertise that each partner will bring to the institute.

"The partnership represents a wide range of emergency management expertise from operational, humanitarian and research backgrounds. It will share and build on extensive knowledge and experience in emergency management drawn from Australia and internationally," he said.



Master class with The Hon Anna Bligh

Held in both Sydney and Melbourne in November 2015, the first event hosted by AIDR was a master class presented by former Queensland premier Anna Bligh.

Ms Bligh shared her personal insights and understanding of the political interface with emergency services agencies that must take place during a disaster. She used the backdrop of the three natural disasters that swept Queensland in the summer of 2010–11, while she was premier, to explore this interface during the phases of disaster planning, incident management and recovery.

Ms Bligh highlighted the moment in which she understood that the unfolding disaster was going to escape the scale of any preparedness training ever undertaken in Queensland. And, given they were operating outside the rule book, she outlined the opportunities this presented for all sides of government and emergency agencies to address the needs of Queenslanders with new and innovative approaches to both response and recovery.

With a state in mourning, profoundly disrupted infrastructure networks, a protracted state of emergency, homes and businesses destroyed and lives lost, Ms Bligh, with her senior staff and



[L-R] Dr Richard Thornton, Bushfire and Natural Hazards CRC CEO; the Hon Teresa Gambaro MP, federal member for Brisbane; Andrew Coghlan, National Manager Emergency Services at the Australian Red Cross; Trevor Essex, Acting CEO of AFAC; Mark Crowweller, Director-General of Emergency Management Australia; and Dr John Bates, CEO of AIDR.




Australian Institute for Disaster Resilience

Former Queensland premier Anna Bligh gives her insights on the political interface in emergency management.

advisers, operated under the state Disaster Management Act and also implemented new roles including a Disaster Recovery Coordinator, to ensure recovery was rolled out efficiently and with minimum additional burden on those whose lives had already been thrown into turmoil. Ms Bligh emphasised the value of local experience and the knowledge of local geography in building a strong level of trust between the leaders of the disaster management team and communities affected by the disaster.

It was clear throughout the master class that the channels of

communication created by Ms Bligh were key to the effectiveness of her leadership both during and following the disasters. Communication included the highly visible channels, with scheduled press conferences held every two hours to give structure to the communications during the disasters. Ms Bligh outlined the communications that most of us did not see, including new engagement structures and the working parties that ensured collaboration across commercial businesses, government and non-government organisations to address Queensland's economic,

environmental, infrastructure and community sector needs during recovery.

There were, on reflection, some things that had not worked as well as intended and Ms Bligh discussed these openly.

The senior emergency management professionals who attended were given insight into how a series of weather events combined to create an unprecedented natural disaster that affected a major economic hub in Australia, and how strong leadership and innovation in the face of the disaster supported Queensland's recovery. ■

SMARTPHONES AND SKY SCANS FOR BETTER FIRE MAPPING

Fire managers need to accurately monitor prescribed burns and bushfires to better assess how they affect fuels and how they reduce fire risk. A project at the Bushfire and Natural Hazards CRC uses satellite technology to more accurately map bushfires.

BY **NATHAN MADDOCK**

Communications Officer, Bushfire and Natural Hazards CRC

In the age of smartphones, there is an app for just about everything. Why should land management be any different? Researchers in the Disaster Landscape Attribution project at the Bushfire and Natural Hazards CRC have developed an app, now in beta version, to help land managers quickly and more accurately assess fuel loads before and after prescribed burns.

"We know that when we visually assess [bushfire] fuel, estimates can differ depending on the person who assesses it," said researcher Dr Karin Reinke from RMIT University.

"We wanted something that was rapid, easy to use and more accurate."

Dr Reinke is working with a team of researchers at RMIT, co-led by Professor Simon Jones. There are two parts to the study: the first is developing the beta app to assess fuels in the landscape pre and post-fire, and the second is investigating active fire mapping and detection using satellites.

Terrestrial LiDAR, which involves lasers and light, has been used in the project to map bushfire fuels. While effective, it is an expensive process that requires experts to run the technology. Enter the beta smartphone app: Fuels 3D.

"We want to attribute fire landscapes in terms of the amount, structure and connectivity of the fuel present, and to understand the impact of fire and how fuel characteristics may change, and what remains as residual afterwards," explained Professor Jones.

"Using a computer vision technique called 'structure from motion' (SFM), a camera phone can be used, or any similar commercial-grade camera, to take a series of photos to create a point cloud."

A point cloud represents the external surface of an object. SFM allows for information about the structure to be extracted, which results in a 3D model of the fuels. The team reviewed several different technologies to assess which ones would work best.

"We validated these technologies against dry weight samples of the fuel," explained Dr Reinke.

"After we collected the imagery, the fuel was harvested to mineral earth, oven dried and weighed to compare it back to our point cloud estimates from the different technologies evaluated.

"We found good agreement between the terrestrial LiDAR and the SFM approaches, and good agreement back to the harvested samples.

"But terrestrial laser scanning typically requires experts to implement it, and has much longer data collection

and set-up times. Structure from motion data acquisition is really quick," said Dr Reinke.

The team has developed the beta version of Fuels 3D for Android platforms using SFM technology through the know-how of researcher Dr Luke Wallace.

The app is being developed in conjunction with a sampling protocol to complement existing fuel hazard assessment practices, allowing land managers to take photos of prescribed burn areas, both before and after a burn, to understand how the burn affects fuel loads.

"Fuels 3D should be easier and quicker than visual estimation," said Dr Reinke.

A workshop was held in Melbourne in early December, where the research team explained Fuels 3D to land managers from Victoria's Department of Environment, Land, Water and Planning and Country Fire Authority, and South Australia's Department of Environment, Water and Natural Resources (DEWNR). While Fuels 3D has already been undergoing trials between the research team and end user partners, large-scale validation is needed. It is hoped the app will not only standardise estimation of fuel loads, but make a real difference to how land managers assess the efficiency of prescribed burns.



PHOTO: KARIN REINKE

This would be a big advance, according to Simeon Telfer, an end user and fire manager at DEWNR.

"Not only would it be an advantage for our prescribed burning program, in understanding more accurately how fuel is distributed and the fire severity of our prescribed burns, but it will also help with a greater understanding of what the change in fuel means for a bushfire," outlined Mr Telfer.

"In the end we are trying to reduce risk through lowering bushfire intensity, but at the moment we are making some estimates about the percentage of fuel burnt based on visual assessments. A greater understanding of what fuel reduction means for risk reduction will be fantastic.

"DEWNR is pretty excited to be involved in this project and to have the ability to get some good measures around reduction of fuel loads and seeing how useful the outcomes are," Mr Telfer said.

Eyes in the sky

The project is also assessing the role satellites play in mapping bushfires, from their boundaries to their hotspots and flare-ups.

"We are looking at the detection of fires as the starting point," explained Dr Reinke.

"One of the focus satellites is TET-1, a

German satellite launched in July 2012, which is the first in the German FireBird constellation."

Up to seven satellites are expected to complete the constellation in coming years, with the German Aerospace Agency, Deutsches Zentrum für Luft und Raumfahrt, a formal partner in the project.

The other focus satellite is Japanese satellite Himawari-8, launched in October 2015. The Bureau of Meteorology, Geoscience Australia and Australia's emergency services have access to data from Himawari-8.

TET-1 and Himawari-8 are different types of satellites, explained Professor Jones, with each having its pros and cons.

"Himawari-8 is a geostationary satellite that is 36,000 km above the Earth's surface," said Professor Jones.

"Himawari-8 provides new imagery every 10 minutes, but at a relatively coarse spatial resolution. It is sitting in the same spot in the sky and continually observing an entire hemisphere of the Earth, while a polar orbiting satellite, such as TET-1, is much nearer to the Earth, between 600 and 1,000 km away, resulting in about 14 orbits a day.

"For fire managers, this [TET-1] might mean a new image every couple of days, which is not brilliant for monitoring. But the benefit of the TET-1 satellite is that it provides a lot more spatial detail about

the configuration of the fire.

"The key is firstly to understand what the utility of each of these platforms is for fire management, and secondly, in the long term, come up with a data assimilation approach where you can actually start to say 'how can we intelligently use all of this information together with all the other technologies available?'"

This study will help fire agencies understand which facets of the available satellite technology are useful for Australian conditions and which are not.

"It is about determining the confidence we can have in these products, where do they perform and at what point does their performance fall off?" explained Dr Reinke.

To assess this, the research team has designed several experiments. An important aspect of this is the work being done by RMIT and CRC PhD student Bryan Hally. Mr Hally has created a virtual computer environment to simulate fires in different landscapes from which equivalent satellite images based on system characteristics, or even hotspot products, can be generated.

This approach helps to negate some of the logistical and timing constraints posed by working with fire and satellites.

"Being on the ground [at a fire] at the instant the orbiting satellite goes

A prescribed burn in St Andrews, Victoria, which was used to assess how the 'structure from motion' technology assessed fuel loads pre and post-fire.

over is really hard to achieve," Professor Jones said.

"Because of that we use the simulated fire landscapes. We can then impose on them different viewing angles, different pixel sizes and different sensor bandwidths to try to understand what a fire looks like for all of the different satellites available for fire observation, and ultimately compare these back to the true, original fire landscapes. We can do this hundreds of times so we achieve a statistically valid representation of performance. This approach can be extended to evaluate future satellite sensors."

This analytical ability will greatly benefit fire and land management agencies around the country.

"Through our simulations we can begin to understand the potential performance of the different satellites," explained Dr Reinke.

"For example, we might say you know what, this is going to be great for the Mallee, but the minute we hit the tall closed forests, it is going to have limited value until fires get to a size where sufficient energy comes through the canopy for the satellite to detect accurately'.

"The simulated landscapes and imagery can also be used as a test bed to validate new hotspot algorithms and help improve hotspot algorithms for Australian conditions, because many of the existing algorithms are designed to be global products," said Dr Reinke.

To allow for empirical observations, the team is conducting field experiments under the satellites' pass, to determine how accurately they calculate (see Figure 1 below). This is a crucial part of

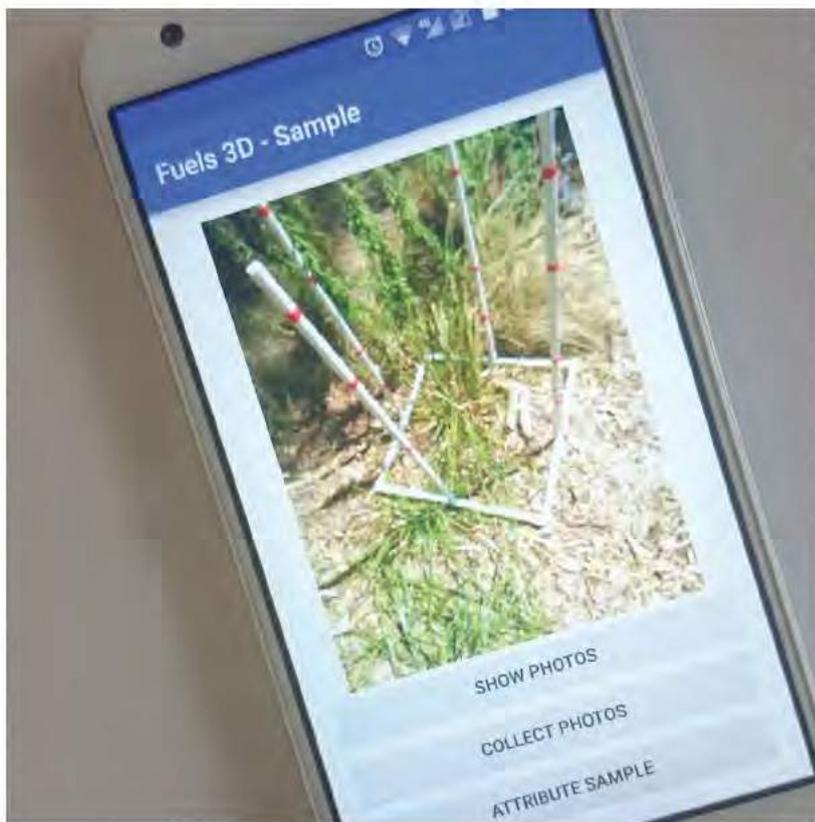


PHOTO: KARIN REINKE

A sample of the beta version of the Fuels 3D app.

the process in validating the algorithms

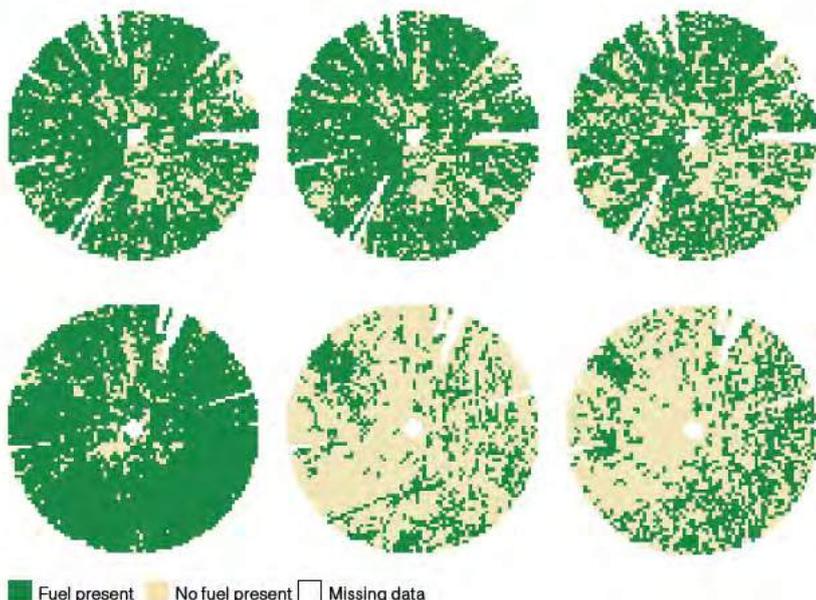
"It is building up these case studies that we can use to empirically validate algorithm development," outlined Dr Reinke.

"It is difficult to obtain comprehensive ground-truthing data unless we can time it around prescribed burns. Even then this is challenging. So in addition to prescribed burns we also create our own fire experiments that are spatially fixed. These are essentially bonfires of different sizes, intensities and configurations.

"With a fixed fire the logistics are relatively easy, and we will do some more fixed fire testing once we are outside of the fire season. But we also want to apply our validation to prescribed burns. We are hoping to work with CFA, the Department of Environment, Land, Water and Planning, and Melbourne Water in Victoria, DEWNR in South Australia and ACT Parks and Wildlife on this." ■

Find out more about this research at www.bnhcrc.com.au.

Figure 1 Horizontal connectivity of surface and near-surface fuels



"The simulated landscapes and imagery can also be used as a test bed to validate new hotspot algorithms and help improve hotspot algorithms for Australian conditions, because many of the existing algorithms are designed to be global products."

— Dr Karin Reinke.

The top line shows the control plot, without any fire present, but measured at the same time intervals as the test plot, shown on the bottom line.

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BY **JOSEPH KELLER**

Communications Manager,
Fire Protection Association Australia

Traditionally run as separate events, in 2016 the Fire Protection Association Australia will combine the hazardous materials and fire protection industry sectors into one bigger and better conference and tradeshow that promises to attract key decision-makers and leading subject-matter experts from government and industry.

The conference and tradeshow will attract key industry professionals from the fire protection, fire safety and emergency management and hazardous materials sectors from across Australia and overseas, and representatives of government and fire agencies.

Tradeshow

The tradeshow at Fire Australia and HazMat 2016 will be the largest of its kind in the southern hemisphere, showcasing products and services for the fire protection and hazardous materials sectors.

Building on the sold-out success of the 2015 tradeshow on the Gold Coast, the organisers have secured the largest ever space for a Fire Australia tradeshow at the Melbourne Convention and Exhibition Centre.

This spectacular venue will cater for an exhibition space of more than 2,500 square metres, allowing for more than 80 exhibition booths, easily eclipsing the 1,800 m² available at the Gold Coast event in 2015.

Once again the exhibition space will be central to all activities and will include the catering and café seating areas and the Showcase Theatre—a dedicated presentation area where sponsors and exhibitors will be able to showcase their products and services to all conference and tradeshow attendees.

Conference streams

In line with the 2016 theme *Risk, Liability, Exposure*, the conference will include presentations in three streams:

1. Fire protection strategic stream—*Risk, Liability, Exposure*
2. Fire protection technical stream
3. HazMat stream.

Fire protection strategic stream

Presentations will be tailored to managers and business owners, government representatives and fire safety professionals including those with an interest in regulations, policy, codes, standards and management systems.

Presentations will be aligned to the conference theme and address either 'fire risks' or 'business risks'. Panel sessions will occur at the end of each session for discussion and questions. This stream may also incorporate a debate or discussion on the conference theme.

Presentations are likely to include information on:

- ◆ integrating risk assessment across design, engineering, approval, installation and commissioning
- ◆ business continuity planning
- ◆ case studies on unique design solutions
- ◆ reducing risk through the use of

- ◆ 'tested' products and systems
- ◆ getting the right design solution—from concept to practical completion
- ◆ product innovation and design—treating complex risks
- ◆ high-rise residential development—have building standards kept pace with community expectations?
- ◆ insurer perspectives on fire risk
- ◆ business survival when something goes wrong
- ◆ how to best protect a business and its reputation from an insurance claim
- ◆ latest trends in insurance claims and the consequences to the fire protection sector
- ◆ other than insurance—what else owners should be doing to protect their business and employees
- ◆ managing brand erosion and damage.

Fire protection technical stream

This stream will run throughout the conference. It will provide presentations relevant to fire technicians, building surveyors and certifiers, systems designers and installers, engineers, consultants, maintenance personnel and those involved with the technical aspects of fire protection systems and equipment.

This stream will include case studies, presentations on product innovation and development and information on contemporary matters:

- ◆ early warning and detection
- ◆ fire suppression
- ◆ passive fire protection
- ◆ emergency planning
- ◆ maintenance
- ◆ bushfire
- ◆ product testing and approval.

HazMat stream

This stream will address topical subjects within the chemical management, dangerous goods, hazardous materials and affiliated industries.

Speakers will focus on the conference theme as it relates to the sector and may also include presentations on any of the following subject areas:

- ◆ safe transport of chemicals and dangerous goods
- ◆ dangerous goods transport and storage incidents
- ◆ insurance industry perspective on chemicals and dangerous goods incidents
- ◆ implementing plans to comply with the globally harmonised system of classification and labelling of chemicals (GHS)
- ◆ risks with nanotechnology
- ◆ management of industrial waste
- ◆ environmental impact from chemicals
- ◆ managing contaminated sites.

Get involved

FPA Australia is confident that the 2016 Fire Australia and HazMat event will be the largest ever.

If you would like to sponsor the event or participate as an exhibitor at the tradeshow, now is the time to secure your position as these options are limited and do sell out.

FPA Australia would also like to invite all readers of *Fire Australia* to attend the 2016 Fire Australia and HazMat conference and tradeshow as a delegate! Entry to the tradeshow is free and conference entry is available for single-day passes or for the two days of the conference. ■

All information on this exciting event can be found at the event website www.fireaustralia.com.au.

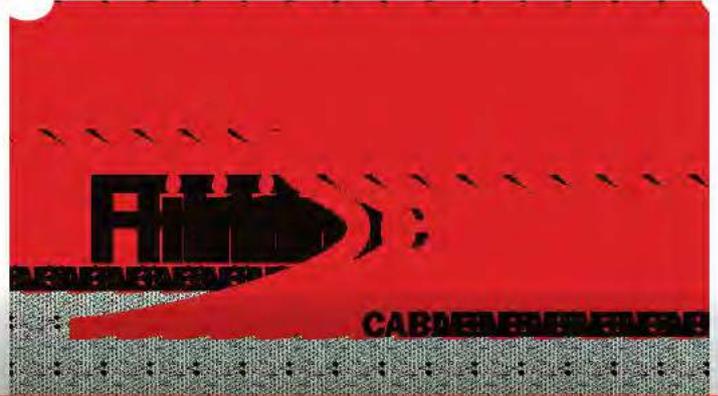
We look forward to seeing you at Fire Australia & HazMat 2016.



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KEEP YOUR HEAD WHEN THE HEAT IS ON

Burning, prescribed or otherwise, is a reality for those who live in the Australian bush.

BY **STUART ELLIS**

Chief Executive Officer, AFAC

Following a tragic and early start to the fire season across Australia's southern regions, the heat has been on. While there are ongoing formal investigations into several bushfire-related incidents, there have been unconstructive conversations fuelled by some media speculating 'heads should roll'. Australians are no strangers to the threat of fire and agencies and government bodies actively strive to mitigate the risks. At this time it is particularly relevant to revisit the realities.

In September 2015 this article was written in response to public reaction to the Lancefield prescribed burn. It still acts as a reminder of the realities under which many Australians choose to live.

Fires will occur in the Australian bush

They always have. They always will. Many parts of Australia are among the most fire-prone locations in the world. All Australian bush will burn from time to time. What Australian fire authorities endeavour to achieve is the prescribed (or planned) burning of high-risk areas, so that the inevitable burning that will occur happens at a time of our

choosing, rather than at the height of summer in the most extreme conditions.

Prescribed burning is a high-risk but controlled activity

Prescribed burning is a high-risk activity that involves extensive planning and approval, but is never fool-proof. Prescribed burns only occur when conditions are optimal. They are often identified years in advance and detailed planning can take months. In any calendar year, there may be only a few days when a particular site can be burnt safely, noting environmental values, suitable weather, crew availability and other priorities.

Fire is unpredictable

Fire is a chemical reaction. By its nature, when burning through bushland with varied fuel and weather conditions, fire carries a level of unpredictability. We seek to minimise this, but we cannot dictate nature.

Role of prescribed burning

Repeated studies, reviews, investigations and royal commissions have affirmed the role of prescribed burning in reducing the impact of bushfire by reducing the level of fuel. This is the only factor fire authorities can alter to improve managing the fire risk.

Risks of living in the bush

Those living in bushland are exposed and will always have a level of risk. I grew up on the land and have early childhood memories of coming home on the school bus seeing my parents and neighbours attempting to save burning haystacks, fences and stock. These assets have a greater chance of survival if there are well-considered fire plans enacted. Infrastructure is best protected by being situated well clear from trees and bushland.

Role local communities play

Rather than referring to the faceless 'fire authorities', the reality is that land managers and firefighters are largely local people, living in local towns. Land managers generally have completed undergraduate degrees in environmental science and understand local communities, local environments and local sensitivities. They, more than most, feel deeply saddened whenever stock, property, houses or lives are lost from fire. Indeed, for some, their assets have been lost while they have been out protecting the property of others. It is insensitive and deeply hurtful to demonise those who seek to protect local communities by conducting prescribed burns.

The reality is that it would be far



PHOTO: OFFICE OF BUSHFIRE RISK MANAGEMENT, WA

more palatable for fire authorities not to light any prescribed burns and simply respond when the inevitable out-of-control bushfires occur, bemoaning the fuel load and appalling summer fire conditions. Local communities would probably highlight their bravery and tenacity. However, in lighting prescribed burns in order to reduce the risk to communities over summer, fire authorities are very aware they are considered the villains and woe betide them if anything goes wrong.

Well it appears it has, this time in Victoria. As a past Chief Officer of the Country Fire Service in South Australia, I know the pain and anguish of those involved when a prescribed burn goes wrong. Whenever you are involved in managing fire, there are risks, just as there are fire risks for those who live in the bush. The loss was not intentional or reckless.

These same fire authorities will risk their lives to save yours and your property when the heat is really on. They do not publicly ridicule individuals for being irresponsible for their fire safety or for living in undefendable homes in the bush.

With any loss there is anger, but crying for 'heads to roll' is wildly thoughtless and irresponsible. Those involved in the Lancefield prescribed burn in 2015 were motivated by protecting the community. Let's learn the lessons through independent, rigorous formal investigations, not ridicule and criticism. ■

See the National Burning Project article on page 34 for details of how AFAC's collaboration model has instigated the project delivering a national framework for prescribed burning.

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BE READY WARRANDYTE

EXTENDING INTO COMMUNITY-LED PREPAREDNESS AND PLANNING JUST ENOUGH (BUT NOT TOO MUCH)



A Be Ready Warrandyte interactive scenario-planning workshop, where a facilitator stepped through a hypothetical fire scenario, allowing community members to test their household plans and actions, and gain feedback from emergency service organisations.

PHOTO: BE READY WARRANDYTE

The 'Be Ready Warrandyte' initiative is a balance between enabling community-led projects to improve bushfire safety by sharing responsibility, without being 'too much' for what is a risk-averse sector.

BY **DR BLYTHE MCLENNAN**

Researcher, Bushfire and Natural Hazards CRC
and RMIT University

How can a well-organised, capable and respected community group help improve local community bushfire safety and build resilience in a high-risk area? That is the question the research team for the Bushfire and Natural Hazards CRC's Out of Uniform project explored in a case study of a community-led bushfire preparedness project called 'Be Ready

Warrandyte' in Melbourne's rural/urban fringe. Along the way, the case study raised questions about the appetite of the emergency management sector for supporting community-led preparedness and planning.

Be Ready Warrandyte (Be Ready), a project of the Warrandyte Community Association, was undertaken between May 2012 and June 2015. Its primary goal was for more Warrandyte households to have effective bushfire plans. It rolled out a range of locally tailored and, from an emergency

management perspective, quite innovative communication and education activities and products. The project did this with direct support from the Country Fire Authority (CFA), local government staff and local CFA brigade captains. Its philosophy was to inform and engage local residents, businesses and community groups, but not to advise people what to do.

Be Ready was of great interest to me, along with colleagues Dr Josh Whittaker and Professor John Handmer, because it is an illustrative example

of extending volunteerism in disaster preparedness. This form of volunteerism occurs when volunteers associated with an existing community group or non-government organisation that does not have regular emergency or disaster management functions (e.g. the Warrandyte Community Association) extend its activities into disaster management or community resilience in response to a perceived need. Be Ready is an interesting case study because it involved a high degree of collaboration between non-traditional emergency volunteers (not affiliated with emergency management organisations), traditional emergency management volunteers and paid emergency services staff.

Overall, the Be Ready case study shows how a community-led project with strong leadership and governance, authorised by the community and supported by emergency management organisations, could achieve many outcomes. Be Ready adapted government communications, connected further into the community, devised and tested more innovative approaches, led discussion on topics that needed independence from perceptions of government bias or agenda, and brought local contexts, priorities, goals and knowledge into emergency management dialogues and planning. These are all positive results for the community.

Challenges for community-led projects

Reflecting on the case study, however, I am particularly struck by the difficult balance participants in community-led projects have to strike between working with the established disaster management system while at the same time seeking to challenge or influence it. Notably, this point applies to all participants, whether they are supporting the project as volunteers or paid staff, as representatives of a local community or an emergency management organisation, or any combination of these. It may be a particularly thorny issue for traditional emergency management volunteers who arguably have the most difficult line to walk between representing the goals, priorities and concerns of their organisation and their local community at the same time. Of course this is much easier to do when these goals, priorities and concerns are closely aligned, but given the particular and diverse settings, histories and conditions of different communities, this is not always going to be the case.

In Be Ready's case, a fairly

moderate stance was adopted and the group worked in a way that was, for the most part, well aligned with state and local government policies. The group was also well supported by emergency management organisation representatives. Overall, there was strong consensus among the community volunteers and emergency management organisation representatives and few significant points of difference.

One notable point of difference was the issue of how to deal with residents' mounting interest in learning about and installing private fire bunkers. This issue is approached cautiously in Victorian state policy, but Be Ready engaged with it more actively and partly in a way that was not supported by the emergency service representatives involved.

Importantly, there were both positive and negative consequences from adopting this more moderate stance. For Be Ready participants, the positives clearly outweighed the negatives.

On the positive side, for example, it facilitated emergency services support and trust in the project and the volunteers leading it, which in turn enabled them to support it in valuable ways. It also enabled more open, 'gloves off' discussion about contentious issues such as private fire bunkers and local road management.

On the negative side, however, it restricted what the project was able to tackle and how. It also left Be Ready open to criticism of being little more than a mouthpiece for government policy, although such criticism was not widespread.

This raises an important question for the future of community-led preparedness and planning. While there is growing support for community-led approaches among the emergency services, how far can this support extend when faced with major differences in

government and agency policy on one hand, and local community priorities and values on the other? How far is 'just enough' to enable community-led projects to foster greater shared responsibility and build resilience to disasters, without being 'too much' for what is in many respects a risk-averse sector?

Of course there are important community safety and legal issues involved, but there is also an appetite from the emergency management sector to share responsibility with communities in practice. More importantly, how will differences in perspective, values, goals and priorities in community safety and local emergency planning be negotiated between those that have statutory responsibility and risk management expertise, and those that have local knowledge and who personally live with the consequences, whatever they may be? ■

Access the Be Ready Warrandyte case study and more research from the Out of Uniform project at www.bnhcrc.com.au.

Be Ready Warrandyte



ARTWORK: JOCK MONEISH/STRATEGIC IMAGES

A cartoon developed to help promote the Be Ready Warrandyte cause.



A bottom-up approach to bushfire community engagement was undertaken by Be Ready Warrandyte.

ARTWORK: JOCK MONEISH/STRATEGIC IMAGES

FIRE SUPPRESSION AT CANBERRA DATA CENTRES

A nitrogen–water mist provides fire suppression in an information technology data centre.

BY **SCOTT HARRIS**

Victaulic National Fire Protection Manager

Since its creation in 2007, Canberra Data Centres (CDC) in the Australian Capital Territory has used the latest technology to be as efficient, green, secure and reliable as possible.

When it came to choosing a fire-suppression system to install across multiple zones, the company wanted a solution that was in keeping with its green ethos, cost-effective, would cause minimal disruption in the event of any incident and would not affect the

facility's excellent up-time record during installation.

The Victaulic Vortex 1500 Hybrid Fire Suppression System has been their solution and is now provided as a base service to all the data centre's clients.

"This system demonstrated the qualities that are needed for fire suppression in an ICT environment," said Peter Henson, Chief Technology Officer at CDC. "Additionally it meets the 'value for money' criterion we were looking for.

"The 'stand up' time from an incident to business as usual is significantly reduced compared to traditional fire suppression," said Mr Henson. "In testing, it has been demonstrated there

is no damage or residue following deployment."

Equipment enclosures, commonly found in data centre and electronics facilities, present significant fire suppression challenges and are considered local application hazards. Traditional single-agent water mist systems often need to be installed directly within an enclosure to suppress a fire. An internal installation would require the equipment to be de-energised before a water-mist system discharge occurs in order to prevent damage and injury.

If fire suppression is required in a larger area, where multiple enclosures

The hybrid suppression system installed at Canberra Data Centres.



PHOTO: KARIN REINKE

or pieces of equipment may need to be protected, this is considered a total flooding application. In a total flooding scenario, the water mist concentration that enters an enclosure will not be great enough to cool and suppress the fire.

In either scenario the equipment inside the enclosure would be subject to extreme wetting conditions along with possible damage.

The system CDC now uses delivers a blend of water and nitrogen to suppress and extinguish local application and total flooding fires. It is effective for small, smouldering enclosed fires and large, heat-releasing fires in open spaces.

With nearly zero wetting, the system is especially suited to the CDC's requirements.

Although the preconception exists that water cannot be used in information technology equipment areas, testing has shown that water can be deployed in this hybrid nitrogen-style discharge and be extremely effective, even in very small amounts, using very tiny particles. In tests, data was not lost and no hard drives were damaged by the discharge from the suppression system.

Much of the system's innovations lie in the emitter. Using proprietary supersonic atomisation technology, the emitter atomises the water, forming a dense homogeneous suspension of nitrogen and water. The average droplet size is around 10 μm , and the minimal amount of water released per emitter—as little as a gallon/min or 1 L/min—essentially eliminates any wetting in a space.

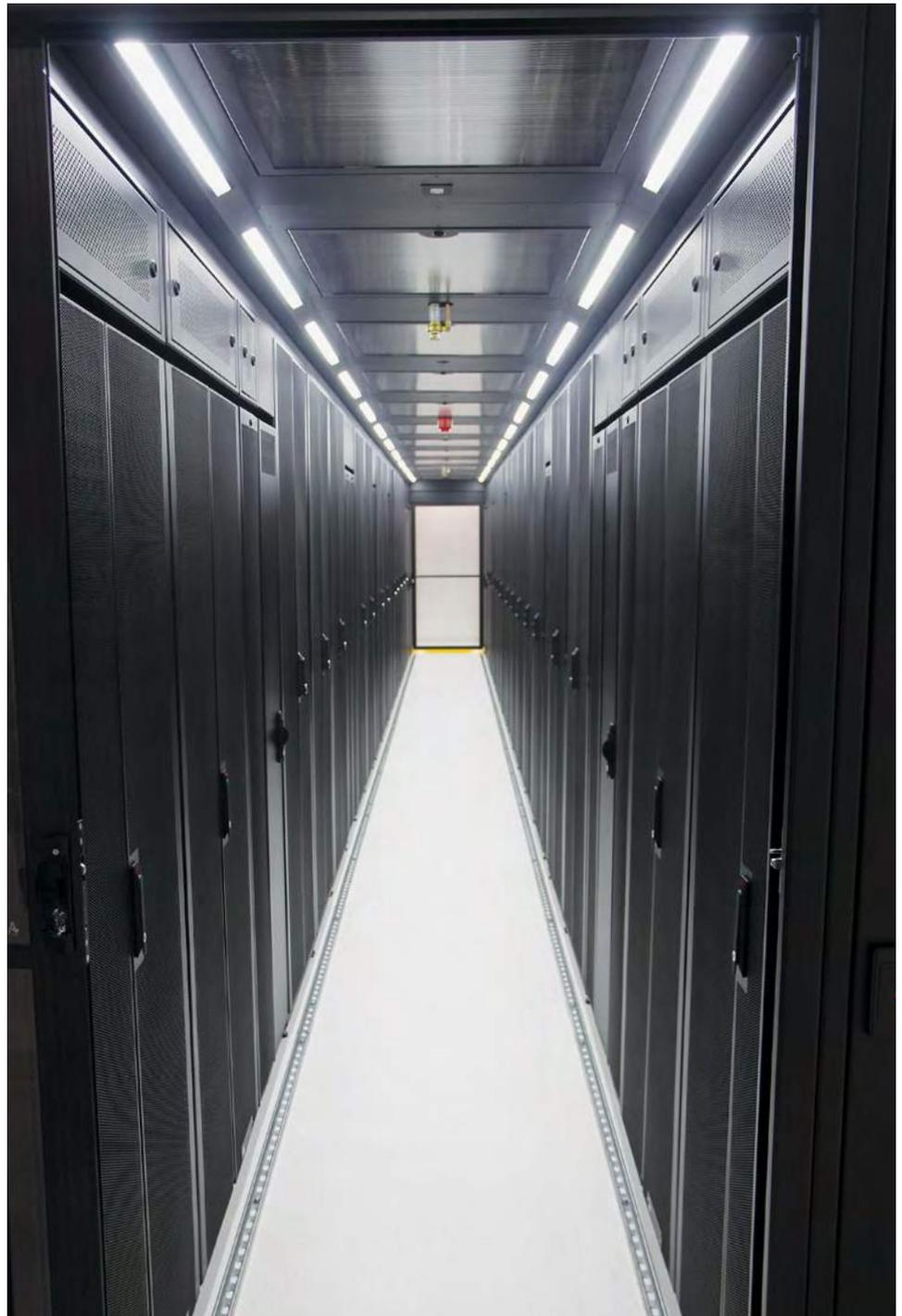
The system uses 97% less water than high-pressure water mist systems. The tiny droplet size means there is a hugely increased heat-absorbing water droplet surface area.

The system was installed by Wormald Fire Systems (ACT), which works closely with Fire Protection Technologies, Victaulic's international distributor of Vortex in Australasia.

Since the system extinguishes fires in open, naturally ventilated areas, maintaining room integrity is not essential and annual fan testing of the enclosures is not required.

This feature made installation easier and there was no disruption to ongoing data centre operations. Proper room integrity for many inert gas systems requires custom construction to control airflow. Sealing a room to meet specified leak rates can be a challenge for facility owners and contractors.

When a system is installed in data centres, system emitters should be placed so that they do not directly impinge on the device. The preferred installation practice is for emitters mounted in a sidewall



configuration and arranged so that the blended suspension of water and nitrogen will be directed down hot and cold aisles.

High velocity and low pressure creates a uniform blend of water and nitrogen. Water is introduced to a jet stream of nitrogen at supersonic speed then delivered with the nitrogen into the protected space at 65 km/hour. This swirling, vortex-like distribution fills the hazard space and quickly extinguishes the fire with little or no water residue. Electronics are kept dry and there are no toxic agents or chemicals involved.

The system's green credentials also appealed to CDC. "Our approach to data centre delivery is that it should constantly

strive to be as green as possible," said Mr Henson. "All our site improvements are delivered to meet this green goal. The system discharge has no greenhouse [gas] footprint at deployment as it consists of water and nitrogen only. This fits in with CDC's green and clean environmental philosophy and was certainly a contributing factor to its selection."

The centre keeps spare nitrogen bottles on site so that any of the four cylinder banks can be quickly put back on line in the event of a system discharge. Empty nitrogen cylinders can then be quickly recharged at any local industrial gas supplier. ■

Data centres, like this one at CDC, require complex fire protection measures.



NATIONAL FRAMEWORKS FOR PRESCRIBED BURNING

PHOTO: IAN TANNER, DEWNR SA

The National Burning Project has consulted with land management agencies across Australia to investigate common approaches to risk management and to deliver best practice guidelines that inform and align prescribed burning practices.

BY **DEB SPARKES** AND
WAYNE KINGTON

National Burning Project, AFAC

The Australian landscape we know today has evolved with fire. Fire is both a certainty and necessary for the continued survival of fire-dependent species and ecosystems. Traditional owners understood this relationship and effectively used fire to manage the landscape for multiple purposes.

This flammable environment creates a challenge for public and private land managers to mitigate the risks of out-of-control bushfires that occur under the worst conditions. Previous management philosophies of eliminating fire from the environment have been unsuccessful. They resulted in fuel accumulation where consequential fires caused catastrophic damage to life and property and changes to environmental conditions with negative long-term effects on ecosystem health and biodiversity.

Proactively placing fire into this landscape can mitigate the spread and severity, and improve the controllability, of bushfires in order to protect the community. Prescribed burning allows for large-scale fuel reduction and has the additional benefit of creating the landscape conditions for which species and ecosystems have evolved suitable survival and recovery mechanisms.

Numerous agencies across Australia use prescribed burning under various legislation and policies to reduce risk to life and property and to improve the condition of ecosystems and biodiversity

that depend on fire in the landscape.

The National Burning Project, an initiative of AFAC and the Forest Fire Management Group, has brought these agencies together to develop best practice guidelines and risk management frameworks. The agencies will also work collaboratively on decision-support tools and training materials, supported by science and experience.

The National Burning Project is part of AFAC's commitment to building common approaches across the fire and emergency services sector. The project aims to consolidate agency practices into a national framework that assists land management agencies to align their approaches and manage fire in the landscape for multiple outcomes while balancing resources, research, policies and risk.

The National Burning Project started in 2010 with funding from the National Emergency Management Program. Sub-projects were planned to encompass all aspects of prescribed burning, from the background science and research that informs current practices, through best practice guidelines and risk management frameworks, to training and delivery, performance management and a national tool box. In December 2014, \$2.2 million from the federal Attorney-General's Department National Bushfire Mitigation Program funding was allocated to the project, through the NSW Rural Fire Service.

To deliver on national approaches to using prescribed burning as a landscape management tool, we have extensively consulted with land management

agencies, which are the key deliverers of public land burning.

One key focus is to look at risks associated with prescribed burning. Prescribed burning is undertaken to reduce risk, yet the application of prescribed burning contains its own inherent risks. The National Burning Project has identified four key areas of risk that need addressing in any prescribed burning program:

- ◆ risk from fuel hazard
- ◆ risk from smoke and greenhouse gases
- ◆ risks present during operations
- ◆ risk to ecological values.

Individual reports have been produced on each of these risks. The risk management framework reports define risk in the context of where it occurs at the interface of the values and hazards, which is consistent with the current international standard on risk management (ISO 31000).

From the four areas examined, a common framework has emerged that considers risk through all stages of prescribed burning. Prescribed burn planning and operations fall into four main stages and at each stage risk needs to be considered and analysed and decisions made regarding actions to reduce exposure to the risk. All of this is done in a space of consultation and communication with relevant stakeholders. Prescribed burning is carried out with constantly evolving science and knowledge that requires adaptive management to incorporate lessons learned into planning and procedures. Therefore a program of

Figure 1 Fire risk



Risk is defined according to where it occurs at the interface of the values and hazards.

evaluation, monitoring and research across all stages of prescribed burning can capture the required information.

At the operational level of each specific burn a post-fire evaluation assesses whether objectives of the burn plan were met (e.g. fire behaviour within prescriptions, fuel hazard reduction targets, ecological outcomes) and the opportunities for improvement with future burns.

In-house monitoring programs address longer-term questions that can derive data for determining longer-term issues regarding ecosystem resilience and the health of species, populations and other key values or indicators.

Academic research seeks to fill knowledge gaps over time by answering very specific research questions and

testing our underlying knowledge and assumptions about prescribed fire.

Integration of knowledge and practice across all levels of management and planning will help to address the risks associated with prescribed burning.

The risk frameworks are complementary to the best practice guidelines, which are supported by nine case studies from around Australia. These case studies examine particular management issues in areas as diverse as the rural-urban interface of the Blue Mountains to the karri forests of Western Australia and the buttongrass moorlands of Tasmania. From these case studies and practical knowledge imparted by the agencies, the National Guidelines for Prescribed Burning Operations outlines 17 procedural

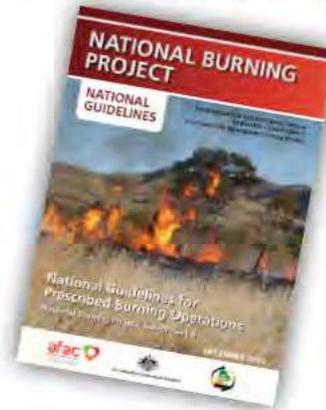
principles that underpin all prescribed burning operations across Australia.

These principles have been used to update training resource kits for national units of competency relating to planning and conducting simple and complex prescribed burns.

The risk frameworks, best practice guidelines and training kits now give consistent guiding principles at all levels of prescribed burning from the practitioners on the ground to those who formulate long-term procedures, systems and objectives. ■

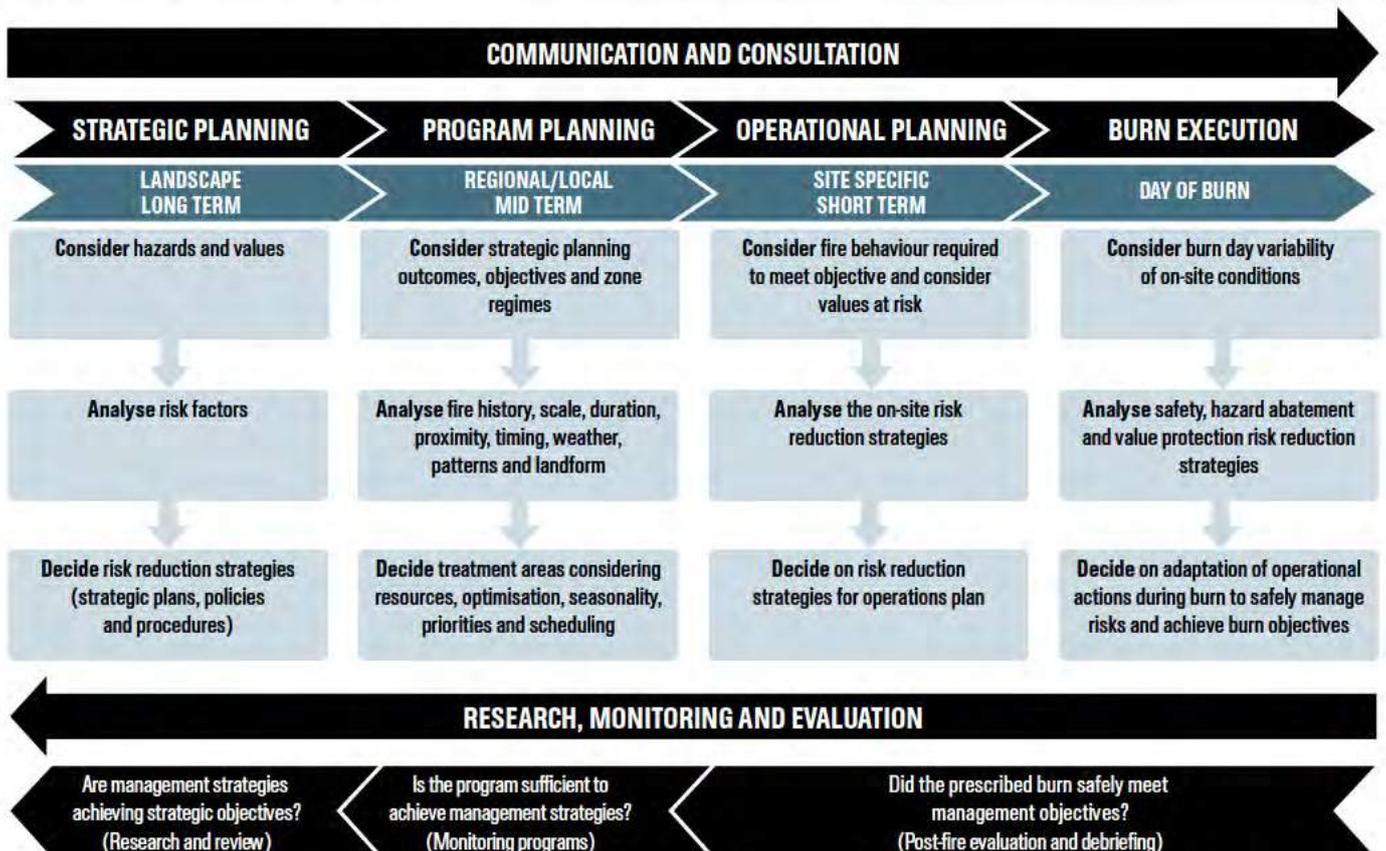
Reports are available from www.afac.com.au/auxiliary/shop

Explanatory reports and copies of the case studies are available from www.afac.com.au/initiative/burning



(Below) A framework considers risk through all stages of prescribed burning.

Figure 2 Risk management framework



MANAGING CONTRACTOR RISKS

What are you doing to manage the risks in your workplace?

BY **RACHEL SUTTON**

Holman Webb Lawyers

The *Work Health and Safety Act 2011* (WHS Act) requires all persons conducting a business or undertaking (PCBU) to ensure, so far as is reasonably practicable, the health and safety of:

- ◆ workers engaged, or caused to be engaged by the person, and
- ◆ workers whose activities in carrying out the work are influenced or directed by the person while workers are at work in the business or undertaking.

This primary duty of care requires duty holders to ensure health and safety, so far as is reasonably practicable, by eliminating risks to health and safety. If this is not reasonably practicable, risks must be minimised so far as is reasonably practicable.

PCBUs owe a similar duty of care to other people who may be at risk from work

carried out by the business or undertaking.

Under the primary duty of care a PCBU must ensure, so far as is reasonably practicable:

- ◆ provision and maintenance of a working environment that is safe and without risks to health, including safe access to and exit from the workplace
- ◆ provision and maintenance of plant, structure and systems of work that are safe and do not pose health risks (e.g., providing effective guards on machines and regulating the pace and frequency of work)
- ◆ safe use, handling, storage and transport of plant, structure and substances (e.g., toxic chemicals, dusts and fibres)
- ◆ provision of adequate facilities for the welfare of workers at work (e.g., access to washrooms, lockers and dining areas)

MODEL WORK HEALTH AND SAFETY ACT

The Model Work Health and Safety Act (WHS Act) applies to all Commonwealth Government agencies. Each State and Territory also has its own version of the Act which may include some minor modifications. This is with the exception of Victoria and Western Australia which, as yet, have not adopted the WHS Act and instead have their own state-specific legislation regarding work health and safety.

- ◆ provision of information, instruction, training or supervision to workers needed for them to work without risks to their health and safety and that of others around them
- ◆ health of workers and conditions of the workplace to be monitored to prevent injury or illness arising out of the conduct of the business or undertaking
- ◆ maintenance of any accommodation owned or under their management and control to ensure the health and safety of workers occupying the premises.

The WHS Act requires duty holders with shared responsibilities to work together to make sure someone does what is needed. This requires consultation, cooperation and coordination among duty holders.

For example, different duty holders may influence how work is carried out (e.g., suppliers, contractors and building owners). If more than one person has a health and safety duty in relation to the same matter, they must consult, cooperate and coordinate activities so far as is reasonably practicable in relation to the matter. Each must share health and safety-related information in a timely manner and cooperate to meet their shared health and safety obligations.

The duty to 'consult' does not require agreement, although each duty holder retains responsibility for discharging their health and safety duty. ■

CASE STUDY—PRIMO

Recently, WorkCover prosecuted P&M Quality Smallgoods (Primo) in the NSW Industrial Court for a breach of section 10 of the *Occupational Health and Safety Act 2000* (OHS Act). This section deals with the obligations of controllers of premises to ensure safety of workers in their workplace.

Under the WHS Act, a PCBU with management or control of a workplace must ensure, so far as is reasonably practicable, that the workplace and anything arising from the workplace does not put at risk the health or safety of any person.

In February 2010, Primo engaged a concrete drilling and sawing contractor to cut part of the concrete floor of a mezzanine level at its premises.

The contractor cut through a concrete nib wall, which he claimed he was instructed to do, and which required him to alter the guard on his cutting machine, before cutting through a pipe containing butane, causing a fire.

The worker was required to leap from the mezzanine to escape the fire, as the steps had been removed. He suffered burns to his left forearm and the top of his head.

PRIMO HAD IN PLACE ALL OF:

- ◆ what was described as a "comprehensive and modern system for managing and monitoring occupational health and safety", including a risk management manual, an OHS management system, an emergency management plan and a contractor's guide to site safety
- ◆ annual training for all employees and contractors in risk and contractor management
- ◆ training for its managers in OHS risk management and assessment training.

WHAT LET PRIMO DOWN WAS:

- ◆ absence of a risk assessment prior to the contractor's task
- ◆ failure to ensure the butane pipe was clearly labelled, colour coded and isolated or disconnected before the task
- ◆ absence of a temporary stairway installed to the mezzanine level for access and egress by the contractor.

These were all steps that may have been taken had there been compliance with Primo's OHS management system. Given the risk to safety, Primo was convicted and fined \$110,000.

In this instance, as controller of the premises, Primo and the contractor may have avoided the situation altogether by simply consulting with each other beforehand and each ensuring that there was a thorough risk assessment of the work before it commenced.

FPA members with WHS enquires should contact the Workplace Relations Department at wr@fpaa.com.au.

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FIRE PROTECTION COMPANIES GAIN ISO TRIPLE CERTIFICATION

While a dedicated framework must exist for individuals to attain International Standards, this case study of Essential Safety Solutions (ESS) demonstrates the changing attitudes towards gaining ISO quality assurance certification and how the process is not as difficult as first thought.

BY **LUKE SIMMONS**

Vertical Matters

Essential Safety Solutions

General Manager of ESS, Aaron Struhs, recently found ESS requiring triple certification to pitch for important work contracts. The ESS team started the process using a paper-based system and Mr Struhs reached a tipping point when the folders started filling up his office. He recalls thinking, "I've had enough of all of this paperwork. Surely there has to be a better way?"

"The first issue with gaining certification with a paper-based IMS related to the double handling. We would have someone print out our forms. Then they would need to get filled out in the field and then be processed by someone at head office. It was actually triple handling—sometimes more," he added.

Rather than go with the status quo and persist with a paper-based IMS, he decided to scour the market and was referred to a Melbourne-based technology and consulting company (Vertical Matters) that specialises in helping companies gain triple certification using their smartphone application.

Staff at ESS started the process by documenting their policies and procedures into a cloud-based system and enabling the mobile quality

management system onto everyone's smartphones. Once they were considered ready, ESS was externally audited by independent certifier DLCSI International in July 2015 and achieved Triple Certification with flying colours.

Marcus van Enk, Director of Vertical Matters, pointed out, "All businesses are different, but we were really pleased with the speed in which we were able to get the required outcome with ESS. The whole process of certification with ESS took one-and-a-half months and fast tracked Aaron's business development planning." So instead of feeling trepidation about gaining triple certification, ESS showed that fire protection companies have nothing to worry about.



Essential Safety Solutions staff members show the smartphone app used to assist their certification.

Quick facts

Q—What is triple certification?

A—This term means the company adheres to the three standards of Quality (ISO 9001), Safety (AS/NZ 4801) and Environment (ISO 14001).

Q—What is the process?

A—The company needs an integrated system in place to store its policies, instructions, procedures and manuals. The company is then audited by a third-party auditor to ensure the system is fully implemented.

Q—How can I find an auditor?

A—The Joint Accreditation System of Australia and New Zealand (JAS-ANZ) publishes a list of accredited auditors at www.jas-anz.com.au/accredited-bodies.

Q—Why may my business have to become triple certified?

A—To compete for fire protection jobs, as many large clients now have this as a prerequisite.

Q—Besides gaining the rubber stamp, what is the benefit of becoming triple certified?

A—Adopting these systems into your business will ensure you run a tight ship. How? It ensures you document your procedures, which promotes better risk management. It also ensures you regularly monitor business processes to identify improvements.

Q—Is it a one-off audit we need to pass?

A—In order to maintain accreditation, companies need to pass an independent audit yearly. This means that it forces a company to live by its principles.

Fire protection companies increasingly require Triple Certification in International Standards—gaining three certificates recognised by the International Organization for Standardization (ISO)—to remain competitive in the marketplace.

ISO is an independent, non-governmental membership organisation and the world's largest developer of voluntary international standards.

ISO International Standards give world-class specifications for products, services and systems to ensure good quality, safety and efficiency. Globally, there are more than 19,500 International Standards developed by experts from all over the world. Standards cover almost every industry, from technology, to food safety, agriculture and healthcare.

While many business owners appreciate the value of gaining triple ISO certification and the benefits of being engaged in industry best practice, they also view the implementation process as labour

intensive and time consuming.

Other concerns regarding gaining certification involve:

- ◆ difficulty in maintaining operational registers and record-keeping
- ◆ upkeep of the information management system (IMS) containing the quality, safety and environment manuals
- ◆ management reporting and corrective and/or preventative actions
- ◆ double handling of paper record-keeping
- ◆ delays in retrieving information from the field
- ◆ maintaining a consistent approach across new and existing team members
- ◆ difficulty in making changes to manuals and process for improved outcomes
- ◆ cultural change management and alignment to the program. ■

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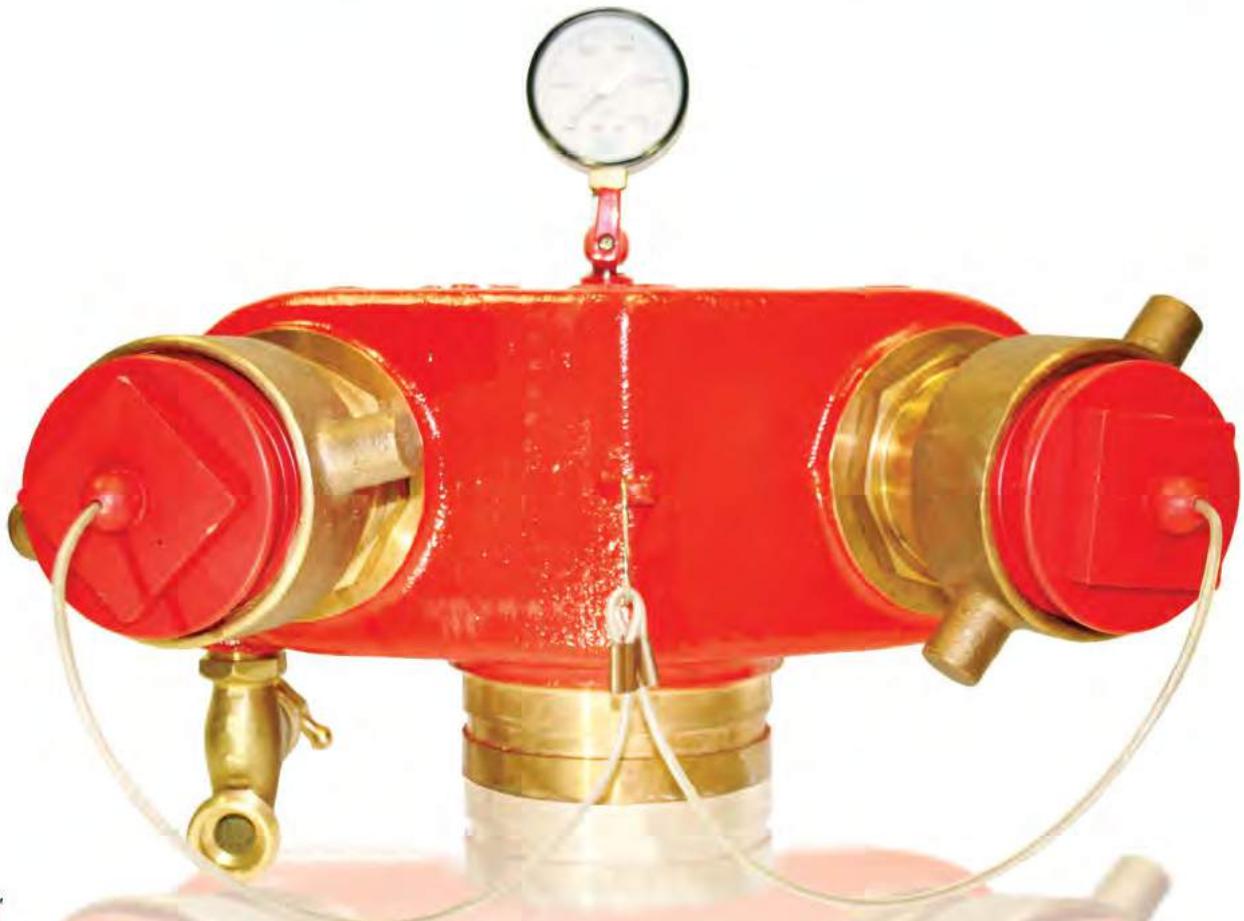


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Harnessing local knowledge, such as what is edible, like these water lilies, is an important aspect for disaster risk reduction in Indigenous communities.

KNOWLEDGE FOR

LIFE

Combining traditional, local and Indigenous knowledge and practices with current science and research helps remote communities reduce the risk of disasters.

BY **FREYA JONES**

There are many ways for a community to reduce its risk of being affected by hazards and disasters. Although science and research play an important role, for many remote and Indigenous communities they cannot provide all the solutions. Local knowledge, while often overlooked, can be pivotal to disaster reduction, particularly in these types of communities. In an effort to start a much-needed conversation around

this, the Bushfire and Natural Hazards CRC hosted a panel of speakers at the Australasian Natural Hazards Management Conference in Perth as part of the 2015 International Day for Disaster Reduction.

Focusing on the theme 'Knowledge for Life', the day aimed to raise awareness of traditional, local and Indigenous knowledge and practices that complement the science and research in the field and add to the resilience of communities and individuals.

The idea for the International Day for

Disaster Reduction was conceived in 1989 by the United Nations as a way to promote a global culture and awareness of disaster reduction, prevention, mitigation and preparedness. Since 2009 it has taken place annually on 13 October.

Now in its second year, the CRC is reinvigorating the International Day for Disaster Reduction in Australia to ensure it remains on the national agenda. The 2015 day was marked with a panel session at the 8th Australasian Natural Hazards Management Conference, held at the University of Western Australia,



PHOTO: MATTHEW MADDOCK, BUSHFIRE AND NATURAL HAZARDS CRC

PHOTO: DAVID BRUCE, BUSHFIRE AND NATURAL HAZARDS CRC



The 2015 International Day for Disaster Reduction panel, left to right, Prof Carmen Lawrence, Erin Fuery, Anne Garland and the CRC's Dr Michael Rumsewicz (panel chair).

Perth, on 13–14 October. Bringing disaster risk reduction to the forefront of conversation, the discussion focused on local and traditional knowledge and practices during disasters and the partnerships needed to work with remote communities.

The panel comprised Professor Carmen Lawrence from the University of Western Australia; Erin Fuery, State Manager of Emergency Services in Western Australia at the Australian Red Cross; and Anne Garland, Research Associate of Applied Research in

Environmental Sciences NonProfit Inc. in the US.

Ms Fuery, who has worked with Indigenous and remote communities in Western Australia, reflected on the key lessons learned in these communities following a disaster. She explained that Red Cross takes a place-based approach when working in these communities.

"This involves partnering Red Cross emergency services work with our community services program, who are already on the ground delivering programs to communities at regional locations," she said.

Ms Fuery noted the importance of understanding local knowledge and how it can limit the impact of disasters and help to improve recovery. She believes it is crucial for emergency services to work together with the local community in the aftermath of a disaster.

"In terms of finding solutions to some of these problems, it is about partnerships, it is about working with the community to find out what they need and being a facilitator to find the people who can find the solutions for them.

"By partnering with community programs [we] help to ensure that emergency programs are relevant, culturally appropriate and sustainable," Ms Fuery said.

Professor Lawrence has researched community perceptions of risk when experiencing hazards. She explained that our perceptions of risk play a big role in how we prepare for disasters. Part of her research involved a large-scale national survey about how communities understand risks, undertaken through the Bushfire CRC from 2010 to 2013.

"What we found were clear differences between communities and within those communities [there were] individuals who were better and less prepared. The communities who were best prepared and the individuals who were best prepared both had elevated perceptions of risk," she said.

The results of the survey demonstrated that those who had first-hand experience with bushfires or had participated in community groups dealing with bushfires were more likely to take action.

"That participatory element was critical; communities that did not have it did not prepare very well."

Professor Lawrence also discovered that there were clear differences in approaches to disaster reduction and preparation between those who live on the urban fringes of our cities and towns and people in rural areas.

"People on the urban fringe have this

view that someone else is going to do it, whereas people in the country tend to roll up their sleeves and do it together," she said.

Having worked with remote communities in Barrow, located right on the northern tip of Alaska, Anne Garland noted that these issues are not confined to Australia.

"In the Arctic these people are facing hazards they have never had to face before," she said.

"The city of Barrow has lost about 100 feet of their coastline in the last 30 years."

The increasing threat of natural disasters places a heavy burden on these remote and often-isolated communities, but Ms Garland believes they have a wealth of knowledge in dealing with disasters.

"They have a huge background of resilience and risk understanding," she said of the Barrow community.

While our environment in Australia is vastly different from Alaska, the issues faced are similar, and there is a lot we can learn from these types of communities, despite the geographical differences.

The CRC wants to ensure that through the International Day for Disaster Reduction, researchers and those working in the field can continue to share their knowledge, noted CRC Research Manager Dr Michael Rumsewicz.

"Our idea behind the International Day for Disaster Reduction is to get people that work in this area to discuss what is happening out in the field, what policy changes are being considered and what new thinking is being brought to this area," explained Dr Rumsewicz.

"This is not a conversation that stops now; it has to continue." Dr Rumsewicz elaborated, "There is a lot of knowledge and research that needs to be passed around from different environments, and we will hold this event annually in a different location around the country."

With 39 events for the 2015 International Day for Disaster Reduction taking place in 31 countries, it is clear that disaster reduction is a global concern affecting the wider international community. Rather than confining these concerns to one annual event, the CRC hopes to invite the crucial conversations around disaster reduction, prevention, mitigation and preparedness to take place in an everyday context. ■

Watch highlights of the 2015 International Day for Disaster Reduction at www.bnhcrc.com.au

WHAT IF A LARGE EARTHQUAKE HIT ADELAIDE?



To help agencies prepare for future disasters, research is modelling the potential impact of disasters that are beyond our experience, such as a major earthquake affecting a capital city.

This case study outlines a methodology for building realistic earthquake disaster scenarios for major cities, using Adelaide as an example.

BY **DR VALENTINA KOSCHATZKY, DR FELIPE DIMER DE OLIVEIRA AND DR PAUL SOMERVILLE**

Bushfire and Natural Hazards CRC and Risk Frontiers researchers

Earthquakes pose a major risk, with their immense power taking lives, destroying buildings and disrupting societal functioning. In this case study, using Adelaide as an example, we analyse an earthquake of magnitude 6.0 occurring on the Para Fault at a depth of seven kilometres and with its epicentre seven kilometres from Adelaide's CBD.

This study is part of a broader research program from Risk Frontiers for the Bushfire and Natural Hazard CRC. It seeks to deliver a suite of scenario simulations that investigate realistic disaster scenarios, scenarios that lie well

beyond emergency managers' recent experience. These scenarios will help emergency managers stress test their operations by revealing blind spots and vulnerabilities in their strategic planning.

Historical experience

Despite its low seismic activity, Australia is more vulnerable to earthquakes than one would expect by virtue of its concentration of population and the value of its building stock, much of which is structurally unable to withstand even moderate seismic shaking. The 1989 magnitude 5.6 Newcastle earthquake rates as one of the costliest natural

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disasters in Australia, despite its low magnitude, with its epicentre occurring close to the city's CBD.

But what would happen now if one of Australia's more populous cities were struck by an earthquake of a similar magnitude?

The 1954 magnitude 5.6 Adelaide earthquake affords an example of a close call. Until the Newcastle quake, this was the most destructive earthquake to have hit Australia. Its epicentre lay far from developed areas at the time, but today would lie within densely developed areas.

No lives were lost in the 1954 quake and there were only three recorded injuries, but many houses were cracked and heavy pieces of masonry fell from parapets and tall buildings in the city. One of Adelaide's earliest buildings, the Victoria Hotel, partially collapsed. Major buildings that were severely damaged included St Francis Xavier Cathedral, the Adelaide Post Office clock tower and a newly completed hospital in Blackwood, which sustained major damage to its wards and offices. The Britannia statue in Pirie Street was badly damaged, and since it had also been similarly damaged in the 1897 Beachport and 1902 Warooka earthquakes, the clock in the statue was permanently removed. The Troubridge Island Lighthouse off the southeast corner of the Yorke Peninsula shut down after the quake damaged its generator, while the Cape St Auburns Lighthouse on Kangaroo Island began flashing irregularly.

Methodology

In order to develop a scenario we employed a suite of models that consider risk a function of:

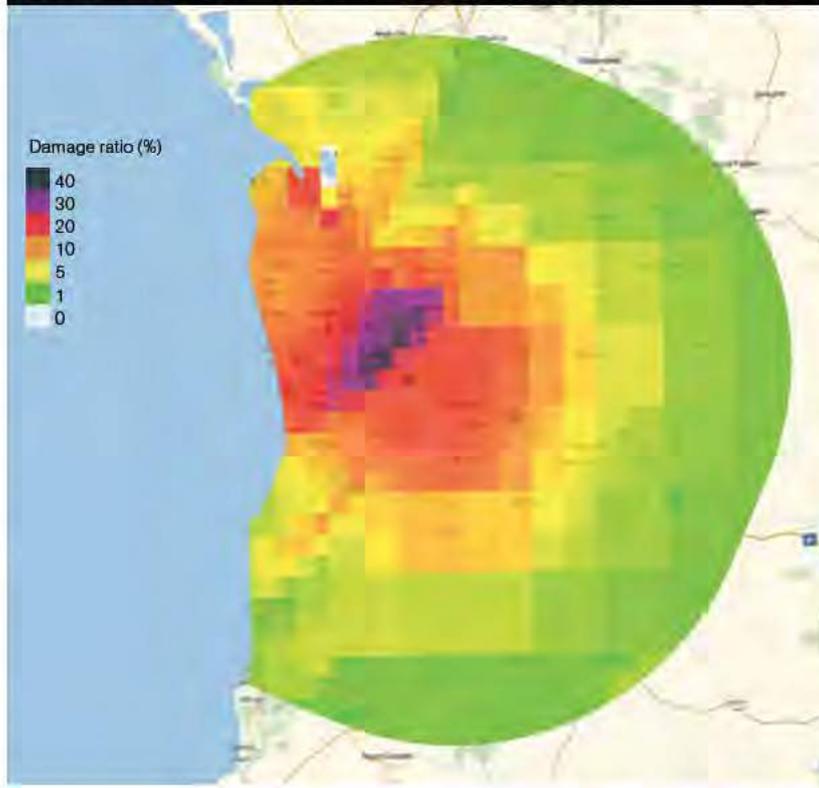
- ◆ **Hazard:** in the case of earthquake, this describes how seismic waves cause ground motions in locations away from the fault as a function of its magnitude and distance from the epicentre
- ◆ **Vulnerability:** how buildings are affected by seismic ground motions
- ◆ **Exposure:** where buildings are located and whether they are occupied at the time of the event.

What is special about this exercise?

Hazard modelling

Most earthquake loss models tend to use a single variable such as peak ground acceleration to estimate damage. Peak ground acceleration corresponds to the lateral impulsive force exerted by ground motions on a building; however, damage is also a function of how quickly or slowly that force is applied, which is in turn related to the distance from

FIGURE 1 Residential damage: destruction as a percentage of replacement value of the local building stock.



the source and local soil conditions, as well as a building's construction details and height. For example, low-frequency ground motions of a one second period will affect a 10-storey building more than shorter buildings, which will respond more to high-frequency ground motions. This modelling exercise takes all of this into consideration by using a multi-parameter vulnerability model, which corresponds to the full response spectrum of the ground motion—this is the only earthquake loss model of its kind.

Exposure modelling

Another important feature of our modelling is high-resolution exposure information using the Geocoded National Address File. For construction categories we used the National Exposure Information System from Geoscience Australia. This exercise also requires information on soil types, location of essential facilities and population from several sources (Australian Bureau of Statistics, Roadnet and Risk Frontiers' in-house information).

Results

Buildings

Large numbers of buildings are expected to sustain severe damage. It is predicted that an earthquake like this would result in a large number of

homes being destroyed or unsuitable for occupation. It is assumed that a building is located at each address.

People

An earthquake can occur at any time and this is important when estimating casualties. For this exercise we have modelled an event that occurred at 2 am, when most people are at home, and another at 2 pm on a weekday, as these times were expected to result in the highest casualties. For both periods, casualties could be in excess of 300, with more than 100 life-threatening injuries expected. Basic medical aid that could not be self-treated is estimated to be required for approximately 5,000 people.

We have also modelled damage and disruption to infrastructure and essential facilities—hospitals, schools and emergency services facilities.

The analysis portrays a potentially devastating scenario for the population and the economy of Adelaide. Worst-case scenario planning such as this will help emergency services plan and prepare for natural disasters beyond our current experience. ■

More information about this research is available at www.bnhcra.com.au.

This article originally appeared in *Asia Pacific Fire* Issue 56, January 2016. Reproduced with permission.

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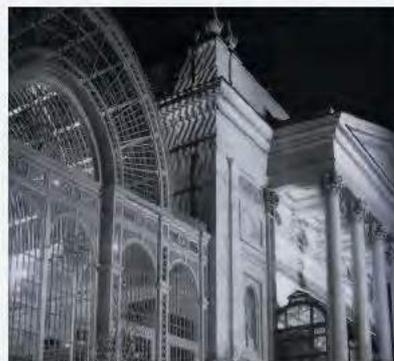
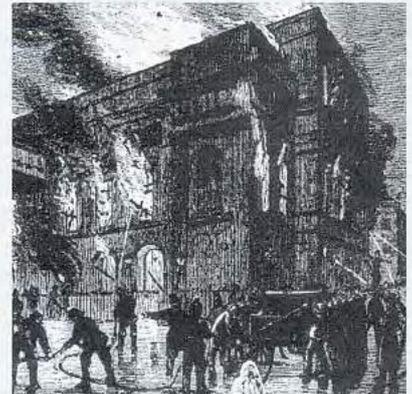
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TRAGIC OPERA AT COVENT GARDEN – 1856

BY **BARRY LEE** OAM

The Royal Italian Opera House at Covent Garden in London was completely destroyed by fire in 1808—a fire that claimed the lives of 23 firefighters. A new opera house was built on the same site but by the middle of the century it was in financial difficulty. Although it looked grand (it was reportedly based on the Acropolis) it was too small to sustain the great works traditionally performed there.

In order to boost funds, in 1856 the opera house was leased to an American showman, JH Anderson, known as 'The Northern Wizard'. He staged common theatre and pantomimes that drew in large and bawdy crowds, much to the disgust of high society. On 4 March 1856, Anderson organised a masked ball. The seats, stalls and orchestra pit were removed and a dance floor

was laid down and decorations put up. According to contemporary reports the place was "filled with the worst kind of crowd London could offer".

The crowd began to thin out in the early hours of 5 March. At 4.30 am, with 200 or so patrons left, Anderson signalled the band to start up God Save the Queen. Before the last bars rang out, fire was seen above the huge 800-gas jet chandelier. Revellers were still dancing when a roof beam fell down. People rushed for the exits. The gas was cut off to stop it feeding the fire—but this plunged the building into darkness, causing widespread panic. Miraculously, all managed to escape without serious injury.

At 5.30 am, the roof fell in with a tremendous crash, sending showers of sparks high into the night sky and over vast crowds gathered in the surrounding streets. The fire ultimately burnt itself out,

destroying irreplaceable opera scores and Hogarth paintings in the process. The rebuilt opera house opened in 1858 and incorporated several improved fire precautions including fire curtains and iron fire doors. ■

The first theatre to be protected throughout by automatic sprinklers is believed to be the Pavilion, Northwich, UK, in the early 1930s.



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FIRE BEHAVIOUR AND FUELS CONFERENCE

Wicked problem, new solutions: Our fire, our problem

**Monday 11 to Friday 15 April
Melbourne Convention and Exhibition Centre**

The Fire Behaviour and Fuels Conference, run by the International Association of Wildland Fire in conjunction with the Bushfire and Natural Hazards CRC, will take place simultaneously in Melbourne, Australia, and Portland, Oregon, USA. The time zone difference between Melbourne and Portland will allow some sessions to overlap, with live presentations at one venue linked to the other with a video link. The conference will provide government and non-government professionals at all levels with a valuable opportunity to share information globally about wildland fire behaviour and fuels, especially as it pertains to physical, biological, economic and social sciences. It will be a forum where past experience and lessons learned will be documented, current work showcased and emerging ideas and/or technology presented to provide a strong foundation that will help set a course to the future that addresses and responds to developing challenges locally, regionally and globally.

Registrations are now open at www.firebehaviorandfuelsconference.com

FIRE AUSTRALIA & HAZMAT 2016

Risk, Liability, Exposure—Delivering Positive Outcomes

**Wednesday 4 and Thursday 5 May 2016
Melbourne Convention and Exhibition Centre**

The 2016 conference theme is *Risk, Liability, Exposure—Delivering Positive Outcomes*. Attendees can expect many of the presentations to focus on these important issues.

This year the conference will also include the HazMat Conference, meaning even more attendees, speakers and exhibitors will attend from across the spectrum of fire protection and emergency response, special hazards and dangerous goods. The HazMat presentation stream will run alongside the two Fire Australia sessions. The conference dinner will be held at the Melbourne Cricket Ground on the evening of Wednesday 4 May and will no doubt feature a sporting theme. The trade show component will again provide a major highlight and is sure to draw many visitors building on the record attendance seen at the record-breaking 2015 event on the Gold Coast.

For all Fire Australia & HazMat information visit www.fireaustralia.com.au

AFAC16 POWERED BY INTERSCHUTZ

Mitigation – Response – Recovery: Getting the balance right

**30 August to 1 September 2016
Brisbane Convention Centre**

Co-produced with the Bushfire and Natural Hazards CRC, the theme and focus of the AFAC16 powered by INTERSCHUTZ conference will be *Mitigation – Response – Recovery: Getting the balance right*. The call for abstracts is now open – do not miss the opportunity to share your knowledge, research and projects with the wider emergency services industry and be part of the premier emergency management conference in Australasia. Abstract submissions close 15 February 2016. Emergency and disaster management has advanced dramatically over the past five years with fire and emergency service agencies worldwide implementing new and innovative ways to mitigate and respond to disasters. AFAC16 powered by INTERSCHUTZ will attract delegates and visitors from emergency and security services, all levels of government, non-government organisations, and research and education organisations from Australia and all over the world.

For more information visit www.afacconference.com.au

AUSTRALIAN AND NEW ZEALAND DISASTER AND EMERGENCY MANAGEMENT CONFERENCE

Earth, fire and rain

**Monday 30 and Tuesday 31 May
Jupiters Hotel, Gold Coast**

The Australian and New Zealand Disaster and Emergency Management Conference will address planning, response and the introduction of innovative techniques in managing disasters, emergencies and hazards. The conference is a joint initiative of the Bushfire and Natural Hazards CRC, the Australian Institute of Emergency Services, the Australian and New Zealand Mental Health Association Inc., and the Association for Sustainability in Business Inc.

Registrations are now open at www.anzdm.com.au

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MIKE BROWN

Mike Brown has retired as the Chief Officer of the Tasmanian Fire Service (TFS), where he had served as Chief Officer for more than five years. Mr Brown has dedicated more than 38 years of service to TFS and has been a strong ambassador for community fire safety, advocating community education and awareness programs that have contributed to a reduction in both residential fire and bushfire deaths in Tasmania by 50% over the past 15 years.



EUAN FERGUSON

Euan Ferguson, Chief Officer of the Victorian Country Fire Authority (CFA), finished his role in November 2015. He had held the position for more than four-and-a-half years. Mr Ferguson was previously the Chief Officer with the SA Country Fire Service and has also worked with the Forests Commission and the (then) Department of Environment in Victoria. During his time at CFA, Mr Ferguson introduced fire management reforms that have had a profound effect and set the foundations for the CFA of the future.



ALAN WILSON

FPA Australia is pleased to welcome Mr Alan Wilson to the Association's Board of Directors. Mr Wilson has more than 40 years' experience in the insurance industry, operating his own business for the past 30 years. In 2012, Mr Wilson was awarded the inaugural National Insurance Brokers Association Broker of the Year Award. In 2015 Mr Wilson was also awarded FPA Australia's most prestigious award, the AV Viscogliosi Award, for service to the fire protection industry through the fire protection industry insurance scheme. FPA Australia congratulates Mr Wilson on his appointment to the Board.

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BY IAN FINDLAY

Technical Coordinator, FPA Australia

STANDARDS AUSTRALIA

FP-001 Maintenance of fire protection equipment

AS 1851-2012 Amendment 1 has been released for public comment closing 2 February 2016. This amendment focuses on rectifying issues or clarifying matters with the existing content of AS 1851-2012. The most topical issue in the amendment is baseline data.

FP-002 Fire detection and alarm systems

The AS 1670.1 and AS 1670.4 revisions were published at the end of 2015 and are expected to be adopted in BCA 2016. The section on special hazard fire protection systems has been removed from the AS 1670.1 revision and will be published as AS 1670.5. Although there is minimal change from its inclusion in the draft AS 1670.1 revision, because this is a new document it needed to go through public comment, which closed on 8 January 2016. Work on the revision of AS 4428.4 *Intercommunication systems for emergency purposes* and AS 7240.4 *Power supply equipment* continues. New project proposals have been submitted for revisions of AS 1603.3 (heat alarms), AS 1670.3 (fire alarm monitoring) and AS 4428.6 (alarm signalling equipment).

FP-004 Automatic fire sprinkler installations

Work on finalising the draft revision of AS 2118.1 *Automatic fire sprinkler systems – General systems* continues with the aim of publication in 2016.

FP-009 Fire hydrant installations

Work on the re-release of AS 2419.1 *Fire hydrant installations – System design, installation and commissioning for Combined Procedure* remains stalled as a result of the increased workload associated with publishing standards for adoption in the BCA 2016.

FP-011 Special hazard fire protection systems

Project proposals have been submitted for the revision of AS 14520 (to be recombined and redesignated AS 4214) and AS 4487 (aerosol systems).

FP-018 Fire safety

FP-018 is currently resolving the public comment on new standard AS 5113 *Fire propagation testing and classification of external walls of buildings*. FP-018 also continues to work on the revisions of AS 1530.8.1 and AS 1530.8.2 (testing of elements of construction for buildings to

simulate bushfire attack).

FP-019 Passive fire protection

The AS 1905.1 revision published in late 2015 is expected to be adopted in BCA 2016.

FP-020 Construction in bushfire prone areas

Work on the revision of AS 3959 *Construction of buildings in bushfire prone areas* continues.

FP-022 Fire protection of mobile and transportable equipment

FP-022 met in December 2015 to resolve the public comment on the revision of AS 5062 *Fire protection for mobile and transportable equipment*.

LG-007 Emergency lighting in buildings

LG-007 continues to revise the AS 2293 suite of standards for emergency escape lighting and exit signs.

TECHNICAL ADVISORY GROUPS AND SPECIAL INTEREST GROUPS

TTAC/1 Maintenance of fire

protection systems and equipment

TAC/1 is working with the FPA Australia technical department and key stakeholders from the other TACs to develop FPA Australia's submission on the AS 1851-2012 Amendment 1 public comment draft. Development of a Good Practice Guide on baseline data remains on hold as this topic is addressed in the draft amendment to AS 1851-2012.

TAC/2 Fire detection and alarm systems

The reporting date for the Senate Inquiry on *Use of smoke alarms to prevent smoke and fire related deaths* has been extended from 3 December 2015 to 16 March 2016. TAC/2 continues to contribute to FP-002 projects including revisions of AS 4428.4 and AS 7240.4.

TAC/3/7 Portable and mobile equipment

Information Bulletin *Frequently Asked Questions: Portable fire extinguishers* is almost complete and soon to be published.

TAC/4/8/9 Fire sprinkler and hydrant systems, tanks and fixed

Development of the *Information Bulletin Isolation valves in fire sprinkler and fire hydrant systems* continues. TAC/4/8/9 also continues to contribute to finalising the AS 2118.1 revision and a new standard under development on car stackers (which will include fire protection of these systems).

TAC/11/22 Special hazards fire protection systems

Work on an *Information Bulletin on oxygen reduction fire prevention systems* continues. TAC/11/22 continues to work on other technical documents including the routine review of existing technical documents. The TAC has also contributed to the revision of AS 5062 and the project proposals for revision of AS 14520 (to be redesignated AS 4214) and AS 4487.

TAC/17 Emergency planning

TAC/17 discussions have continued on issues to be addressed in an amendment or revision of AS 3745. It is proposed that a Standards Australia project proposal be submitted for the next project prioritisation and selection period in February and March 2016.

TAC/18 Fire safety and TAC/19 Passive fire protection

Work continues on the Good Practice Guide on fire stopping systems and other technical documents and projects.

TAC/20 Bushfire safety

TAC/20 contributed to FPA Australia's feedback on the proposed new bushfire verification method in the BCA 2016 public comment draft. TAC/20 has also been keeping abreast of the revision of AS 3959 and the bushfire test standards (AS 1530.8.1 and AS 1530.8.2).

TAC/T

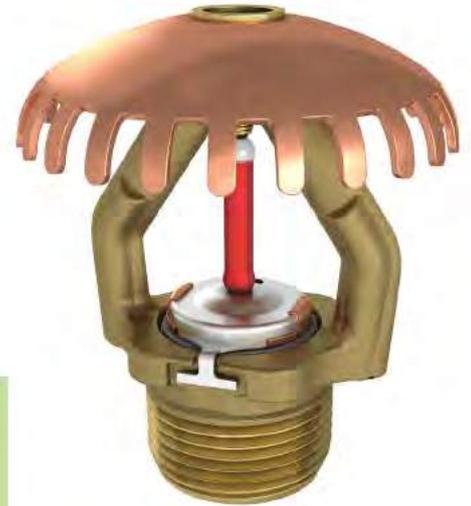
TAC/T continues to monitor the effect of the restructure of the Skills Councils and how this will affect the development or revision of training packages, qualifications or units of competency relevant to fire protection.

FIRE AUSTRALIA

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