

Winter  
2015

# AUSTRALIA Fire

## OUT OF THE FIRE

NATIONAL REVIEW  
FORECASTS CHANGE  
FOR INFORMATION  
AND WARNINGS

**THE REALITY OF  
PRODUCT COMPLIANCE**

**DEBRIEFING: FROM CHAOS  
TO SYNCHRONICITY**

**OCEANS  
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# AUSTRALIA Fire



WINTER 2015

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### 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 fire 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](mailto:joseph.keller@fpaa.com.au).

For more details on submitting a contribution, please contact the editors.

OUR COVER: Debriefing is an essential strategic and tactical tool in complex and chaotic environments, such as those recently experienced in WA.

PHOTO. DEPARTMENT OF FIRE AND EMERGENCY SERVICES, WA.



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# BUILDING PRODUCT COMPLIANCE—HOW BIG IS THE PROBLEM?



**By Scott Williams**

Chief Executive Officer,  
FPA Australia

**H**ow big is the product compliance problem? That is the alarming issue confronting the building and construction industry in Australia today.

The recent high-profile case regarding non-compliant aluminium cladding, which helped to fuel a dangerous apartment fire in Melbourne's Docklands in November 2014, has shone the spotlight on an issue the industry has known about for years: that appropriately designed and tested products are being substituted for poor-quality imported alternatives.

The response of the Metropolitan Fire Brigade (MFB) to this issue has been outstanding, however, the problem is in no way limited to aluminium cladding. The same loopholes that have allowed these non-compliant products to be installed have also allowed other non-compliant products to be utilised in construction. In October 2014 the Australian Competition and Consumer Commission (ACCC) recalled imported electrical cable that had been installed in up to 40,000 premises Australia-wide. This cable could become a fire hazard in as little as two years after installation.

These are just two examples of a much broader systemic failure of building legislation and its implementation that pose enormous fire risks to the community; urgent action is needed.

There is an expectation in a

first-world country that buildings will be compliant and safe. Yet, in the building and construction industry, it is widely known that non-compliant products are bypassing the building approval process and are being installed.

At the Association we believe the problem exists for three main reasons:

1. lack of a national risk-based product compliance framework
2. lack of understanding by building practitioners about the requirements
3. lack of adequate surveillance, auditing and enforcement from the regulators.

These issues are explored in detail in this edition in 'Product compliance: the confronting reality—Part 2' on page 16.

Many of these important issues were raised at the Fire Australia Conference and Exhibition on Queensland's Gold Coast earlier this year. There was much discussion focused on the need for renewed vigilance across all parts of the supply chain in the building and construction industry. At the end of the conference, the following key resolutions were reached:

1. FPA Australia supports the establishment of a clear and meaningful product compliance framework that is aligned to the risks. Without such a framework, the safety and performance objectives of Australian construction regulations and

standards are unlikely to be delivered and the community is at risk.

2. FPA Australia will constitute a Fire Products Reference Group for the purpose of establishing best practice technical schedules for the assessment and certification of fire protection products for the Australian market.
3. FPA Australia will, in the future, establish a product listing scheme (FPAL) that provides a single point of reference to validate fit-for-purpose products.

By honestly and openly identifying the issues and adopting the conference resolutions, we can go some way to providing meaningful solutions.

However, treating the risk of non-compliance will only happen through the collaboration of all stakeholders, including fire protection industry personnel. Until the building and construction industry and regulators, and the community, acknowledge the extent of the problem, it will remain an immeasurable and untreatable issue for our community.

If this status quo is allowed to remain, the potential for large-scale fire incidents due to product non-compliance will continue.

I hope you enjoy reading this edition of *Fire Australia* magazine ■



Sir Peter Cosgrove was presented with an antique brass fire extinguisher by FPA Australia CEO Scott Williams and National President Trevor Voevodin during his visit to the Association national office in March.

## GOVERNOR-GENERAL VISITS FPA AUSTRALIA

FPA Australia is extremely proud to have been visited by our Association Patron, The Governor-General, His Excellency General the Honourable Sir Peter Cosgrove AK MC (Retd).

His Excellency and Lady Cosgrove toured the Association's National Office in Melbourne on 11 March and met Board members and staff. A presentation followed, where Association National President Trevor Voevodin and CEO Scott Williams presented His Excellency with a small antique brass fire extinguisher

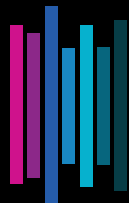
with custom engraving as a token of appreciation. His Excellency then addressed all staff and dignitaries and spoke of the important work undertaken by FPA Australia as well as his sense of pride in being Patron of the Association.

FPA Australia has a long history of patronage from governors-general. Sir Paul Hasluck PC GCMG KStJ was the first patron, followed by successive governors-general including Sir Peter Cosgrove's predecessor, Her Excellency Dame Quentin Bryce AD CVO.

Sir Peter Cosgrove has a strong history of community involvement during emergencies, including serving as taskforce leader during the Cyclone Larry disaster in 2006 and contributing significant military service.

The Association is proud and humbled to have had the opportunity to host His Excellency and Lady Cosgrove and we thank His Excellency for his ongoing patronage and strong support of the work undertaken at FPA Australia.

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# COLLECTED RESEARCH FORUM PAPERS ONLINE

With a focus on the science of natural hazards, the popular Research Forum is an annual lead-in to the joint AFAC and Bushfire & Natural Hazards CRC conference.

The collected proceedings of the 2014 Research Forum, held in Wellington, New Zealand, are now available at [www.bnhcrc.com.au](http://www.bnhcrc.com.au).

The sold-out forum included 31 presentations from various CRC researchers, and researchers from other organisations. The presentations covered emerging and advanced projects across the range of fire and natural hazards research.

Topics covered include managing severe weather, community understanding, building and engineering, economics, forecasting, search and rescue, fire-plume dynamics, emergency management performance, disaster support systems and assessment tools, scenario planning, volunteering, child-centred risk reduction, managing animals in disasters and historical lessons from emergencies.



The 2014 Research Forum in Wellington was a sell-out.

Each presenter could submit their paper for external review, with 22 papers collated as part of the formal proceedings.



## AWARD FOR RESEARCHER



Dr Kirrilly Thompson has been named one of Australia's top scientists under 40.

Bushfire and Natural Hazards CRC researcher Dr Kirrilly Thompson is one of five young Australians to be recognised for their research, ahead of almost 250 other applicants.

ABC Radio National and the University of New South Wales joint project Top 5 Under 40 aimed to find and honour five of Australia's best and brightest young scientific minds.

The Research Fellow, from the Adelaide-based Appleton Institute at CQUniversity, has been recognised for her outstanding work with animals and humans in bushfire events. Her research investigates how people and animals—specifically horses—react to bushfires, and how non-verbal communication between them can act as therapy for disaster trauma such as post-traumatic stress disorder.

As part of the prize, Dr Thompson will spend 10 days as 'scientist in residence' at ABC Radio National's Sydney studio. Dr Thompson is part of the Managing Animals in Disasters (MAiD) project with the Bushfire and Natural Hazards CRC.

## POST-FIRE RESEARCH RELEASED IN WA AND SA

How residents responded to bushfires in Western Australia and South Australia has been analysed by the Bushfire and Natural Hazards CRC. The fire agencies in both states requested the CRC to conduct the research. The WA Department of Fire and Emergency Services was interested in the community's response to the Parkerville fire in January 2014. The SA Country Fire Service were after data about bushfire risk perceptions, decision-making processes and the behaviour of residents across three very different fires in January and February 2014. The fires covered by the SA research were in the Eden Valley (a rapid onset fire), Bangor (a long campaign fire) and Rockleigh (repeat fires).

In WA, researchers conducted detailed

PHOTO: DEPARTMENT OF FIRE AND EMERGENCY SERVICES, WA



Firefighters battle the Parkerville bushfire.

interviews with 91 people resident in the Shire of Mundaring, where the fire occurred. An online survey was open to residents in the shire, to which 58 people responded. The number of participants increased in SA, with 171 detailed

interviews with residents in affected areas, as well as an online survey open to all SA residents, which received 606 responses.

Access the findings from both research projects at [www.bnhcrc.com.au](http://www.bnhcrc.com.au).

## NEW FPA AUSTRALIA PERSONAL MEMBERSHIP LEVEL—PROFESSIONAL

FPA Australia is pleased to announce a brand new category of membership for individuals: Professional Membership.

Professional Membership is designed for those individuals who are registered with a professional body and wish to take an active role within the activities of FPA Australia. Practising Professional members must hold a minimum of \$2 million professional indemnity insurance and will be bound by the FPA Australia Code of Professional Conduct, the Memorandum & Articles of Association/Constitution and terms and conditions of membership.

There is no insurance requirement for non-practising Professional members.

All Professional members receive:

- eligibility for Technical Advisory Committees (TACs). Eligible to participate on one TAC and receive correspondence about another.
- website—register to validate your professional status (for practising members only)
- eligibility for Special Interest Group (SIGs). Eligible to participate on one SIG and receive correspondence about another.
- CONNECT Online Resource Centre. The mobile-friendly online member

resource centre combines membership information and benefits in one central location. Via CONNECT members can update personal and membership information, manage communication preferences, register for events, access Technical documents, *Fire Australia* magazines plus much more.

- discounted entry to the full range of Association events.
- 10% Discount on FPA Australia Sales Centre Items Applicable to all items sold at [www.fpa.com.au](http://www.fpa.com.au) (excluding logbooks).
- Four printed copies of *Fire Australia* magazine per edition. *Fire Australia* magazine is the leading quarterly magazine for the fire protection industry.
- newsletters and electronic updates. The full suite of targeted communications from FPA Australia including regular newsletters (FireTalk, GasBag, CableTalk), the FireSignals newsletter and all important industry announcements, press releases and events.
- 2 x \$50 vouchers—vouchers can be redeemed for purchases of education, accreditation, the sales centre, event entry

& Alan Wilson Insurance Broker policies.

- Education discounts—\$15 per unit of competency.
- Voting and Nomination Rights—voting and nomination rights at FPA Australia Board of Directors annual elections. Members have the opportunity to significantly influence the leadership of FPA Australia by voting on the six elected board positions (two per year) and have the opportunity to nominate other members for consideration for these positions.
- Insurance discounts from Alan Wilson Insurance Brokers.
- Qantas Club Discounts Option for significant savings on Qantas Club membership by joining FPA Australia's Qantas Club Corporate Scheme. Further information at [www.qantas.com.au](http://www.qantas.com.au) (see Qantas Club – Membership Types).

Professional Membership fees are \$389.00 per annum (inc GST). Applications for Professional Membership will open on 1 July 2015.

For more information please contact our Membership Services department on 03 8892 3131 or visit [www.fpa.com.au](http://www.fpa.com.au)



# LICENCES, PERMITS AND AUTHORISATIONS UPDATE



The Fire Protection Industry (ODS & SGG) Board and the Department of the Environment undertake a range of monitoring, intelligence, compliance and enforcement activities.

The purpose of these activities is to ensure technicians and companies hold an appropriate licence, permit or authorisations as required under the ozone legislation and meet relevant permit conditions.

Inspectors may arrive unannounced at premises to check compliance with the ozone legislation and ask to see a licence, permit or authorisation. Where necessary, inspectors may also request to see documentation, records or equipment required as a condition of a licence, permit or authorisation.

## Discharging a controlled extinguishing agent

Discharging a controlled extinguishing agent can affect the atmosphere. Penalties for the unlawful discharge of a controlled extinguishing agent into the atmosphere allow for civil penalties for individuals of up to \$51,000 and penalties of up to \$255,000 for a body corporate.

Inspectors can also issue infringement notices to individuals or a body corporate if there are reasonable grounds to believe a person has caused an unlawful discharge of a controlled extinguishing agent into the atmosphere. Individuals can be fined up to \$2,040 and a body corporate up to \$10,200.

It is not an offence to use a controlled extinguishing agent to prevent, control or extinguish a fire or to suppress an explosion.

In limited circumstances, such as to test or calibrate a fire extinguishing system, the Fire Protection Industry (ODS & SGG) Board may approve the discharge of a controlled extinguishing agent.

## Reporting non-compliance

Information about the acquisition, possession, disposal and handling of controlled extinguishing agents in Australia that may not comply with the requirements of the ozone legislation can be provided anonymously to the Board at [ozone@fpaa.com.au](mailto:ozone@fpaa.com.au) or 03 8892 3131.



Join us for the 2015 conference to be held at the Adelaide Convention and Exhibition Centre, for Australasia's largest and most important emergency services and public safety conference and trade expo.

The theme for the 2015 conference is **New Directions in Emergency Management.**

The approach to emergency management is rapidly evolving, and with it the need for better knowledge and understanding. Driven in part by the escalating cost and complexity of major incidents, the emphasis is shifting towards a holistic view that encompasses research, readiness, risk reduction, response and recovery. At the same time, our emergency service agencies are being comprehensively reformed to improve their effectiveness before, during and after a major event.

[afac.com.au/conference](http://afac.com.au/conference)



## AFAC CAPABILITY STATEMENT

The increasing frequency and intensity of emergencies poses a growing challenge for the fire and emergency services industry.

AFAC in partnership with the Federal Attorney-General's Department recently released the National Statement of Capability for Fire and Emergency Services. This statement provides a consolidated picture of the capabilities that enable the industry to respond to the challenges posed by the increasing frequency and intensity of disasters.

Significant advances have been made over many years to build greater collaboration

and interoperability across the national fire and emergency services community.

However, natural and human-caused disasters are becoming more complex as they are driven by factors related to demographics, land use and climate. Such complexity requires an even more consistent and connected approach to capability planning and utilisation that complements existing agency and jurisdictional arrangements.

The statement helps to ensure that the nation's fire and emergency services optimise their surge capacity appropriately during large-scale disasters and provides an opportunity for governments to better plan future capabilities.

View the statement at the AFAC website [www.afac.com.au/docs/position/2015-national-capability-fire-es](http://www.afac.com.au/docs/position/2015-national-capability-fire-es).

## NEW ADVISORY NOTE ON SMOKE DETECTORS

FPA Australia has published a new Technical Advisory Note (TAN-03) on Maintenance of Aspirating Smoke Detectors (ASD).

This TAN addresses identified issues with the AS 1851-2012 requirements for maintenance of ASDs that have resulted in applications in excess of what is intended or appropriate for these detectors.

Also, the current AS 1851-2012 requirements for ASDs may be misinterpreted as requiring actions in

excess of what is intended or appropriate for these detectors.

To address these issues, FPA Australia has developed this TAN to:

- document these issues
- explain how FPA Australia believes the requirements for servicing of ASDs should be satisfied
- advise industry of what changes FPA Australia believes are required to AS 1851-2012 to resolve these issues and provide clarity of intent.



A preview version is available from [www.fpa.com.au/technical](http://www.fpa.com.au/technical) while the full version is available to members at [connect.fpa.com.au](http://connect.fpa.com.au).

# AFAC EMERGENCY MANAGEMENT CERTIFICATION SCHEME

AFAC is set to release the Emergency Management Certification Scheme, a program to credential emergency management practitioners who have completed a process to formally recognise their skills, abilities and experience.

The scheme provides a mechanism for AFAC to:

- develop the skills of emergency management practitioners
- establish the standards that define emergency management roles and the quality of services provided

- assure community, government and industry colleagues that practitioners are certified to undertake their duties.

The following credentials apply:

- Registered Incident Controller (RIC)—an entry-level credential awarded to an individual who has successfully fulfilled all eligibility requirements. Individuals will be recognised as capable in Incident Control, managing routine and moderate-impact emergency events.
- Certified Incident Controller (CIC)—full

professional certification awarded to an individual who has successfully fulfilled all eligibility requirements. Individuals will be recognised as an expert in Incident Control, with substantial experience in managing high-impact, high-consequence and complex emergencies.

For more information visit [www.afac.com.au/services/emcs](http://www.afac.com.au/services/emcs).



# FPAS FIRE SYSTEMS DESIGN & FIRE SYSTEMS CERTIFICATION LAUNCHES 1 JULY

Applications for the Fire Systems Design and Fire Systems Certification categories of the Fire Protection Accreditation Scheme (FPAS) will officially open on 1 July for those practitioners working in either NSW or Victoria.

The staged approach to rolling out these categories is designed to ensure capacity to provide the necessary assessment workshops.

The 'Fire Systems Design' and 'Fire Systems Certification' accreditation classes will have two (2) individual accreditation pathways for entry into the Scheme:

## Experienced (transitional)

Accreditation is awarded to an applicant who has demonstrated a minimum of four (4) years relevant work experience in fire systems design and undertaken the work within the past eight (8) years. Once the Qualified Accreditation pathway is launched transition to Qualified Accreditation needs to occur within four (4) years.

## Trainee (transitional)

Accreditation is offered to FPAS 'Recognised' businesses and is awarded to an applicant who works under the supervision of an FPAS accredited individual while undertaking approved formal learning. Once the Qualified Accreditation pathway is launched transition to Qualified Accreditation needs to occur within four (4) years.

Qualified Accreditation will be introduced at a later date as further industry and regulatory consultation and review is currently being undertaken in relation to the most suitable requirements for this pathway.

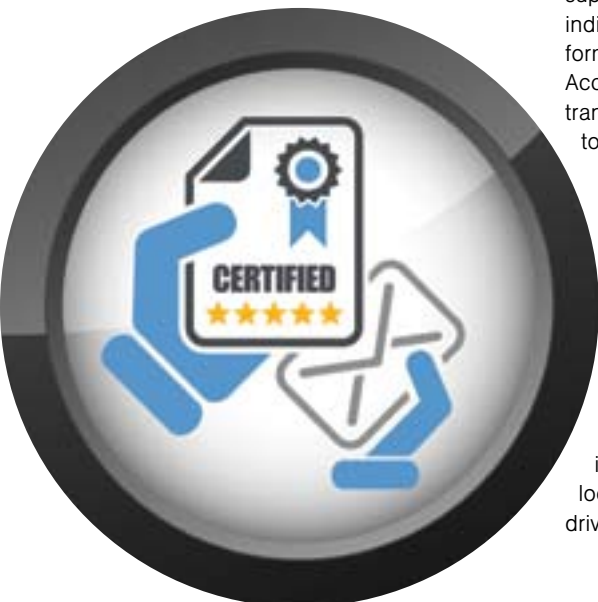
Workshops will be scheduled once sufficient numbers of applicants have registered and initially in Victoria and New South Wales. The location of workshops will be demand driven following receipt of applications.

The assessment process has been developed to ensure that individuals applying for accreditation, in either fire systems design or fire systems certification, have a minimum knowledge and skill base in the particular category being applied for.

An extensive range of questions have been developed for specific knowledge in the categories of fire sprinkler systems, fire hydrant and hose reel systems and fire detection and alarm systems.

The Association will be releasing more detailed information and full application forms shortly.

To register your interest for accreditation across any state or territory please email [fpas@fpaa.com.au](mailto:fpas@fpaa.com.au) or call our Accreditation and Licensing department on 03 8892 3131.





## NATIONAL BURNING PROJECT

*For millennia, fire has played an important role in shaping Australian environments, ecosystems and biota, including through Indigenous burning practices and natural causes such as lightning strikes. After European settlement of the Australian continent the use of fire changed dramatically, and continues to change today, with deep implications for bushfire management, ecosystems, traditional landscapes and species.*

A range of tools and best practice guidance for prescribed burning in Australia are currently being developed.

As part of AFAC's commitment to building common approaches across the emergency services sector, the National Burning Project is developing frameworks, tools and best practice guidance for prescribed burning in Australasia.

The National Burning Project includes:

- ▶ the review of current jurisdictional approaches with regard to prescribed burning
- ▶ the review of the knowledge underpinning the use of planned fire

- ▶ building a national framework for prescribed burning through common standards and approaches
- ▶ developing tools to support prescribed burning
- ▶ establishing best practice guidelines.

Significant focus and effort is now occurring within AFAC to produce and publish a range of products that are elements of the National Burning Project. This effort includes three recently

released products: Overview of Prescribed Burning in Australasia, Risk Management Framework for Smoke Hazard and Greenhouse Gas Emissions, and Risk Management and Review Framework for Prescribed Burning Risks Associated with Fuel Hazards.

The products are now available at [www.afac.com.au/shop](http://www.afac.com.au/shop).

## REGISTER NOW FOR YOUR FREE COPY OF THE NATIONAL CONSTRUCTION CODE

Preregistration is now available to access the new, free digital version of the National Construction Code (NCC), containing the Building Code of Australia (BCA).

Australian state and territory governments have agreed to a major building regulation reform agenda. A key initiative of this reform package is making the NCC freely available online from the 2015 edition, which takes legal effect from 1 May 2015.

The Australian Building Codes Board (ABCB) aims to get as many practitioners as possible to register in order to assist with building awareness and understanding of the NCC. In so doing, the aim is to improve the capacity and capability of all who participate in the Australian building and construction industry.

By registering with the ABCB, you will have access to other free material such as non-regulatory handbooks, YouTube clips, educational material and all previous editions of the NCC.

Further material will be developed over time to help support training providers, industry associations, education institutions and regulators.

Registering with ABCB will also enable you to be updated about any future changes to the code.

To register for your free access to the NCC now, visit [www.abcb.gov.au](http://www.abcb.gov.au).



**Australian Government**  
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## **Australian Emergency Management Handbooks**

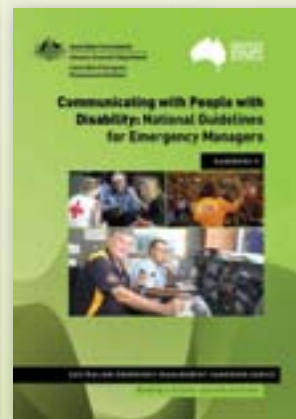
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**HANDBOOK 3**  
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*Building a disaster resilient Australia*



PHOTO: DEPARTMENT OF FIRE AND EMERGENCY SERVICES, WA.

# OUT OF THE FIRE

## —NATIONAL REVIEW FORECASTS CHANGE FOR INFORMATION AND WARNINGS

The challenge for emergency services to provide credible and timely information and warnings during emergencies has never been greater.

**By Reegan Key**  
Manager, Public Information and Warnings, Emergency Management Victoria

In April this year, one of Australia's most senior emergency management authorising bodies, the Australia—New Zealand Emergency Management Committee (ANZEMC), endorsed a report detailing nine recommendations and 42 findings arising from a National Review of Warnings and Information.

### National steering committee members:

- Emergency Management Victoria (Chair)
- ACT Rural Fire Service
- AFAC
- Bureau of Meteorology
- Country Fire Authority VIC
- Commonwealth Attorney-General's Department
- Department of Fire and Emergency Services WA
- NSW Rural Fire Service
- NSW State Emergency Service
- NT Police Fire and Emergency Services
- Queensland Fire and Rescue
- SA Country Fire Service
- SA State Emergency Service
- Tasmania Fire Service
- Victoria Police

### The challenge

While the 2009 Victorian bushfires and subsequent Royal Commission have driven national action on improving how communities are warned, fire is only one of the emergencies confronting our communities each year. Since then, other emergencies, such as storms in New South Wales, large-scale cyclones and flooding in Queensland and earthquakes in New Zealand, present challenges and opportunities to improve the way warnings and information are provided to communities.

Recently, agencies have focused on transitioning public information to an operational capability, acknowledging that providing information to communities during emergencies is just as important as the operational response. Across the country, both traditional and new mediums are being stretched and developed to maximise our capacity to rapidly inform and update the public. It was clear that the changing landscape required a better understanding of how best to use all channels to reach various audiences and the realities of resourcing the growing expectations of our communities.

The review's focus was to take stock of where we stand from a national perspective, better understand what we can learn from one another and share our innovation, ideas and challenges.

“The national review has been a great opportunity for all stakeholders to share knowledge, identify good practice and ultimately improve the way we provide information and warnings to Australians exposed to increasingly common natural hazard events.” Damien Killalea, Director Community Fire Safety, Tasmania Fire Service

### About the review

Funded by a National Emergency Management Project grant, the National Review of Warnings and Information was overseen by a multi-agency, multi-hazard steering committee representing all Australian jurisdictions and key national bodies. It was chaired by Victoria's Emergency Management Commissioner, Craig Lapsley.

The steering committee appointed external parties Cube Group and Ipsos Social Research to provide an independent view to the investigations.

The National Review of Warnings and Information explored good practice, innovation and key challenges through six key themes: Policy and Practice, Channels and Systems, Construction of Warnings, Community Response, Workforce Capability, and Continuous Improvement.

These themes were investigated through:

- an international review of reports, publications and inquiries over the past decade
- a national workshop hosted by AFAC that incorporated a synthesis of the Bushfire CRC's community safety research
- interviews with more than 100 subject-matter experts across Australia
- a specialised review into the use of the telephone-based warning system, Emergency Alert, including community consultation and analysis
- a national workshop involving representatives from 22 organisations to explore information gathered.

The review has provided an opportunity to investigate, across a multi-hazard and national sphere, how warnings and information are currently provided to communities.

In addition to ANZEMC endorsement, the review's 42 findings and nine recommendations have been supported by the emergency management sector and other key stakeholders, and provide direction for future efforts to improve this increasingly critical and rapidly evolving discipline.

A newly established National Public Information and Warnings Working Group will address the findings and opportunities outlined in the final report and oversee implementation of the recommendations. ■

To obtain a copy of the literature review, the final national review paper, or the Emergency Alert review, visit [www.emv.vic.gov.au](http://www.emv.vic.gov.au).

### National review recommendations:

#### Recommendation 1

As a priority, establish a dedicated, multi-hazard National Working Group for Public Information and Warnings. As a part of its role, this working group should be charged with sharing the outcomes of the review, addressing the findings and opportunities throughout, and overseeing implementation of this report's recommendations.

#### Recommendation 2

Improve knowledge management on warnings and information with a focus on reviewing the status and availability of key national documents, consolidating documentation where appropriate and setting standards for document review and minimum metadata. Practitioners across all hazards should also be better supported to access information and connect with their peers.

#### Recommendation 3

Pursue greater national consistency of warning frameworks across jurisdictions by leading a coordinated review of current frameworks, assessing the evidence base for change and identifying opportunities for harmonisation. While this activity requires a longer-term focus, in the short term, the recommendation is to build national consistency within individual hazard areas.

#### Recommendation 4

Invest in and prioritise improved use of technology to create and disseminate warnings and information. As a priority, develop warnings that offer visual and spatial information.

#### Recommendation 5

Improve the use of social media, placing immediate focus on the

use of social media as a 'two-way' conversation with communities, and on resourcing and sharing current innovation and good practice across agencies.

#### Recommendation 6

Build better partnerships with third parties to improve development and dissemination of warnings by:

- establishing a national protocol for working with third parties, including media, international service providers, private warnings providers and not-for-profit entities
- increasing focus on providing more accessible, sharable and easily republished warnings. Mandate compliance with the Common Alerting Protocol (CAP-AU) for all new and upgraded warnings systems, and set a goal date for reaching CAP-AU compliance nationally.

#### Recommendation 7

All agencies to ensure that post-incident debriefing and critical incident stress programs are effectively executed for all public information personnel, regardless of their level of involvement or the nature of their substantive role.

#### Recommendation 8

In order to build a stronger evidence base to inform policy and practice, develop agreed research methods and commission targeted research that focuses on community behaviour and response to warnings across diverse hazards.

#### Recommendation 9

Develop nationally agreed performance indicators and formalise post-incident evaluation processes for providing warnings and information during emergencies.

# PRODUCT COMPLIANCE: THE CONFRONTING REALITY —PART 2

FPA Australia is taking steps to implement initiatives to help avoid future product non-compliance.

by **Joseph Keller**  
Communications  
Manager, FPA  
Australia

and **Matthew  
Wright**  
Chief Technical  
Officer and Deputy  
CEO, FPA Australia

In November 2014 a fire raced up the side of a multi-storey apartment building in Melbourne's Docklands. The fire, which was started by a discarded cigarette, was fuelled by aluminium cladding material that failed to meet the necessary standards for combustibility.

More than 400 people were evacuated during the fire, which destroyed seven units and caused an estimated \$5 M in damage. After a thorough and damning investigation by the Metropolitan Fire Brigade (MFB) and subsequent Post Incident Analysis Report, the Victorian Building Authority have launched an investigation into the builder and building surveyor. In addition the Authority is auditing all Melbourne inner city high-rise buildings to ensure compliance and many owners within the Lacrosse building (the affected building) are now pursuing a class action lawsuit. All because of the use of non-compliant, cheap cladding, likely in pursuit of commercial savings.

This incident could well be described as a near miss in terms of the potential life-safety impact. Fire protection systems and equipment installed in this building performed beyond expectation in response to a fire risk they were not designed for or expected to mitigate. For example, the MFB's report confirms the fire caused 26 sprinkler heads to activate and, fortunately in this instance, a combined sprinkler/hydrant water supply supported this activation to maintain a level of effectiveness to allow evacuation. Separate sprinkler and hydrant water supply arrangements that were also permissible may have resulted in a dramatically different outcome. Fire protection systems and equipment installed within buildings are not expected to contend with fire spreading over multiple floors via the external facade and this event clearly indicates that the strength of building safety performance is the sum of many parts. The failure of one part alone can have significant consequences, hence the importance of product compliance and independent confirmation that products meet expected performance benchmarks and are fit-for-purpose.

This incident is just one example of what FPA Australia believes is a systemic issue across the building and construction sector in Australia. The Association supports the work of the regulator in investigating this incident, but believes the weight of evidence of non-compliance issues now requires strong action at a national level to reform product compliance requirements and this should be risk-based, before a fire tragedy occurs involving loss of life.

## Product compliance—the case for a thorough review

The Association has long advocated for change in this space. As an example, in 2011 the Victorian Auditor General's Office (VAGO) report into the private building surveying industry in Victoria found 96% of permits examined did not comply with the relevant building and safety standards.

At the time the Association called for a similar full-scale review of the sign-off process into building occupancy. FPA Australia CEO Scott Williams said despite the efforts of FPA Australia and many other industry stakeholders, more than three years later little had changed.

"Today we still have occupied buildings in Australia that have significant questions over the level of life safety provided for occupants and the public," Mr Williams said.

"In the building and construction industry it is widely known that non-compliant products are bypassing the building approval process and are being installed in Australian buildings. This is a most significant concern to life safety and yet, worryingly, in almost all cases these issues are only identified when a fire event occurs.

"The community has an expectation that, particularly in new, multi-storey buildings, they will be reasonably safe from fire. It appears this is not the case in many Australian buildings today. We know anecdotally that there are many other non-compliant products installed in many other buildings around the country.

"In a developed country, products simply should not be installed in buildings without the required approvals. All stakeholders, not just the building surveyors, need to take their share of responsibility for product specification, selection and use in the design, installation and approval process. Clearer expectations and education of roles and responsibilities and good-practice advice is needed."

It is well recognised by Australian industry that global economic forces have an increasing impact on the production and supply of goods and services.

The World Trade Organization (WTO) Technical Barriers to Trade Agreement, signed by Australia (agreement member) to support acceptance of imported and exported product, has the following objective:

"The Agreement on Technical Barriers to Trade tries to ensure that regulations, standards, testing and certification procedures do not create unnecessary obstacles, while also providing members with the right to implement measures to achieve legitimate policy objectives, such as the protection of human health and safety, or the environment."



Australia's acceptance of this WTO Agreement has influenced the development of the Evidence of Suitability options for product compliance in the National Construction Code (NCC). In particular, Australia's acceptance of the Agreement has provided flexibility to adopt a range of forms of evidence, including certain international documentation.

The Australian regulatory requirement has adopted this flexibility by providing multiple pathways to demonstrating product compliance. However, each of the pathways currently permitted have varying degrees of rigour when it comes to product assessment. For example under the NCC it is equally as acceptable to demonstrate evidence of product suitability via a scientific test report from an accredited laboratory, as it is to accept the opinion of an individual with unknown qualifications.

The safety and confidence of consumers and the interests of product manufacturers and suppliers who take product compliance seriously is not supported by the current regime. Many FPA Australia members expend significant time and finances to research and test products to appropriate standards and also engage in product surveillance regimes.

To lose market share to competing products that have not undergone similar assessment does not provide much incentive for these companies beyond maintaining internal quality assurance standards. The result: less investment in product compliance assessment. Furthermore it is difficult for designers, installers, project certifiers and enforcement agencies to determine compliance due to the absence of rigour of some options and indeed the multiple options available.

Earlier in 2015 another high profile product compliance issue was revealed with the well-documented use of Infinity Cable; a non-compliant electrical cable imported and installed in tens of thousands of Australian homes. With the demise of Australian manufacturing, the demand for imported product is not likely to diminish in the foreseeable future.

Combined with a growing list of anecdotal instances of product non-compliance, pressure is mounting on governments to take decisive and meaning action to better maintain product performance standards and protect the community from the consequences of un-safe product.

### Solving non-compliance—Association initiatives

The investigation of building practitioners involved in the installation and certification of non-compliant products only treats the symptoms of this major issue, not the cause, and does not necessarily rectify the problem for building owners and occupants.

Reactive measures aimed at resolving non-compliance issues when they are discovered are important. However, the Association believes these cannot be the only measures that support the rules for product compliance outlined in the NCC, otherwise unscrupulous building practitioners will have little incentive to comply if cheaper options are available.

FPA Australia has determined three elements that need to be attended to in order to treat the product compliance issue.

### 1. Lack of national risk-based framework

There is a wide range of options for demonstrating compliance with rules in relation to products in the NCC Building Code of Australia, and they do not all provide the same level of assessment rigour. Although the purpose of these options is to allow maximum flexibility in the product supply chain, an unintended consequence has been exploitation caused by unclear parameters.

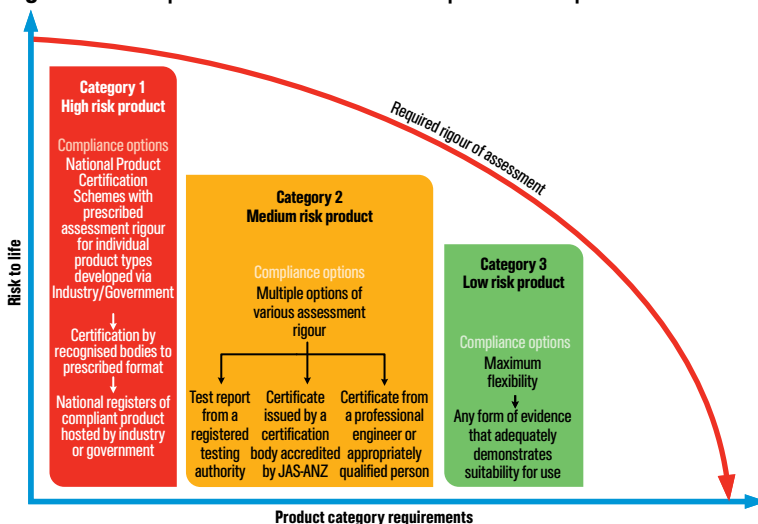
**FPA Australia initiative**—The Association is now calling for an urgent review and reform of the national product compliance framework and is developing a new risk-based conceptual approach that categorises product into three categories; low, medium and high. The approach prescribes the rigour of assessment required for each category commensurate with the risk of product failure and the impact this could have. In a further innovative step, FPA Australia's concept is to allow industry to partner with government to develop assessment rigour requirements for product types within these categories and have a level of ownership of the requirements, providing leadership to their individual industry sectors. Figure 1 provides a snapshot of this conceptual framework.

The Fire Australia 2015 Conference hosted by FPA Australia in March focused on product compliance issues and the resolutions from the Conference were as follows.

1. FPA Australia supports the establishment of a clear and meaningful product compliance framework that is aligned to the risks. Without such a framework, the safety and performance objectives of Australian construction regulations and standards are unlikely to be delivered and the community is at risk.
2. FPA Australia will constitute a Fire Products Reference Group for the purpose of establishing best practice technical schedules for the assessment and certification of fire protection products for the Australian market.
3. FPA Australia will in future establish a product listing scheme (FPAL) that provides a single point of reference to validate fit for purpose products.

The conceptual framework developed by FPA Australia (Figure 1) would pave the way for these resolutions to be progressed and outcomes achieved.

**Figure 1** Conceptual framework to achieve product compliance resolutions.



Major international and local fire product appraisal bodies have already agreed to participate in the FPA Australia Fire Products Reference Group.

The appropriate regulatory setting for this review is the Australian Building Ministers' Forum. This group, as part of the Council of Australian Governments, sets the national agenda for building and construction in Australia. The risks of product non-compliance are not limited to any state or territory and the Association believes this issue must be addressed at the national level.

Former Parliamentary Secretary for the Federal Minister for Industry, the Hon. Bob Baldwin, initiated a working group to tackle product compliance issues early in 2015. Mr. Baldwin has since been replaced in this position by the Hon. Karen Andrews and FPA Australia and other industry stakeholders are continuing to champion for change to requirements nationally through the Federal ministry and the Building Ministers' Forum.

### 2. Lack of industry understanding and education

FPA Australia believes there is a widespread lack of understanding of the rules regarding product compliance across the spectrum of individuals working in building and construction. Such people include manufacturers and suppliers, labourers on building projects, designers, installers, certifiers, building surveyors, purchasing officers and even councils and state and federal regulatory authorities.

**FPA Australia initiative**—FPA Australia has already been a leading voice in providing educational material regarding product compliance requirements. The FPA Australia Position Statement PS-05 *Product Compliance and Evidence of Suitability* was published in July 2014 and outlines the Association's position, in addition to explaining the current product compliance pathways. This document is freely available at [www.fpaa.com.au](http://www.fpaa.com.au) and was referenced and supported multiple times in the recommendations of the MFB Post Incident Analysis Report, regarding the Lacrosse building fire, as a document that building practitioners are encouraged to read and understand.

In the future FPA Australia intends to run a range of continuing professional development events to advise all stakeholders in the building and construction industry of the specific requirements under the NCC, as well as provide a detailed understanding of the different options for demonstrating product compliance regarding fire protection products. Our magazine partner AFAC is also contributing to this important initiative by running its own a briefing sessions on the Lacrosse building fire.

### 3. Lack of adequate regulatory enforcement

Legislation is only as good as its enforcement. For fire safety, the Association believes the stakes are too high for enforcement to be ignored. FPA Australia considers that it is a core responsibility of government regulators to undertake targeted enforcement aimed at deterring and treating poor practice, especially regarding product compliance. The privatisation of the building approval process throughout Australia increases the responsibility of governments to remain vigilant

and ensure the regulations they have introduced are actually being applied.

Mr Williams said until the issue of non-conforming products was taken seriously by regulators, the industry and the community, it would not be resolved.

"Inferior and potentially dangerous products have been, and continue to be, sold in Australia for building and construction purposes and these products routinely end up being installed in all types of construction, from family homes right up to major public and commercial buildings," said Mr Williams.

"In instances where such products may dramatically increase the risk of fire, it is easy to see the potentially deadly consequences of such non-compliance. This is why there are established minimum standards in Australia, but there is a current lack of scrutiny and general complacency at point of sale and installation, which means product may not always meet these expectations.

"The hard truth is that, in the rush to reduce technical barriers to trade and generate import and export opportunities, government has established multiple options for product compliance with varying assessment rigour.

"Some of these options are open to deceptive practices and there are systemic problems with the way some products are tested, certified and approved for sale. This is an issue that must be addressed before lives are lost.

**FPA Australia initiative**—The Association will continue to make strong representations to governments at all levels that change is needed in the auditing and enforcement of building product compliance in Australia. Through our membership on the Australian Building Codes Board's Building Codes Committee (BCC), and our direct contact with the state, territory and national regulators and the media, we will continue to vocalise the need for change until this is realised.

## Conclusion

A sobering final thought to illustrate how much of a problem this issue could become for Australia: weather-proofing buildings in New Zealand and the problem of 'leaky buildings' has created significant economic hardship for building owners. The estimates for New Zealand (roughly the size of Victoria) are that the repair costs were up to NZ\$11.3 billion in 2009 and a recent New Zealand High Court decision awarded NZ\$25 M to the owners of one building to compensate for poor construction practice. The risks of non-compliance are damaging, costly, and in the case of fire risks, potentially deadly.

FPA Australia's undertakings outlined above will go some way to addressing the critically important issue of fire protection product compliance in Australia. However, until all stakeholders pursue this issue with similar focus, we cannot expect the problem to be resolved. The specification, purchase, installation and certification of non-compliant products is not the fault of any individual stakeholder—it is up to everyone in the building and construction supply chain, as well as regulators, to shoulder this responsibility. The community expects nothing less. ■



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# SNAPSHOTS FROM SENDAI

The Bushfire and Natural Hazards CRC and AFAC were represented in Sendai for the third United Nations (UN) World Conference on Disaster Risk Reduction. The ambitious target for the conference was a global reduction in death, injury and displacement from natural disasters.

**By Nathan Maddock**

Communications  
Officer, Bushfire  
and Natural  
Hazards CRC



PHOTO: TONY JARRETT

In addition to the main conference, many exhibitions took place. Here local firefighters show children how their cherry-picker operates.

Sendai was a big deal in disaster management. More than 6,500 delegates descended on the Japanese city and 187 UN member nations were represented. A public forum was also held, registering 143,000 visitors over the five days of the conference; these figures make the conference one of the largest UN gatherings ever held in Japan.

The main outcome of this meeting was that the 2005 Hyogo Framework for Action, which documented disaster risk-reduction targets and was valid until 2015, was replaced by the Sendai Framework for Disaster Risk Reduction, taking over the disaster risk-reduction mantle until 2030. The new framework is far-reaching, with seven global targets and four priorities for action for member states over the next 15 years.

Among the targets and priorities for action there is a strong recognition of science, and the need to strengthen its relevance and use for disaster risk reduction from the global to local scales.

Margareta Wahlström, the Secretary-General's Special Representative for Disaster Risk Reduction and the Head of the UN Office for Disaster Risk Reduction, believes the Sendai Framework prioritises the targets and sets a clear agenda for UN members

to reduce the risks that natural disasters pose.

“The adoption of this new framework for disaster risk reduction opens a major new chapter in sustainable development as it outlines clear targets and priorities for action, which will lead to a substantial reduction of disaster risk and losses in lives, livelihoods and health,” she said.

The Bushfire and Natural Hazards CRC was represented at the conference by researchers Professor Kevin Ronan (CQUniversity), Professor John Handmer (RMIT University), Dr Briony Towers (RMIT University) and Dr Michael Eburn (Australian National University). Also representing the CRC were CRC end users John Richardson (Red Cross), and Tony Jarrett (NSW Rural Fire Service).

Joining them in Japan was AFAC representative Damien Killalea (Tasmania Fire Service) and young volunteers from the AFAC Change It Up program Banjo Anderson and Maddie Croft (NSW State Emergency Service) and Tia Rowley (Queensland State Emergency Service). The Change It Up participants were sponsored to attend by the NSW State Emergency Service Volunteer Association and Queensland Fire and Emergency Services.

## Participant reports

So what will be the outcomes for the Australian emergency management industry? Here are perspectives from a researcher, an agency representative and a young volunteer about what they took away from attending the Sendai conference.

### CRC researcher—Dr Briony Towers

I had the wonderful privilege of travelling to Sendai to present at a workshop on Emerging Trends in Disaster Risk Reduction: tackling black swans, hyper risks and extreme events. In addition to the workshop, a real highlight of my time in Sendai was stumbling on a public exhibition exploring the 2011 Tohoku tsunami. Installed in a shopping arcade, the exhibition presented high-resolution aerial photographs of villages, towns and cities before and after the disaster. As I walked through the exhibition, I watched local people study the photographs, locating the houses of friends or relatives in the before photo and then pointing to the corresponding location in the after photo. There was something deeply moving about the way people

engaged with the photographs, chatting quietly with one another as they contemplated the complete obliteration of the coastal communities just 20 km to the east.

On the bullet train back to Tokyo, I read over the new global agreement that had been struck a few hours earlier. Thanks to the hard work and lobbying of child and youth advocates, the agreement identifies children as key stakeholders in disaster risk reduction:

*Children and youth are agents of change and should be given the space and modalities to contribute to disaster risk reduction, in accordance with legislation, national practice and educational curricula.*

Implementation of the Sendai agreement as it relates to children and schools will be a key focus of our ongoing Bushfire and Natural Hazards CRC research on building best practice in child-centred disaster risk reduction. We are aiming to evaluate current education programs and develop innovative new approaches to children's disaster education.

A woman examines before-and-after photos from the 2011 tsunami. This exhibition sticks in the mind of Briony Towers as one of the most powerful experiences from the conference.



A conference like Sendai on the world stage is huge, with 6,500 people attending from across the globe.

PHOTO: UN INTEGRATED RESEARCH ON DISASTER RISK

### Four priorities for action

1. Understanding disaster risk
2. Strengthening disaster risk governance to manage disaster risk
3. Investing in disaster risk reduction for resilience
4. Enhancing disaster preparedness for effective response, and to 'build back better' in recovery, rehabilitation and reconstruction.



PHOTO: BRIONY TOWERS

### Seven global targets

1. Substantial reduction in global disaster mortality
2. Substantial reduction in numbers of affected people
3. Reduction in economic losses in relation to global gross domestic product
4. Substantial reduction in disaster damage to critical infrastructure and disruption of basic services, including health and education facilities
5. Increase in the number of countries with national and local disaster risk-reduction strategies by 2020
6. Enhanced international cooperation
7. Increase in access to multi-hazard early warning systems and disaster risk information and assessments.

UN Secretary-General Ban Ki-moon opened the conference.



PHOTO: UN INTEGRATED RESEARCH ON DISASTER RISK

It's all about the kids  
—a child learns how to  
operate a hose at Sendai.



PHOTO: WILLIAM VERBERK



CRC Project Leader  
Professor Kevin Ronan  
spoke on progress of  
child-centred disaster  
risk-reduction research.

PHOTO: UN INTEGRATED RESEARCH ON DISASTER RISK

**Emergency services—Damien Killalea**

For me, Sendai provided a great opportunity to learn firsthand about the arrangements and programs in place across UN member states, in the developed world as well as the developing world, to mitigate loss from natural disasters.

Because of their location, many developing nations are at significant risk from natural disasters, often from a range of hazards. It was instructive to hear about the variety of often very sophisticated programs implemented in these countries to mitigate risk and respond to disasters.

But the main game in Sendai was the development of a new framework to replace the 2005 Hyogo Framework for Action. After detailed and lengthy negotiations between the 187 member states, which in the latter stages stretched to 37 hours with barely a break, the new Sendai Framework for Disaster Risk Reduction 2015–2030 was agreed. Among other things, the new framework will result in a significant increase in support by the developed world for disaster risk reduction in developing nations.

It will be interesting to see the extent to which our own National Strategy for Disaster Resilience will be affected by the new Sendai Framework, what the implications are for AFAC's Strategic Directions, and how AFAC member agencies will respond.

There is no doubt that climate change and its expected influence on many natural hazards has sharpened the international focus on disaster risk reduction. It is critical we examine the implications for our sector and ramp up our efforts to build community resilience and emergency management sector capability in the region.

**Queensland SES volunteer—Tia Rowley**

The work undertaken in Sendai reflects the world's thinking in terms of disaster risk reduction. It was an

eye-opening experience to learn and be incorporated into some of the most innovative and effective disaster mitigation systems on the planet. It was also a perfect time to reflect on how far Australia has come in terms of disaster risk reduction and how we are quickly becoming leaders in the sector.

For the first time the world was in agreement that disaster risk reduction, economic security and climate change are so intertwined they can no longer be addressed separately. Key insights included the need for improved multi-modal communication and early warning systems, a drive to improve global insurance take-up, and the importance of changing the perception of youth to reflect capability, not vulnerability.

For me, one quote struck a chord:

*We need to create a resilient community, and education is the primary instrument.*

Proactive risk mitigation stems from a deeply ingrained education that is fundamental to protecting human life, minimising economic disruption and ensuring that our first responders and recovery agencies are more effective in their work.

It was an honour for Banjo, Maddie and myself, as young Queensland and New South Wales State Emergency Service volunteers, to not only represent our own agencies, but to be part of the UN Major Group for Children and Youth through the Post-2015 Framework for Disaster Risk Reduction negotiations. Alongside 20 other young volunteers from around the globe, we advocated for the needs of a truly important, though often under-represented and silenced group—children and youth. The integration of children and youth will be crucial to the future of our world.

Finally, a phrase from the UN Major Group for Children and Youth plenary statement: We call on you, to call on us. ■

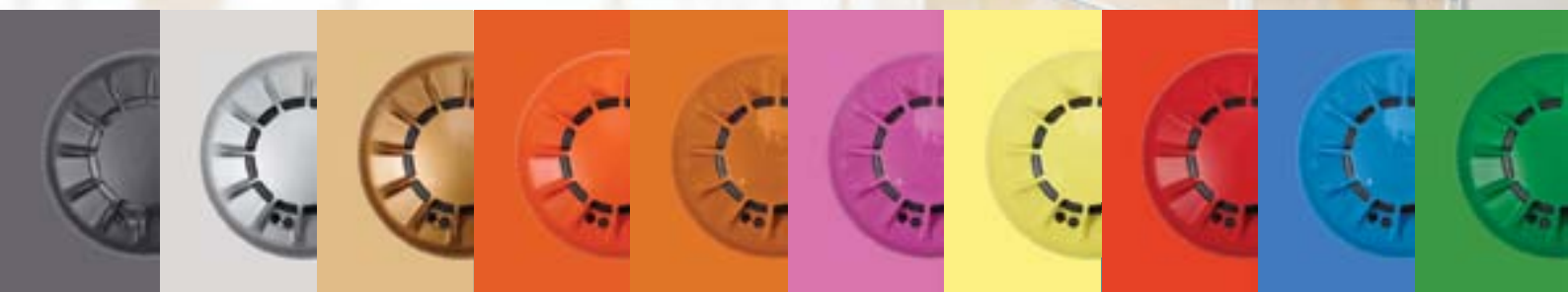




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The Governor-General and Prime Minister present five families with memorial medallions at a recent service in Canberra.

# REMEMBERING THE FALLEN

**By Mandy Cant**  
Communication &  
Events Coordinator,  
AFAC

The first national service to honour and remember emergency services personnel was held recently in Canberra.

**O**n Friday 1 May, the Governor-General, His Excellency General the Honourable Sir Peter Cosgrove AK MC (Retd) and the Prime Minister of Australia, the Hon Tony Abbott MP, joined nearly 300 industry representatives, family and friends of emergency workers to honour those who had lost their lives in the line of duty.

Held at the emergency services national memorial on the banks of Canberra's Lake Burley Griffin, the occasion was the first annual public memorial service to recognise the commitment and sacrifice of emergency service representatives.

AFAC CEO Stuart Ellis believes the event is the first step to establish a national day of significance for fire and emergency services.

"Agencies have recognised this day in their own state or territory previously, but we want to elevate this to a form of national recognition, utilising the National Emergency Services Memorial here in Canberra.

"How we honour and recognise those who have died while on duty serving their community is a reflection of how we respect our current workforce."

Five men were honoured at the service including David Balfour from ACT Fire and Rescue, Andrew Harrison and Brian Johnston from the SA Country Fire Service, Daniel Howard from Fire and Rescue NSW and David Black from the NSW Rural Fire Service.

Prime Minister Tony Abbott addressed the service to pay tribute to these emergency services personnel.

"Their selflessness beckons us all to live bigger lives, lives of duty and service," he said.

Commissioner Greg Mullins, Fire and Rescue NSW and President of AFAC, also addressed those in attendance.

"It's [the] selflessness and 'can do' spirit that is so deeply ingrained in our DNA that sees us here today recognising and remembering dedicated Australians who committed their [lives] to answering the call for help, and in doing so, tragically made the ultimate sacrifice," Commissioner Mullins said.

"Make no mistake; being on the frontline in our emergency services is a physically and mentally demanding, and often extremely dangerous, role. Our people are the ones who run toward danger, when everyone else is running away.

"Today—and the reason we are here—is a reminder of our own mortality. It's a reminder that those we are here to honour and pay our respects to are people we worked beside, people we lived with, people who shared in our lives, people we love, people we miss dearly, people we cannot thank enough for answering the call."

The Governor-General and Prime Minister presented a memorial medallion to each family to acknowledge their great loss and sacrifice from the passing of their loved ones in tragic circumstances. ■



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6 Core




10 Core - 5 Twisted Pairs



2 Core Screened




4 Core Screened




10 Core


**2 HR FR Power Cables**




Single Core




2 Core & Earth



3 Core & Earth



3 Core & Earth Screened



4 Core & Earth

**Stainless Steel Ties**



AS/NZS 3013 Approved - ActivFire listed

\* Fire Rated Cables only



PHOTO: OFFICE OF ENVIRONMENT AND HERITAGE NSW

# OCEANS ON THE RISE

Researchers are investigating where extreme water levels could impact Australia’s coast and what can be done to mitigate the risk.

**By Nathan Maddock**  
 Communications Officer, Bushfire and Natural Hazards CRC

In Fremantle Harbour last August a container ship broke away from its moorings and collided with the bridge on the Perth to Fremantle train line, closing the bridge for two weeks. Unknown to most casual observers, this part of the West Australian coast had been hit by a meteorological tsunami, or meteotsunami for short. The strong currents of the meteotsunami broke the moorings and the increased water height allowed the ship to travel over the sandbar separating the harbour from the Swan River.

Along Perth’s waterfront, meteotsunamis, in combination with high tides and storm surges, have led to flooding of the Swan River. June 2012 saw the highest water level recorded in 115 years, which resulted in the closing of the Kwinana Freeway.

“Most people do not know that a meteotsunami has occurred,” said Professor Charitha Pattiaratchi, an oceanographer at the University of Western Australia.

“They think it is just a high tide or a king tide. But it is the stacking up of the events that causes problems.

“The timing is really important. If a meteotsunami occurs at low tide there is negligible impact, whilst in contrast, if it happens close to the high tide level, it will lead to high water levels. This is what happened at the Perth waterfront in June 2012.”

Around 85% of Australia’s population live within 50 km of the coast, alongside a significant proportion of key assets and infrastructure. Yet these coastlines, and the communities that call

them home, are exposed to a range of natural hazards that can cause severe damage. Research underway by the Bushfire and Natural Hazards CRC will improve our knowledge of such hazards.

Professor Pattiaratchi is leading the CRC study, with fellow UWA researchers Drs Sarath Wijeratne, Ivan Haigh, Matt Eliot, Ivica Janekovic and Yasha Hetzel rounding out the project team.

Professor Pattiaratchi said that extreme water levels can result from the combination of different physical processes including tides, storm surges, tsunamis (both seismic and meteorological) as well as seasonal and inter-annual mean sea level variations.

Extending our understanding of meteotsunamis and their risk around the country is a key focus of the study.

“Meteotsunamis are relatively common phenomena, but not well understood,” Professor Pattiaratchi said.

“We could consider Western Australia a global hot-spot for meteotsunamis—25 were recorded in 2014.”

Other areas where they are particularly common are the Mediterranean, Japan, China and Korea.

“We have seen them often in Western Australia, maybe two or three a month in certain places,” Professor Pattiaratchi said.

But what is a meteotsunami and how does it differ from a tsunami caused by an earthquake?

“In Western Australia, and across most of Australia, meteotsunamis are caused by the passage

Above: Across Australia, the emergency services conduct damage assessments after natural disasters. Here, the Office of Environment and Heritage NSW are assessing erosion at Jimmy’s Beach after storm damage in April 2015.

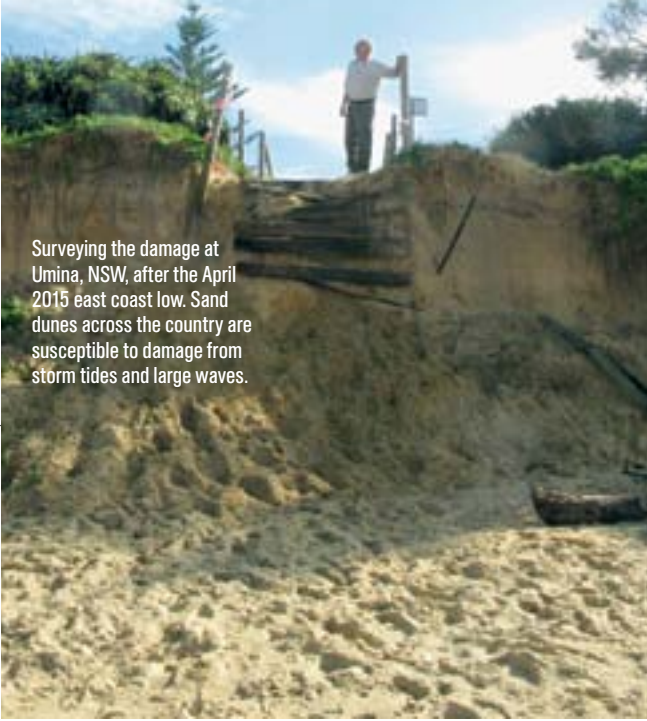
A photograph showing a person standing on a sand dune, surveying the damage. The dune is a mix of sand and some sparse vegetation. The person is wearing a light-colored shirt and dark pants. The background shows a clear sky and some trees.

PHOTO: OFFICE OF ENVIRONMENT AND HERITAGE, NSW

Surveying the damage at Umina, NSW, after the April 2015 east coast low. Sand dunes across the country are susceptible to damage from storm tides and large waves.



Locals brave the elements during April's east coast low at Jimmy's Beach, NSW.

of thunderstorms, or very fast travelling frontal (weather) systems,” Professor Pattiaratchi said.

These weather systems result in a change to the atmospheric pressure, and if the propagation of the pressure disturbance matches the speed generated by a wave, then a meteotsunami could occur.

“From an oceanography point of view, a one hectopascal change in atmospheric pressure is equal to a one centimetre change in water level.

“With a meteotsunami, we are talking about a two or three hectopascal change, creating a water level change of about 50 cm. The effects are 20 to 30 times higher than what you would expect naturally. This is due to a resonance condition and that is what makes the water level higher.”

But not every thunderstorm will cause a meteotsunami.

“If the passage of the storm or weather system is too slow, or too fast, then you will not have that resonance. It is not every thunderstorm. But it is more likely if a thunderstorm is travelling parallel to the coast where a range of water depths are experienced,” Professor Pattiaratchi said.

Many people would not be aware of meteotsunamis because compared to a seismic tsunami, often associated with very large, destructive waves, meteotsunamis do not necessarily cause loss of life.

“Meteotsunamis are not that large—in Australia the maximum height is around one metre,” noted Professor Pattiaratchi.

But that does not mean there is not a risk. When the tidal range is factored in, one metre can become very significant.

“We know Western Australia is at risk, but we want to understand what other areas of the country are at risk too. This study is about extending our knowledge around the entire coastline to gain a better understanding of their occurrence and, therefore, risk.”

### Predicting extreme water levels

The project is seeking to document not only the risk posed by meteotsunamis, but also the risk associated with a combination of different processes such as tides and storm surges generated by tropical and extra-tropical cyclones. A computer model will enable the

research team to map the coastline around the country, highlighting where extreme water levels could occur. This will enable an accurate assessment of potential impacts on the coastline, leading to better emergency planning and management.

A key aspect of the research is not just about finding the areas that might have problems, but being able to tell when these extreme water levels could occur.

“We will analyse the identified problem areas to find out under what specific conditions problems occur,” Professor Pattiaratchi said.

“This will allow coastal engineers, emergency managers and planners to be better prepared, with accurate estimates of extreme water levels.”

This outcome is precisely what CRC end user Dr Martine Woolf believes is needed.

“We are an incredibly coastal nation, but there is not really a good handle on the likelihood of extreme water heights occurring,” said Dr Woolf, Section Leader for Hazards and Risk Application and Infrastructure at Geoscience Australia.

“With storm surges and meteotsunamis, we have a poor understanding of what the likely hazard is.”

Localised studies have been undertaken at various locations, but it is the national aspect of this project that appeals most to Dr Woolf.

“It is vital that the whole country is modelled using a consistent approach,” she said.

“Professor Pattiaratchi and his team are trying to come up with data on what is ultimately a very localised hazard, but in such a way that you can compare it across the country, from different types of events, from meteotsunamis to tropical cyclones, to extra-tropical east coast lows.

“It will be a unique national dataset and benchmark point across the nation, identifying where the issues are, even if they have not yet been experienced at that location.”

Ultimately, these outcomes will strengthen the resilience of coastal communities and infrastructure. ■

You can find out more about this research at [www.bnhcrc.com.au](http://www.bnhcrc.com.au).

# BRING YOUR LIPSTICK TO ADELAIDE

By Mandy Cant

Communication & Events Coordinator, AFAC



Delegates will have the opportunity to discuss industry issues such as diversity at AFAC15.

PHOTO: FIRE & RESCUE NSW

Have you ever been part of an incident management team where women outnumbered men? How many female incident controllers are in your emergency service organisation? Have you seen a fire crew that was mostly women? Were any of them wearing lipstick? What would you think of them if they were?

Ariana Henderson, Manager Fire and Emergency Recovery, along with Sandra Robinson, Project Coordinator Fire and Emergency, at Parks Victoria, will answer these questions at this year's AFAC and Bushfire & Natural Hazards CRC conference. The largest and most important emergency services and public safety event in Australasia, the conference will take place at the Adelaide Convention Centre on 1–3 September.

This year's theme is *New Directions in Emergency Management* and Ms Henderson is one of more than 100 speakers on the program. Her presentation, 'Bring your lipstick', with colleague Sandra Robinson, will have a particular focus on the industry's struggles with diversity.

"You don't have to look hard within the emergency services industry to see a disparity in the representation of men and women, particularly in leadership roles," Ms Henderson said.

The inclusion of women into urban fire services has been slow and they continue to be underrepresented. Participation rates for female firefighters across Australian fire services range from 1.5 to 4%. So what are the blockers to women becoming leaders in emergency management?

"Some barriers experienced include working conditions and family commitments, a perceived lack of physical and mental ability

## Conference speakers and presentation highlights

Throughout the conference delegates will hear from a wide range of leading international and Australian experts on issues such as child-centred disaster risk reduction, tropical cyclones, the G20 global summit, Ebola virus disease, re-insurance, information and warnings, planned burning, flood and fire. Speakers confirmed include:

- **Trefor Munn-Venn**—CEO, Rhapsody Strategies, Canada
- **Dr Rowan Douglas**—CEO, Capital Science and Policy Practice, Willis Group, UK
- **Group Captain Catherine McGregor AM**—Royal Australian Air Force
- **Dr Paul Willis**—Director, RiAus
- **Dr Alex Zelinksy**—Chief Defence Scientist, Defence Science and Technology Organization, USA

to do the job, and an ingrained culture and subconscious bias,” Ms Henderson said.

“We are hardwired to adjust our behaviours to fit into communities. The perception of needing to be ‘one of the boys’ can prevent girls from entering or remaining in the emergency industry long enough to become leaders.”

While a number of initiatives and strategies can be implemented which focus on targeting particular cohorts (e.g. women) to apply for firefighter roles, focus also must be on the organisation’s culture and ensuring the inclusion and acceptance of diversity within the organisation.

Margaret Allison, who recently conducted the independent review into Queensland Fire and Emergency Services’ handling of sexual harassment and workplace bullying, will also be presenting at this year’s conference on issues of diversity.

According to Ms Allison both the strong cultural traditions of urban fire services and the lack of effective recruitment and retention strategies can limit women joining and remaining in fire services. Although there is a relatively low level of formal complaints, it is clear that many women firefighters have been subject to behaviour that is unacceptable in a contemporary workplace.

In her statement to the Queensland Premier, Ms Allison said: “The issues identified in this review have also been identified in recent times in other Australian jurisdictions and in countries such as the US, UK and Canada. Similar issues have been found in other uniform organisations with a traditional command and control culture, such as the Australian Defence Force and its academy.”

Further, she wrote, these industries “... have a long and proud history of service, but some of the traditions of the past must be let go to embrace future opportunities, and to ensure the fire service is staffed with the best and most capable men and women.”

But Ms Allison is optimistic that the capacity of the fire service to embrace further change will position it as an industry known as much for its commitment to equality as it is for contributing to community safety. Her session in Adelaide will focus on recommendations for achieving just this.

Ms Henderson echoes Ms Allison’s sentiment, believing it is important that as we progress as an industry we seek to improve the participation of women, and establish fairer and more inclusive workplaces.

“As we move into new directions in emergency management we need to support our people and challenge our current culture to ensure the next generation of leaders has representation of women on par with men,” Ms Henderson said.

“Let’s change the culture now so that in 2025 we have an emergency management culture where women, even those who like to wear lipstick, can be operational leaders in the emergency services industry.”

This year’s conference will allow delegates to discuss issues of diversity, share new approaches in an all-hazard emergency management environment, and work together to examine sector reform. Delegates will also explore the challenges and opportunities of ‘shared responsibility’, and seek out new and engaging ways to partner with the community, researchers and the sector to foster and build disaster resilience.

Be sure to take the opportunity to be part of the leading knowledge-sharing event for emergency services, fire and land management. Early bird registrations close 26 June 2015. ■

For more information about the conference including the full conference program, conference activities and speaker profiles visit [www.afac.com.au/conference](http://www.afac.com.au/conference) or stay updated by Twitter #AFAC15.

- **Dr Bill Griggs**—Director, Trauma Service, Royal Adelaide Hospital
- **Dr Mark Finney**—Research Forester, US Forest Service, USA
- **Paul Boissoneault**—Fire Chief, Canadian Association of Fire Chiefs, Canada

Conference activities have been scheduled across four days to allow delegates to explore the conference theme *New Directions in Emergency Management*. On Tuesday 1 September the all-hazards Research Forum will showcase why research and innovation are vital precursors for safer communities and better environmental management. The forum will showcase the latest science from the Bushfire and

Natural Hazards CRC, as well as other organisations within the sector. Last year’s forum in Wellington sold out, so make sure you reserve your seat.

Wednesday and Thursday 2–3 September will see delegates participate in the two-day main program. With over 100 sessions scheduled this will be an opportunity for delegates to gain valuable insight into best practice approaches to emergency management. Presentations will focus on research utilisation, case studies, policy and practice.

In addition, the conference will feature 6,000 m<sup>2</sup> of exhibition space showcasing more than 100 leading industry manufacturers as well as the highly valued conference posters.

Six post-conference development sessions will cap off the week. These sessions will provide opportunities to participate in master classes and workshops, or travel to more complex sites within the Adelaide region for further learning opportunities.



PHOTO: FIRE & RESCUE NSW

# RISK REDUCTION GULF THE TWO SIDES OF EARTHQUAKE DISASTERS

**By Professor Kevin Ronan**  
Project Leader,  
Bushfire and  
Natural Hazards  
CRC and  
CQUniversity

With the tragedy that continues to play out months after Nepal's earthquakes, there are stories of heroism. There are also stories of people who could have taken proper precautions to save themselves and their loved ones. A larger story is a tale of two realities in relation to earthquakes and loss of life.

**W**ith the death toll still mounting after Nepal's twin earthquakes in late April and early May, for those who work in disaster risk reduction worldwide there is a grim awareness that the eventual number of lives lost could be huge. Tens of thousands of individuals dying is not out of the question. This is based on previous events—earthquakes are the most perilous natural hazard, causing the greatest loss of life across the globe. The United Nations Office for Disaster Risk Reduction states that in the 10 years prior to 2013, deaths worldwide in earthquakes were more than deaths in all other disasters combined.

But it is also based on a two-sided reality. Developing countries like Nepal bear the brunt of the deaths in earthquakes worldwide. By contrast, more developed earthquake-prone countries, like our close neighbour New Zealand, do experience catastrophic consequences, but do not see death tolls like those in less-developed countries.

Haiti's earthquake in January 2010 was referred to as a mirror image of the two Christchurch earthquakes (September 2010 and February 2011) in seismic terms. Christchurch experienced just under 200 deaths across those two events whereas, depending on estimates, Haiti experienced 50,000–300,000 deaths in the one quake. Other comparisons in similar magnitude events (e.g. Bam,

Iran, 2003 vs Paso Robles, USA, 2003) replicate massive differences in the numbers of lives lost.

There really is no question that the built environment in New Zealand and other earthquake-prone developed countries like the USA has been responsible for reductions in lives lost in those countries over time. Equally, governance and a regulatory environment that supports building sturdier structures that can withstand increased seismicity are also responsible.

In the face of complications such as traditional building locations and local attitudes to building and risk-reduction practices, how can risk be reduced to increase lives saved?

It is not an easy answer but, equally, it is a problem that ultimately has some science-based and policy-translated solutions that can lead to advances, including reducing deaths and injuries. Take the example of deaths in storm-related events worldwide. Over time, lives lost in storms and cyclones have dropped significantly worldwide.

One success of the first United Nations-level international disaster risk-reduction accord, the 10-year Hyogo Framework for Action, has been this reduction. For example, over a more extended period, Bangladesh has seen deaths from cyclones reduce about a hundredfold.

Rescuers clear rubble in the search for survivors in Durbar Square Kathmandu, Nepal, after the first earthquake on 25 April 2015.



PHOTO: THINKPHOTO/SHUTTERSTOCK



PHOTO: JOHN MCCOMBE, NEW ZEALAND FIRE SERVICE

Developed countries like New Zealand experience large earthquakes, such as the Christchurch quakes of 2010 and 2011, but these countries do not experience the same mass casualties as developing nations following earthquakes of similar severity.

The same story can be told in other countries.

Reasons for reductions include the built environment but also, critically, behavioural and socially based solutions. Our and others' research has shown that disaster risk-reduction strategies such as early evacuation are quite likely difficult, perhaps very difficult, to carry out if there is not proper planning, social buy-in and acceptance for such actions. If a community believes such actions are 'over the top,' getting buy-in is likely to be very difficult. And, as neighbours watch neighbours, the one family that chooses to enact a safety plan and leave in a false alarm then can become the subject of quiet back-fence talk. Fortunately, as early warning system infrastructure has improved worldwide, so too does it appear that awareness and acceptance of early evacuation in many countries has also improved.

Research on disaster risk-reduction messaging has also suggested ways forward. As a local, anecdotal example, Queensland Premier Anastacia Palaszczuk emphatically stressed numerous times a 'single actionable' set of sheltering behaviours designed to save lives and reduce injuries during February's Cyclone Marcia. Research supports the idea that promoting a reduced list of 'key safety and risk-reduction messages' is more likely to be taken up and accepted by the public than a laundry list of non-prioritised actions. My own view, from researching in this field for 20 years, but also having been through Marcia in my home in Rockhampton, is that the messages on safety-related key behaviours from the Premier, and others, probably saved lives and reduced injuries. We are currently planning research to see if this hunch is supported.

In earthquakes, there is no doubt that saving more lives in many countries will require built environment solutions—sturdier construction that can withstand large-magnitude earthquakes. However, as our analysis of just under 10,000 injuries related to the two major Christchurch earthquakes shows, planning, socially transmitted messages and safety-based risk-reduction behaviours are also necessary. In fact, our analysis suggested about 40% of the injuries sustained

during and after the earthquakes were probably preventable through knowledge and enactment of important key disaster risk-reduction messages.

One of these messages is based on the finding that movement during shaking tends to increase risk. Will Swanton, a journalist at *The Australian*, observed both mass panic and mass movement during the shaking in Nepal, including seeing a major risk unfold through people tripping and falling (it was a major risk for injury in both Christchurch earthquakes; getting hit by projectiles and falling objects while moving was another).

Now, it is critical to emphasise that this discussion is not to diminish the cascade of tragic consequences produced by a major natural disaster, both on infrastructure and on people in Nepal, Haiti, Christchurch and elsewhere. No matter how we improve our disaster risk-reduction preparedness and response landscape, disasters will continue to kill and injure people and produce massive consequences. There were, and continue to be, a plethora of consequences in Queensland after Marcia.

We need to deal with consequences of disasters, including honouring and remembering those who may not have survived, helping those affected and learning important lessons. However, we need also to acknowledge bona fide progress, even in the face of what can be tragic circumstances. If we do not, we will continue over time to be caught in the same disaster movie and narrative for too long.

The signing off of the new international disaster risk-reduction accord, the Sendai Framework, occurred in March in Japan (see page 20). As it now includes more countries, it now reflects near international consensus, will and collaboration to reduce risk related to disasters. To do so, a science-to-policy understanding of major challenges related to earthquakes and other hazard types needs to be coupled with learning from failures and from advances. If we as an international community can reduce deaths in storm events, we have the capacity for doing so in other events. This includes for earthquake, the natural hazard that currently takes the most lives. ■

# FIRE AUSTRALIA 2015 SETS NEW STANDARD FOR EXCELLENCE

**By Joseph Keller**  
 Communications  
 Manager, FPA  
 Australia

The Fire Australia Conference 2015, held on Queensland's Gold Coast on March 25 and 26, set a new benchmark for industry engagement.



**The keynote speakers**



Stephen Kip



Don Bliss



James Golinveaux



Robert James



Hank Van Ravenstein



Highlighting a number of critical issues for the fire protection industry, particularly in relation to product compliance, the 2015 Fire Australia conference set new records on the Gold Coast in March. Along with the most delegates, most exhibitors and most sponsors, the annual charity dinner was completely sold out for the first time.

### Conference resolutions

Many local and international subject experts spoke on the complex, problematic and often confusing nature of building and construction product compliance as it relates to fire protection. These discussions greatly helped inform the conference resolutions, which are:

1. FPA Australia supports the establishment of a clear and meaningful product compliance framework that is aligned to the risks. Without such a framework, the safety and performance objectives of Australian construction regulations and standards are unlikely to be delivered and the community is at risk.
2. FPA Australia has resolved to constitute a Fire Products Reference Group for the purpose of establishing best practice technical schedules for the assessment and certification of fire protection products for the Australian market.
3. FPA Australia will in the future establish a product listing scheme (FPAL) that provides a single point of reference to validate fit-for-purpose products.

### Thanks to supporters

The Association is proud and humbled by the

extraordinary support shown by attendees of this year's Fire Australia Conference. We thank all sponsors including our Platinum sponsors FlameStop and Tyco Fire Protection Products, Gold Sponsors Brooks and Alan Wilson Insurance Brokers, Silver Sponsors Kidde and all other sponsors including Chubb, Pertronic, Ampac, Reliable Fire Sprinklers and Globe Fire Sprinklers. This event would not have been possible without your support.

The Association also thanks all international and local speakers, every company that exhibited and all of the conference delegates and trade show attendees. We hope to see all of you again when the Fire Australia Conference and Exhibition comes to Melbourne in 2016.

### Outstanding presentations—amazing insights

This year's Fire Australia Conference featured outstanding speakers from Australia and abroad, many of whom spoke on issues of product compliance. Below is a short snapshot of the keynote presentations. All speakers' slides are included on the USB of conference proceedings.

**Stephen Kip—Skip Consulting—fire safety engineer and building regulatory consultant**  
**'How to ensure product compliance in a national marketplace'**

As an eminent expert in fire engineering and regular presenter at Fire Australia conferences, Stephen Kip was again an extremely valuable addition to the





Fire Australia 2015 set new records for most sponsors, most exhibitors and most delegates.

program, particularly in light of the conference theme of product compliance. Stephen began by highlighting the need for legal compliance with building regulations, pointing to the Christchurch earthquake as an example where non-compliance had led to criminal proceedings (it was found that the Canterbury TV building, which was destroyed, did not comply with the Building Code). Mr Kip reviewed in detail the legislative landscape in Australia and the role and composition of the National Construction Code (NCC). He detailed multiple methods for products to satisfy the NCC and highlighted existing concerns by the Housing Industry Association and Australian Industry Group about product compliance. He then outlined a number of important rules-of-thumb for building practitioners in relation to the NCC.

**Don Bliss—National Fire Protection Association (USA) Vice President, Field Operations**

**‘Product testing certification and suitability: the US approach to a critical fire safety issue’**

Another veteran of the Fire Australia Conference, Mr Bliss brought the weight of the US experience with product compliance and safety to the table, providing highly valuable insight for the audience. He opened his address by considering the reasons for having product testing and certification measures at all. He noted that the primary function of these measures was to preserve life safety. Mr Bliss then reviewed the history of product testing in the US context before explaining the current US product standards landscape.

While the US building and construction and fire safety landscape is somewhat different to ours, the maturity of their standards and compliance industry provides a strong, clear model for Australia to consider and the presentation provided many great takeaways for the industry and regulators.

**James Golinveaux—Tyco Fire Protection Products—Senior Fellow, Water Fire Suppression**

**‘The changing face of warehouse commodity classifications—its impact on achieving a fit-for-purpose and compliant fire system’**

An eminent expert in water-based fire suppression systems worldwide, James Golinveaux delivered two outstanding presentations at the conference. One was his keynote on warehousing classifications and fire compliance. Mr Golinveaux’s presentation opened with a consideration of emerging issues in warehouse storage, with an increasing tendency towards vertical stacking of products, leading to firefighting complexity. He also described how the nature of modern stored commodities contributes to overall fire risk. Mr Golinveaux outlined the way fire risk is calculated in the USA in relation to commodity makeup and discussed the advantages and disadvantages of different storage, racking, palletisation and transport solutions from a fire risk perspective.

Mr Golinveaux described in detail the methodology used by both Underwriter Laboratories and the National Fire Protection Association (NFPA) to categorise and test classes of stored materials.



Fire Australia 2015 highlighted a number of critical issues for the fire protection industry, particularly in relation to product compliance.

He explained some of the challenges currently faced when buildings equipped for storing one commodity type are then used for storing different commodities and the costly consequences—an important lesson for the Australian warehousing sector.

**Robert James Underwriter Laboratories LLC—Global Building and Security Inspection Leader**  
**‘How US construction codes and standards work together’**

UL provides a fantastic example to Australia of how a robust testing provider can positively influence the overall effectiveness of product compliance regimes, so it was with great interest that the audience welcomed Robert James to the conference stage. Mr James began by detailing the process by which US Codes and Standards are developed and implemented. He explained the role of the NFPA and the International Code Council (ICC) in developing and adopting US model Codes. Mr James then outlined the role UL plays as an accredited third-party testing and certification laboratory, which includes investigation, testing and research of products, standards development organisation, quality assurance, market surveillance and training.

Today more than 1,400 standards are available and maintained by UL, which are used in the USA and around the world. In order to reduce complexity and confusion, UL has bundled different types of certifications into a single ‘mark’—the UL mark system. This mark improves clarity and acceptance in the marketplace and delivers transparency on product compliance. Multiple certifications can be captured in one mark. This system provides an outstanding model for consideration in Australia.

**Hank Van Ravenstein—Department of Human Services (VIC)—Principal Manager, Fire Risk Management Unit**

**‘Fire safety systems—what are the pitfalls of certification?’**

Few have the same understanding of the issues surrounding certification and fire safety as Mr Van

Ravenstein, who is responsible for managing fire risk across the largest portfolio of property in Victoria, owned by the Department of Human Services. With this experience and responsibility Mr Van Ravenstein brought a unique perspective on the importance of product certification and spoke of the inter-relationships between fire safety systems, the BCA and ‘alternative solutions.’ He noted that the real problems for fire protection product compliance in Australia are a lack of understanding and an unwillingness of regulators to enforce the rules, not having the right individuals employed at all levels of the process and the fact that the system is largely driven by financial objectives.

Mr Van Ravenstein highlighted the Docklands apartment fire (discussed in ‘Product compliance—the confronting reality—part two’ on page 16) as an example of lack of checking and enforcement of alternative solutions. He noted a wide range of issues and cited a need for stronger penalties for non-compliance as well as a mandate to use appropriately trained and accredited practitioners as potential solutions.

**Fire Australia Conference Dinner Awards**

This year the Fire Australia Conference Charity Dinner, sponsored by Chubb, was the most successful ever and a complete sell-out.

Held at the beautiful Jupiter’s Casino outdoor marquee ballroom, the evening featured plenty of laughs courtesy of MC and stand-up comic Vince Sorrenti.

In the spirit of Queensland’s Gold Coast, guests could also try their hand at surfing with a mechanical surfboard competition.

As well as plenty of fun and games, the event also featured an important cause—raising money for the Burns Unit at the Brisbane Children’s Hospital through raffle prizes and direct donations. FPA Australia is happy to advise that around \$8,000 was raised—a fantastic result.

Importantly, and also for the first time, this year’s dinner featured the presentation of awards, allowing recipients to be recognised in front of their

peers. Four individuals received awards this year.

FPA Australia proudly congratulates all award winners and we gratefully thank all those who attended the conference dinner and contributed donations.

**AV Viscogliosi Award for Fire Safety Excellence—awarded to Alan Wilson**

The most prestigious award presented at the conference, the AV Viscogliosi Award recognises individuals who have had a significant involvement in the work of FPA Australia and associated activities such as Australian and international Standards, industry and government.

**Meritorious Service Awards—awarded to Garry Kwok and Alan Short**

The Meritorious Service Award is presented to FPA Australia members who have made a significant contribution to the Association that requires special acknowledgement. These awards are given at the discretion of the Board of Directors.

**Ron Coffey Award—awarded to Colin Wood**

The Ron Coffey award is in recognition of outstanding academic excellence and the highest academic result in the Bushfire Planning and Design course through completion of the Graduate Diploma in Bushfire Protection at the University of Western Sydney.

**Exhibitor Awards—FlameStop makes a clean sweep**

FlameStop took out all three exhibitor awards at this year's Fire Australia Exhibition.

The Corporate Platinum member of FPA Australia and Platinum Sponsor of the conference took out the Exhibitors' Choice, People's Choice and Overall Best Exhibit award—the first time one company has made a clean sweep of these award categories.

FPA Australia congratulates FlameStop on the awards, which are testament to their outstanding exhibition stand as well as the availability of product on show and the knowledge and friendliness of staff on the booth.

The closing session of the conference also featured the presentation of the 2014 Outstanding Editorial Contribution award. This award recognises the best article submitted to *Fire Australia* magazine in the preceding year and was awarded to Martin McGettrick from ARA Fire for his article 'Oxygen reduction fire protection.' FPA Australia congratulates Martin and the team at ARA Fire on their excellent contribution. ▀



Fire Australia will be held in Melbourne in 2016 and will once again host a wide range of delegates and exhibitors.

**If you were unable to attend Fire Australia 2015 you can still order the proceedings on USB, which includes all of the presentations from both days. To order your proceedings USB please contact [events@fpaa.com.au](mailto:events@fpaa.com.au).**



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# EMPLOYEE CONSULTATION AND COMMUNICATION

**By Richard Krajewski**  
Workplace Relations Manager, FPA Australia

Consultation with employees is essential to building good workplace culture. Provisions in the *Fair Work Act 2009* address consultation.

## What is consultation?

Consultation is a process that, in the workplace, includes sharing relevant information, discussing with employees and allowing those employees a reasonable opportunity to express views, which results in those views being taken into account.

Consultation is not an empty term.<sup>1</sup> The requirement to consult is never to be treated perfunctorily or as a mere formality:<sup>2</sup>

*Consultation is not perfunctory advice on what is about to happen .... Consultation is providing the individual or other relevant party with a bona fide opportunity to influence the decision-maker.<sup>3</sup>*

But consultation under the federal industrial regime also has importance in the area of employee engagement such as enterprise agreement negotiations, flexible work issues, disciplinary aspects of the employment relationship, general protections and in cases of significant change in the workplace.

A duty to consult can arise in a number of ways:<sup>4</sup>

- there might be a statutory requirement to consult
- a legitimate expectation of consultation might arise
- the decision-maker might have assumed a duty to consult.

Some decisions of various courts and tribunals provide assistance regarding this matter.

Yet, while there is this obligation to consult, another consideration is the level of consultation subject to specific circumstances. For instance, in the English case of *Port Louis v A-G* (1965), Lord Reed said:

*The content of a duty to consult can therefore vary greatly from one statutory context to another: 'the nature and the object of consultation must be related to the circumstances which call for it'.<sup>5</sup>*

In a decision of Fair Work Australia (now the Fair Work Commission), the issue of consultation arose through a claim of genuine redundancy but was subsequently treated as an unfair dismissal matter. One issue here was the award obligation to consult. The Vice President said:

*The failure to notify and consult ... in accordance with the award is a serious defect in the procedure ... The failure to consult is not a trivial matter. But as it is clear that consultation was highly unlikely to have negated the operational reasons for dismissal or lead to any substantive change, I do not believe that the failure to consult prior to the date of termination rendered the dismissal unfair. Given the ... operational need to restructure, I am of the view that it is likely that Mr ... would have been dismissed in any event even if timely consultation had occurred.<sup>6</sup>*

The majority decision by a Full Bench of Fair Work Australia stated: "A failure to consult does not necessarily mean a dismissal was harsh, unjust or unreasonable".<sup>7</sup> However, this statement needs to be considered in the overall aspects of the case before the tribunal.

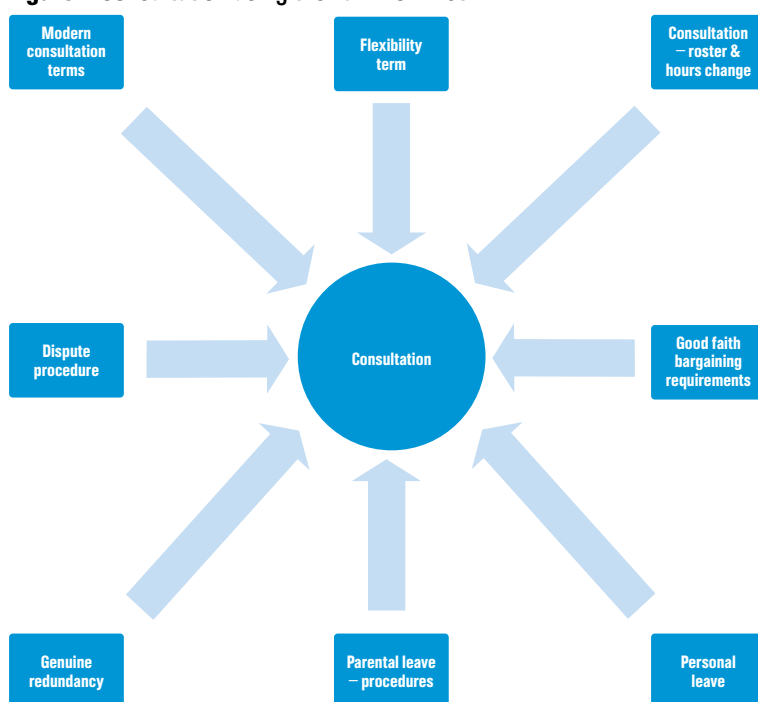
As each case relies on its circumstances, caution is needed when issues of this kind are concerned.

## The Fair Work Act

The *Fair Work Act (Cth) 2009* provides a range of areas concerning consultation. A few areas where consultation is applied (together with complying with certain procedures) are:

- s. 144 – Flexibility Terms (Schedule 2.2 – Fair Work Regulations)—a Modern Award must include a term that enables an employee and their employer to agree on an arrangement to vary the effect of the award in relation to those parties. While not specifically mentioning 'consultation' the natural corollary of such discussions is in effect consultation with ability to refuse a request.

**Figure 1** Consultation using the Fair Work Act.



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- In January 2014, an amendment to the Modern Award Consultation clause came into effect, which required consultation about changes to rosters or hours of work.
- The model Consultation Term (Schedule 2.3) requires that if an employer has made a definite decision to introduce a major change to production, program, organisation, structure or technology in relation to its enterprise that is likely to have a significant effect on employees, then the employer must notify the employees and discuss those proposed changes and give prompt and genuine consideration to matters raised by the employees.
- The model dispute resolution procedure (Schedule 6.1) requires affected parties to attempt to resolve their differences at the earliest stage.
- The good faith bargaining requirements (s. 228) requires parties to meet and participate in the negotiating process. This also requires the parties to give genuine consideration to the respective positions put and responding to those proposals. Failure to do so may result in Bargaining Orders being issued by the Fair Work Commission.
- In the case of genuine redundancy, s. 389 provides a definition for 'genuine redundancy' which also includes the general principle of procedural fairness: "A person's dismissal was a case of genuine redundancy if (a) ... ; and (b) the employer has complied with any obligation in a modern award or enterprise agreement that applied to the employment to consult about the redundancy".
- The Explanatory Memorandum to the Fair Work Bill 2008 provides a further aspect on 'consultation' where it says in relation to consultation that, "This does not impose an absolute obligation on an employer to consult about the redundancy but requires the employer to fulfil obligations under an award or agreement if the dismissal is to be considered a genuine redundancy" [1551].
- Failure to prove 'genuine redundancy' (e.g. no consultation) may lead towards an 'Unfair Dismissal' argument and the criteria for testing 'harsh, unjust or unreasonable' will emerge (s. 387).
- Other areas where consultation plays a key role relate to an employee seeking personal or carer's leave. The requirement to provide notice (s. 107), and in cases of jury service and community service leave (ss. 110 and 111), form part of dialogue to enable the implementation of these entitlements. While these areas are more related to procedures, discussion and consultation are akin to ensuring compliance.

### Work health and safety

Part 5 of the *Model Work Health and Safety Act 2011 (Cth)* sets out consultation processes involving duty holders and workers. Division 1, Part 5 sets out the requirements concerning consultation, cooperation and coordination.

Section 46 sets out the details of the obligations (duty) to consult with other duty holders and s. 47 sets out the duties to consult with workers.

Whereas s. 49 sets out when consultation is required, s. 48 sets out the nature of consultation. Under this provision, consultation requires:

- the sharing of relevant information
- allowing workers to be given a reasonable opportunity to express their views and contribute
- that workers' views are taken into account
- that workers are advised of the outcome of the consultation in a timely manner.

### Employee communication

It is clear that employee communication, involvement and engagement are key to effective employee relations, which can lead to productive workplaces. Developing such a workplace culture is fundamental to a good employment and workplace relationship. Such cultures and workplace relationships can be facilitated through the natural workplace relationships of trust and confidence but also through provisions contained in Enterprise Agreements and Modern Awards.

Key elements of employee engagement include:

- effective internal employee communication
- employee voice
- regular feedback and dialogue with superiors
- clarity of job expectations
- quality of working relationships with others.

### Conclusion

Consultation is an important element of workplace relations. It is applied across various circumstances and involves statutory requirements and legitimate expectations. The form of consultation and circumstances may vary with the situation.

Procedural fairness includes the consultation process.

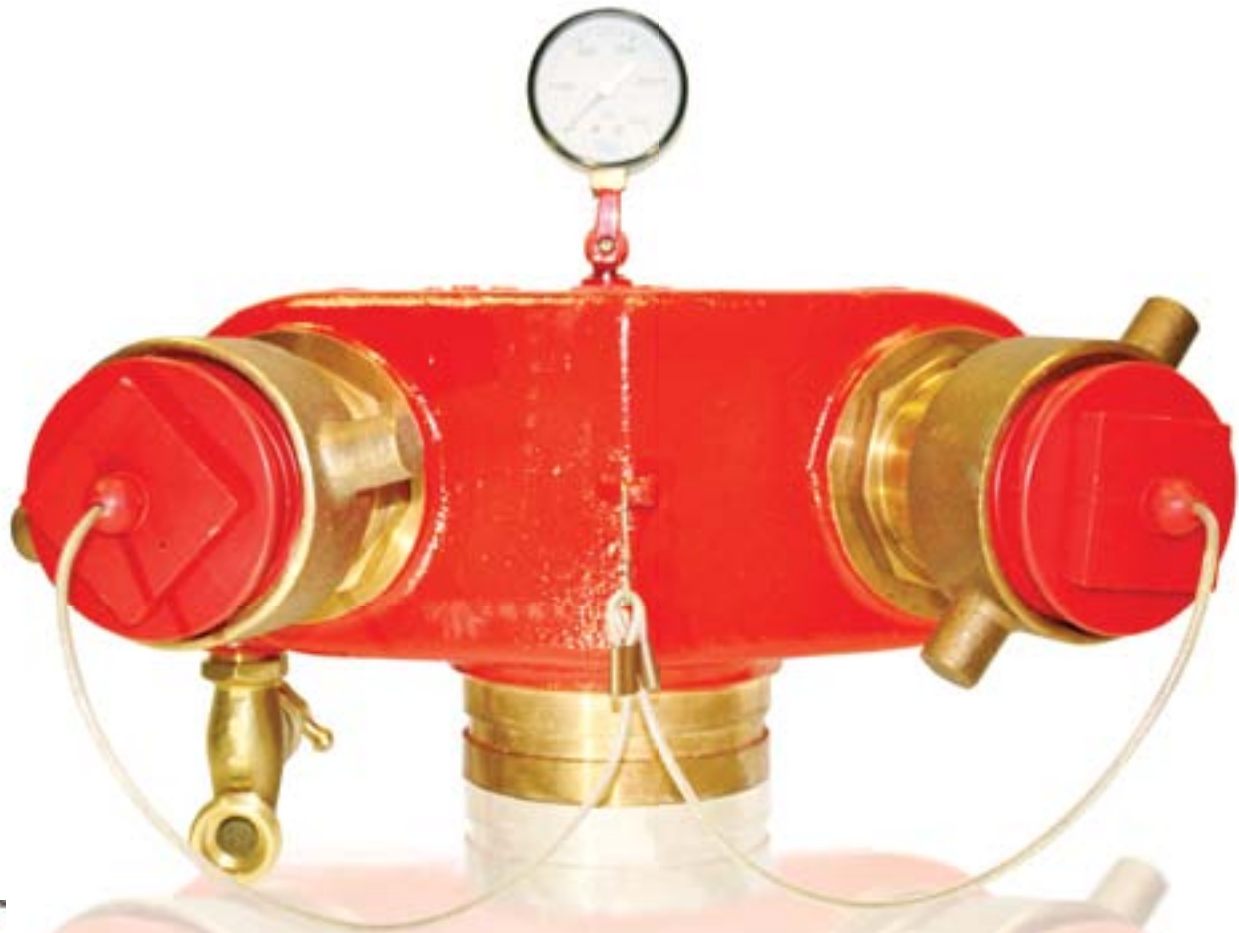
Nevertheless, the combination of expectations to engage in communication and employee involvement is a necessary element in building workplace culture and leading to productive working environments. ■

*Disclaimer: This article is not legal advice. While every care has been taken in preparing this article, no responsibility will be accepted for actions taken in reliance on information contained in this article.*

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1. *TVW Enterprises Limited v Michael John Duffy, et al.* [1985] FCA 251.
2. *Port Louis Corporation v Attorney-General of Mauritius* (1965) AC 1111 at 112.
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How to effectively facilitate debriefs is a key area for professional development.



PHOTO: CFA COMMUNITIES AND COMMUNICATION

# THE POWER OF DEBRIEF —FROM CHAOS TO SYNCHRONICITY

**By Brenda Leahy**  
Communications  
Officer, Research  
Utilisation, AFAC

With the growing complexity and intensity of disaster incidents, both natural and human-caused, the need to continuously review and improve is becoming a strategic and operational imperative for emergency services organisations.

As factors such as extreme weather and continued urban expansion into fire-prone landscapes increasingly converge to create ‘VUCA’ (volatile, uncertain, complex and ambiguous) events, the challenge is to build capability and agility to anticipate, and contend with, each new and different scenario.

One avenue, according to research, is through organisational learning—creating the opportunities and conditions for agencies, their teams and individuals to learn and to think differently, critically, strategically and innovatively about their performance and impact.

Agencies continue to invest in developing their people and operational capability, but increasingly recognise the need to do more, according to Dr Christine Owen, an internationally published authority on incident management and researcher for the Bushfire and Natural Hazards CRC and the former Bushfire CRC.

In a recent survey, AFAC member agencies identified key professional development areas to support and improve incident management capability for the industry. These areas were how to effectively facilitate debriefs, conduct staff rides for organisational learning, optimise the use of simulations for learning, make decisions under pressure and manage in adversity.

The results of the survey, conducted as a research utilisation initiative, contributed to the launch of a suite of practical evidence-based resources for AFAC members, together with a series of professional development events, designed to maximise use of these learning resources. Delivered in webinar and

face-to-face format, the series has been rolled out since April this year in several jurisdictions under the banner of Building AIIMS Capability Roadshow.

One information resource in the series is the Debrief Resource Pack, a collection of three publications: *Conducting successful debriefs—research insights into good practice*, *Conducting successful debriefs—a handbook for facilitators* and *Conducting successful debriefs—a field guide and aide memoire*.

The background research publication provides a comprehensive picture of currently available published literature on debriefing internationally, and a synopsis of Bushfire CRC research conducted over the past 10 years.

The resource also captures some insights and perspectives of the sector through AFAC’s Learning and Development Group, and identifies implications for practitioners.

According to Dr Owen, the project’s research team leader and editor, debriefing provides powerful opportunities to learn, review performance, reframe problems and integrate the outcomes into organisational and operational processes and practices.

“It is a critical part of the cycle of continuous improvement within the emergency management environment,” she explained. And while there has been a recent, positive shift towards its use, as for example after action reviews of training exercises, the research shows there is opportunity to enhance experience with debriefing<sup>1</sup>.

“Where well managed, the debrief process, rather than the exercise itself, affords the greatest



opportunity for learning to occur,” Dr Owen said.

“Although reflection after a learning experience might occur naturally, it is likely to be unsystematic. And there is the possibility that it may not occur at all, especially where the pressure of events prevents people from focusing on what has just transpired.

“Conducting formal debriefing focuses the reflective processes, both for individual participants and for the group as a whole.”

According to Dr Owen and co-researchers Dr Ben Brooks, Dr Peter Hayes and Debbie Vogel, the research, synthesised from across multiple scientific disciplines, indicates that effective debriefing has a range of benefits for individuals, teams and organisations. Benefits included encouraging deeper processing of knowledge and insights, as well as effective transfer of learning.

The researchers cite a 2014 meta-analysis of research by US academics Scott Tannenbaum and Chris Cerasoli, which showed that debriefing, conducted over about 18 minutes, had the potential to improve operational and team effectiveness by 25% compared to a control group. The meta-analysis was based on 46 research studies of debriefings with an aggregate sample population of 2,136 people.

“Amongst the studies reviewed, it was found that this improvement in effectiveness was similar, regardless of whether they compared teams or individuals, simulated or real settings, group designs or different work domains. The effect of aligning groups or individuals and also improving the structure of the debrief increased the effect size.”

According to Dr Owen, facilitators are critical to the effectiveness of the debriefing process. Facilitators need to be clear about the aims of a debriefing, while applying a structure and focus that maximises individual, team or organisational learning.

“The theory underpinning learning from the debrief is that in order to maintain the developmental intent, it is necessary to develop a climate of critical reflection where it is possible to examine gaps in understanding at the individual, team and organisational levels.”

According to the researchers, the critical elements for facilitating reflection are ensuring the following questions are answered:

- What was planned?
- What really happened?
- Why did it happen?
- What can we do better or differently next time?

“While these questions seem relatively straightforward, the role of the facilitator is critical to ensure that participant responses do not remain superficial and participants are able to drill down into their experiences, warts and all,” Dr Owen said. “This is not that easy.”

One study, which examined simulation-based

learning<sup>2</sup>, reported that half the participants in a simulation exercise found debriefing to be stressful and intimidating. A similar proportion cited a fear of judgement by their peers.

“Facilitators need to help the group create shared meaning from what happened and then to move into an analytical why-did-this-happen phase,” Dr Owen said. “For some groups this can be quite challenging. The purpose of the clinics in the Building AIIMS Capability Roadshow is to help facilitators hone these skills.”

The practice of debriefing has long been a critical facet of military operations.

According to AFAC’s Director of Operations Support, Paul Turkington, debriefing is fundamental to refining operations as they unfold, and as a post-incident mechanism for continuous review and improvement.

“The more complex and chaotic the incident or emergency, the more critical the need to debrief,” Mr Turkington explained, drawing on his military background and operational experience. In some situations, the method involves ‘live’ rolling debriefings to review and refine operations in pursuit of a successful outcome. Debriefings are also run as a matter of course within a relatively short time after an assignment or incident to ensure learning opportunities are analysed and integrated into relevant organisational processes and operations. In post-event situations, everyone involved in the assignment is included, from logistics and finance through to senior command. “The key is that everyone can and does contribute constructively with a view to improving performance.”

Mr Turkington said debriefing was an essential strategic and tactical tool in complex and chaotic environments.

“Just as an operation in Iraq is complex, uncertain and chaotic, so too is an extreme bushfire such as Black Saturday,” he said.

“While these events are dynamic and uncertain, debriefing is one tool that enables synchronicity—the marshalling of resources into a common framework so you can continue to move forward whilst everything is in chaos.” ■

For information about the debriefing resources visit [www.afac.com.au/shop](http://www.afac.com.au/shop).

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Applying dry chemical extinguishants in an emergency situation.

# THE DRY CHEMICALS STORY—PART 2

By Barry Lee,  
OAM

Dry chemicals as fire extinguishing agents were discussed in *Fire Australia* Winter 2014. The final part of this series describes changes in chemical fire extinguishers and dry chemical systems and gives a reminder of dangers with using dry chemical agents.

## Cartridge-operated vs stored pressure dry chemical extinguishers

The dry chemical agents and the mechanisms whereby they extinguish fires are one thing, but efficient distribution from extinguishant containers is quite another. In the case of high-vibration environments (e.g. vehicle mounting) the options are cartridge operation or stored pressure (prepressurised) variants. For portable extinguishers, the favoured option appears to be stored pressure, but larger scale piped and truck-mounted installations generally require separate expellant cylinders.

In the early 1960s, the US Naval Research Laboratory<sup>1</sup> investigated the effect of long-term vibration on typical portable extinguishers. The field environment was simulated in part by putting the extinguishers before discharge on a vibration table for various times. Fixed conditions of 0.050 inch excursion in a vertical direction and 20 cycles per second frequency were used. The report stated in part:

*...using X-ray techniques it was possible to trace the packing effects related to vibration and pressurisation. All powders tended to pack to approximately the same degree under the influence of vibration. Packing was not as severe if the powder was under pressure above atmospheric. For this reason, a greater degree of packing occurred in the cartridge extinguishers which are pressurised just prior to discharge, after settling and vibration. Stored pressure extinguishers gave a more reliable discharge with powders of marginal characteristics and powders exposed to long periods of vibration.*

## Systems technology

Fixed piping and truck-mounted dry chemical systems are often used in special hazards (e.g. liquid nitrogen gas installations) and petrochemical facilities and airfields, among others. As dry chemical is a powdered solid, it must be properly fluidised by gas aeration before it will flow. However, when properly fluidised



A late twentieth century 12,000 kg dry chemical fire truck.

it may be treated as a gas or a liquid except in certain respects. When discharged from nozzles it acts somewhat like a liquefied gas because of the expansion of the compressed carrier gas.

Control of the flow of dry chemical starts at the dry chemical container. The fluidising and pressurising gas (nitrogen) must be admitted to the container in such a way that the dry chemical is properly fluidised while the pressure builds up equally throughout the entire volume of the container. Should the pressure increase too rapidly above the dry chemical, the powder will not be properly fluidised, the pressure drop in the piping will be excessive and the rate of flow will be too low for proper fire extinguishing effectiveness. Should the gas channel to the outlet be pressurised before the top of the container is properly pressurised, the ratio of gas to dry chemical will be too low and again the fire extinguishing effectiveness will be greatly reduced. So the design of the means of admitting gas into the dry chemical container is critical if consistent and optimum fire extinguishing effectiveness is to be achieved.

It is clearly desirable to build up pressure in the dry chemical container before the dry chemical is released into the piping. This may be accomplished by several methods. One commonly used method is to incorporate a bursting disc designed to rupture at a given pressure.

In terms of pressure loss and flow characteristics, a fixed dry chemical system is essentially a pipe distribution system using a regime of high-ratio solids-gas flow with a fluidised feeding bed. Almost certainly, the total pressure losses associated with this type of flow regime are a direct sum of the transport gas and moving solids pressure losses. Computed pressure losses are accordingly the sum of: (1) pressure losses of a compressible gas and (2) pressure losses of a dispersed solid.

Although dry chemical systems technology is relatively complex, it is well established and documented, which permits the design of efficient and cost-effective fixed-pipe fire suppression systems. These systems include an extensive array of flammable liquid and gas hazards.

### Foam compatibility

Dry chemical and foam are frequently used in combination, particularly on large-scale flammable

liquid fires—dry chemical for quick fire knockdown and foam for securing against reflash. However, it was discovered early on that, under fire conditions, regular dry chemical rapidly destroyed the foam blanket. It was determined that the stearate water-repelling agents widely used in dry chemical formulations were the culprits. Researchers at the US Naval Research Laboratory established the mechanism of foam destruction: the stearate-coating agent in the dry chemical was taken into solution by the hydrocarbon fuel. A minute part was transferred into a water solution where it very rapidly ionised. The stearic

## A FRAMEWORK FOR A BUSHFIRE FUEL CLASSIFICATION



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This report investigates the potential for a Bushfire Fuel Classification, including a review of national and international approaches. It proposes a framework for an Australian fuel classification to improve inter-state communications and facilitate the enhancement of bushfire management support tools such as hazard assessment guides and fire growth simulators.





Lodias J Dugas demonstrating his dry chemical fire extinguisher (above) in 1933 (top).

acid ions then changed orientation and migrated to the foam bubbles where their surface effects destroyed the tightly stretched skin of the bubble.

As noted in Part 1 (*Fire Australia*, Winter 2014, p. 36), silicones supplanted stearates to confer 'foam compatibility'. Silicone resins, through a hydrolysis type of oxidation, result in a polysiloxane coating on the dry chemical particles.

### Dry chemical clean-up procedures

Extensive testing has been undertaken to investigate the possible corrosive effects of dry chemical on common metals such as steel and aluminium. Under dry conditions corrosion was not evident on samples in contact with dry chemical. If dry chemical is left on surfaces exposed to moisture, discolouration and dulling of aluminium parts and paint finishes can be expected. Dry chemical should be cleaned up promptly to avoid being contaminated with moisture, whether through direct contact or humidity. Dry chemicals may be corrosive to surfaces sensitive to mildly acidic or mildly alkaline materials.

Typical manufacturer's clean-up recommendations include:

- Sweep or vacuum the settled residual dry chemical. If vacuuming, use a filter such as a HEPA filter, which is capable of trapping the small dry chemical particles. If necessary, wipe the area with a damp soft cloth.
- To break down the silicone in the dry chemical, spray the area with a solution of 50% isopropyl alcohol and 50% warm water. After the solution has set for a few minutes, rinse with warm water.

- To neutralise sodium bicarbonate and potassium bicarbonate-based dry chemicals, spray or wash the area with a solution of 98% vinegar. Let stand for a few minutes then rinse with warm water.
- To neutralise monoammonium phosphate-based dry chemical, spray or wash the area with a solution of hot water and baking soda. Let stand for a few minutes then rinse with warm water.
- Wash the area with a mild soap and water solution then rinse.
- Blow-dry to remove residual water.
- If any electrical contacts have been affected by a dry chemical discharge, use an approved electrical contact cleaner.

### Dangers in mixing dry chemical agents

Finally, a reminder not to mix dry chemicals! There are real dangers of discharge line blockage caused by caking or from rupture of the extinguisher container from pressure build-up when alkaline bicarbonate-based dry chemical is mixed with acidic monoammonium phosphate-based agent. Exposure to heat aggravates the situation. ■

### Reference

1. Peterson HB and Gipe RL, 1962, 'Discharge characteristics of potassium bicarbonate dry chemical fire fighting agents from cartridge and stored pressure extinguishers', US Naval Research Laboratory, Report 5853.

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## TACOA POWER STATION BOILOVER, VENEZUELA

### 1982

On 19 December 1982 in a power plant in Tacoa near Caracas, Venezuela, a huge boilover occurred on a fuel oil tank, killing at least 160 people in a massive fireball. The installation comprised three power stations (one under construction) by the seaside, with storage tanks containing number 6 fuel oil on a hill above. The site was surrounded by a residential area where economically disadvantaged people lived.

Storage tank 8, measuring approximately 60 m diameter by 18 m high, was built in the 1970s for storing fuel oil and could hold in excess of 45 megalitres. The tank roof was of weak roof-to-shell seam design for emergency relief venting.

Following some abnormal temperature indications, an explosion blew the roof off and the tank burst into flame. At the time of ignition the depth of vapour space above the oil was about 12 m. Some eight hours after ignition a violent boilover projected the tank contents 450 m into the

air, forming a giant fireball. Those who were not killed instantly by the intense radiant heat were caught in a downhill flow of burning oil. Nearby buildings, including much of the power generation plant and some occupied dwellings, ignited and burned. The boilover claimed the lives of dozens of civil defence personnel and more than 40 uniformed firefighters. Several media representatives were among the fatalities, as were 17 plant employees. More than 60 vehicles were destroyed including most of the fire appliances on the scene. Damage was estimated at \$50 M.

This event was reportedly the first time that a boilover was known to occur in a tank fire involving heavy fuel oil. Up to then, boilovers had been associated only with crude oil. Boilover potential notwithstanding, topography was a key factor in this disaster—the power plants were at sea level while the oil storage sat above them on a steep hillside. ■



**Boilover defined:** An event in the burning of certain oils in an open-top tank when, after a long period of quiescent burning, there is a sudden increase of fire intensity associated with expulsion of burning oil from the tank.

*NFPA glossary of terms*

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### **Public assessment workshops**

14–17 July Western Australia

21–24 July Victoria

4–7 August Queensland

11–14 August New South Wales

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Early bird rates close 26 June.

For more information visit [www.afac.com.au/conference](http://www.afac.com.au/conference).

## **Fire NZ Conference and Exhibition**

**15–16 October 2015**

### **Wellington, NZ**

Fire NZ is New Zealand's annual forum for fire protection and fire engineering professionals. This two-day event provides a comprehensive forum for fire industry professionals and draws delegates from a variety of countries throughout the Pacific region.

This year, keynote speakers have been invited from the USA, Australia and New Zealand. The conference program is designed to provide insight and learning and to extend current thoughts on the various presentation topics, and will provide robust debate around key industry issues.

If you have an interest in fire safety, you should attend. The conference will provide information for, among others:

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- Fire consultants
- Fire engineers
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- Property developers
- Distributors and installers
- Insurance professionals
- Fire equipment manufacturers
- Fire survey personnel
- Regulatory authorities
- Fire service operational and volunteer personnel
- Fire risk management personnel
- Property and facilities managers.

Fire NZ delegates are industry professionals with a strong interest in the latest developments across fire protection and related products and services.

To meet this demand we have set up a new series of interactive events. In recognition of the partnership between FPA Australia and FPA New Zealand, FPA Australia members will be entitled to FPA NZ member rates.

[Registration brochure coming soon—visit www.fireprotection.org.nz](http://www.fireprotection.org.nz) for more information. For all Fire NZ 2015 Conference and Exhibition enquiries, email [fpanz@fireprotection.org.nz](mailto:fpanz@fireprotection.org.nz).

## **Fire Behaviour and Fuels Conference**

**11–15 April 2016**

### **Melbourne Exhibition and Conference Centre**

The 5th Fire Behaviour and Fuels conference will be held simultaneously in both Melbourne and Portland, Oregon, USA, with the Bushfire and Natural Hazards CRC and its Victorian partners hosting the event for the first time.

The time zone difference between Melbourne and Portland allows for the possibility of some sessions overlapping with live presentations at one venue linked to the other venue with a video link.

This International Association of Wildland Fire conference occurs every three years, with the last in 2013 in both Raleigh, North Carolina, USA and St Petersburg, Russia.

For more information visit [www.bnhcrc.com.au/events](http://www.bnhcrc.com.au/events).



**By Ian Findlay**

Technical Coordinator, FPA Australia

## **TAC/1 Maintenance of fire protection systems and equipment**

The Technical Advisory Note on maintenance of aspirating smoke detectors (TAN-03) has now been published. The Good Practice Guide on the adoption and use of AS 1851-2012 (GPG-03) has also been updated to version 3 to cover the adoption of AS 1851-2012 in South Australia.

TAC/1 has begun work on development of a Good Practice Guide on baseline data. The TAC also continues to provide input to the amendment of AS 1851-2012.

## **TAC/2 Fire detection and alarm systems**

TAC/2 has continued to work on a document on smoke alarms and another on fire stopping (in conjunction with TAC/18 and TAC/19). However, the TAC's main focus has been on the draft revisions of AS 1668.1, AS 1670.1 and AS 1670.4, working with the FPA Australia Technical Department to develop FPA Australia's public comment submissions.

## **TAC/3/7 Portable and mobile equipment**

TAC/3/7 is currently reviewing its projects to determine which project to focus its efforts on, including updating the ACCC mandatory standard for portable fire extinguishers.

## **TAC/4/8/9 Fire sprinkler and hydrant systems, tanks and fixed fire pumps**

The Position Statement on water storage tanks for fire protection systems (PS-06) has been published. Also, like TAC/2, while TAC/4/8/9 continues to work on a number of documents (isolation valves and hydrant testing) its main focus has been on working with the FPA Australia Technical Department to develop FPA Australia's public comment submission for the draft revision of AS 2118.1.

## **TAC/11/22 Special hazards fire protection systems**

TAC/11/22 continues to work on a variety of documents (oxygen reduction fire prevention systems, cylinder hydrostatic testing and several others).

The TAC is also heavily involved in the revision of AS 5062 and has begun developing a possible Information Bulletin on the competency requirements for working with systems to these standards.

## **TAC/17 Emergency planning**

The Information Bulletins on consideration of emergency response in Alternative Solutions (IB-10) and Evacuation Diagrams (IB-11) have now been published. TAC/17 is now reviewing topics for future documents.

## **TAC/18 Fire safety TAC/19 Passive fire protection**

TAC/18 and TAC/19 continue to work on technical documents including a Good Practice Guide on fire stopping systems in conjunction with TAC/2.

## **TAC/20 Bushfire safety**

FPA Australia and TAC/20 continue to contribute to a variety of bushfire-related forums including to the current revision of AS 3959. TAC/20 is also reviewing the status of (and is prioritising) the technical documents it currently has under development.

## **TAC/T**

FPA Australia and TAC/T continue their watching brief on the review of relevant fire protection qualifications under the scope of the Construction and Property Services Industry Skills Council (CPSISC). ■

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**By Ian Findlay**

Technical Coordinator, FPA Australia

## **FP-001 Maintenance of fire protection equipment**

FP-001 has reviewed all proposed changes for inclusion in the amendment of AS 1851-2012 and a draft for public comment is currently being prepared.

## **FP-002 Fire detection and alarm systems**

AS ISO 7240.24:2015 *Fire detection and alarm systems—Sound-system loudspeakers* (a direct text adoption of the ISO standard) was published in April.

Draft revisions of AS 1670.1 and AS 1670.4—covering system design, installation and commissioning for fire detection systems and emergency warning and intercom systems, respectively—were released for public comment in April with comment closing in June.

## **FP-004 Automatic fire sprinkler installations**

The draft revision of AS 2118 .1 *Automatic fire sprinkler systems—General systems* was released for public comment in late March and closed in late May.

## **FP-009 Fire hydrant installations**

AS 2419.1 *Fire hydrant installations—System design, installation and commissioning* is still with Standards Australia for styling and editing before it goes for Combined Procedure. A Combined Procedure is where not only is public comment being sought but the Standards committee votes on whether they support the publication of the draft (noting that any further comments from the public comment will still need to be addressed).

## **FP-011 Special hazard fire protection systems**

FP-011 continues its work on the removal of the electrical and control system content from various special hazard standards. This content is now included in the new Special Hazards section of the AS 1670.1 revision currently at public comment.

## **FP-018 Fire safety**

Work continues on progressing draft new standard AS 5637.1 *Determination of fire hazard properties—wall and ceiling linings* towards the committee ballot for publication.

FP-018 also continues to work on the revision of AS 1530.8.1 and AS 1530.8.2 (testing of elements of construction for buildings to simulate bushfire attack) with the scope of the revision confirmed by FP-020.

## **FP-019 Passive fire protection**

Work continues on progressing the draft revision of AS 1905.1 *Components for the protection of openings in fire-resistant walls—Fire-resistant doorsets* towards the committee ballot for publication.

## **FP-020 Construction in bushfire-prone areas**

The two working groups—one focusing on assessment and the other on construction—continue their work on the revision of AS 3959 *Construction of buildings in bushfire-prone areas*.

## **FP-022 Fire protection of mobile and transportable equipment**

The draft revision of AS 5062 *Fire protection for mobile and transportable equipment* is being finalised by FP-022 after which it will undergo Standards Australia styling and editing before release for public comment in July.

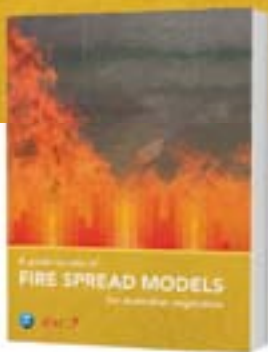
## **LG-007 Emergency lighting in buildings**

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

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– Euan Ferguson AFSM, Chief Officer,  
Country Fire Authority, Victoria



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**Base Part Number:** 19591

**Listings/Approvals:** cULus

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**Operating Element:** Fusible Link

**Finish:** Brass

**Item Price Group:** V24.7

**Occupancy/Hazard:** Storage

**Technical Datasheet:** F\_010715

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