

THE MAGAZINE FOR FIRE INDUSTRY PROFESSIONALS

Fire NZ

ISSUE 6 | APRIL 2012



THE INSTITUTION OF FIRE ENGINEERS
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Fire NZ

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Fire NZ welcomes articles and letters from our readership. These can cover any aspect of fire protection, fire engineering (performance and design), legislation, fire safety practice, fire industry product development, firefighting operations, techniques, equipment and case studies and technical news. All articles will be assessed by an editorial panel prior to publication who, at their discretion, reserve the right to either decline use of the article or seek amendments. Articles should inform, debate, educate and help our readership through sharing of both knowledge and expertise.

Themes for the upcoming magazine production will be promoted in advance of editorial committee deadlines to ensure all contributors are able to meet the final magazine delivery timelines.

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THE INSTITUTION OF FIRE ENGINEERS
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Editorial

Welcome to the first issue for 2012 of our Fire NZ magazine. At the start of the year it is timely to reflect on the events of 2011, which will influence and shape the fire industry for 2012.

Aside from the obvious global financial crisis affecting many major economies and trading partners for New Zealand, we have also dealt with the most significant natural disaster of our life time. The 22 February 2011 Christchurch earthquake, which claimed 185 souls, injured many more and scarred and destroyed people's lives throughout the city of Christchurch and the wider Canterbury region. As our second largest city and a significant contributor to our nation's economy, Christchurch has been supported with central government establishing the Canterbury Earthquake Recovery Authority (CERA) and providing dedicated leadership and support through the portfolio of Canterbury Earthquake Recovery Minister Gerry Brownlee.

With the political process going through the triennial election in November of last year, Building and Construction Minister Maurice Williamson retained his portfolio, which has key linkage to the fire protection industry. The Minister responsible for the New Zealand Fire Service has changed with the portfolio now coming under the new Minister for Internal Affairs Amy Adams.

With the political landscape defined and priorities for the coming period of government established, the fire industry needs to continue to shape, influence, debate and provide leadership on issues impacting on fire protection and fire safety. We need to work in concert with central and local government, the Department of Building and Housing, CERA, the ministers responsible for CERA, Building and Construction, Internal Affairs, organisations and associations

such as Standards NZ, EMQUAL, Competenz, Insurance Council of New Zealand, BRANZ, FPANZ, IFE, SFPE, the fire protection, fire safety and fire engineering industries as well as the New Zealand Fire Service.

How this is achieved is by fire industry organisations providing strategic direction and business acumen through their organisational and membership support of industry issues, as well as through training programmes, seminars, conferences and exhibitions.

This issue of Fire NZ has a cover that points to the various directions that we need to support, work within and aspire to for the coming year. In this edition we have articles, commentary and information to support discussion and learning in the areas of: impact and benefits of fire protection on small communities; professionalisation of emergency management; the role of fire protection systems following earthquakes; fire engineering summer courses; applying performance based design to fire framework of buildings; gases, soot and heat measured releases of interior furnishings; NZS4512:2010 and Fire Detection – What's New? Are You Ready?; Fire Engineering in Dubai, conferences and seminars.

Other directions for the fire industry to focus on include: communication to our members through newsletters, websites and social media; NZ Standards; training and qualifications through industry supported competency based training; codes of practice, codes of ethics, and finally, the must attend fire industry focus for this year - Fire NZ 2012 Conference and Exhibition, 10-11 October at the Energy Events Centre, Rotorua.

Enjoy this issue of the Fire NZ magazine and we hope you look forward to the next edition which will be distributed in September prior to our conference and exhibition.



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Pertronic FireMap® Graphics System part of major brewery fire alarm upgrade

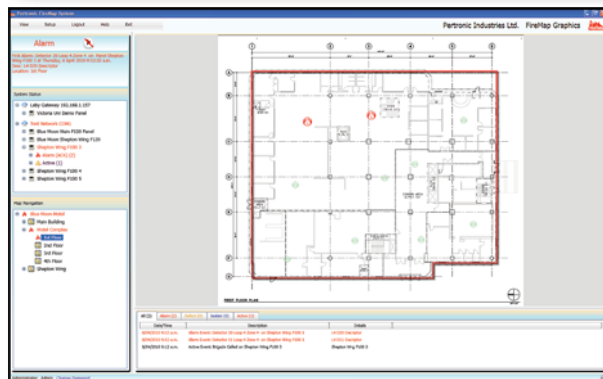
CASE STUDY: DB BREWERIES, AUCKLAND, NEW ZEALAND

Access to instant, accurate information on fire related events in large manufacturing facilities is critical to key response personnel, not only to protect lives but also to minimise the impact on plant and production. As part of their site wide fire alarm systems upgrade at DB's Waitemata Brewery in south Auckland, senior management wanted to ensure their staff had the best information possible from their fire protection systems to assist their decision making on evacuation and life protection responses.

Fire Security Services Ltd recommended and installed Pertronic FireMap®, a PC-based Graphics System, to provide this critical information. Developed in-house by Pertronic Industries, FireMap is designed with ease of installation and ease of use as prime requirements. Most PC-based graphics systems are complex to develop. Unless the fire alarm company has staff with comprehensive training in graphics development, this work is usually undertaken by a third party contractor, adding cost and delays in the communication chain to the end client.

Pertronic FireMap simplifies the whole process. The fire alarm company develops and maintains the entire FireMap graphics system for their client. FireMap can also communicate between multiple PC's and fire panels over the client's ethernet LAN (removing the need for additional cabling), as is the case at Waitemata Brewery. DB also have the option to extend FireMap to their other breweries throughout New Zealand using their LAN, providing management with critical information on their sites nation wide. Once FireMap is operational, navigation is via a hierarchical map viewing system, which is always visible to the left of the screen. When an alarm occurs, the relevant map (or zone) automatically displays and shows the physical location of the device in alarm together with its details.

While FireMap is designed to operate primarily with Pertronic analogue addressable fire panels it can also interface with non-Pertronic equipment to provide information on other important systems in the graphics display. At Waitemata Brewery this feature is used to display the state of the gas flood suppression systems - valuable information to ensure the correct response to any event site wide.



Typical FireMap graphics screen layout

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From the Presidents

I have just returned from the first International General Assembly meeting held at the new head office of the Institution of Fire Engineers in Stratford-upon-Avon in Warwickshire, England. The head office staff are to be congratulated on their hard work to ensure a smooth and efficient relocation from the shared offices at the Fire Service College to their new building. The move has seen the installation of independent servers and IT equipment enabling the IFE to manage this important facet of business. This is a very exciting time for the Institution, the move ensuring that the Institution can respond rapidly to the changing needs of the membership and the environment in which they work.



The International General assembly was established as a conduit between the governing Board of Directors and the branches representing the membership. It was good to see the meeting working as intended by focusing on a number of key areas which both provided information to branch representatives and sought feedback from them.

One such area was the IFE journal. The final edition of the current Fire Risk Management journal is scheduled for June 2012 with the first edition of the new IFE journal planned for July. There was much discussion on the frequency, type of media and content. Members of the Board of Directors will review all the feedback provided to develop a communication and publication plan.



The meeting received reports from branches across the globe and a presentation was given by Jo Fowler of the South Eastern Branch on "Developing and maintaining a strong branch". It is this sharing of knowledge and ideas that enables branches to adopt an international best practice in provision of services to members. In this, the final year of my three-year term as President of the New Zealand Branch, I am asking the Branch Council to focus on developing groups and members within our branch, as it is member and group activity that ensures a strong and healthy branch. I invite all our members to provide feedback to the Branch Council on initiatives to develop our people and increase awareness of the environment in which we operate as fire professionals.

Gary Ward MEmergMgt M.I.FireE
President
Institution of Fire Engineers NZ Branch



Welcome to this first issue of the Fire NZ magazine for 2012. Through the distribution of our magazine to FPANZ and IFE members, fire protection, fire safety and fire engineering specialists, the Fire Service and a number of stakeholders and aligned agencies to the fire industry, we inform, debate, educate and add value to professional standards, knowledge and practice.



In this issue we reflect on the success of last years Fire NZ 2011 Conference and Exhibition held at the Ellerslie Convention Centre. We also provide you with an insight on the Fire Australia 2011 Conference and Exhibition held at the Adelaide Convention Centre, South Australia.

This year has started with the Fire Protection Association NZ supporting the Post Earthquake Fire Protection series of seminars hosted by the Building Research Association of New Zealand (BRANZ) and supported by the University of Canterbury.

This was followed up with the first of our members' series of seminars to be conducted this year – NZS 4512:Fire Alarms – Are You Ready? As you will read in this issue with an article from David Prosser, this was a significant series of seminars hosted in five cities with over 200 members attending. More of these successful seminars are planned for this year. I would encourage managers and owners of fire protection companies to encourage and support their staff to attend these continuing professional development seminars.

2012 is also significant for our Association as we conduct business under the constitution adopted at our last Annual General Meeting. The Board, Council and Members meetings have now been set in motion as the structure for conducting and supporting the business of our Association with governance, management and members input and support through special interest groups.

Having now had the first Board meetings for 2012, this month sees the Board, Council and a members meeting taking place in Auckland. The benefits of our organisational structure are now turning into improved strategic delivery of issues through our business plan focussing the Board, Council and our office in Albany, Auckland, to benefit our membership and our fire protection industry.

Please provide your feedback on our monthly newsletters and the Fire NZ magazine arriving in your mailbox in April and September to our Executive Director. Your support through feedback, information and articles, as well as promotion of products and services, guarantees an increased readership of this the premier Fire Industry Professionals magazine in New Zealand.

I look forward to seeing many of you in Rotorua for this year's Fire NZ 2012 Conference and Exhibition to be held at the Rotorua Energy Events Centre in October. With world class speakers and presentations and the best fire industry exhibition, this will again be a not to be missed event. Book it in your diary today!!

Mitchell Brown
President
Fire Protection Association NZ



IFE and EMQUAL

FORMALISE THEIR FUTURE

By Liz Hamilton

EMQUAL recently signed a Memorandum of Understanding (MOU) with the New Zealand branch of the IFE.

The IFE has had a long association with EMQUAL (formerly FRSITO) through our Advisory Groups, and the MOU formalises this relationship and supports the commitment of both organisations to quality in education.

The MOU covers:

- matching EMQUAL registered qualifications to IFE papers to assist with membership of IFE
- input into the development of new requirements for qualifications registered by EMQUAL
- opportunities for continual professional development

Like the IFE, EMQUAL is also a registered non-profit organisation.

EMQUAL is the Industry Training Organisation (ITO) covering the emergency management sector. As an ITO we operate in partnership with our sector; and under the Industry Training Act 1992. We have three main areas of responsibility:

STANDARDS-SETTING

We are responsible for the setting of skill standards for the industries within the sector we cover. "Skill standards" means a specification of skills, and levels of performance in those skills. These are the skills that are registered as unit standards and used within qualifications on the New Zealand Qualifications Framework.

MANAGING TRAINING

ITOs are responsible for arranging for and brokering delivery of industry training. This includes arrangements for:

- monitoring the training to ensure it enables trainees to attain the standards of the qualification in which they are enrolled
- assessing trainees and the extent to which they have in fact attained those standards.

As an ITO we are not allowed to deliver training.

LEADERSHIP

The Industry Training Act requires us to provide leadership on current and future skill and training needs. This strategic role is done by working with our sector to:

- identify strategic trends influencing current and future skills needs
- develop strategic training plans to assist industry to meet those needs
- promote to employers and employees, training that will meet those needs.

To meet these responsibilities EMQUAL regularly seeks feedback, involves interested parties in review groups, and annually holds a sector meeting for members to air their views.

We are a small organisation, and have a structure that focuses on each of the areas above, plus administration and finance and a governance Board of nine directors. While most of our staff is located in Wellington, we have representation throughout New Zealand. We are focussed on maintaining contact with employers and host organisations, and learners to help them gain their EMQUAL registered qualifications.

Our members cover the breadth of the emergency management sector, and include organisations such as – NZFS, NRFA, NZDF, Ministry of Civil Defence and Emergency Management, Local Government New Zealand, NZ LandSAR, Maritime New Zealand, airport companies, local emergency response providers, and a number of industry associations.

EMQUAL engages with learners that perform their role in both a paid and volunteer environment. Our communities expect to be served by well trained and qualified personnel. We need to ensure that qualifications are achievable and reflect the skills, knowledge and attributes that are required. We believe that we share with the IFE the importance of reputation, for learners and the community they serve, the need for the whole industry to be aligned in providing these services, and the quality of the knowledge and learning.

The Wider Impact of Fire and Benefit of Fire Protection Systems:

Freelance journalist
SANDRA BOGART
has lived in Northland
for 17 years and worked
with Northland Region
Fire (now Areas 1 & 2)
for the last four. She
met Kauri Museum
CEO Betty Nelly many
years ago and was
deeply moved when
she spoke to her again
after a recent fire that
could have had tragic
consequences.

A PERSONAL INSIGHT FROM A SMALL COMMUNITY

Thanks to a recently installed sprinkler system and well trained staff, you can still visit Northland's internationally famous Kauri Museum - the lifeblood of the remote community of Matakohē. Early this year the township came close to losing the museum, the 80,000 tourists a year it attracts, the money they bring in, and the jobs they create.

While interviewing staff, fire personnel and visitors to the museum for this story, I began to truly understand what losing its unique collection would have meant - from the local Kaipara families whose heirlooms could have been lost forever, to the international climate scientists who use the kauri timber to piece together thousands of years of history.

Fire is a huge threat to any business, but in rural areas where fire engines can be many long minutes away, fire drills must be practiced seriously. For a business that houses a treasure trove, sprinklers are equally priceless.

Museum CEO Betty Nelly made sure I spoke to the people who were at work during the fire. She let each one tell me their own stories.

On January 6, 2012 Kauri Museum caretaker Bill Curtis turned up early and started the generator that ran the building's emergency lights. He began to make his regular check to see if any bulbs needed replacing. The next person to arrive saw flames coming through a wall in the museum workshop and began shouting "Fire". Bill and another employee, Pete Panhuis grabbed fire extinguishers, ran back and fired off the foam.

Within seconds, the flames triggered the smoke alarms and then one overhead sprinkler. Their efforts slowed the fire until the single sprinkler head in the immediate area reached the right temperature and went off, keeping the fire from spreading and allowing Bill and other staff to head outside and attack the seat of the fire in the generator.

"It was 19 minutes until the Fire Service got here," Bill said. "Definitely the sprinkler head contained the fire."

Pete said the fire was contained just centimetres from flammable bags of kauri gum dust

The Kauri Museum houses not just the irreplaceable kauri gum collection but also the history and artefacts of the pioneer families who settled the Kaipara area. It provides jobs for 34 local people and brings around \$8m into the area each year. The kauri wood itself is a source of huge interest to climate change scientists around the world who use the ancient pieces as a 130,000 year data stream. Thanks to just one sprinkler head, and to the commitment of Betty Nelly and the Otamatea Kauri and Pioneer Museum Board, this was all saved.

On her appointment in 2010, Betty and the Board took advice from the New Zealand Fire Service and began investigating a sprinkler system.

"To me it was very clear the whole museum was at risk," she said. There were some concerns that water from sprinklers could be just as damaging as a fire, but Betty's own experience of a fire at her home some years earlier put paid to that. She knew only too well that water-damaged things were salvageable but burned things were not, and she was assured that only sprinklers in the immediate vicinity of a fire would go off.

Ruawai Volunteer Fire Brigade Chief Kevin Evans had explained to previous museum management that the kauri gum and wood combined with the high ceilings created a huge fire load in the museum. He said he had many sleepless nights before the sprinkler system was installed.

"The museum is in our fire area and, with Paparoa Rural Fire Party and the Maungaturoto brigade, we have had lots of familiarisation visits and training nights at the museum. We had been to many false alarms before Betty became CEO. If this fire had occurred two years ago, the whole museum and all it means to Northland could have been lost."

Kevin's relationship to the museum was not just as a Chief Fire Officer. He has been visiting the museum for years and watched it develop and grow. On a personal level he said that his family was awaiting carbon dating from pieces of kauri found on his grandfather's farm.

After 12 years in Northland, Whangarei-Kaipara Assistant Area Manager Mike Lister had become well aware of the irreplaceable collection at the Museum. He talked Betty through the benefits of sprinklers over smoke alarms.

“Both systems alert the Fire Service, but with the closest brigades up to half an hour away, it was imperative that a sprinkler system be installed,” Mike said. “The alarms give notice for people to evacuate, and the sprinklers will stop the fire from spreading. In this case, the system worked just as it should.”

Quotes were tendered and AFS Total Fire Protection’s Albany Office won the job. Their Senior Estimator Neil O’Dea remembered going to the Museum as a young lad 35 years ago and was delighted to be involved. “Our designer Ian Jackson went up and designed the project to Sprinkler Standard, NZS 4541. Different occupancies have different criteria and something special like a museum is pretty straight forward.”

Access roads to the back of the Museum were created, tanks installed in strategic locations and a water supply of over 100,000 litres was installed. Neil said the sprinkler system had enough water for about 60 minutes and would contain a fire until the Fire Service arrived.

Installation was contracted out to Northland’s Parallel Fire Protection Ltd and fund-raising began. With help from a \$220,000 Lottery grant, the \$400,000 sprinkler system (including supply tanks) was installed in September 2010.

“Initially we had several false alarms because of the anti-tamper switch we installed, Neil said. “In the end, we figured out it was a cow rubbing up against it for a good scratch. We are so glad the system worked properly, without it the museum could have burnt to the ground.”

NZI is the museum’s insurer. General Manager for Commercial Risk Services at NZI Stephen Everett, said that prevention is the best method of any sort of fire protection.

Visitors to the museum come from all over the world. On the day I interviewed Betty she made sure I asked some of them what they thought. ‘Absolutely superb, wish we’d had two days,’ said a couple from Wales. They did not know about the fire, the

insurance or any other issues, they simply expressed the views of most visitors who appreciate what they see there.

At Betty’s insistence, I also spoke to a staff member who definitely knew what could have been lost - Dr Jonathan Palmer, Forest Ecologist and Dendroecologist, a Kiwi whose work as scientist in residence at the Kauri Museum is partly funded by Exeter University in the UK. He said the museum is in the process of developing a scientific archive of ancient kauri which is abundant in the North.

“Northlanders see it as a timber source but it also turns out to be unique in the world because it spans such a long expanse of time and we have huge pieces. In bog sites in Germany and Finland scientists have spent over 30 years piecing together small pieces of wood to compile 10,000 years of climate history. We’ve got logs with about 130,000 years of history written in their rings, if not more. We haven’t yet, as it were, announced to the world what we’ve got, as we have to get our story together first and it is important that our research is done here, at the museum.

Dr Palmer said the world is talking now about abrupt warming and the climate change panel is very interested in what happened in an abrupt cooling period about 11,000 years ago.

“They’re trying to fit together pieces but they have a big gap. We have 26 trees that lived through that gap. If the fire had gone through the building, all that information would have been lost.”

Betty said she had offered counselling to the staff, but so far no one had taken it up, even though they were all traumatised by what could have occurred. The now take their fire drills more seriously and, since most of them live rurally, have intensified fire safety procedures at home.

Thanks to foresight, (with a bit of Betty’s personal hindsight) commitment and the sprinkler system, the internationally renowned Kauri Museum is still available to the local community, science, New Zealand and international visitors.



Fire Service Area Manager Mike Lister and Kauri Museum CEO Betty Nelley examine the heart of the sprinkler system that protects the museum. Behind the piping are the huge tanks that hold the water that supplies the system.



Fire Service Area Manager Mike Lister and Kauri Museum CEO Betty Nelley with the huge slab of kauri that is a centrepiece of the Northland museum.

The Practice of Emergency Management

A PROFESSIONALISATION APPROACH

by Jill Edwards
AFAC Manager Strategy



AFAC is the Australasian Fire and Emergency Services Authorities Council.

AFAC President Lee Johnson, in his opening address to the 2011 AFAC Conference in Sydney, contended that a major paradigm shift has occurred in the emergency management sector without many of us realising it. He went on to suggest that much of what we know or thought is in danger of “becoming irrelevant into the future, such is the speed of change with technology shaping public opinion, perception and expectation of how emergency management services should be or could be delivered”.

These comments go to the heart of a concept being explored by AFAC – a Professionalisation Scheme for emergency management practitioners. The concept is looking at whether or not there is value in introducing an independent formal process to validate a practitioner’s skills, competencies and experience.

Like many other occupations before, a professionalisation scheme would establish standards against which an individual would be assessed and incentives like continual professional development so that a practitioner is encouraged to remain current and contemporary with their knowledge and skills.

We did a great deal of research into other professions and occupations and worked

hard to try to explain the difference between attaining training qualifications and professional accreditation, and how they are intrinsically linked.

A Professionalisation Scheme would accredit an individual’s skills, competency and experience against agreed standards and incorporate a systematic approach to continual professional development (CPD). The approach is similar to the approach the IFE take to the specialist areas like Fire Engineering; however address the gap that exists in the space of emergency management. We believe there is opportunity for professional institutions to collaborate on reciprocal arrangements to manage CPD requirements.

Early thinking suggests any Scheme would be independently administered and designed to assure that no matter whether you are a volunteer or a paid emergency worker if you meet the criteria you are eligible for accreditation.

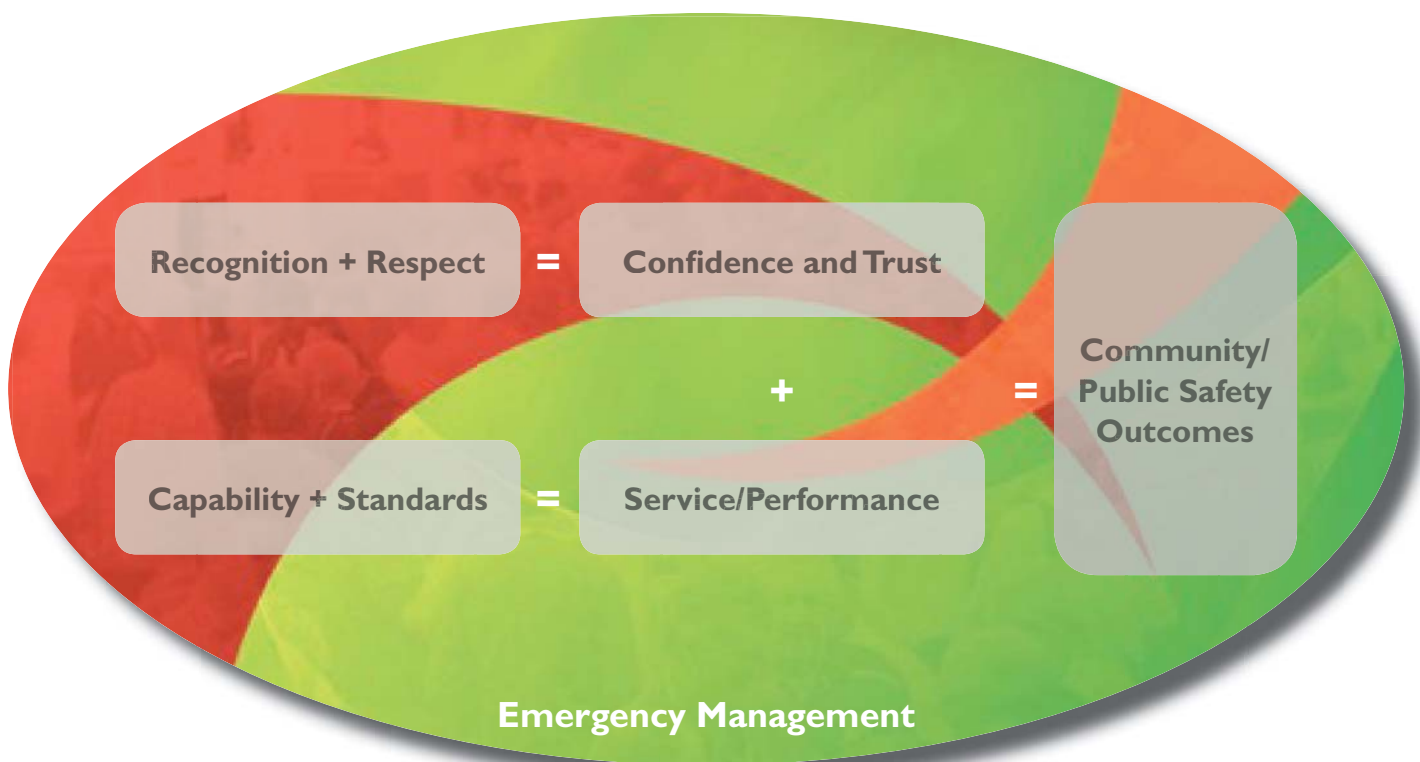
Since embarking on its preliminary consultation in May last year, AFAC has been able to assemble a great deal of data and material gathered from the volunteers and staff of its member agencies. This material has been analysed and the findings published on the AFAC Knowledge Web.

What we found were extremely strong views about this subject. Almost without exception, volunteers and paid emergency workers alike are seeking formal validation and recognition of their skills, competencies and experience. They want a credible, high quality and trusted validation process that attests they have the skills needed to do their job with confidence and quality, to be trusted by their peers and by the communities they serve.

Practitioners want to ensure they can respond to the changing nature of emergency management service delivery; changes driven by regular and intense natural disasters, economic and political changes and a perception that emergency management standards and performance is dropping. They seek to have capability and standards that are interoperable across jurisdictions, agencies and organisations so that service delivery and performance is seamless and first class. They want to make sure they can be the best they can be to contribute to community and public safety outcomes.

In exploring this concept we have been asking questions like:

- Is the practice of emergency management out of touch with contemporary expectations?
- What is the practice of emergency management?
- Where are tomorrow’s emergency managers being prepared for the challenges of the future?
- Where is the specialist emergency management expertise being taught?
- Who is specifying the standards to which emergency managers aspire?
- Is there a need for a Professionalisation Scheme and would people participate?
- Where should we start?



So is a Professionalisation Scheme going to proceed? The AFAC Council will be considering this very question at its meeting in Melbourne in April 2012. It is not a decision that will be taken lightly but it will be considered in light of the longer-term future of the emergency management industry and the dedicated volunteers and paid personnel who provide their services to the community.

Should Council consider the timing is right, the next phase would be to develop a Model of what the Scheme would entail, how it would operate and who would administer it. We would consider the feasibility in more detail and calculate the cost/benefits derived. We intend to engage further with our key stakeholders and other Institutions and accreditation bodies that have significant experience in similar Schemes. We intend to ensure that extensive consultation and stakeholder engagement occurs on this very important initiative.

This is a long-term strategic issue for the industry, the outcomes of which best described through one respondent's vision to our survey:

"At the end of the day, I want to be confident in my actions and protected by the existence of best practice or industry standards, so I can concentrate on executing my duties using all my skills and ability to the advantage of the community. I want to operate in the

knowledge that those supervising me are highly competent and experienced (not just holding a piece of paper awarded through some corrupted process. I mean it has lost its way by losing sight of the intention for its existence). I want to be able to use full concentration on the task at hand to achieve the best outcome for the communities. If I am not competent I want to be judged by a fair and consistent process and told so.

I want communities to have faith that a sound and well supported process has provided them with the best available officers to respond to whatever crisis has presented itself. I want to be provided with opportunity to train and practice in areas which support my skill set and interests within the requirements of my profession. I want to feel free to share analysis of my performance or decision making or my innovation to improve the standard practice resident within the certification of fire and emergency [management] professionals."

AFAC as the industry body representing emergency management practitioners and technical experts across Australasia will continue to investigate methods and opportunities, including a Professionalisation Scheme, so that such a persuasive vision can ultimately be realised.

**For more information,
visit the AFAC Knowledge Web
www.afac-kw.com.au/professionalisation**

DO FIRE PROTECTION SYSTEMS HAVE A ROLE FOLLOWING EARTHQUAKES?

Greg Baker

*FPANZ Passive Special
Interest Group Chair*

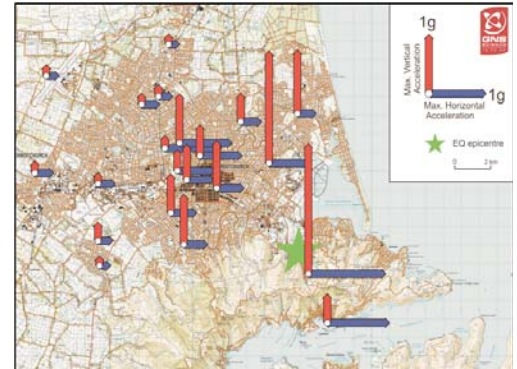
A joint research project involving FPANZ, the University of Canterbury and BRANZ has been investigating the post-earthquake performance of fire protection systems in buildings, following the recent series of seismic events that has struck the Canterbury region. The focus for the project has been the impact of the earthquakes on active and passive systems in-and-around the Christchurch metropolitan area. The term 'active' fire protection refers to the fire detectors, alarms and sprinkler systems that are commonly used in commercial and industrial buildings in New Zealand, while 'passive' relates to the parts of the construction of a building that have a fire rating, such as fire-rated partitions, fire doors, fire-rated coatings on structural steelwork, fire stopping of services penetrations, and the like.

HOW LARGE WERE THE CANTERBURY EARTHQUAKES?

The direct effect of an earthquake is to cause ground motion, the magnitude of which is measured in the horizontal and vertical directions in terms of gravitational acceleration. The current series of earthquake activity in Canterbury started with an initial Magnitude 7.1 event on 4 September 2010, at a depth of 10 km and located near Darfield, which is 40 km west of the Christchurch CBD. In relation to the levels that modern buildings are designed for, the ground motion in the CBD area was relatively moderate for the September 2010 event. Although the impact was significant over a wide area, no modern large-scale buildings collapsed and there was no loss of life, even though a lot of damage occurred to older unreinforced masonry buildings, where the major hazard was falling brickwork.

The situation was completely different for the major aftershock that occurred on 22 February 2011 – although the magnitude was significantly less at Magnitude 6.3 (noting that the scale is logarithmic), the proximity to the CBD (10 km south-east) and the depth (5 km) meant that the ground motion was much greater. The following figure, which is courtesy of GNS Science, shows the peak ground accelerations that were recorded on 22 February by a network of measuring stations around Christchurch.

The legend at the top right-hand corner shows the horizontal and vertical scale of 1g, and the



cluster of arrows in the centre of the graphic shows the CBD area, while the star shows the epicentre in the Port Hills near Lyttelton. In February, severe damage occurred to buildings in both the CBD, as well as the eastern and southern suburbs of Christchurch. A large proportion of modern commercial buildings were significantly damaged in the city centre, and many of the older unreinforced masonry buildings collapsed. Two multi-storey buildings collapsed and in four modern high-rise buildings, precast concrete stairs collapsed. Critical buildings such as hospitals are designed for a higher level of earthquake loading than actually occurred in February 2011, but the design levels for normal commercial buildings were certainly exceeded in the centre of the city.

IS FIRE FOLLOWING EARTHQUAKE REALLY A THREAT?

After the recent earthquakes in Canterbury, virtually no earthquake-related fires occurred, which questions the need to consider the threat of fire following earthquakes. There were a number of factors however which contributed to the lack of fires occurring after the September 2010 and February 2011 seismic events. The two factors which impact the occurrence of post-earthquake fires are fuel and ignition sources. Christchurch does not have extensive underground gas reticulation and in the more destructive February 2011 event there were breakages in the above ground reticulation due to building collapses but the underground network remained intact. The reticulation was isolated at the four supply points around the city within 2-3 hours of the earthquake occurring. Gas would have been present for a few hours afterwards until lines depressurised. The reticulation system remained off for several weeks until it could be progressively tested and

re-instated. There was no record of fires from gas leaks following the September 2010 and February 2011 events. The time of day for the first earthquake in September 2010, in the early hours of the morning, meant typical ignition sources, such as those from cooking and heating, were virtually nonexistent. In February 2011, being the middle of a working day in mid-summer, the same conditions were present.

Fires following earthquake have been a significant issue in modern seismic events in other parts of the world however. In the 1994 Northridge earthquake in California, USA, in excess of 100 earthquake-related fires occurred, but with relatively modest losses from the fires that broke out. The relatively low density of buildings in the Northridge area contributed to this, as well as the ability of the Fire Service to respond to the fires that did occur. In the 1995 Kobe City earthquake in Japan, approximately 200 post-earthquake fires broke out, and major conflagrations occurred, resulting in fire damage to about 5000 buildings.

HOW DID ACTIVE SYSTEMS FARE?

Sprinkler systems can only be effective if there is sufficient flow and pressure of water. The major issue in both the September 2010 and February 2011 earthquakes was the water supply. In areas away from the CBD, water tanks are either the only source of water on site or are a secondary supply for the sprinkler system. In the September 2010 event, the water supply from approximately 40% of these tanks was disrupted. The older concrete tanks generally survived intact, but the more recent timber stave tanks (1980s and 90s vintage) and steel panel tanks (late 1990s onward) did not fare so well. The figure below shows a timber stave tank that collapsed, and the other picture is of a steel panel tank that did the same.

The February 2011 event caused significant disruption to the mains water supply in the CBD. Prior to the 2007 edition of the sprinkler standard, an additional independent connection to the town mains was permitted as the secondary water supply, but the widespread interruption to supply following the February earthquake meant that there was no fire-fighting water available.

In a number of buildings flooding occurred in the basements where booster pumps are housed, thus rendering the pumps inoperable. Disruption to electrical supplies also meant that some pumps would not have operated if required. Secondary components in buildings, such as suspended ceilings, and cross-bracing in the roof structure, also caused damage to sprinkler heads and piping. Instances of in-rack sprinkler systems collapsing with the racking were also noted during the project.

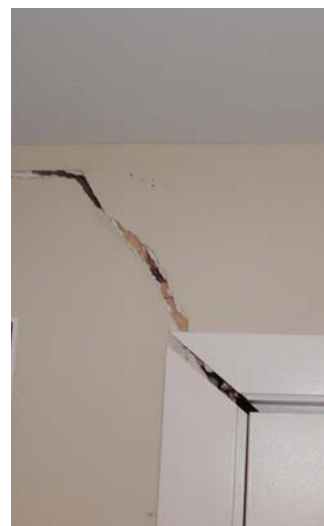
DID PASSIVE SYSTEMS STAND UP TO THE EARTHQUAKES?

The September 2010 earthquake did not cause widespread damage to passive fire protections systems, but the situation was different in the February 2011 aftershock. In buildings where major structural damage occurred in February, passive features

such as fire-rated partitions and fire doors were destroyed, and would have been totally ineffective for the purpose of fire containment. In buildings which only suffered moderate damage, about 10% of the passive systems were found to be damaged in the limited number of buildings that could be inspected. The following pictures show damage to a fire-rated partition in a stairwell, and around fire doors.



The observed low percentage occurrence of damage to passive systems implies that this isn't a significant issue. However, passive fire protection in buildings is a 'chain' of systems where the failure of one 'link' causes the whole to fail. In addition, small breaches of passive systems can have major consequences. For example, the clearance around a fire door is generally 2-3 mm, and earthquake-induced racking, which causes clearances of 6-10 mm may not seem to be much of a problem, but gaps of this size will result in a very rapid failure of the fire door, causing the fire to spread quickly beyond the room of origin.



DO WE NEED TO MAKE CHANGES TO THE BUILDING CODE AND STANDARDS?

There are a number of regulatory issues to emerge from the research that has been carried out by FPA NZ, the University of Canterbury and BRANZ.

The fire safety in New Zealand commercial buildings is often heavily reliant on sprinkler systems – the effective operation of these systems is therefore crucial. The reliability of tanks that provide water, as either the primary or secondary source, has been brought into question by the research project. Consideration therefore could be given to increasing the resilience of these tanks and associated infrastructure. The research also suggests that consideration should be given to providing alternative secondary supplies for sprinkler systems (pre-2007 sprinkler standard) that rely on a dual town mains connection. Consideration could also be given to reducing the vulnerability of booster pump to flooding in basements. The robustness in earthquakes of secondary systems, which can cause serious damage to sprinkler systems, may also be an area for future amendment.

Passive fire protection also currently relies on the sprinkler systems. Fire resistance ratings can be halved where sprinklers are present. Failure of the sprinkler system, coupled with damage to the passive systems, makes post-earthquake fires a major challenge for passive fire protection systems. The pending introduction of a 'robustness check' design fire scenario in the new verification method *C/VM2 Framework for Fire Safety Design* will theoretically address this situation.





Fire Engineering Summer Course Returns

By Ed Claridge

February saw the return of the 'Introduction to Fire Engineering' summer course run by the Fire Engineering group within the Department of Civil and Natural Resources at the University of Canterbury. This year is the 4th time the course has been run which has seen a total of 31 students complete the course since it was started in 2009. The course offering has not been severely affected by the Canterbury earthquakes although this year it has not been possible to utilise the main calorimeter equipment while a new extract flue is about to be erected.

The course is intended to provide a broad introduction to fire science and engineering by providing an understanding of the hazards of fires in buildings and the dynamics of fire development; describing the performance of building materials and structures in fire; developing a knowledge of the active and passive fire protection measures available to building designers; and examining how people behave in fire situations. Topics include: fire ignition, flame spread and flame height; the performance of construction materials and fire resistance; people movement and behaviour during fires; fire detection, suppression and smoke extract systems; wildland fires; fire-fighting operations; and an introduction to computer modelling. The course is designed as a starting point for those who wish to become professional fire engineers through a combination of further education and experience. The course might also be of interest to those people who want to fill in some knowledge gaps they may have or to get themselves back into study mode if it has been a while since they were last a student. For those interested in pursuing the post-graduate qualifications in fire engineering at the University of Canterbury the course is generally required as a prerequisite to the diploma and Masters degrees.

The students come from a wide range of backgrounds and typically include existing students, engineers, architects and those from Building Control Authorities and fire service personnel. This year's class of 13 students includes a mix of under-graduate students finishing their BE degrees in civil or chemical engineering plus

students who are entering the fire engineering post-graduate programme with civil and mechanical degrees. One student currently works for the New Zealand Fire Service and two work for local engineering consultancies.

The course is run as an intensive on-campus two-week programme with 3 - 4 hours of lectures each morning followed by time for laboratory work, assignments etc. each afternoon. The laboratory classes give participants a chance to get involved in some fire experiments and doing some hands-on computer modelling.

Much of the course is aligned with the current edition of the "Fire Engineering Design Guide" (FEDG) with the "Principles of Fire Behavior" by J. G. Quintiere, a very useful additional text. The course does not require any background in fire science and engineering although previous experience can be beneficial. Participants must have some basic engineering maths skills, some basic physics and chemistry, some structural / mechanical engineering knowledge. Participants must be able to use a scientific calculator, have good basic computing skills and the ability to use Excel formulas or similar. If potential participants are not sure if they are ready to do this course they should get hold of a copy of the FEDG and be comfortable reading technical content and equations.

The course is predominately run by Mike Spearpoint, who is the fire programme course director at the University and editor of the latest edition of the FEDG. However other experts contribute to the course to cover specific topics. Tony Abu covers structural fire engineering, Grant Pearce from Scion takes the wildfire module and Simon Davis from the New Zealand Fire Service deals with fire service operations.

Since the course can be used for credit against both Bachelor and some post-graduate degrees there are several formal assessments that must be completed plus a 3-hour final exam. Classes are kept to around 10 - 15 students which means there are opportunities to discuss topics with the lecturers or to debate issues within the class.



Paul Richards from the NZFS talks to class about fire service operations during a tour of the campus



Students get hands-on experience using BRANZFIRE



Tony Abu lectures to the class on structural fire engineering

Applying the New Zealand Performance Based Design Fire Framework to Buildings Designed in Accordance with NFPA5000

by *Chin Hung (Marco) Yip*

A framework for performance based fire design is in the process of being developed by the Department of Building and Housing and such a framework may become a compulsory methodology for performance based fire design in the future. The framework has been developed with the intention of providing a similar level of safety to a building as if the building is designed in accordance with the New Zealand compliance document C/AS1. Ten design fire scenarios have been included in the framework to ensure buildings will be challenged. Design fires for particular building uses, tenability criteria for occupant safety, detector criteria to determine detection time and pre-movement time for egress calculation have been specified in the framework.

In order to provide a comparison of the framework against the international building code, three complex case studies have been applied to buildings designed in accordance with NFPA5000 and investigated using the input values and methodologies described in the framework. The case study buildings selected are a retail warehouse, a hospital and a

shopping mall. The selection of the buildings was based on complexity of building layout, likelihood of rapid fire growth and high occupancy.

Zone modelling (BRANZFIRE modelling) and computational fluid dynamics (FDS modelling) have been utilised in an available safe egress time (ASET) and required safe egress time (RSET) analysis. Results from the research showed that the framework provides a robust and consistent method for performance based fire design and the guidance provided in the framework gives a clear methodology to determine the ASET and the RSET. The framework provides a more restrictive requirement than the prescriptive requirement in the NFPA5000 in relation to external wall fire resistance and mezzanine floor fire resistance. Conversely, it provides a more relaxed requirement than the prescriptive requirement in NFPA5000 in relation to means of egress and fire/smoke compartmentation.

<http://hdl.handle.net/10092/6230>

Distribution Curves for Interior Furnishings on CO₂, CO, HCN, Soot and Heat of Combustion

by *Yih-Pying (Jessie) Hou*

The purpose of this research is to develop a dataset for some of the most important fire characteristics, namely CO₂ yield, CO yield, HCN yield, soot yield and heat of combustion for probabilistic analysis and modelling. Raw data in time series are required to mechanically reduce experimental data into yields (kg/kg) and effective heats of combustion (MJ/kg), which are expressions for the amount of products generated per unit mass of fuel.

Mass loss rate thresholds were applied to various test data in the literature to define the beginning and end of the tests. These species yields and heat of combustions were then grouped by material compositions and fitted with distribution functions to produce distribution curves. As fire species productions and heats of combustion are dependent on the fire conditions as it develops, different yields are expected at different fire stages. These have been identified as the growth (G), transition (T), and smouldering (S) stages in this research. These values are also compared against, and are generally in agreement with, other research data. Nonetheless, some discrepancies have occurred

and require further information to ascertain the material characteristics and combustion conditions. Tube furnace results were initially investigated. Unfortunately, without a continuous mass record, this has proved to be challenging in producing reliable mass loss rate profiles for yield conversions.

Design recommendations for these fire characteristics have been made for several material groupings and verified against other research results. Certain physical and chemical limitations exist for combustion and have not been reflected in the fitted distribution, including stoichiometric yields and unlimited air yields. As such, species yields and heat of combustions beyond these values should not be considered in fire engineering design and analysis. Research results on HCN including all required data parameters for yield conversions were difficult to obtain and require further research efforts.

<http://hdl.handle.net/10092/6314>

NZS 4512:2010 and Fire Detection

WHAT'S NEW? ARE YOU READY?



by David Prosser

David Prosser is senior fire detection Product Manager for Tyco Fire Protection Products, based in Christchurch. He chaired the NZS 4512:2010 project committee and has been involved with fire Standards since 1993. David also chairs the NZS 4512 Formal Interpretations group, coordinates NZ's input to ISO fire detection standards, and is both a Council and Board member of FPANZ.

NZS 4512:2010 - *Fire Detection and Alarm Systems in Buildings* - came into force on 10th January, 2012 for all new building Consents. Despite being a "limited technical revision" it brings into effect significant changes around the areas of system compliance, contractor certification, inspection, and the qualification and competency of contractors. The emphasis has shifted from 'inspection as quality assurance' to the building of quality into the whole consenting-design-installation-commissioning-certification-maintenance process.

In February, FPANZ organised a nationwide roadshow of half-day seminars to introduce the changes.

For those who missed these well-attended events, the most significant of the changes are described in brief below. Due to space limitations, full descriptions are not possible – a thorough reading of the standard (guided by the list of significant changes in Appendix M) is needed to get the full picture.

TECHNICAL CHANGES

Detector Design Standards – 16 additional cited standards have been added.

Linear Heat Detectors – a visual indicator is not required, except on the index. Between-line spacing is now 8m.

Detector Actuation – normally-open sealed relay contacts are now permitted. Physical switches must still have normally-closed contacts.

"Flat" ceiling – is now defined as less than 6° (1 in 10).

Detector Indicators in Concealed Spaces – each detector must have an indicator. They need either (shared) indicator in an adjacent accessible space, or the whole concealed space must be a separate zone.

High Temperature Detector Indicator – may be in cooler space, or (for addressable systems) just on the Brigade LCD.

Hazardous Areas – a number of relaxations are permitted, provided a separate zone is allocated.

Detector Locations – clarifications made regarding internal and external appendages, canopies etc.

Ceilings over 20m in height – specific design still needed, the required considerations have been extended.

Smoke detector substitution – is now limited to 30% of the firecell.

Cupboards, Wardrobes – are now called "built-in storage enclosures". The requirements flowchart has changed.

"Accessible" concealed spaces – definition has been clarified.

Use of Sprinklers – some clarifications made.

Ceiling spaces – more instances allowed where these may be included in the zone. Where a ceiling is "predominantly" removable tiles, it doesn't add to the zone area and can be included in the zone.

Open plan areas – up to 2000m² may be a single zone.

Household Units – don't all need to be separate zones in an analogue addressable system with a Brigade LCD.

Ground level zones – may now include attached areas with external access up to the search area limit.

Detectors and Call Points in stairwells – should designate in the zone of their level.

Alternative Manual Call Point (MCP) Operation – EN54-style MCPs with a transparent cover are now also permitted. 2-stage operation is still required (lift cover/flap then break or displace frangible/resettable element. Switch must still be normally-closed, with visual indicator, and F8/ASI labelling. Smaller MCP dimensions now permitted. (Additional) cover labelled "COVER ONLY" is permitted in wet areas or to reduce malicious alarms.

MCP Locations – an MCP is not required at every exit, but on primary escape routes.

Internal Silence Alarms switch – may be an external control operable only when the cabinet is unlocked.

External (Brigade) Silence Alarms Switch – has flexibility to allow ancillary services to latch in fire mode.

Regular testing – clarification now made of what is considered minor and thus not preclude the issuing of a 'Form 12A' Certificate of Compliance.

System Documentation and Detailed Test Records – it is now permissible for these to be stored off-site in a readily-identifiable place. There must be a record on-site that tests have been carried out and whether they passed or failed.

Detectors with Finite Lifetimes – must be replaced or refurbished at the end of their lifetime.

Impairment Notice – Figure K2 notice must be filled in and attached to any partially-impaired system until it is fully restored. (NOTE: books of blank self-adhesive notices are available from FPANZ).

High-Voltage Testing of Circuits – is no longer required. Manufacturer must specify method of checking isolation from building earth.

Commissioning – Initial Survey form (rear of Appendix J) has been redesigned.

Device Marking – should correspond with system address/designation on Alphanumeric LCD

End-of-line Devices – must be installed in a readily-accessible location for testing.

System Passwords – must be changed from factory default at commissioning.

Alerting Sound Pressure Level (SPL) – has a completely new terminology, but the essential requirements themselves haven't changed. Background/ambient sound levels are redefined and now measured over a shorter period. SPL requirement for occupiable balconies set at 65 dB LAFmax (65dBA in the old terminology) with the door open.

Alerting Devices – don't need to be red or labelled if they produce verbal message or are located behind a detector.

Verbal messages – don't need to be repeated, and may need synchronising in open areas to achieve adequate clarity/intelligibility. Speech intelligibility may be assessed "by ear": the full AS 1670.4 procedure is not necessary.

EWIS Systems – requirements have followed Australia to AS 1670.4, however the standardised signals/tones of the previous AS 2220 have been retained.

Cable Standards and Conductor Dimensions – changed to be (generally) AS/NZS 5000.2 or AS/NZS 5000.3. Below 1mm² conductors must be stranded, 2-core cable may be a minimum

0.75mm², 3-core (or more) cable may be a minimum 0.5mm². Cable outdoors or in sub-zero areas must be suitable (alternative) type.

Mains Supply Requirements – altered to align with AS/NZS 3000. Supply from Main Distribution Board preferred.

Brigade Transmission Circuits – don't need to be fire rated when duplicated (e.g. radio plus cable).

Other Cable Types – are permitted for supervised data links (e.g. remote signalling, networking, connection to remote indicators.)

Alerting Device/Loudspeaker cabling for Staged Evacuation Systems – must be fire rated where it traverses another firecell or evacuation zone.

POLICY AND PROCEDURE CHANGES

Significant changes have been made to the requirements for **Workmanship, Competency and Qualifications** and for the **Certification of Systems** by an Accredited Inspection Body (AIB).

An AIB final audit inspection will no longer be the only means of safeguarding system compliance and quality. The focus has broadened to encompass assessment of the way the work has been performed, the qualification of those who perform or supervise the work, and, for larger companies, the systems in place to govern these functions.

NZQA qualifications in Fire Detection and Alarm Systems now set the baseline. There are a large number of qualified people in the industry, which was not the case in 2003. Workplace assessment systems are also in place to formally recognise existing (current) competency.

The **Appendix J Certificate of Completion** now requires the designer and their qualifications to be identified, as well as the qualifications of the installer's signatory and the date of the building Consent.

The **Installer Declaration** now requires them to "certify that all the work that we have carried out on the above system has been performed in accordance with NZS 4512 and in the manner defined by clause 109" – i.e. compliant, and done in a thorough and workmanlike manner by, or under the supervision of, competent and qualified people. The installer will now need to sign this certificate first.

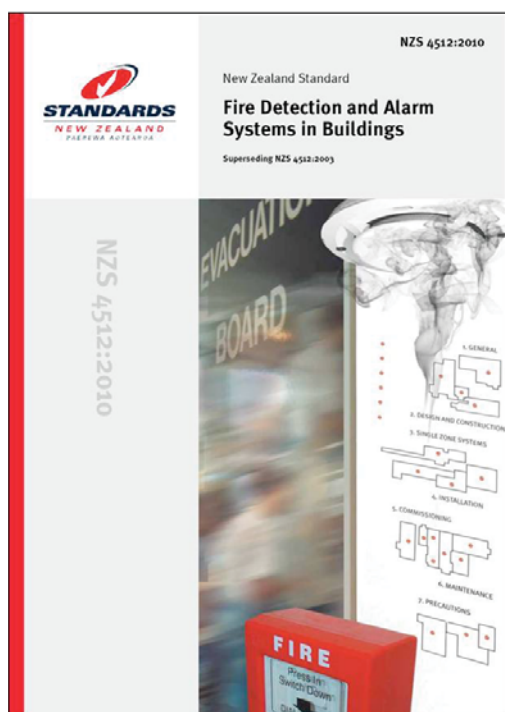
The **Inspection Body Declaration** now requires AIB assessment of the system's "installation process" as well as assessment of the system itself. The AIB will now sign last.

A new **Appendix L** describes the envisaged processes in detail, and proposes practical means whereby compliance with the new regime can be assured and demonstrated.

The **underlying philosophy** for these changes is that "quality cannot be inspected into a system" after it is installed. Instead, quality must be built-in all the way through the process – Consenting, Equipment and System Design, Installation, Commissioning.

POSITIVE RESPONSE FROM INDUSTRY

Feedback at the seminars was overwhelmingly positive towards the changes. Some of the requirements will take time to become accustomed to; others are already a welcome improvement over shortcomings of the 2003 edition. The Standard's writers don't guarantee to have everything right, which is why the procedure for **Formal Interpretations** has been written into the document. Many of the changes came about via this process.



Fire Engineering in Dubai

by Trent Fearnley

IFE Branch Councillor

Dubai is a place which draws people to it from all walks of life. It lures people there with the prospect of big futures and big pay packets. In fact Dubai likes to be the biggest in most things, the world's tallest building, the world's longest fully automated metro network, the largest man-made island, the Palm Jumeirah. These attractions have also lured fire engineers from New Zealand. One of the most recent residents to Dubai is Pedro Armijo BEng (Hons), MSc. Fire Engineering, MIFireE, MSFPE. Pedro, who is originally from Costa Rica, was working as a senior fire engineer for the New Zealand Fire Service (NZFS). He now lives on the Palm Jumeirah in Dubai. Trent Fearnley, IFE Branch Counsellor, had the pleasure of speaking with Pedro about his life as a fire engineer in Dubai.

Pedro, when did you arrive in Dubai?

I arrived in Dubai back in September 2010 after being offered a position as a Senior Fire Engineer for a consultancy firm based in Dubai and with offices around the world.

Was this your first visit?

No, I visited Dubai first. The company brought me in for a probation period for a specific job on Fire Engineering. I joined the Fire Engineering team for 2 weeks on a FLS [Fire and Life Safety] design review and a site inspection of an automatic fire protection system for the new PRT [Personnel Rapid Transportation] system. The PRT would serve the recently open MASDAR City project in the Emirate of Abu Dhabi. MASDAR aims to be one of the biggest sustainable research and educational cities in the world.

Your last position in New Zealand was a senior fire engineer in the Design Review Unit (DRU) for the NZFS.

What is your position now?

I hold a Fire Engineering Manager position at the moment. I would normally have 2 to 3 sub-consultants working for us on specific fields of fire engineering and 4 permanent staff on the fire protection systems design and draft teams. I report directly to the President of a



multinational company and I am also involved in business development planning, marketing strategies, technical conferences and training as well as the day to day fire engineering design work.

What made you decide to move to Dubai?

The main reason for moving to Dubai was the personal challenge of being involved in unique and iconic infrastructure projects, not only in Dubai, but the rest of the United Arab Emirates and the Gulf Region. The projects that you will normally get involved in here are unprecedented; size and complexity are always the bigger challenges but also climate and local cultural conditions are elements that make the fire safety design of buildings a unique engineering exercise.

Do you like the lifestyle in Dubai and the working environment? Does it differ much from New Zealand?

I thoroughly enjoy the life style in Dubai although it is completely different to what New Zealand offers for obvious reasons; just to mention a

few of them such as climate, landscape, the cultural costumes and general outdoor activities. Having said that, the luxurious life and acquisition capacity you have while living and working in Dubai really compensates for any 'missing' from your home country. The working environment is different as well; you will work with more than 200 different nationalities currently living in country. With this you will find challenges from the Authorities Having Jurisdiction to the manpower associated with the engineering design and build processes as you would normally get low-paid low-level education labour. Dubai is and will be for many years more a city under construction, the idea of having a modern and unique city pushing the edges of engineering and technology will last for a long time. This gives you a particular lifestyle in terms of transportation, accessibility, services and others. Nevertheless, you will find areas that are completely finished such as Palm Jumeirah and Dubai Marina where you will enjoy the lifestyle of a millionaire.

What kind of projects are you working on at the moment?

I'm currently working on 4 main projects: a 400,000m² GFA tourist city complex comprising 7 buildings including a 1Km long 4 levels shopping mall; indoor water park; high rise residential and hotel twin tower; 4 high rise serviced apartment interconnected towers; 6 storey office building; indoor exhibition centre; cultural centre and a mosque. The second and third main projects are two high rise multiuse buildings in Mumbai, India and Kazan, Russia which present performance-based design challenges due to the lack of local fire regulations and building code requirements for high rise buildings. The fourth project relates to the oil and gas industry. I'm undertaking a QRA [Quantitative Risk Analysis], fire protection systems inspection and a Mutual Aid Fire Emergency Response analysis for a series of tank farms and an oil refinery in the Emirate of Fujairah, UAE.

How has your previous experience helped you to settle into your current position?

To be perfectly honest, I could have never done this without my previous experience and in particular with the New Zealand Fire Service. Although the scale, magnitude and complexity of projects you would normally deal with in New Zealand are not comparable to the ones in Dubai, the level of engineering analysis and thorough review and approval processes that the Authorities, the Fire Service and some of fire engineering consultants follow in NZ really prepare you to all future challenges you may encounter in any part of the world.



A majority of designs in New Zealand are based on the New Zealand Building Code. Does Dubai have its own building code? Are all your designs in the same building code?

This is of particular interest in the Dubai and the UAE in general. Recently, Dubai Civil Defence [the Authority Having Jurisdiction] have tabled the new UAE Fire and Life Safety Code of Practice which is based mainly on NFPA Fire Codes but with some specific local requirements. Before this, walking into Civil Defence offices was really a Pandora Box experience where they could have asked you to apply NFPA, IBC and their own unwritten bylaws and regulations. Due to the geographic position of Dubai, it serves as a perfect hub for multidisciplinary international engineering consultancy companies to offer services all around the Middle East, Far East and Africa regions, therefore I have been involved in projects based on the National Building and Fire Code of India, the SNiP Codes in Russia, Georgian Fire Codes, Farsi Building Codes and others.

Are you actively involved with the IFE or SFPE?

I am actively involved with the IFE and SFPE as a professional member. At the moment, I'm applying through the IFE to become a Chartered Engineer [CEng] with the Engineering Council in the United Kingdom. I would normally follow up all the CPD activities offered by the IFE and the SFPE. For example, next July 2012 I will join the Professional Engineer [PE] exam preparation course online offered by the SFPE US. This course takes you through all the subjects on fire and explosion engineering that would need to pass the examinations and become a licensed fire engineer in the United States.

What advice do you have for fire engineers or prospective fire engineers in New Zealand who want to travel to Dubai?

I believe that challenges, both intellectual and cultural, make you grow as an individual in all senses; the more you challenge and expose yourself to new worlds, to new professional roles, responsibilities and to new cultures, the more you will become a multi-skilled competent professional who will be able to undertake any role in any part of world at any given time. Fire Engineering, Fire Safety and Fire Fighting services are in highest demand of professional services required in the Gulf at the moment So Kiwis, pack little warm clothes, your pair of jandals, some sweets and treats from Aotearoa and start planning your move to Dubai, the land of sand and eternal sunshine... Kia Ora! Haere mai ki Dubai!



BUILDING RESEARCH ASSOCIATION OF NEW ZEALAND SEMINARS | JANUARY 2011

POST EARTHQUAKE FIRE PROTECTION SYSTEMS

The Building Research Association of New Zealand (BRANZ) provided the first fire protection industry seminar themed “Post Earthquake Fire Protection Systems”. This seminar was presented with co-operation with the Fire Protection Association New Zealand and the University of Canterbury College of Engineering.

Presenters of this seminar series included Greg Baker (BRANZ), Brent Houston (Guardian Alarms), Dr Tony Abu (University of Canterbury), Peter Collier (BRANZ), and Dr Charley Fleischmann (University of Canterbury).

The presentations covered personal insights, building performance in fire post earthquake conditions, passive fire protection, active fire protection and evacuation following an earthquake.



1 Greg Baker (BRANZ); 2 Dr Charley Fleischmann (University of Canterbury); 3 Peter Collier (BRANZ); 4 Dr Tony Abu (University of Canterbury); 5 Brent Houston (Guardian Alarms)



FIRE PROTECTION ASSOCIATION NEW ZEALAND SEMINARS | FEBRUARY 2011

FIRE ALARMS NZS4512: 2010 | ARE YOU READY?

The Fire Protection Association New Zealand commenced its 2012 members seminar series with presentations from industry leaders reviewing and updating the new fire detection and alarm standard NZS4512: 2010, which came into being under the New Zealand Building Code Acceptable Solutions for all building consents issued from 10 January 2012.

The question put to attendees by David Prosser and David Percy, and a representative of Fire Protection Inspection Services (FPIS) was Are You Ready?

The seminars were hosted in Rotorua, Wellington, Christchurch, Dunedin, as well as Ellerslie and Albany in Auckland during the month of February. With over 200 fire industry professionals attending the series of seminars, the positive feedback has supported the planned seminars to be promoted later this year.



Seminar presenters David Percy (Pertronics) and David Prosser (Tyco) were joined by representatives of Fire Protection Inspection Services



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FIRE-NZ 2011

Last year's annual FIRE-NZ Conference & Exhibition, hosted by the Institution of Fire Engineers (NZ Branch) and the Fire Protection Association New Zealand (FPANZ), were joined by a new partner - the Society of Fire Protection Engineers (SFPE NZ Chapter).

The benefit of this triumvirate saw a conference with over 250 delegates and a conference dinner of some 180 guests. The exhibition hall swelled to 50 sites with the highest number of fire industry exhibitors.

The conference theme Champions of Fire, was a little tongue in cheek with the Rugby World Cup being hosted in New Zealand, but more importantly sought to give delegates and exhibitors alike the opportunity to share and hear from the best in the world on how the many fire industry issues are being championed.

The conference opening address was presented by newly installed Chair of the New Zealand Fire Service Commission, the Honourable Wyatt Creech. His presentation looked at the challenges New Zealand has to ensure the future is bright with the economic, financial and political unrest globally affecting our part of the world.

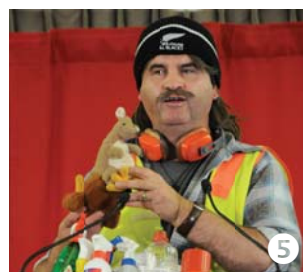
A keynote speaker was Gordon Gilmour, recently retired from the UK fire service and now consulting from his company Command Dynamics. Gordon provided two papers looking at Operational Assurance and Resilience – Are we ready?

Of note was the Carpe Diem paper presented by former NZ Fire Service National Commander and Chief Executive Mike Hall. Mike looked back over his time as the boss of the NZ Fire Service for the last 10.5 years and posed the question for the future about how we should prepare to evolve to the future fire service that the community of NZ would expect.

The dinner function was a gala event with comedian and compeer Mark Wright. Mark provided a local event centre worker character to interact before the dinner and eventually with the conference dinner guests. His character and sharp humour when down a treat with the crowd and with the support of Winstone Wallboards as sponsor, made for a very enjoyable night.

The exhibition hall was a place of great interest for the delegates prior to the start of each day of the conference and during the morning and afternoon tea breaks and lunch. With the coffee cart and the best array of exhibitors from the fire industry sharing the latest technology and equipment, the Champions of Fire were on display.

This year the conference will again be a three-way partnership with the IFE, FPANZ and the SFPE making their presence felt at the Rotorua Energy Event Centre from the 10-11 October 2012. Mark it in your diaries, as this will be THE fire event to attend in 2012.



1 Tony Abu from Canterbury University; 2 Past President Peter Hughes; 3 Former National Commander Chief Exec Mike Hall; 4 Gordon Gilmore; 5 Dinner MC Mark Wright; 6 Conference in full swing; 7 Peter Wilding; 8 Mark van Dorsten, PSL

ADELAIDE CONVENTION CENTRE | ADELAIDE | AUSTRALIA | 16-18 NOVEMBER 2011

FIRE AUSTRALIA 2011

The 2011 Fire Australia conference and exhibition was held in Adelaide, the capital of South Australia at the newly upgraded Adelaide Convention Centre.

The event was once again a collaboration between the Fire Protection Association Australia and the Institution of Fire Engineers (Australia Branch). At the AGM of the IFE (Aust. Branch), President Mark Riley passed the chain of office to Andy Sharrad as he assumed the office of President and was master of ceremonies for the first day of the Fire Australia 2011 conference.

The theme of the conference was The Essentials of the Future: Education & Maintenance. The conference program featured International IFE President H. G. Tay, who had recently attended Fire – NZ 2011.

With 34 exhibitors and two and half days of conference the program for the three days included a Presidents dinner on the first night, and a gala dinner with Australian actor and comedian Shane Bourne.

The education and maintenance themed conference program challenged many of the norms of the Australian fire industry. The maintenance and delivery of compliance work has sought to challenge these systems and practices of work which currently have flaws in the data and information recording, and require systematic improvement across the industry.

The educational development of the industry was also put under the spotlight and both aspects of the themed conference with key note speaker from Qantas – Darren Cook. Darren is the manager of Air Safe QANTAS Engineering. The no-failure high requirement for safety in aircraft maintenance proved to be an eye opener in self reflection for the fire industry.

The conference drew a smaller than normal delegate number, partially because it was hosted in Adelaide. This year the conference is to be hosted in Melbourne and is promising to be a much larger affair.



1 Conference banner; 2 IFE Australia Branch President Andrew Sharrad; 3 International IFE President H G Tay; 4 Conference auditorium; 5 Closing ceremony, FPAA Exec Director Scott Williams; 6 President Andrew Sharrad & Immediate Past President Mark Riley; 7 Best Article certificate



A SMOKE ALARM
WOULD HAVE
SAVED
MY LIFE.