

Fire & Rescue

Spring 2016

News

**EMERGENCY
MANAGEMENT
CONFERENCE**

**5 MINUTES
WITH...OUR NEW SENIOR
EXECUTIVE TEAM**

**FIRE OPS JOURNAL:
STRUCTURE COLLAPSES
& COMPLEX RESCUES**



**Fire &
Rescue NSW**



The Minister WRITES



The Commissioner WRITES



As we enter another summer season, NSW's emergency services will again be responding to the full gamut of emergency incidents, from bush and grass fires through to storms and floods.

Training is crucial to maintaining a high level of preparedness to deal with these emergencies. That is why in June I was pleased to announce that the NSW Government would invest in building a new state-of-the-art Training Academy at Erskine Park in Sydney's west. The new Academy will provide Fire & Rescue NSW firefighters with one of the best emergency services training facilities in Australia, as well as a centre for leadership and management training for all its uniformed and non-uniformed staff.

About 150 permanent roles will relocate to the new Academy from the current training college at Alexandria. On any given day, there will be up to 350 people at the campus – including new recruits and other trainees.

Just by being there, these people will stimulate other activity, business and services in the area. And that's great news for Sydney's west. The Academy demonstrates the NSW Government's commitment to relocating public service jobs and boosting the economy of Sydney's western region.

This investment in training will be an exciting new chapter in the history of Fire & Rescue NSW, and I look forward to seeing the building and equipping of this world-class firefighting academy.

I am also proud of our State's world-class urban search and rescue capability. The fire services in both NSW and Queensland have USAR Teams certified by the United Nations to respond across the globe as required to natural disasters and other emergencies. In recent months our State's USAR capability, led by FRNSW, has partnered with and assisted other countries in their development of USAR capability, including Malaysia, the Philippines and the USA (Los Angeles).

NSW stands very well-prepared and ready to deal not only with emergencies and natural disasters within its own borders, but also to deploy resources and share expertise where needed interstate or overseas.

David Elliott MP

Minister for Corrections, Emergency Services and Veterans Affairs

Welcome to this issue of Fire & Rescue News which has a special focus on the annual Emergency Management Conference that FRNSW held in May 2016, and the major themes and outcomes flowing out of it.

As an emergency service, we are a large geographically-dispersed organisation with an extensive network of frontline stations across the State supported by Commands and a range of support Directorates. Events like the EM Conference are crucially important to ensure that all our operations are working in sync and pulling together to achieve common goals and priorities.

The EM Conference had five main strands – achieving operational excellence through leadership, technology, governance, innovation and diversity. FRNSW is strongly committed to embedding these facets in all of our operations and to ensure that they underpin everything we do as we strive to maintain our position as one of the world's biggest and best fire and rescue services.

This issue documents many of the new initiatives and achievements happening throughout our organisation. The new Training Academy to be built at Erskine Park will ensure our skills and capability keep us at the leading edge while the new executive appointments following the recent restructure will lead us forward into a new era. We are making progress towards becoming a more diverse workforce but need to keep working hard at achieving this. I am also pleased to see innovation in many areas, much of it coming from the frontline, which is where it should originate. Leadership is being nurtured and developed in all areas of FRNSW – regardless of rank and role, we can all be leaders.

Over the coming months, a key focus will be bedding down the new structure and seeking to further improve on the great work being done right throughout FRNSW. This will include exploring new capabilities and enhancing our existing capabilities, at the same time working to better integrate community safety activities into our frontline services, targeting specific activities for specific risks.

As we gear up for the warmer months, with the potential for damaging storms and the threat of bushfire, I know that all of you will once again join together with me in working together to protect and serve the people of this State.

Finally I recently announced my decision to retire as Commissioner after more than 13 years at the helm. It has been an incredibly rewarding time and I could not have done it without your support. My sincere thanks to each and every one of you. Please stay safe as you continue your dedication to protecting and saving life, property and the environment. I will continue to watch you with great pride, admiration and affection.

Greg Mullins AFSM

Commissioner



The EM Conference issue

Navigating uncertainty to be operationally excellent.



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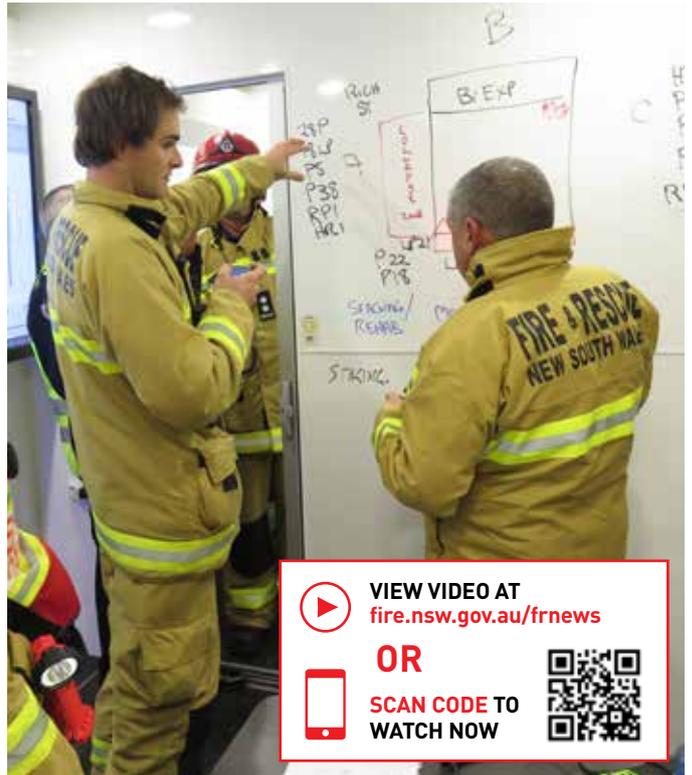


2016 EMERGENCY MANAGEMENT CONFERENCE AIMS FOR OPERATIONAL EXCELLENCE

On 11 and 12 May 2016, FRNSW held its third annual Emergency Management Conference at Brighton Le Sands in Sydney with the theme of navigating uncertainty to achieve operational excellence.

This critically important event set key directions for the coming year. It celebrated the achievements of FRNSW and its staff, and it enabled all parts of the organisation to collaborate and work together to learn and plan for the future.

The conference was attended by a wide range of staff from different areas and directorates with the various ranks also represented. This ensured a valuable cross-section of opinions and experiences, and also strong cross-pollination of ideas.



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WE LISTENED! YOUR FEEDBACK HELPED SHAPE THE 2016 CONFERENCE

Your feedback is very important to FRNSW. It helps us to identify the things that you like and areas where we can improve. When designing the 2016 EM Conference, we listened to feedback from both the 2015 'Have your say' employee engagement survey and also the 2015 Post-EM Conference survey.

AFTER THE 2015 CONFERENCE, YOU TOLD US:	IN RESPONSE, AT THE 2016 EM CONFERENCE FRNSW:
The leadership attributes that build your trust and engagement are humility, understanding of frontline issues, transparency, ability to personally relate and a willingness to listen.	 Included presentations from frontline staff giving snapshots of their current working environment to help capture the issues they faced so these could be addressed in strategic planning.
Our leaders need greater clarity on what is expected of them at work.	 Provided an opportunity for Emergency Management leaders across areas, directorates and ranks to align strategic direction, collaborate and work together to learn and plan for the future.
You want greater recognition, praise and development opportunities for all employees.	 Included a 'celebrate success' poster session in which staff, at any rank and representing any directorate/area, could showcase their work, shining a spotlight on the good work occurring across FRNSW.
We need consistent communication to increase trust and confidence in our leaders.	 Recorded videos of the various sessions and published these on the intranet for all staff to view, providing alignment and clarifying the FRNSW strategic direction.
You want opportunities to mix with colleagues from different areas, to discuss and share insights and learnings.	 Provided mixed tables which enabled collaborative future planning and opportunities for attendees to workshop solutions with managers and colleagues.

COMMISSIONER 'PAINTS THE BIG PICTURE' FOR EMERGENCY SERVICES



In his keynote speech to the Conference, Commissioner Greg Mullins set out the operating environment for emergency services, both now and in the future.

"Any credible organisation constantly needs to be saying: where have we been, where are we now, and where do we want to go or need to be," he said. "Where are we now? Australia-wide, we are the leading fire service on just about every score – our people, our operations, the technologies we have, and the services we provide."

The Commissioner highlighted how FRNSW rated on the international stage. He pointed out that Detroit had asked FRNSW to help with revitalising its fire service. Los Angeles, which has one of the most experienced USAR teams in the world, had also approached FRNSW to mentor it in its upcoming recertification. And London had similarly sought to tap into FRNSW expertise for managing major incidents, particularly in view of our strength in command and control. "So we're on the cutting edge of fire services, in both Australia and internationally," he said.

However, the Commissioner warned about complacency and resting on our laurels. As examples, he cited the barriers and resistance faced in seeking to introduce key innovations like the introduction of compartment fire behaviour training and CAFS tankers. He cautioned against 'paralysis by analysis', and urged FRNSW to be an organisation that actively encourages innovation. "We've got to think outside the box," he said. "What are we doing now that we could do better?"

A key mechanism introduced recently to encourage innovation has been the Commissioner's Participative Council (CPC). The Commissioner explained the Council's purpose is to help unfreeze the organisation and 'break the mold'. "Ideas can come from anywhere, not just the top".

The Commissioner also discussed the nature of leadership needed in today's dynamic and uncertain environment. "Leaders of today and tomorrow need to be facilitators, not directors," he said. "Decisions need to be made, but we need to be more democratic and let people grow and come up with ideas."

"In the leadership space, [we need to be] listening to people, talking to people and not copping out." He warned against the reliance culture, where people say it's not their job, and cop out by sending hard decisions up the chain and then blame the hierarchy for any problems.

The Commissioner then spent some time 'painting the big picture' of the uncertainties that FRNSW faces in working within a rapidly-changing environment. Issues and challenges he flagged included the following.

- Structure: "Every state in Australia except South Australia and NSW has an overarching structure of their emergency services, particularly for catastrophic events."
- Integrated communications: "If New York City can bring it all together [i.e. police, fire and ambulance], we certainly can ... a lot of economies of scale accrue from combining IT."

Leaders of today and tomorrow need to be facilitators, not directors

- Accelerating climate change: "This is changing the work we do, and the skills we need ... we're going to be doing more water rescues in the future [i.e. because of increased storm and flood]."
- Ageing population: "An increased fire risk because people over 65 are four to five times more likely to die in a house fire."
- IT and public information: People are interested in information about what to do when emergencies occur. "When you go to an incident, it is instant critique. Someone's filming you, it's on Facebook, Twitter, Instagram, you name it, it's out there. So we need to get ahead of the curve, actually harvest that intelligence, say what's happening out there ... the Black Saturday bushfires, what did people expect of the fire services: 'You knew you couldn't put the fires out, so why didn't you tell us what was happening?'"
- Terrorism: "FRNSW is part of the bigger picture of whole-of-government response to such incidents."

LISTENING TO & WORKING WITH FRONTLINE STAFF



Conference perspective by Assistant Commissioner Rob McNeil, Regional Operations

The goal of the 2016 Emergency Management Conference was to align our strategic direction so we can achieve operational excellence through leadership, technology, governance, innovation and diversity. We did this at the Conference by working together to learn about things that worked well and also not so well, and then used these learnings to plan for the future.

Importantly, we know operational excellence occurs when managers and leaders listen to, and work with, frontline staff. Ultimately one of the greatest signals to an organisation that ideas matter more than hierarchy is welcoming everyone's voice in the decision-making process. Consequently, this year we invited and heard from operational frontline and support staff.

It was extremely rewarding to see frontline staff from Education & Training, Operational Capability, Station Commanders and Captains from both Regional and Metropolitan Operations and the Commissioner's Participative Council present on their endeavours to achieve operational excellence. It was clear throughout these presentations and the 'celebrate success' poster session on Day 2 that our frontline personnel want to play a key role in forging the future of a more diverse and operationally excellent FRNSW.

It is essential we continue to share ideas between management and frontline staff to continue our goal of operational excellence. I urge everyone to have 'operational excellence', attained through leadership, technology, governance, innovation and diversity as a goal in all your work. Importantly, please continue to engage and communicate across all directorates and throughout all levels of FRNSW as we are stronger when we work together.

My key priority for 2016/17 is to continue to engage with the FRNSW workforce to meet community expectations regarding prevention, preparedness and responses to emergency incidents.

Other priorities include:

- roll-out of incident management training across all Commands
- management of core skills training through the Station Training Program
- implementation of the CAFS capability across the Greater Metropolitan Area.



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THE POWER OF STORYTELLING

This year's Emergency Management Conference highlighted the power of storytelling. Stories delight, teach, inspire, motivate, challenge and connect us.

This was certainly true regarding the presentations (stories) delivered by our frontline personnel and our external speakers. The presentations from Station Officers, Captains, Commissioner's Participative Council members and operational staff from Education & Training and Operational Capability were outstanding in both content and delivery. There was a real sense of our frontline personnel educating the leadership of the organisation on a range of topics which centred on operational excellence.

I, like most of the audience, was totally inspired and humbled by the quality of our people. It takes a great deal of courage for our firefighters or Station Commanders to present to over 150 leaders of the organisation, and I commend and congratulate all of our presenters who told their stories in such a capable and honest manner. I hope to see more presenters from all areas

across the organisation at our 2017 conference. If you are interested and/or passionate about a subject, and are interested in informing the leadership of the organisation about your idea/work practices/experience, then please consider responding through your line managers.

We also had the great pleasure of hearing from Deputy Commissioner Cindy Briscoe, Australian Border Force and former NSW Police Commissioner Ken Moroney who delivered inspirational messages on resilience, authenticity and leadership. I was personally struck by the richness of their experience and how it could influence the people around me. Sometimes it's good to hear from people outside of the organisation who have a particularly valuable story or message to relate. That was certainly true of Cindy and Ken.

My top three priorities for 2016/17 are:

- roll-out of MDTs and smartphones for at least one appliance in every station across regional NSW
- delivery of incident management training across regional operations retained stations
- commence roll-out of performance partnering to regional stations.



Conference perspective by Assistant Commissioner Gerry Byrne, Metro Operations



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CINDY BRISCOE SHARES BORDER FORCE CHALLENGES

Cindy Briscoe joined the Australian Customs and Border Protection Service in May 2013 as the National Director, Support Division, where she was responsible for workforce management and a range of corporate services.

Ms Briscoe was appointed Deputy Commissioner, Support Group when the Australian Border Force (ABF) started operations on 1 July 2015. The ABF was formed by merging two separate agencies, the Department of Immigration and Australian Customs.

In her presentation to the Conference, Cindy shared the difficult journey involved in seeking to integrate two very separate agencies with very different roles, cultures and public perceptions. Some of the learnings from the ABF's experience were very relevant to FRNSW and other organisations seeking to implement major structural and cultural change.

Cindy's presentation reflected her wealth of experience, with more than 25 years in the Australian Public Service, including senior positions at the Department of Human Services, the Australian Taxation Office and ComSuper.

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Cindy Briscoe

'CELEBRATE SUCCESS' POSTER SESSION HIGHLY RATED



Land and water-based flood rescue capability

On the second day of the conference, a poster session was held to showcase the work taking place across the organisation which is aligned to FRNSW's strategic directions and core values.

This mini-expo, which was set up outside the main conference room, gave attendees a chance to see, touch and hear about a wide range of projects, procedures and initiatives from subject matter experts.

Education & Training highlights included Ian Whitehead and SO Tim Climo presenting the Bullex Fire Simulator, and Jenny Kapp and Rhonda Paterson taking participants on a journey into immersive technology with Samsung Gear virtual reality glasses.

The Health & Safety Branch profiled FRNSW's mental health resilience programs and gave attendees the chance to complete a cardio check to receive confidential on-the-spot cholesterol and blood glucose results.

Operational Capability's SF Anthony Wallgate demonstrated the potential of remotely piloted aircraft systems (RPAS) for situational analysis with an intelligence-gathering aerial platform, while SF John Stokes gave an overview of rapid damage assessment application.

SF Wallgate also showcased FRNSW's land and water-based flood rescue capability and training while SF James Boland and QF Gerrard Collins from Equipment Logistics Rescue displayed flood rescue equipment and PPE. SF Boland and QF Collins also demonstrated new vertical rescue and working safely at heights packs, including the Petzl ID'L friction control device which is being rolled out to all primary rescue stations.



Remote piloted aircraft systems (RPAS) aid situational awareness

Equipment Logistics Hazmat previewed the new MSA breathing apparatus set that will be introduced into operations later this year. They also demonstrated a range of new equipment, including the MSA 6-head Altair detector, Gemini FTIR chemical analyser, life jackets, chip measuring system with standardised inventory, XXXL splash-suit and chemical resistant gumboots.

Representing the retained ranks, Carrington Captain Michael Woloschyn and Maitland RetF Patrick Levesque displayed the SMART rostering system. RetF Levesque said it was beneficial to profile the system and answer questions from all different levels and ranks within FRNSW.

Following the conference, participants described the poster session as excellent, saying it was something they really enjoyed and wished there could have been more time spent on it.



ROLLOUT OF NEW SCBA TO ALL FIREFIGHTERS

Over the next six months, new self-contained breathing apparatus (SCBA) sets will be rolled out across the State. The new sets, which will be leased from MSA, are lighter, more ergonomically designed and have many other benefits for firefighters including an improved low air warning, easy-to-read pressure gauge, improved demand valve connection and microphone boom position, and two points of ancillary air connection.

The change from the current Draeger sets follows a thorough and competitive process to identify options for the supply of SCBA. A leasing model was one of the options considered and ultimately selected for its efficiencies and opportunity to maintain the latest technologies in BA equipment.

The rollout of the new SCBA sets will be completed by the end of June 2017 with minimal impact on operations. All firefighters will be required to complete a two-part training process before the new sets are issued. A toolkit has been set up on the intranet with details of the training requirements, updated SIMS sheets, a new Recommended Practice and an overview of the rollout schedule. See Toolkits → Operational → Equipment → Hazmat Equipment → SCBA.

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WHAT YOU THOUGHT OF THE 2016 CONFERENCE

2016 EM Conference attendees gave the following feedback which will help FRNSW plan the 2017 EM Conference and continually improve. Any further feedback should be sent to EMConference@fire.nsw.gov.au.

- 86% of attendees rated the Conference as good, very good or excellent.
- 81% [4 out of 5] said the Conference met or exceeded their presentations.
- 75% [3 out of 4] said the information would help them in their roles as leader/manager/firefighter.
- 92% wanted frontline staff to attend and participate in giving presentations, as was done this year for the first time.
- 88% found the 'celebrate success' sessions valuable.
- The sessions people found most beneficial were those on frontline perspectives (28%), effective governance (19%) and fostering innovation (13%).
- 97% found the external speakers valuable, and 67% found the two videos (on diversity and leadership) valuable.

WHAT HAS HAPPENED SINCE THE CONFERENCE

- Conference attendees gave feedback via an online survey. This information is important to the Field Operations Division Leadership Team as it will influence the format and content of future conferences.
- Information captured at the Conference was provided to attendees including PowerPoint presentations, key messages and next steps. This information is being used to feed into business plans and other planning documents.
- Attendees communicated the key priorities identified at the Conference back to their teams, stations and other FRNSW colleagues to enable implementation.
- Communications about the five strategic directions and outcomes from the Action Planning Session were sent out via the intranet, Fire & Rescue News and face-to-face channels.
- Videos of Conference sessions were posted on the intranet for all staff to view these, see Toolkits → About You → All Staff → EM Conference.



Commissioner Greg Mullins with his two Deputy Commissioners, Jim Hamilton and Graeme Finney

5 MINUTES WITH... OUR NEW SENIOR EXECUTIVE TEAM

Following the appointment of FRNSW's new senior executive team, the Commissioner and his two new Deputy Commissioners take the spotlight to share their vision for the coming year.

Under the Government Sector Employment Act, all NSW Government agencies were required to implement new senior executive arrangements that incorporated flatter structures and standards for spans of control.

Earlier this year, the Public Service Commissioner and Secretary of the Justice Cluster approved a draft structure for FRNSW which met the new criteria. Under the new structure, a new senior executive team was appointed as follows, reporting directly to the Commissioner.

- Deputy Commissioner Field Operations: Jim Hamilton AFSM
- Deputy Commissioner Strategic Capability: Graeme Finney OAM
- Executive Director Finance: Adam Summons
- Executive Director Logistics Support: Emmanuel Varipatis
- Executive Director People and Culture: AC Malcolm Connellan AFSM
- Executive Director Information Technology: Robert Hilditch

In this issue of *Fire & Rescue News*, Commissioner Mullins and his two newly appointed deputies, Jim Hamilton and Graeme Finney, share their aims and objectives for the next 12 months and reveal something about themselves the rest of the organisation may not know.

Adam Summons, Emmanuel Varipatis, AC Mal Connellan and Rob Hilditch will feature in the next issue.

5
MINUTES
WITH...

COMMISSIONER GREG MULLINS AFSM

Commissioner Mullins joined the NSW Fire Brigades in 1978. He has served in a variety of operational and specialised positions, including at No. 1 station for many years, in the Bushfire Section, in Fire Safety, as Supt/ Manager Operations Research, as AC/ Regional Commander South West, as Director State Operations, and was appointed as Commissioner in July 2003. He is the President of the Australasian Fire & Emergency Service Authorities' Council, Australian Director of the International Fire Chiefs' Association of Asia, and Deputy Chair of the NSW State Emergency Management Committee

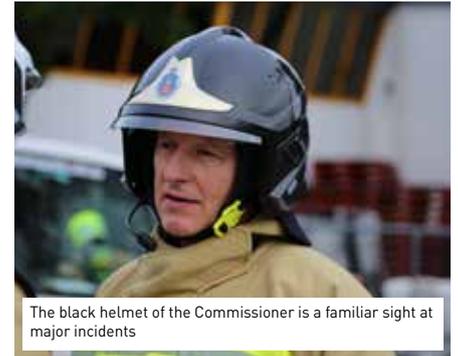
What do you hope to achieve in the coming months?

When I became Commissioner, I made my intent very clear: it was around improving our community standing and media presence, improving operational capabilities and transforming our 'back end' business systems and FireCAD. But most importantly, I wanted to change leadership styles to improve communication and inclusiveness. Specific issues included being the best rescue agency, the best USAR agency, and securing a new State Training College. I also believed (and still believe) that we should work closely with the Ambulance Service of NSW on a medical first responder program, which will save many lives.

Thirteen years after my appointment, I've had the opportunity to work with a number of very talented executives who have helped make nearly all of these happen. My main focus with the new executive team is on embedding values-based leadership and respect for all frontline staff, increasing workforce diversity and encouraging innovation.

What don't people know about you?

I have studied martial arts since I was 11 years old. I studied Wing Chun Kung Fu initially, then Karate from the age of 13. I have a 4th Dan black belt in Shorinkan Shorin Ryu Karate, a 2nd Dan in Budokan Karate, and 1st Dan in Goju Kai. I also study Okinawan weapons and Israeli military hand-to-hand combat (Krav Maga). I met my wife, a black belt and former Australian champion, in a karate class, and my son Phil is a 2nd Dan black belt.



The black helmet of the Commissioner is a familiar sight at major incidents

5
MINUTES
WITH...

DEPUTY COMMISSIONER JIM HAMILTON AFSM



DC Jim Hamilton has been part of the Brigade since he was 18.

Deputy Commissioner Jim Hamilton joined the NSW Fire Brigades in 1980 at the age of 18. DC Hamilton has served in numerous fire stations, and has served as a College Instructor, a ComCen Operator and OIC Hazmat. On his very first day as OIC Hazmat he was responded to the Thredbo landslide. As a Senior and Executive Officer, he has served in a variety of operational and specialised positions, including Assistant Director Specialised Operations, Area Commander Metropolitan East, Director Specialised Operations, Director Regional Operations, Director Metropolitan Operations and Director Operational Capability. He has significant experience in counter-terrorism activities, including six years as the Australian Emergency Services representative on an international counter-terrorism committee. In July 2016 he was appointed Deputy Commissioner Field Operations.

What do you hope to achieve in the next 12 months?

I will continue to focus on leadership, workforce safety and capability, technology, efficiencies and service delivery. This will include the establishment of the Field Operations Division and how we can improve on what is already a great component of the organisation.

The new Field Operations Division includes Metropolitan and Regional Operations, as well as the Community Safety Directorate, so a key strategy will be on greater integration of community

safety activities into frontline services, targeting specific activities for specific risks.

To ensure Field Operations continues to evolve, we will need to maintain and enhance our close working relationship with other areas of FRNSW, especially the Strategic Capability Division. Jointly, we're exploring new capabilities and enhancing our existing capabilities. Part of this focus is on specific capabilities such as compressed air foam systems (CAFS), flood rescue, introduction of smaller rescue trucks, larger technical rescue vehicles and different types of aerial pumpers, as well as a mobile data terminal on every first response appliance.

For me it's exciting times; it is a great opportunity for us to benefit from close-knit teams within Field Operations as well as progressing strategies and alignment with other emergency services within Australia and beyond. It's also about continuing the great work that's been done on the frontline and continuing to listen to firefighters about their needs.

What don't people know about you?

Socially, I have a group of friends that I started kindergarten with 50 years ago. Who would have thought that after all those years, four of us still play soccer together? We started as baby-faced six-year-olds, and now try and kid ourselves that we have the skills and speed of 20-year-olds. The mind might be willing, not sure about the body...

5
MINUTES
WITH...

**DEPUTY
COMMISSIONER
GRAEME
FINNEY OAM**

Deputy Commissioner Graeme Finney joined FRNSW in November 2015. A former serving Brigadier in the Australian Army, DC Finney has enjoyed a 28-year leadership career. He has predominantly served in operational and training assignments including Director General Operations for the Australian Army and as Director Future Operations for the NATO-led International Security Assistance Force (Afghanistan). He has also served in a range of training appointments with the Australian and US Military, including Commandant of Recruit Training at Kapooka (Wagga Wagga) and as an Instructor with the US Army Command and General Staff College (Fort Leavenworth). In July 2016 he was appointed Deputy Commissioner Strategic Capability.

What do you hope to achieve in the next 12 months?

Since transitioning to FRNSW I have remarked on the close synergy between Operational Capability and Education & Training (E&T). The restructure is a great opportunity to realise that.

Commissioner Mullins presented me with an extensive list of undertakings for E&T when I first joined, and it has been great to see the team jump in and support these initiatives. Transitional arrangements for the College site at Alexandria are in place, and planning for the new Training Academy is tracking well. The review and reform of rescue has been achieved and the E&T Policy has been delivered which also included the recognition procedures. There is still work to do including finalising the review of retained training, the analysis of leadership and management training and the ongoing review of basic life support training. I am pleased by the efforts of all staff to achieve new and innovative ways of delivering training. It has been great work!

I firmly believe we can do more to ensure FRNSW is strategy-led, and Operational Capability is the key to this. There are areas we can focus on in terms of doctrine, roadmaps and continuous improvement that can inform capability decisions, acquisition plans and the introduction of capability into service.

At the same time, I'm keen to learn more about Specialised Operations. Our USAR capability will undergo reaccreditation in 2017 and this work is fundamental to the core business of FRNSW. I am also keen to investigate the great work done by Hazmat and see how that links with work done elsewhere. Finally, the ongoing development of the Strategic Operations Centre will be an area of focus.

I am very impressed by the work done by the Program Management Office. The unit is essential to ensuring governance arrangements and I am keen to see how they might better support the articulation of strategy to provide a longer term vision of where we might go.

I am also conscious that the next couple of years will be a period of change as we fully implement the outcomes of the GSE and relocate to Greenacre and Erskine Park, all of which will need to be managed while maintaining business as usual. It is a challenging however exciting time ahead, and I am honoured and delighted to be serving with FRNSW on that journey.

You learn a lot about yourself by giving things a go

What don't people know about you?

I was once a radio announcer for FM91.5, 'the fresh sound of the North Shore'. Many people say I have a radio announcer's voice and former Blankety Blanks announcer Don Blake is actually my cousin. It is a bit 'left of field'; however, 15 years ago I decided to get into community radio. I was serving in the Military and looking for something different to expand my skills. For two years I was the 'Wolfman Jack' guy, doing the 10pm to 1am shift. My time at the station culminated in a week as host on the morning show. It taught me a lot. When it is late at night and you are the only one there and you are not receiving any feedback, you are simply laying it all out. I think you learn a lot about yourself by giving things a go! It was a great experience.

END



DC Graeme Finney during his recent ridealong with 32 Mt Druitt

KEEPING A CAT'S EYE OUT FOR WATER



12 stn Balmain installing cat's eyes hydrant indicators



A new hydrant indicator trial known as 'Project Sapphire' aims to make it easier for firefighters to access water at incidents.

Every firefighter understands the importance of locating sufficient water supplies at a fireground. As such, hydrant identification and location are critical aspects of safe and successful firefighting.

Despite this there are currently no consistent hydrant-marking practices across NSW, largely due to the shared responsibilities for hydrants. Water authorities, and in some cases local councils, are responsible for the provision and maintenance of hydrants while FRNSW is mandated to test them annually.

In a 2014 FRNSW survey of Superintendents, Inspectors, Station Officers and Captains, 87% of respondents said they had experienced difficulties in locating a hydrant because of poor indication. Firefighters also overwhelmingly indicated that blue reflectors were the best way to identify hydrants.

As a result, now retired Superintendent Chris Jurgeit championed a station-based trial to install blue cat's eyes reflectors.

"Blue cat's eyes are easily visible both day and night, increasing the likelihood of crews being able to access water supplies efficiently," said Supt Jurgeit. "Fire services also believe blue reflective road markers are more effective than other methods in smoky conditions."

Following negotiations, Sydney Water agreed to support a trial by purchasing blue reflectors, bituminous pads and LPG heating

equipment, with fire crews at selected stations installing the reflectors as part of their normal hydrant inspection duties.

The FBEU endorsed a limited trial of four stations – 12 Balmain, 445 Springwood, 269 Corrimal and 98 Cranebrook – to assess the feasibility of standardising hydrant marking processes across NSW.

'Project Sapphire' commenced in March 2016 at 12 Balmain C Platoon, led by Station Officer Brad Giersch. SO Giersch and his crew completed around 300 installations in the first two months with the public and other stations all giving positive feedback on the trial. At 269 Corrimal, Retained Firefighter Glen Boyd said they have been installing one or two cat's eyes every week with more than 50 completed so far.

As part of the trial, Manager Geographical Information Graham Chapman developed an app to record installation and hydrant inspections in real time and complement the mobile data terminal hydrant overlay.

At the end of the 12-month trial, the participating stations will provide feedback to assess the progress of the initiative. If successful, it is hoped that FRNSW can partner with Sydney Water and the other water authorities in NSW (of which there are almost 100) to ensure future hydrant indicators are consistent throughout the State.

CAT'S EYES THE NEW HYDRANT HEROES

'Project Sapphire' builds on the success of the Hydrant Hero public awareness campaign which ran in February 2016. The campaign urged residents to take responsibility for maintaining the hydrants in their street, allowing for quicker and easier access for FRNSW crews in an emergency. While the blue cat's eyes help firefighters find hydrants, the public still have a crucial role to play in looking out for the hydrants themselves – keeping them free of weeds, grass, dirt and debris.



A SAFER WAY TO FIGHT FIRES?



Villa fire, Halmstad, Sweden, 2011: After 3 minutes with a Cobra attack, the positive pressure ventilation (PPV) fan is used and the BA crew enter into a cool, smokeless and safe environment. The fully involved house fire is extinguished in 8 minutes, using a total of 180 litres of water and no water damage.

An idea thrown up by the Commissioner's Participative Council could see new tools trialled to offer alternative methods of 'external' firefighting.

The Commissioner's Participative Council (CPC) aims to drive innovation and cut down roadblocks by giving life to new ideas. One such initiative to come out of the CPC in 2016 is use of 'piercing and misting' firefighting tools.

Piercing and misting tools give firefighters the ability to penetrate a structure and deploy a fine mist to cool internal fire gases. The effect cools the gases so they are no longer flammable, improving visibility and the environment, thus making it safer and easier to work in. These tools may also halt or even reverse fire development.

There are a number of tools in the market – most notably the ultra high pressure Cobra Cold Cut which can penetrate any building material and the Fognail which requires pre-drilling before the misting tool can be inserted. Both tools are Scandinavian-designed and have had strong uptake in Sweden. The Cobra technology is also widely used in the UK, where Northampton Fire & Rescue Service is leading the way in Cobra methodology and tactics.

Both tools enable firefighters to get water to the fire from the outside of the fire compartment while avoiding additional ventilation. In situations where an Incident Commander is reluctant to commit a BA crew internally, piercing tools, like the Cobra or Fognail, can be deployed from the outside and significantly improve internal conditions.

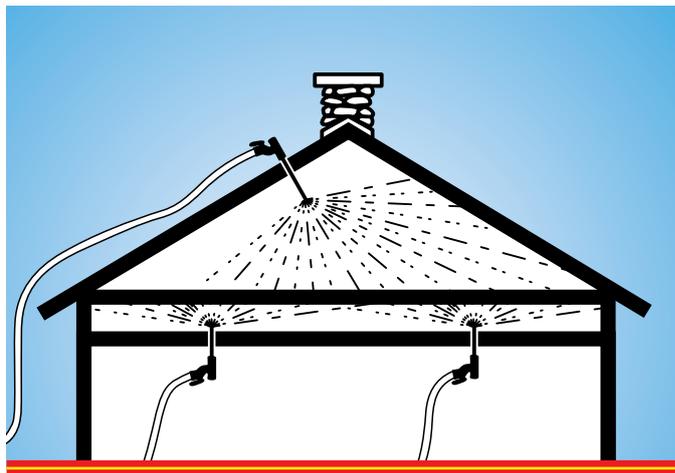
The tools can be particularly useful in hard to reach places, such as voids and cavities (e.g. roof spaces, wall cavities, air conditioning ducting and car engines).

Thanks to the contacts and support provided by the CPC, a briefing paper recommending that FRNSW trial the Fognail for difficult to access void fires was developed. The briefing was supported by the Commissioner and details for the trial are being finalised.

CPC Chair, Assistant Commissioner Gerry Byrne said the trial of piercing and mist tools may offer FRNSW the option of an 'interim step' prior to committing BA crews internally or deciding on a defensive attack.

"Safety is our highest priority so anything which can improve the way we fight fires is worth investigating," said Chief Superintendent Byrne. "This is an excellent example of what the CPC can achieve by giving grassroots ideas and initiatives a genuine chance to become reality."

Piercing tools can be deployed from the outside and significantly improve internal conditions



OUR 21 CHIEFS CELEBRATED IN NEW BOOK



SO David Tai (centre) with retired Chief Officer Stan Hearn and Commissioner Greg Mullins

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On 17 August, a new FRNSW book was launched at a special celebration at the Museum of Fire. ‘Leading from the front’ is the result of more than four years of dedicated research and writing by Station Officer David Tai.

SO Tai devoted thousands of personal hours to researching the lives and work of the 21 Chief Officers and Commissioners who have led NSWFB/FRNSW since 1884. He located and interviewed relatives, delved into public and personal records and sourced a rich collection of family and press photographs. His work captures the essence of each leader, combining their personal stories with Brigade achievements, milestones and iconic incidents.

The launch was attended by more than 100 current and former FRNSW staff, families of the former chiefs and retired Chief Officer/Acting Commissioner Stan Hearn, who led the Brigade between 1991 and 1994. Commissioner Mullins attended with his family, including his 91-year-old father and two-year-old grandson. Many guests travelled from across the State to celebrate the achievements of their fathers, grandfathers and great-grandfathers and the former Chiefs under which they have served.

In his address, Commissioner Mullins said that while much has changed in the Brigade’s 132-year history, the courage, commitment and ingenuity of the men and women who serve on the frontline as firefighters has not.

“This book is a part of our wider story, and I hope you enjoy reading it,” he said. “I congratulate SO David Tai for his passion, tenacity and unwavering commitment to bringing our history to life.”

The book is a must-read not only for those fascinated by the history of firefighting, but also for anyone interested in effective leadership during changing times, and the principles of ‘leading from the front’. The book is exclusively available for sale at the Museum of Fire shop or online, priced at \$49.95, with all profits donated to the Burns Unit at Westmead Children’s Hospital.



2016/17 BUDGET DELIVERS VITAL RESOURCES FOR EMERGENCY SERVICES

In the NSW State budget announced on 21 June 2016, FRNSW was allocated \$693.2 million in recurrent funding and a capital budget of \$47 million.

This capital allocation included \$7.9 million for new fire stations and upgrade of existing fire stations across NSW. Along with projects already underway at Abermain, Gulgong, Henty, Maryland, Mount Druitt, Murrurundi, Nyngan and Wollongong, the capital budget funds four new fire stations at Batlow, Eden, Parkes and South West Rocks, as well as fitout of the Alexandria Fire Station. A further \$2.5 million was allocated for development of training props for the new FRNSW State Training Academy which will be built at Erskine Park.

In addition, \$14.8 million was allocated for the continued replacement of firefighting, specialist and rescue appliances, including new prototype Class 3 rescue pumpers. This will enable FRNSW to maintain the optimum age and operational profile of its fleet.

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FRNSW-LED USAR WORKING WITH OTHER USAR TEAMS WORLDWIDE

FRNSW is accredited by the United Nations International Search and Rescue Advisory Group (INSARAG) as a Heavy USAR Team for international response to disasters involving major building collapses and other complex rescues.



Visiting Malaysian SMART team with FRNSW USAR instructors at the Ingleburn facilities

FRNSW hosts Malaysia's USAR Team at Ingleburn

In April, a 15-strong Malaysian SMART Disaster Assistance Response Team travelled to Australia to spend a week undergoing joint USAR training at FRNSW's Ingleburn facility. The purpose of the visit was skills sharing in the lead-up to the INSARAG external classification of Malaysia's SMART Team.

The Malaysian and Australian teams formed a good working relationship following earthquake exercises in Malaysia in 2013 and Mongolia in 2015. This led to the Malaysian team approaching Australia to participate in joint training exercises.

Rescue/USAR Project Officer SO Russell Turner said that although equipment differed, the common requirements of INSARAG guidelines ensured that Australia and Malaysia's concepts and processes were consistent.

"The common desire for serving communities ensures that the personal traits of emergency responders are similar even though they come from different parts of the globe," said SO Turner.

Topics covered during the joint training included safety technical search, heavy lifting, shoring and cribbing, metal cutting, and concrete cutting and breaking. The week concluded with a tour of City of Sydney Fire Station. Highlights for the visiting team including learning new shoring techniques and cutting torch training. The Malaysians described the FRNSW instructors as friendly, humble and helpful, with differences in language and culture overcome by everyone communicating in the same 'USAR language'.

Differences in language and culture are overcome by everyone communicating in the same 'USAR language'

SO Turner said this type of engagement is extremely positive for all concerned. "All Instructors stated that interaction with the group was a highlight of their USAR careers," he said. "It is hoped our relationship with the Malaysia SMART team can be maintained ... a number of other Asia-Pacific teams have also expressed a desire to engage with FRNSW in the future.

FRNSW participates in assessment of Philippines USAR capacity

Also in April, one of FRNSW's USAR Team Leaders, Chief Superintendent Paul McGuiggan, travelled to the Philippines to represent Australia as part of a UN INSARAG mission to assess USAR capacity.

This request was made by the Philippines Government to support its disaster risk reduction efforts. The Philippines is an archipelago of 7,100 islands with a population of just over 100 million people, and is very vulnerable to various types of natural hazards due to its geographical location and physical environment. It is located in the Pacific Ring of Fire, an area characterised by a belt of active volcanoes and earthquake which can trigger devastating building collapses, landslides and tsunamis. The country also often experiences powerful tropical typhoons.

The Philippines' Armed Forces (AFP) has identified humanitarian assistance and disaster response as one of its four mission areas. The AFP is also the country's National Disaster Risk Reduction and Management Council's lead organisation for its Search, Rescue and Retrieval Cluster.

During the INSARAG Asia and Pacific Regional Meeting in 2015, the Philippines representative requested assistance in developing a roadmap for a national USAR capacity-building program. This is to establish adequate USAR capacity with the aim of being better prepared to meet risks arising from emergencies or disasters that cause structural collapse.

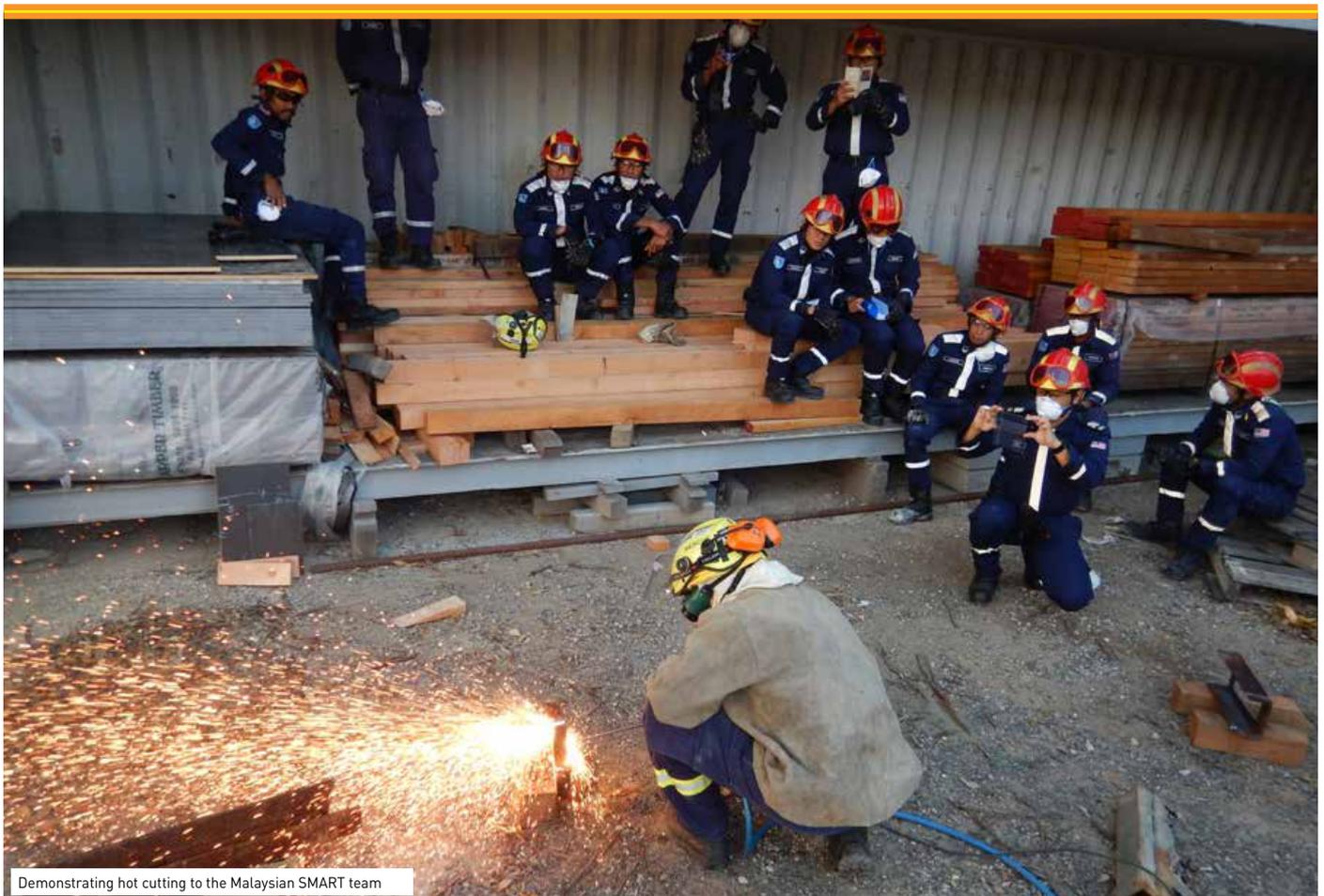
Chief Supt McGuiggan was part of the multinational UN-led team which included representatives from China, Singapore and Japan. The team evaluated the existing Philippines capacity to respond to and mitigate the impacts of major incidents and national disasters, at both the environmental and operational levels. The team then presented their findings to the Philippines Government including recommendations to increase both the capacity and capability of existing emergency services such as the police, fire, ambulance and military.

FRNSW mentors LA County's USAR team during its reclassification

In May, three FRNSW officers – Chief Superintendent Greg Wild and Senior Firefighters Peter Watson and Richard Wilson – travelled to the USA to review the Los Angeles County USA-2 USAR Team preparations for their 2017 INSARAG external reclassification. The USA-2 Team has deployed to many natural disasters including Haiti, Christchurch, Tokyo and Nepal, and operates to a very high standard.

The three FRNSW officers also visited LA County's large Pomona complex where mobilisation takes place. Their visit coincided with the USA-2 Team undertaking an exercise simulating deployment to a large earthquake which had impacted a densely-populated residential area. USA-2 demonstrated its capacity to pass through a Reception Departure Centre, establish a Base of Operations and operate over two different worksites autonomously for 48 hours.

FRNSW's mentoring of the USA-2 Team is a great opportunity to further strengthen relationships between the two teams. It is also a great opportunity to learn how the USA resources, manages and coordinates its USAR capability.



Demonstrating hot cutting to the Malaysian SMART team



Photos courtesy of Angelo Roman, Orlando Fire Department



MAINTAINING BEST PRACTICE IN FIRE INVESTIGATION

In April 2016, Station Officer Michael Forbes, Team Leader Fire Investigation, attended the International Association of Arson Investigators (IAAI) Training Conference in Florida, USA on a scholarship-funded trip.

Commenting on the benefits of the trip, SO Forbes said, "In addition to expert discussions and programs on fire investigation, research and legal aspects, the trip gave me a unique opportunity to meet experts from across America and also overseas, and to build valuable contacts and tap into networks."

Prior to the Conference, SO Forbes visited the Orlando Fire Department (OFD). He joined them on shift, responding with the OFD arson investigator to a chimney fire in an apartment building.

SO Forbes also met with Lieutenant Ron Verbal who was the Canine Handler for OFD's arson dog, Jessie. This canine works quite differently to those managed by FRNSW. Even though the dog detects the same liquid accelerants as FRNSW's canines, the OFD dog is rewarded with food rather than play.

Learnings from the IAAI Conference

SO Forbes' report on his trip highlighted the Conference sessions most relevant to FIRU's work, including the following:

- Showing your work: evaluating expert testimony through the courts (providing useful advice for FIRU staff and firefighters required to testify in court).
- Managing complex scene investigations case study into fatal fire and explosion at Texas: In April 2013, an ammonium nitrate explosion at the West Fertilizer

Company storage and distribution facility in Texas killed 15 people, injured more than 160, and damaged or destroyed more than 150 buildings (very relevant to FIRU in investigating large complex incidents such as the Rozelle shop fire).

- New equipment and technologies for the fire investigator including the use of X-ray in fire debris analysis.
- Fire tests and case studies on UK switchboards: a manufacturing defect in a circuit breaker within UK consumer switchboards has caused many fires forcing a product recall (relevant to Australia as similar switchboards are used here).
- Discussion about whether fire victim toxicology data (i.e. carboxyhaemoglobin concentration levels) can be used to determine or support area of origin.
- Fire and explosion risks posed by batteries, particularly lithium ion batteries, and implications in investigations.

Summing up his visit to America, SO Forbes said, "The learnings I gained from the Conference will help to ensure FRNSW's fire investigation capability is in line with world's best practice, and that we are using efficient and effective technologies."



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WINNING IMAGES AID FIRE INVESTIGATION

Each year the IAAI run a photography competition for fire investigators around the world to submit incident photographs. SO Forbes won the 2016 competition for both the Arson and Accidental categories. Michael is keenly interested in photography, and he submitted photos of a fuel pour pattern at a deliberately lit fire in a shopping centre, and an accidental fire in a laptop computer. The photos demonstrated the importance of emergency responders preserving the scene of a fire, as this can greatly assist fire investigators. SO Forbes was presented with his awards at the IAAI Conference.

INCIDENT FOOTAGE RAISES AWARENESS OF STRUCTURE COLLAPSE RISKS

Unprecedented CCTV and bystander footage from an actual incident has been used to create an awareness video to help keep firefighters safe.



Explosion and fire at Rozelle shop in 2014 triggers building collapse



STRUCTURE COLLAPSE SOUND BITES

As at 14 September, the video has been viewed 2,760 times. Comments and feedback received from firefighters and senior officers have been overwhelmingly positive.

“There’s some really good things being said about [the video] by fireies at station level. The footage in particular is incredible. I never knew roof trusses could burn through so quickly. Overall it’s been really well received by everyone I’ve spoken to and has made people really question jobs they’ve been to.”
– Permanent Firefighter

“[This] is one of the best training videos I have seen. It effectively highlights the dangers and appropriate control measures and will definitely be a useful training tool.”
– Station Officer

“As a professional carpenter, builder and trainer/assessor for the construction industry. I commend all of you doing a great job in this video.”
– Retained Firefighter

“I particularly congratulate the crew for giving an honest account of the events of that night ... I will work with the safety team to encourage more of these types of case studies from FRNSW experiences to provide all firefighters with the opportunity to improve safety at incidents.”
– Capability Manager

The video, which was released by Operational Safety earlier this year, uses the real life scenario to highlight to firefighters the risk of structure collapse at incidents.

Footage from the collapse has been combined with interviews with the Incident Commander and Qualified Firefighter Gavin Smith, who was seriously injured. Significantly, the video warns that signs of impending collapse aren’t always present, and outlines some ways of identifying and controlling the risks to crews.

Operational Safety Coordinator, Leading Firefighter James Davies said while technology continually presents new challenges for safety, it also gives new opportunities to convey information about incident hazards.

“The success of this video was largely due to excellent footage that will stick in firefighters’ minds for years to come,” LF Davies said. “Feedback we’ve received shows it reinforces our critical safety messages far more than words alone could.”

“Thank you to everyone involved in the video, particularly QF Smith. It shows

what can be achieved when we use our experiences for learning and the benefit of our colleagues.”

The video is the first resource in the rollout of new doctrine which includes a comprehensive new Structure Collapse SOG and Guideline Support Document.

As a result of its reception within FRNSW, the video has been entered into the TMF Awards for Excellence (Innovation Category) and National Safety Council of Australia (NSCA) Safety Awards (Best Communication of a Safety Message Category), to be held in November and October 2016 respectively.

The video and supporting documentation are available on the Structure Collapse Risks Toolkit on the intranet, see Toolkits → Operational → Rescue → Structure Collapse Risks.

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MDT gives details of hazmat incident to responding crew. Image courtesy QF Erin Pogmore

AN MDT IN EVERY FIRE STATION

Just 12 months after FRNSW began rolling out ADASHI First Responder mobile data terminals (MDTs); there is now at least one device in every fire station in NSW.

The most recent phase of the rollout, which was completed by the end of September, has delivered an additional 188 MDTs to appliances, taking the total count to 370 MDTs in 337 fire stations.

With at least one MDT in every station, it means there is now a standard operating model across the State with every firefighter either regularly using or able to access a device.

MDT kits have also been installed in more than 30 SEVs since the project began, allowing firefighters to continue using their device when their appliance is being serviced or repaired.

399 Narrabri Deputy Captain Joab Rushton welcomed the technology after an MDT was installed in their pumper in early August.

“We heard about the benefits of the MDTs with things like instant access to hydrant maps and current SOGs and reduced radio traffic, but expected it would be some time before we saw them in RN3,” DCapt Rushton said.

“The crew was keen to get familiar with the MDT so we scheduled time during the next drill night to go over the reference

manual and toolkit resources. Once you understand what the MDT can do, it’s easy to use.

“Naturally it doesn’t completely replace the radio and there are some black spots in coverage due to mobile networks in country areas, but on the whole it’s a great advancement.”

Since the pilot commenced in 2015, feedback from firefighters has resulted in a number of new features and functions including the recent addition of audible turn-by-turn navigation, ESCAD message indicator, enhanced weather and CFU status.

The devices also allow IT to automatically push out updates with new data as it becomes available. The first of these updates, featuring Standard Operating Guidelines (SOGs) and Pre-Incident Plans (PIPs), was sent to MDTs in May 2016.

While ongoing updates focus on keeping the data current in existing MDTs, work is still being undertaken to increase the number of devices and MDT-enabled appliances (e.g. with kits installed) across the FRNSW fleet.

“The project has already delivered MDTs to more than half of our fleet,” said Assistant Director Operational

Communications, Chief Superintendent Greg Wild. “But the program of work remains ongoing and will continue to grow as vehicles are replaced and redeployed to other locations.”

“MDTs will evolve and firefighter feedback will continue to drive advancements in the ADASHI suite of products. It’s just one aspect of the development of Operational Technology and mobility – which also includes auto vehicle location (AVL) and the planned roll out of new Samsung appliance phablets and Wi-Fi capability – at FRNSW.”

While it is important to keep MDTs secure due to their connection to ESCAD, new phablets (which are a hybrid phone/tablet) will provide all the functions of a smartphone with customisation of apps and features. Together they will provide access to a range of useful information and tools.

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THE RIGHT CAPABILITY IN THE RIGHT PLACE AT THE RIGHT TIME TO GET THE JOB DONE

Rolling out new capability, or improving an existing capability, is not a simple task. FRNSW has developed the Operational Capability Framework to help coordinate this process.



Left: Carrying out a flood rescue. Right: Practising swiftwater rescue techniques

FRNSW is a large, geographically dispersed and complex organisation serving a wide variety of communities with varying needs. Delivering fire, rescue, hazmat, incident management and other services to the community requires the whole organisation to support frontline firefighters.

Frontline firefighters do their job effectively because FRNSW has effective organisation and incident command structures; communicates the right information; has fire stations in the right places with well-maintained vehicles and equipment; and recruits the right people who have the required training based on good policies and procedures.

The *Operational Capability Framework* was developed as a tool to assist FRNSW to describe its services, and the inputs required to deliver those services. The inputs to capability are: People, Organisation, Information, Support and Facilities, Training, Equipment and Doctrine (referred to using the acronym POISTED). The Framework also describes the capability management life cycle of reviewing, creating, implementing, sustaining and where appropriate, eventually withdrawing capability.

Capability tends to be viewed as only equipment, and terms such as 'capability development' are mistakenly seen as simply the process of acquiring new equipment. As the introduction of flood

rescue capability demonstrates (see breakout), capability development is much broader and incorporates liaison with other agencies; needs analysis; doctrine development (policy, SOGs and recommended practices); development and delivery of training programs; equipment specification, purchase, deployment and maintenance; review of command and communication procedures; and support from Metropolitan and Regional Operations and frontline firefighters.

The Framework also takes into account the readiness and sustainability of a capability. Readiness is how long it takes FRNSW to deploy a capability. Most FRNSW capabilities are ready to respond 24/7; for example, Triple Zero call-taking or pumper response to a structure fire. Other services take longer to deploy e.g. putting together a Strike Team or sending an urban search and rescue team overseas.

Sustainability is how long FRNSW can continue to provide a capability to a particular incident, and also how many simultaneous incidents FRNSW can respond to without loss of capability. For example, the resources needed to deal with a small area of bush alight that is extinguished in two hours are obviously very different from the resources needed to keep eight Strike Teams and an Incident Management Team operating 24 hours a day for 10 days during a campaign bushfire.

FLOOD RESCUE CAPABILITY ROLLOUT

FRNSW is currently rolling out a new capability across NSW – flood rescue. During the past year, 20 stations were trained and equipped to carry out land-based flood rescue and three stations were trained in water-based flood rescue. The value of this capability was demonstrated during the East Coast Low in June 2016, when FRNSW crews performed around 100 flood rescues in support of the NSWSES.

Over the next year, FRNSW plans to train another water-based flood rescue station and 30 land-based flood rescue stations, making this capability available across NSW. A 4-module flood awareness e-learning training package was published on the FRNSW Learning Hub in September, with a new flood rescue Standard Operating Guideline, toolkit and policy also soon to be published.

"The introduction of our new flood rescue capability has shown that the *Operational Capability Framework* is an effective tool for developing capability," said Chief Superintendent Gary McKinnon, Assistant Director Capability Management. "We are using it to work with all areas of FRNSW to develop a shared understanding of our capabilities."



Firefighters at CBD exercise practise search and rescue skills

FRNSW PLAYS KEY ROLE IN MAJOR SYDNEY CBD EXERCISE

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On Sunday 28 August, FRNSW took part in the 2016 Sydney CBD Emergency Management field exercise at Barangaroo.

This multi-agency exercise was the largest mass casualty exercise ever held in Australia. It attracted nationwide interest with observers coming from every state, representing functional areas as well as emergency services agencies.

The exercise scenario involved a Boeing 777 experiencing mechanical difficulties (not terrorism-related) crashing at Barangaroo where an open air concert was taking place.

There were simulated casualties in vehicles on the street as well as on Sydney Harbour.

In total, around 500 casualties were triaged, with many requiring full decontamination. A temporary morgue was also established as part of the disaster victim recovery process. FRNSW deployed more than 20 appliances, including the Mobile Command Centre, and around 90 personnel to the exercise including IMT Bravo led by A/AC Ken Murphy. A key feature of the exercise was loss of the 3G and 4G networks

early on, negating the use of mobile phones. Numerous communications and coordination centres operated during the exercise, including FRNSW's Strategic Operations Centre, the Regional Emergency Operations Centre, the Marine Area Command and the Traffic Management Centre.

This exercise and the lessons learnt from it were extremely valuable, ensuring effective multi-agency response in the event of a major incident in the heart of Sydney.

CFUs ENSURING SAFER COMMUNITIES

FRNSW's Community Fire Units (CFUs) continue to play a vital role in community preparation and safety promotion throughout the State.

Two smart device apps – CFU Admin App and CFU Activate App – introduced late last year have proved very successful. As one CFU member commented: "Received an alert yesterday via the CFU Activity App. I wasn't at home but watching a show at Penrith. I was able to alert my group and they were ready when I got home. If you haven't downloaded this app, I urge you to do it soon. It was excellent!"

New Introduction Module

FRNSW's CFU section is now implementing another digital solution to further modernise the program. The CFU Introduction Module was launched online in August, with the much-awaited CFU e-learning package coming soon.

The Introduction Module is an interactive presentation on the program's scope and requirements. Once completed, applicants need to complete the four CFU e-learning modules in order to proceed to full membership. These modules are an interactive self-paced learning program that applicants complete in their own time. The e-learning modules are assessment-based, and users can't move to the next module until they have completed and passed the previous module. Current members can also access the modules at any time to refresh their technical knowledge. This new e-learning program will improve the CFU membership application process, streamline induction and training of new volunteers, and provide easier administration of membership data.

A helping hand on Open Day

This year many CFUs assisted fire crews during the FRNSW Open Day on 21 May. At Crows Nest, Katoomba, Revesby, Umina and many other locations across the State, CFU volunteers were involved in the event in various ways – from providing the community with information on the CFU program and bushfire safety, to assisting with barbecues and demonstrations. This was a great opportunity for CFU members to support their local firefighters, promote the CFU program to the general public and be recognised as part of FRNSW.

Getting involved in campaigns

In recent months, CFUs were encouraged to get involved in various FRNSW community engagement initiatives. During the 'Hydrant Hero' campaign, they helped clear around hydrants, raised awareness in their local communities on the importance of easy hydrant access, and many took part in the social media photo competition. Through the CFU e-newsletter, social media and direct emailing, CFU volunteers were invited to be involved in promoting the ReAlarm campaign and fire safety checks by replacing their own alarms, distributing fire safety information, and speaking to their neighbours and local communities.

This winter CFUs were also included in the Emergency Services Blood Challenge. CFU members were encouraged to donate blood in their local areas and to identify themselves as FRNSW so their donations counted towards the overall FRNSW tally.

Bushfire season – review and readiness

The 2015/16 bushfire season was fortunately relatively quiet for the nearly 7,000 CFU volunteers with only a few units activated across NSW. Each year after the bushfire season ends, the CFU section holds a round of Team Coordinator conferences. This keeps Team Coordinators up-to-date about new initiatives and changes, sums up the concluding bushfire season and gathers feedback from volunteers in a face-to-face environment.

In all, 350 people attended the Autumn 2016 Team Coordinators Conferences at 20 different venues across NSW where CFU Officers delivered presentations and answered questions. Key topics discussed were introduction of the e-learning induction program, bushfire season wrap-up, helmet audit, policy and map update, and community engagement activities.

In preparation for the next bushfire season, the annual CFU Operational Readiness campaign is currently in progress. This campaign encourages CFU units to undertake practice drills, equipment checks and preventative actions to enhance community resilience during the increased fire risks in the hotter months of the year.



Left: A CFU unit discusses bushfire safety in their area. Right: CFU Training Coordinator Richard Jordan donates blood



GHS CHEMICAL LABELLING – ARE YOU READY?

On 1 January 2017 the new Globally Harmonised System of Classification and Labelling of Chemicals, known as GHS, comes into effect. The GHS includes new standardised terminology and pictograms to classify chemicals (see back cover).

The *Australian Code for the Transport of Dangerous Goods by Road or Rail* (ADG Code) will remain in place for chemicals in transit, but the GHS will be in place at workplaces. Therefore you may see both ADG and GHS signage on some products.

Firefighters and commanders must be able to interpret GHS pictograms and terminology in order to manage chemical risks at incidents. Managers and supervisors must also ensure that chemicals brought into workplaces are classified and labelled in accordance with the GHS.

More information

- Visit the intranet toolkit (Toolkits → Organisation wide → Workplace Safety → Hazardous Chemicals)
- Contact a Health & Safety Branch Safety Advisor in on 9265 2800
- Contact the on-shift Hazmat Advisory Response Team (HART) or Team Leader Hazmat/CBR
- Visit www.safeworkaustralia.gov.au or www.workcover.nsw.gov.au.

LEARNING FROM THE PARIS TERRORIST ATTACKS

On Tuesday 31 May, representatives from NSW Police, Ambulance, health and the various NSW emergency services, including more than 40 FRNSW personnel, attended a talk by Brigadier General Philippe Boutinaud, Commander of the Paris Fire Brigade, about critical lessons learnt from the recent devastating Paris terrorist attacks.

In January and November 2015, Paris suffered two series of terrorist attacks which involved a complex combination of coordinated actions – shootings, explosions and hostage taking – presenting a major challenge for emergency services. In the January attacks, 17 people died and 22 were injured; in the devastating November attacks, 130 people died and over 350 were seriously injured.

Brigadier General Boutinaud outlined how frontline operational personnel from multiple agencies provided an integrated response to these attacks which occurred simultaneously across a large geographic area. Paris Fire Brigade played a crucial role as it provides emergency medical services as well as fire services, and therefore managed patient retrieval (sometimes under gunfire), triage and on-scene stabilisation prior to transport.

Using the lessons learned from the experience of colleagues following the bombings in Madrid (2004), London (2005) and Mumbai (2008), the Paris Fire Brigade had designed a specific plan (Plan Rouge Alpha) adaptable to mass casualties and able to react to several simultaneous terrorist attacks. Implementation of this plan was a key factor in enabling effective response to the attacks, along with co-location of the call centre, crisis response centre and medical coordination centre within the Paris Fire Brigade operation centre since 2011; the planning of weekly exercises based on mass casualties' scenarios; and clear and specific rules of engagement.

The December 2014 Martin Place siege highlighted that Australia is not immune to this type of threat, and the Brigadier General's address provided many timely insights and lessons for Australian emergency services.



French soldiers guard major landmarks following Paris attacks

ISSUE 5

FIRE & RESCUE OPERATIONS JOURNAL

Editor's note

Welcome to edition five of Fire and Rescue Operations Journal. This edition contains a number of major structure fires and several complex rescue incidents. A number of recurring themes were present at all incidents, which I will briefly comment on. Firstly, the dedication, determination, commitment and professionalism of our crews present was, as always, exemplary. No matter how chaotic or destructive the scene, firefighters rapidly formed plans and undertook operations to systematically control the emergency, on many occasions in the face of great adversity and danger and often displaying significant courage, judgement and great skill.

This edition features a number of incidents where major structural collapses occurred (including wall

collapses and steel truss roof failure), at times without warning. On all occasions, firefighters employed appropriate safety measures prior to the collapses taking place, ensuring all firefighters remained safe when these spectacular and dangerous collapses occurred. The new Incident Management SOGs were used at most incidents reported in this edition; there is little doubt the new SOGs are improving the safety and effectiveness of FRNSW operations. At all incidents, size-up was a key component of all operations, enabling critical factors to be identified that form the basis for systematic and deliberate operations that are then built out as operations expand. Size-up also identified the many hazardous conditions present, enabling appropriate safety strategies to be put in place, ensuring the highest levels of safety for firefighters and all persons at the scene.

Within this edition, there is a focus on several occupancy types that present particular challenges to firefighters due to their unique hazards, peculiar fire behaviour characteristics and specific operational requirements, notably older church buildings and discount/variety stores. This edition also sees some of the new innovative technology recently introduced into service in use at a number of major incidents, including the mobile command centres, CAFS pumpers and tankers and mobile data terminals. Without doubt, this technology is greatly improving the operational effectiveness and safety of FRNSW operations. There are important lessons to be reinforced in this edition of the journal for all firefighters.

Inspector Kernin Lambert
Editor





CECIL HILLS HIGH-SPEED SIDE-IMPACT COLLISION INTO TREE AND SEVERE ENTRAPMENT

FRNSW crews responded to a vehicle that impacted a tree at high speed, resulting in severe entrapment of the driver. Working closely with Ambulance paramedics and the medical retrieval team, firefighters carried out a complex extrication to release the driver.

Incident type: Motor vehicle accident with persons trapped.

Call details: 1236 hours, Tuesday 17 May 2016, direct line call from Police RCO, MVA persons trapped, Frederick Road, Cecil Hills.

Nature of entrapment/emergency: High speed, single vehicle (light passenger two door hatchback), side impact (off-side) into a tree, resulting in severe entrapment by compression of the male driver, approximately 18 years old. The vehicle was "wrapped" around the tree on the off-side. The driver was trapped by compression due to the off-side door and

"A" pillar folding over the driver from the waist down onto the transmission tunnel.

FRNSW response: Rescue Pumper 101 (Bonnyrigg Heights), Heavy Rescue 8 (Liverpool), CAFS Pumper 31 (Busby) and Zone Commander MW2 (Parramatta) Superintendent Selwyn Mathias.

Additional services in attendance: Ambulance Service of NSW, Ambulance Aeromedical Retrieval Unit and NSW Police.

FRNSW operations: Rescue Pumper 101 arrived on scene followed a short time later by CAFS Pumper 31 and found the driver severely trapped due to a high

speed impact into a tree. The force of impact was so severe, firefighters found the steering wheel protruding outside the near-side of the vehicle. Firefighters could not see the patient's limbs below the waist. After conducting a size-up and identifying the severity of entrapment, SO Philip Midavaine requested the response of a heavy rescue unit to the scene.

Firefighters stabilised the vehicle and in preparation for the arrival of Ambulance paramedics, removed the partially crumpled roof and near-side door of the vehicle. The extrication plan involved pushing the near-side door, "A" pillar and dash off the patient with hydraulic rams.



A second hydraulic ram is positioned



Firefighters place a ram base against the off-side of the vehicle to spread the ram load

Due to the collision impact, the trunk of the tree was pressing into the near-side of the vehicle, preventing it being pushed off the patient. Firefighters planned to partially remove the vehicle from the tree, to create sufficient space for the near-side of the vehicle to be pushed off the patient with the hydraulic rams. Firefighters set up a winch anchored to Rescue Pumper 101, attached to the front off-side shock tower control arm of the vehicle and used a pulley to create a 2:1 advantage, halving the load placed on the anchor. A second winch was attached between the rear of the vehicle and Heavy Rescue 8. Both winches were placed under tension. At the request of the Ambulance Supervisor, winch operations did not commence until the medical team and doctor had arrived on scene, due to possible complications associated with releasing the patient from compression.

The medical retrieval team arrived on scene and conducted further medical stabilisation of the patient. Under the direction of the doctor, firefighters began

to operate the winches, slowly pulling the near-side of the vehicle away from the tree. In conjunction with the winch operation, firefighters operated hydraulic spreaders and other manual equipment to push the vehicle off the tree. After the vehicle had been moved a short distance, sufficient space had been created between the off-side of the vehicle and the tree for the rams to operate effectively. Prior to positioning the rams, firefighters removed the windscreen, front passenger seat, handbrake and part of the centre console, to create space for the effective operation of the rams. Firefighters then placed a hydraulic ram between the base of the near-side "B" pillar and the off-side door and began to extend the ram, pushing the door and "A" pillar off the driver, into the space created by pulling the car away from the tree. When the ram was at full extension, a second ram was placed in position and used as packing while the first ram was re-set and a second ram extension conducted. Due to the weakened state of the off-side door, a ram base was placed against the door to spread the load being applied by the ram, providing more efficient extension operations. Firefighters conducted six re-sets, enabling the door to be completely pushed off the patient's lower limbs. This included use of a small ram placed between the sill located within the front near-side foot well and the off-side door, to remove entrapment of the patient's legs from the foot well. After the patient's lower limbs had been removed from compression, the patient was placed on a rescue board and removed from the vehicle to an ambulance for conveyance to hospital.

Notes

1. The first arriving SO conducted an initial scene size-up, identifying the complex nature of entrapment and a requirement for additional specialist resources, which were then requested. The extrication team conducted a careful evaluation of the entrapment and developed a systematic extrication plan, in consultation with Ambulance paramedics. The plan was reviewed and amended throughout the entire rescue.
2. Initial removal of the roof was a vital operation, providing the medical team with critical access and space to perform the complex medical procedures necessary at this incident.
3. This was an extremely complex entrapment with equally complex patient care issues for the medical team. Very high levels of communication and consultation occurred between firefighters and Ambulance paramedics, ensuring this highly complex incident was resolved with the best possible outcome achieved for the patient. This level of consultation ensured the extrication and medical teams were both working in conjunction with each other to achieve common goals. Ambulance Paramedic Clinical Training Officer Geoff Coleman described this as an example of "the multi-disciplinary team personified".
4. Ironically, almost 12 months prior, FRNSW crews attended to a similar entrapment at this location, involving a high speed side impact into the same tree (reported in Fire and Rescue Operations Journal # 3).
5. As always, all crews at the scene performed with the highest levels of professionalism, dealing with this very challenging emergency. **END**



A second ram (left) is put in place to enable the bottom ram to be re-set

CROYDON PARK CONSTRUCTION SITE RESCUE

FRNSW crews responded to a worker severely impaled on a section of steel reinforcing bar, within the basement of a construction site. This was an extremely challenging rescue incident, however had an extremely positive outcome.

Incident type: Construction site rescue (impalement).

Call details: 0932 hours, Wednesday 6 April 2016, direct line call from Police RCO, construction site rescue, person impaled, Greenhills Street, Croydon Park.

Nature of entrapment/emergency: A male construction worker 25 years of age, weighing approximately 130-140 kg, fell about 2.5m from the ground level to the basement level, landing on a piece of steel reinforcing bar (fixed into a concrete base), resulting in impalement. The reinforcing bar penetrated the patient's right hip, travelled across the pelvis and continued to travel to the outer skin of the patient's left thigh. The patient was located approximately 0.5m above ground and was unable to support his body weight due to the injury.

FRNSW response: Pumper 14 (Ashfield), Rescue Pumper 15 (Burwood) and Duty Commander ME3 (Ashfield) Inspector Drew Wilson.

Additional services in attendance: Ambulance Service of NSW, Ambulance medical retrieval team, NSW Police and SafeWork NSW.

FRNSW operations: Pumper 14 under the command of SO Ian Arkley was the first emergency services vehicle to arrive on scene. Firefighters were informed by site management of the nature of the incident and were escorted by site staff into the basement to the location of the entrapment, carrying the EMT kit with them. Firefighters found a group of workers attempting to support the patient, who was severely impaled on a piece of steel reinforcing bar that had entered the patient's waist. Due to the orientation of the patient, the exact nature of the impalement could not be observed.

The Pumper 14 crew placed pieces of timber under the patient to relieve some of the weight being supported by workers. Firefighters placed the patient

on a high concentration of oxygen from the EMT kit, set at the maximum flow rate of 15 litres per minute. SO Arkley sent a detailed message, reporting the situation and confirming the attendance of Ambulance and rescue. Firefighters helped the construction site workers support the patient, taking as much weight off the patient's torso and legs as possible; FF Mitch Bennetts was taking the weight under the patient's thigh and FF Sam Bromley was taking the weight under the patient's waist. Both firefighters were lifting the patient's legs, taking as much of the patient's weight as possible off the area of the impalement. Firefighters provided encouragement and reassurance to the patient.

Rescue Pumper 15 under the command of SO Jim Stephen were responding to the incident when they heard the informative message sent by SO Arkley, providing the rescue crew with invaluable insight of the nature of the entrapment and enabling them to prepare for the



Firefighters operate an air powered angle grinder to cut through the steel reinforcing bar.

extrication while still en route. On arrival, firefighters placed step blocks and additional timbers under the patient, to provide further support of the patient's weight. Firefighters placed 7kg bags of Sphag Sorb absorbent under the patient to elevate the patient's legs and to make the patient as comfortable as possible.

Upon the arrival of Ambulance, firefighters liaised with the Ambulance Supervisor to formulate a release plan. The Ambulance Supervisor advised 15cm of the steel was required to remain protruding from the patient, to assist complete removal at hospital. Pumper 14 firefighters cleared the rescue area as much as possible of materials to enable the rescue tools to be brought to the scene. An air-powered grinder and SCBA air cylinders were conveyed into the basement in preparation for the extrication. Hydraulic shears and equipment were also brought into the basement in case the patient's condition deteriorated rapidly and an emergency release was required. While paramedics undertook patient stabilisation in conjunction with the medical retrieval team, cutting tools were taken to a remote part of the basement away from the impalement scene where firefighters made a number of trial cuts on steel reinforcing bar that was identical to the bar impaled in the patient.

Upon completion of stabilisation by the medical team and following further consultation with Ambulance Supervisor and doctor, SF Garth Faine began to cut through the steel bar with the air-powered air grinder. Throughout the entire rescue, Pumper 14 firefighters provided close support to the rescue crew. A debris sheet and flexible patient

shield was positioned over the patient to provide protection during the cutting. Firefighters used bottled water to cool the steel during cutting. At the conclusion of cutting, the patient was placed onto a rescue board. A large amount of scaffolding was located along the proposed egress path and paramedics were concerned the protruding steel could impact the scaffolding. To assist in patient removal, paramedics requested the protruding steel be shortened further to a length of 10cm. A second cut was made to the protruding steel using the air grinder by SF Sam Monaghan. During this cut, a garden hose that had been located on the site was used to cool the steel. At the completion of this cut, the patient was packaged within a Stokes litter in preparation for removal.

Due to the congested and confusing layout of the basement, which contained a large quantity of scaffolding, an extrication path was located by firefighters and marked with builder's tape. All personnel on site then participated in the patient removal, which consisted of an eight-person lift, carefully manoeuvring the Stokes litter through the restricted passages and narrow egress path between scaffolding. Final carryout was via an elevated earth ramp to the ambulance. Following transport to hospital, the impaled piece of steel reinforcing bar was removed at Royal Prince Alfred Hospital during surgery. Amazingly, the steel bar missed all organs, nicked an artery and chipped the patient's pelvis; the patient was released from hospital just one week after the incident.

Notes

1. Rapid size-up by the first arriving Station Officer identified initial incident requirements and enabled firefighters to commence operations that stabilised the patient and the incident, ultimately resulting in the best possible outcome for the patient. The work of first arriving Pumper 14 firefighters at this incident was invaluable. Following the incident, Ambulance Paramedics praised 14 stn firefighters for their initial actions, which greatly contributed to stabilising the patient's condition and ultimately assisted his recovery.
2. The detailed radio situation report sent by first arriving SO Ian Arkley provided critical information to the incoming rescue crew, enabling them to begin to form an extrication plan and prepare for the extrication while still en route.
3. At the incident conclusion, the Ambulance Supervisor remarked that very good levels of communication existed between the FRNSW Rescue Commander, the doctor and the Ambulance Supervisor, resulting in an excellent outcome being achieved.
4. Construction sites contain many hazards and no two are alike. This incident was located below ground level, in a darkened basement in an environment providing restricted movement due to large quantities of scaffolding. Firefighters controlled many of the hazardous conditions at this incident by seeking the guidance of site management. **END**



Firefighters support the weight of the injured worker, prior to loading into the stokes litter



Firefighters cut through the steel reinforcing bar operating an air powered angle grinder. Note the hose trickling water onto the steel to cool heat created by cutting friction



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From Charlie Sector, Ladder Platform 27 attacks the fire as CAFS Pumper 31 protects Bravo Exposure

FIREFIGHTERS BATTLE MULTIPLE FACTORIES ALIGHT AT GREENACRE 7TH ALARM

Incident summary: Following a major explosion, first arriving firefighters were confronted with early advanced fire activity in a fully-involved furniture factory resulting in rapid and uncontrolled fire spread and very early structural failure. Rapid actions of first arriving crews prevented lateral fire spread into exposures. The ferocity of the fire resulted in collapse of a hidden rear wall, allowing fire to spread to a factory at the rear. Fire development within this factory was rapid. Access to the fire was difficult, necessitating the use of aerial appliances. Firefighters overcame severe water shortages and mounted a determined attack to protect exposures under threat either side of the second fully-involved factory. This fire was an exercise in the tactical placement of aerial appliances, internal attack lines and establishment of water relays to establish fire containment and control, saving numerous factories.

Incident type: Factory fire.

Time, date and place of call: 0247 hours on Friday 24 June 2016, 58 Rosedale Avenue, Greenacre.

FRNSW response: Pumpers 30 (Lidcombe), 64 (Lakemba), 19 (Silverwater), 52 (Campsie), 34 (Riverwood), 42 (Ryde), 41 (Smithfield), 48 (Mortdale), 27 (Parramatta) and 5 (Newtown), CAFS Pumper 31 (Busby), CAFS Tanker 93 (Narellan), Rescue Pumpers 62 (Bankstown) and 15 (Burwood), Aerial Pumper 47 (Revesby), Ladder Platforms 27 (Parramatta) and 21 (Kogarah), Ladder 18 (Glebe), Hazmat Pumpers 13 (Alexandria) and 85 (Chestnut Hill), Heavy Hazmats 13 and 85, Heavy Rescues 1 (City of Sydney) and 20 (Hurstville), Logistics Support Vehicle 1, Mobile Command Centre Bravo, Rehab 1 and TAF 20.

Duty Commanders ME3 (Ashfield) Inspector Bob Sayer, MW2 (Parramatta)

Geoff McAllister and MS2 (Kogarah) Inspector Steve Moran, Fleet Operations Officer SO Travis Broadhurst, Zone Commander MW2 Acting Superintendent Bob McGowan, Manager CLM Acting Superintendent Andrew Faunce, Capability Manager Firefighting Superintendent Roger Mentha, Deputy Commissioner Jim Hamilton, Training Officer Resource 2, Operational Research Officer SO Glen Mole and Tactical Operations Research Analyst.

In addition to above, a further 24 FRNSW appliances and numerous other senior officers and specialist support staff responded to the incident over the following 36 hours for relief and fire duty purposes.

Additional agencies/services in attendance: NSW Police, Ambulance Service of NSW, Regional Emergency Management Officer, gas authority, electricity authority, Roads and Maritime Services, State Engineer and local council.

Fireground description: The fire involved a group of factories located on a block within an industrial area. The factory of origin was located at 58 Rosedale Avenue, Greenacre. This factory was engaged in furniture manufacturing, single level, 15m x 40m, cement rendered brick construction and iron sheet roof. The factory contained a spray booth and a quantity of thinners and paints. Exposure Charlie 1 located to the rear (west) of the fire building of origin (at 55 Beresford Avenue) was a factory engaged in the manufacture of shutters, blinds and awnings. This factory was 40m x 30m, brick construction with an iron sheet roof. Exposure Bravo 1 was a two level commercial building, 30m x 20m, of brick and iron construction. Exposure Delta 1 was a factory, 40m x 40m, brick and iron construction, containing sealing products.

Initial call and response: Shortly before the time of first call, a large explosion (resulting in severe weakening of the structure) followed by fire occurred at the factory of fire origin at 58 Rosedale Avenue, Greenacre. At 0247 hours FRNSW Sydney FireComs received the first of numerous 000 calls reporting a factory fire at this address. Due to the number of calls being taken, the initial response was increased to a 2nd Alarm.

FRNSW operations: Rescue Pumper 62 was the first appliance to arrive on scene. En route to the fire, Officer-in-Charge Rescue Pumper 62, SO Adrian Fisher observed a column of smoke with a glow at the base from the direction of the call address. On arrival, firefighters found the factory at 58 Rosedale Avenue heavily involved in fire. Flames were venting from



Alpha side windows and a gap between the top of the wall and the roof. SO Fisher assumed the role of IC and sent a RED message reporting the factory was well alight and requesting the response be increased to a 3rd Alarm. SO Fisher designated the incident "Greenacre Command" and directed the staging area be established on Bruncker Road. At about the same time, Pumper 30 arrived on scene. Firefighters deployed two 70mm attack lines and began to conduct a direct attack on the fire, operating in the defensive strategy. Firefighters operated outside of collapse exclusion zones and directed the 70mm streams through the open roller door to the factory, which had displaced during the initial explosion.

There was no signage on the factory and it was difficult for firefighters to identify the nature of the building occupancy.

Firefighters from 30, 52 and 64 stations then used power saws, halligan tools and sledge axes to gain entry into six of the heavily fortified exposures to the north and south of the fire building to check for fire extension and to identify secondary access into the fire building. No fire extension and no alternative access into the fire building could be found. Due to the size of the fireground, SO Fisher was unable to complete a 360 degree size-up. Hazmat Pumper 85 was directed to go to the Charlie side of the fireground in Beresford Avenue to





When firefighters arrived in Charlie Sector, the fire was spreading rapidly and numerous exposures were under threat. Picture courtesy Bill Hearne

investigate for possible fire spread. The Charlie side factories were tightly packed together and did not line up exactly, causing some difficulty identifying the building immediately to the rear of the fire building (smoke from the fire building was blowing away at an oblique angle, creating further difficulty identifying the rear of the fire occupancy). Hazmat Pumper 85 firefighters initially identified a commercial premises at 53 Beresford Avenue near the rear of the fire building. Firefighters evacuated the occupants from this building and investigated for fire spread along the rear wall, however they found no signs of heat, smoke or fire. Firefighters then investigated 55 Beresford Avenue. This building was secured, however investigations revealed no sign of smoke or fire within this building. At that time, firefighters were unable to see any signs of fire spread into exposures on the Charlie side of the fireground. Hazmat Pumper 85 returned to Alpha Sector for re-deployment.

Aerial Pumper 47 arrived on scene and was immediately placed in operation as a water tower. Water supply was extremely poor and firefighters began to set up a water relay from the larger 375mm mains on Brunner Road to supply AP47. The fire was now increasing in size substantially. Duty Inner West Inspector Bob Sayer arrived at the fireground and following

a handover, became the IC. Due to the number of appliances now committed to the establishment of the water relay, the IC increased the response to a 5th Alarm. The roof of the fire building began to collapse.

The aerial operator at the head of the AP47 boom reported that fire could be seen moving into an exposure factory on the Charlie side of the fireground (unknown to firefighters, a separation wall hidden by thick smoke, fire activity and the roof of the fire building had collapsed moments before, allowing fire to travel beneath the roof unseen into Charlie Exposure). Duty Commander MW2 Inspector Geoff McAllister, who had just arrived at the fireground, was deployed by the IC with Pumper 34, Ladder Platform 27 and Heavy Rescue 20 to the Charlie side to make investigations. When firefighters initially arrived on the Charlie Side, fire wasn't visible from Beresford Avenue. As firefighters prepared to make entry into the Charlie Exposure, fire developed very quickly and began to spread rapidly through the factory, forcing crews to conduct defensive operations. Ladder Platform 27 was positioned at the front of the heavily involved factory outside of the collapse zone to enable defensive streams to be directed along the walls of Bravo and Delta exposures. While

Ladder Platform 27 was setting up for operations, firefighters were connecting lines to Pumper 34 to supply the aerial water. Ladder Platform 27 began to direct a defensive aerial master stream onto the walls of the heavily threatened exposures from the now totally involved factory, as large flames began to vent through the factory roof. LP27 provided numerous roof reports to the Charlie Sector Commander, which were invaluable, enabling a greater perspective of the fire to be gained. Aerial operator SF Greame Spencer observed flames starting to spread under the roof of Exposure Bravo and directed the aerial stream onto the area of involvement, knocking the fire down. Poor water supply was initially a critical issue, restricting the effectiveness of the aerial stream and necessitating establishment of a second water relay. As the initial relay on Rosedale Avenue was going to the north, firefighters established the Beresford Avenue relay to the Hume Highway to the south, to ensure the larger mains were not overrun. To establish the water relay, the IC increased the response to a 7th Alarm. The IC reported that a lack of rear or side access to the involved factories necessitated the use of aerial appliances, which in turn required water relays to provide adequate water supply for effective aerial operations. 13 Station



Firefighters attack the heavily involved Charlie Sector factory. Picture courtesy Bill Hearne

Hazmat crews conducted atmospheric monitoring, and monitored and tested water and foam run-off.

From Alpha Sector, AP47 was experiencing difficulty projecting water over the roof of the now almost extinguished fire within the factory of origin into the heavily involved exposure factory. Ladder Platform 21 was positioned in Alpha Sector and placed in operation and AP47 shutdown. The articulating boom and ladder bank of LP21 provided much greater scope of operations, increasing the effectiveness of the aerial master stream, which was able to project onto fire burning within the factory of origin and the exposure factory through breached alsynite roof panels. The aerial operators encountered some difficulty directing aerial streams through breached panels onto the seat of the fire due to the large column of thick smoke being produced by the fire which greatly hindered visibility. Numerous explosions occurred inside the factory. LP21 cage operator SF David Armytage observed a glow beneath skylights of the Exposure Bravo 1 factory on Beresford Avenue, indicating this factory was becoming involved in fire. This information was relayed to Charlie Sector Commander via the IC. The Charlie Sector Commander was aware that the fire was spreading towards a large factory containing a

high volume of recycled rubber tyres, however was concerned about placing crews into the Exposure Bravo 1 factory because of possible structural stability issues. The LP27 aerial crew reported the factory was in sound structural condition, enabling SCBA crews from Pumpers 34 and 5 to gain entry and commence internal firefighting operations. Fire was beginning to take hold of the roof space of the factory, which was used for the manufacture of waterproofing and sealing products. Firefighters were able to control and extinguish this fire spread with a 38mm attack line and removed from the building eight 9.0kg LPG cylinders being impacted by heat. At about this time, collapse of the Exposure Charlie façade occurred, followed a short time later by major collapse of the Exposure Charlie front brick wall. Falling collapse debris fell harmlessly into the established collapse zones.

From Alpha Sector most of the fire within the factory of origin had been knocked down and no fire spread into any Alpha Exposures occurred. Within Charlie Sector, Rescue 20 firefighters gained entry and deployed a 38mm protection line into Exposure Delta 1 commercial premises which was heavily smoke-logged, although investigations found no fire present. SCBA crews remained within the Exposure Bravo 1 factory,

ensuring no further fire spread occurred. In addition to the two lines being supplied by Pumper 34, CAFS Tanker 93 (located at the end of the Hume Highway relay) supplied LP27 with a line of CAFS 1% wet concentrate, providing a light water suppression medium, which increased the effectiveness of the aerial stream. Water from the relay greatly improved the effectiveness of the aerial stream. CAFS Pumper 31 was positioned at the front of the totally involved Charlie Exposure and directed a 0.5% wet CAFS stream through the roof monitor at 900 kPa onto the wall of Exposure Delta 1, providing a barrier to radiant heat from the fully involved factory. The Incident Management Team and the Mobile Command Centre arrived on scene and transferred command to Manager CLM Superintendent Andrew Faunce. DC ME3 was appointed Operations Officer. LP27 continued to direct an aerial master stream onto the involved factory at 55 Beresford Avenue, which was now well under control. All exposures were now secured and after several more hours of intense firefighting, the main factory fires were able to be controlled. Factories at 58 Rosedale Avenue and 55 Beresford Avenue were severely damaged by fire, fire penetrated into the roof space of 57-59 Beresford Avenue and all other occupancies were undamaged.

Stages of Beresford Avenue wall collapse

All pictures courtesy Bill Hearne



What caused the wall to collapse on Beresford Avenue?

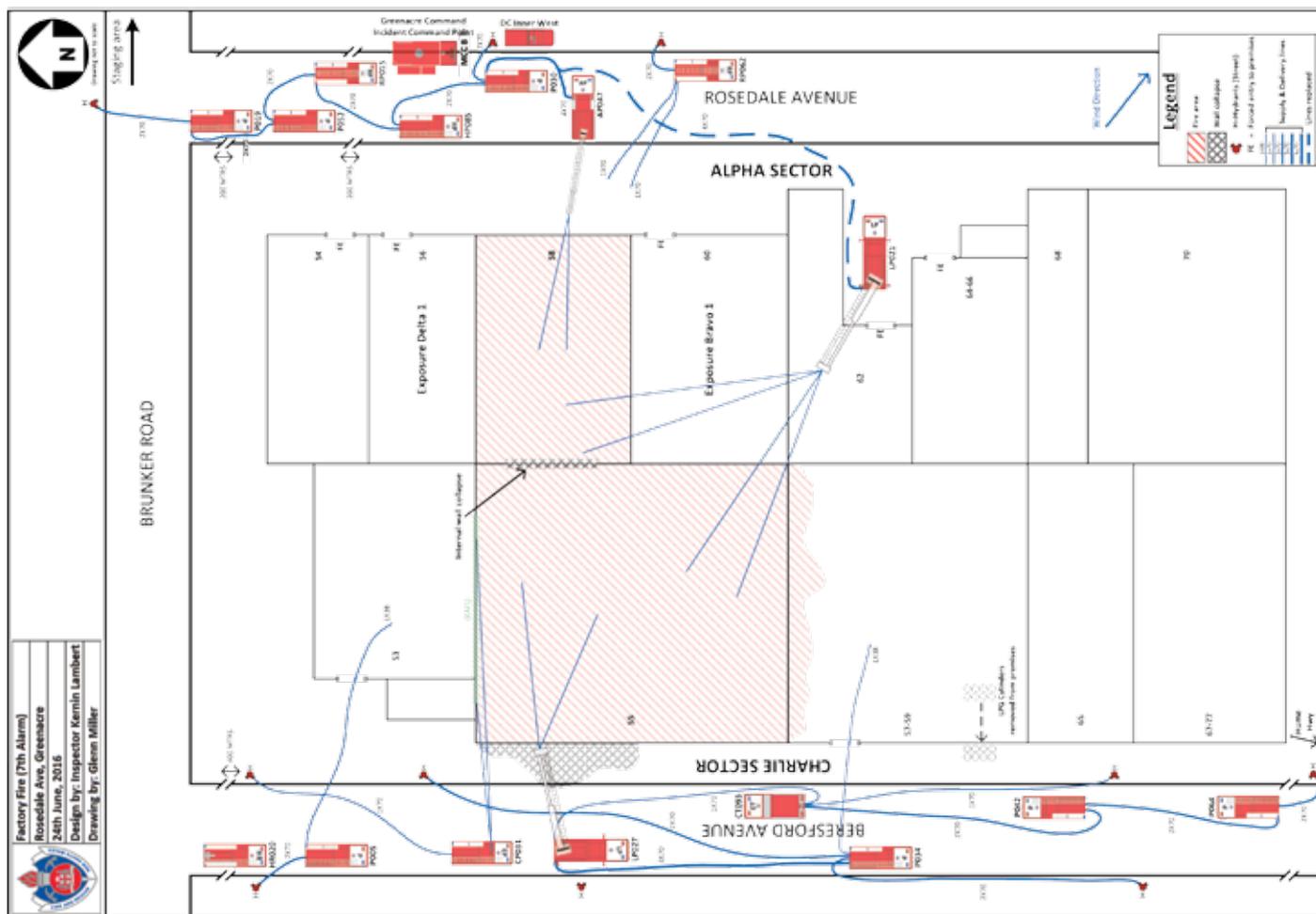
The factory at 55 Beresford Road was formed of portal steel frame construction, consisting of steel I-beams with purlins attached supporting the metal roof sheets. A two-level double brick wall was located at the front of the factory. Fire spread through the factory was rapid and fire activity was intense, resulting in expansion and sagging of the steel I-beams. As the roof began to slowly collapse over the middle of the factory, sections of roof towards the front began to cantilever upwards near the front, pushing against the top of the brick wall. The wall began to lean outwards creating an eccentric (off-centre) load as the levering action continued until the critical point was reached where collapse occurred. The awning/facade on the top of the wall increased the effect of the eccentric load, further increasing the instability of the wall and contributing to the collapse. A number of signs indicated likely collapse including leaning of the wall, cracking of the wall, movement of the facade, significant displacement of the roof and intense fire activity within the factory impacting key elements of structure.

Notes

1. Initial responding firefighters were familiar with this industrial area and the problems associated with poor water supply. Recognising the fire was at an advanced stage and would require increased volumes of water to supply the master stream attack (particularly when size-up identified a need for aerial operations), the IC increased the alarm level at an early stage, ensuring adequate resources were responding to set up water relays.
2. Despite very determined efforts by firefighters to find alternative access points to the involved factories, the building layout prevented secondary access from being made. With no access available for hose line crews, aerial appliances were then used to significant effect, conducting fire attack and effectively protecting exposures at risk.
3. Size-up enabled the IC to identify key incident objectives and priorities. The early establishment of a robust command structure was critical to achieving safe and effective operations at this fire.

Importantly, when significant changes in fire conditions occurred on the fireground, operations were able to be expanded to meet the dynamic situation. This fire was an exercise in continuous size-up and review, key tactical placement of aerial appliances, internal attack lines, establishment of water relays and use of CAFS resources.

4. Firefighters were initially confronted with early advanced fire activity resulting in rapid and uncontrolled fire spread, in a situation where access for firefighting crews was difficult, water supply was poor and numerous exposures were at great risk. Nevertheless, firefighters mounted determined, systematic and skilful operations, resulting in effective containment and fire control being achieved. **END**





Flames break through the roof as the fire rapidly spreads through the discount store, fuelled by a very high fuel load



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The view that met first arriving firefighters; a shop heavily involved in fire...and reports from numerous passers-by of persons reported trapped inside the burning building

7TH ALARM RESPONSE CONTROLS DANGEROUS LIVERPOOL DISCOUNT VARIETY STORE FIRE

Incident summary: Fire broke out within a Liverpool discount variety store on a busy Saturday trading day in the lead up to Christmas. At the time the fire was discovered, there were hundreds of shoppers in proximity to the fire. The store was stocked to capacity to facilitate the forthcoming busy seasonal trading period. Following ignition, fire spread rapidly. When firefighters arrived on scene, a large column of thick black smoke was issuing from the fire building, the rear of the store was heavily involved in fire and (driven by wind entering through an open rear roller door) fire was progressing forwards rapidly. Numerous passers-by informed firefighters they believed there were still people trapped inside the shop. Thick black smoke was pouring from the front of the shop. Without hesitation firefighters immediately donned SCBA and began to advance attack lines into the heavily involved store in a desperate and determined effort to carry out search and rescue operations and locate any persons who remained trapped. Firefighters conducted offensive interior operations

under extreme conditions until forced to withdraw moments before the building became untenable. The fire continued to grow in size and intensity, threatening multiple exposures. From the rear of the building, a parapet wall showed early signs of collapse, necessitating establishment of collapse zones. Firefighters placed aerial master streams into operation safely outside of collapse zones, protecting exposures being heavily impacted by fire and conducting direct attack on the fire. Firefighters forced entry into impacted exposures, controlling fire extension and containing the fire to the building of origin. As fire conditions intensified, a major collapse of the parapet wall at the rear of the building occurred. The structural collapse precautions adopted ensured that when this dangerous collapse occurred, all firefighters remained safe. The building was fitted with a steel truss roof, which suffered early failure and collapse, highlighting the dangers of lightweight steel truss roofs. This fire also highlights the hazardous conditions confronting firefighters when carrying

out firefighting operations at discount/variety stores.

Note: due to the significance of the major parapet wall collapse that occurred at this fire, a special section within Fire and Rescue Operations Journal # 4, entitled "Liverpool Building Fire Highlights Dangers of Parapet Wall Collapse" details issues associated with parapet wall collapse at structure fires.

Incident type: Shop fire (discount and variety store).

Time, date and place of call: 1417 hours on Saturday 21 November 2015, Macquarie Street, Liverpool.

FRNSW response: Pumpers 49 (Cabramatta), 41 (Smithfield), 73 (Yennora), 84 (Macquarie Fields), 55 (Guildford), 34 (Riverwood), 72 (Merrylands), 92 (St Andrews), and 64 (Lakemba), CAFS Pumper 31 (Busby), Rescue Pumpers 8 (Liverpool), 101 (Bonnyrigg Heights) and 62 (Bankstown), Aerial Pumpers 47 (Revesby) and 7 (Horningsea Park), Ladder Platforms 92, 27 (Parramatta) and 21 (Kogarah),



Fire attack crews begin to push into the fabric shop, in attempt to stop the fire spreading into that exposure

Hazmat Pumpers 77 (St Marys) and 85 (Chester Hill), Heavy Hazmat 85, Heavy Rescues 8 and 20 (Hurstville), Tanker 84, Logistics Support Vehicle 21 (Kogarah), Incident Control Vehicle Bravo and Rehabilitation Pod 1.

Duty Commanders MS3 (St Andrews), MW1 (Huntingwood), MW2 (Parramatta) and ME3 (Ashfield), Zone Commander ME3 (Superintendent Adam Dewberry), Area Commander Metropolitan South (Chief Superintendent Gary McKinnon), Director Operational Capability Chief Superintendent Paul McGuiggan, Team Leader Bushfire Inspector Steve Moran, Manager Counter Terrorism and Aviation Superintendent Brian Smart and Commissioner Greg Mullins.

In addition to the above, a further 24 FRNSW appliances and numerous other senior officers and specialist support staff responded to the incident for relief and fire duty purposes.

Additional agencies/services in attendance: NSW Police, Ambulance Service of NSW, gas authority, electricity authority, Regional Emergency Management Officer and Liverpool City Council.

Fireground description: The fire building was divided into two occupancies: a variety/discount goods retail shop and a fabric shop. The building was single level, 30m x 70m, formed of double brick walls,

timber frame, rolled steel joist (RSJ) I-beam roof supports and steel truss roof with a cement sheet roof. A 2.0m high roof space was located above the shop. A 2.1m high double brick parapet wall with a metal covering façade was located above the street front awning on the Macquarie Street frontage. A 2.1m high double brick parapet wall was located above the rear of the building on the eastern side, connected to the steel joist building frame.

The fabric shop consisted of an area 10m x 70m located on the northern side of the building and was heavily stocked with rolls of fabric. The discount shop was located on the southern side of the building. A storage area was located within an area 5m x 30m at the rear (eastern end) of the building. A set of bi-fold doors, located in the open position, separated the storage area from the retail section of the discount shop. The front (western side) of the building consisted of floor-to-ceiling glass frontage with fold out glass doors. As the shop was trading at the time of the fire, these doors were fully open. A roller door and windows with steel bars fitted were located at the eastern end of the building, facing George Serviceway.

The discount shop contained a large quantity of retail goods, located on metal racking and shelving (extending

from floor to ceiling) in rows divided by narrow aisles less than 1.0m wide. The storage area at the rear was almost full. The fire occurred at the start of the Christmas trading period and the building was stocked almost to capacity. The fire building was built in about 1970 and did not contain any forms of installed fire protection or detection systems.

The fire building was in a line of retail shops, located along Macquarie Street, the main street of Liverpool. Exposure Bravo 1 consisted of a medical centre 20m x 70m. A laneway known as George Serviceway was located at the rear of the fire building. There were no hydrants on this laneway. Exposure Delta 1 was a music shop with a residence above, two levels, 20m x 70m. Exposure Delta 2 was a retail premises, three levels, 30m x 70m.

At the time the fire occurred, shops within the fire building were open and trading as were most shops along this section of Macquarie Street. Statistically, Saturday afternoon (between 1400 and 1500 hours) is the busiest period of trade for retail establishments. The fire occurred just over four weeks prior to Christmas and the busy Christmas shopping period was beginning. A large number of people were in and around the fire building at the time of the fire and the life risk was high.

Situation prior to FRNSW arriving on scene: Fire was discovered by the owner, burning within stock located on shelving towards the rear of the discount shop. The owner made attempts to extinguish the fire with buckets of water, which were unsuccessful. At the time of the fire, it is believed at least 10 persons were within the store (staff and customers). The fire rapidly extended vertically towards the ceiling and a short time later, an electricity failure occurred (due to an electrical resulting from fire impact to roof-mounted ceiling mains), causing the interior lights to go out, sending the shop interior into darkness. In an attempt to allow light into the shop, the owner then fully opened the rear steel roller door. Upon opening the rear roller door, air began to enter the fire building, impacting the area of fire approximately 3.5m away and causing a significant growth in fire activity. NB: at the time, a 28km/h wind was blowing from the south-east, facilitating wind entry directly into the building through the open rear roller door. The fully open doors at the western end of the building caused the fire to be well ventilated, receiving a plentiful air supply, resulting in a significant increase in fire intensity.

Initial call and response: Shortly after the fire was discovered, a passer-by telephoned 000 to report the shop was on fire. Rescue Pumper 8, Heavy Rescue 8 and CAFS Pumper 31 were initially assigned to the call. As further calls were received, the response was increased to

a 2nd Alarm, resulting in the additional response of Pumper 49, Rescue Pumper 101, Aerial Pumper 47 and Duty Commander South West. Callers were also reporting people were believed to be trapped inside the shop. This information was conveyed to responding appliances.

Fire conditions escalate: The shop began to rapidly fill with black smoke. As retailers and staff exited from the store, there was confusion concerning the exact number of persons still remaining inside. Air from the prevailing south-easterly wind continued to enter the building through the rear roller door, causing the fire to grow in intensity and spread. The stock was located on vertical racking/shelving, providing aeration of fire load and facilitating rapid fire growth and vertical spread. Fire began to quickly spread laterally and take hold within the shop and a large plume of dark grey smoke began to develop. Fire had also entered the large roof void above the shop. Rescue Pumper 8, under the command of SO Barry Baker, was en route to the fire and observed the smoke column. SO Baker sent a RED message at 1424 hours, reporting large volumes of smoke visible and requesting the response be increased to a 2nd Alarm. Heat from the fire caused the glass windows located along the rear wall of the building to fail, facilitating the entry of further volumes of air onto the fire and increasing fire intensity even further.

First FRNSW appliance arrives on scene: Rescue Pumper 8 arrived on scene and

found large volumes of thick dark grey/black smoke issuing from the discount shop. SO Baker assumed the role of Incident Commander. No flames were visible. SO Baker stated the fire was moving very rapidly forwards through the shop from the rear to the front. Smoke was pouring out of the shop frontage under high pressure. There were at least 300 people gathered at the front of the shop. Numerous people (including the shop owner) informed firefighters there were still people trapped inside the shop.

First arriving firefighters were aware there were water supply issues in Macquarie Street. Firefighters immediately connected a supply line from CAFS Pumper 31 to Rescue Pumper 8, increasing water supply while Heavy Rescue 8 firefighters located a hydrant at the southern end of Macquarie Street and began to lay a supply line and secure a hydrant supply to Rescue Pumper 8.

Firefighters undertake interior offensive operations: Officer-in-Charge of the second arriving appliance, CAFS Pumper 31, SO Simon Busby stated that under ordinary circumstances, the firefighting strategy would have been defensive, due to the severe fire and escalating conditions. However due to the numerous reports of people trapped, firefighters adopted an interior offensive strategy. Rescue Pumper 8 Firefighters Hugh Strain and Kirron Duncan donned SCBA and began to advance a 38mm attack line into the shop to conduct search and rescue operations. A second search



The first fire attack crews are inside the burning building carrying out search and rescue; smoke was so thick, the front of the building (right hand side of photograph) is not visible



From Charlie Sector major wall collapse occurred. Note, hidden expansion of the I beam (located in the centre of the photograph) pushed against the base of the parapet wall, resulting in complete collapse of the parapet wall

and rescue crew, consisting of CAFS Pumper 31 Firefighters Marty Creighton and Matt Lewis entered the building a short distance behind the crew of Rescue Pumper 8, operating a second 38mm attack line and were also conducting search and rescue operations.

Firefighters stated that from the front footpath, extremely thick dark grey and black smoke was billowing from the front of the shop very quickly, under very high pressure. At the entrance to the shop, the smoke layer was down to about 1.5m from ground level. Almost immediately upon making entry to the shop, firefighters encountered conditions of high heat, which continued to increase the further they advanced into the building. The further firefighters advanced, the lower the smoke layer descended. Upon entering the shop, Firefighter Lewis began directing pulses of water towards the ceiling. After travelling a distance of approximately six metres, firefighters could hear the fire burning above them. Firefighters were travelling along a very narrow aisle. Along either side of the aisle, shelving was heavily laden with stock, which was beginning to collapse. The narrowness of the aisle made the search extremely difficult and slow. After approximately 15 metres visibility was completely zero, heat was intensifying and there was still no flame visible. Firefighter Strain reported smoke was so thick he was unable to see the image on the thermal imaging camera screen. Firefighters

could hear the fire burning at the rear of the shop and were directing the two attack streams in the direction of the fire, however were having minimal impact on reducing the fire intensity.

Pumper 49, under the command of SO Damien Neilly arrived on scene and Firefighters Trent Morgan and Dane McGinn placed a third 38mm attack line into operation within the discount shop.

The search crews within the discount shop could hear loud noises (cracking, banging and crashing) coming from the roof space above. Firefighters were now crawling at floor level as they advanced further into the shop, due to the intensity of the heat. Visibility was so poor, Firefighters Strain and Duncan had lost physical sight of each other, even though they were less than half a metre apart. As firefighters advanced further into the building, they could hear the sound of numerous explosions coming from the rear of the shop. The search crews reached a dividing wall within the shop, approximately 25metres from the entrance to the shop and could go no further. At this time, the heat had reached an extreme level.

The Incident Commander observed the venting smoke change colour from dark grey to black and increase in volume, density and pressure. These observations were indicative of a severe escalation in fire conditions and the likelihood of an extreme fire event such as a flashover occurring. Firefighters were immediately

withdrawn from the building and the strategy changed to defensive. At this time, the heavy smoke layer had now lowered to less than 30cm from floor level at the entrance to the shop.

Response increased to a 5th Alarm: A large column of black smoke was now being produced by the fire. The fire was continuing to expand. The storage area of the shop was totally involved in fire, fire was breaching through a partition wall into a fabric shop to the north, fire was burning intensely through the roof space above the shop and smoke was pouring from the front eaves of numerous other shops along Macquarie Street on either side of the discount shop, indicating possible fire extension. Due to the possibility the fire was now extending into exposures, people remained unaccounted for and the expanding fire situation, at 1435 hours the Incident Commander increased the response to a 5th Alarm. A Staging Area was nominated on Memorial Avenue, to the west of the fireground. Pumper 41 was the first appliance to arrive at the Staging Area and SO 41 appointed Staging Officer. SO Busby recognised the fire was travelling rapidly and asked police officers to commence evacuations of all persons from the immediate area.

Operations to protect Bravo Exposures: Rescue Pumper 101, under the command of SO Brad Turner, was directed by the Incident Commander to enter Macquarie Street from the northern side, to set up protection for Bravo Exposures. Upon



Aerial Pumper 47 was placed in operation in Charlie Sector, outside of the collapse zone. Note the cracks appearing in the top right hand side of the parapet wall. Collapse occurred suddenly, minutes later



Firefighters conducting fire attack inside the fabric shop

arrival, SO Turner was designated Bravo Commander by the IC and tasked with protecting Bravo exposures now coming under threat. SO Turner stated that upon his arrival, he observed a rapidly expanding fire with Bravo exposures in imminent danger. SO Turner requested two additional pumpers to provide a water relay from the closest hydrants, located in Moore Street, to Rescue Pumper 101. Firefighters forced entry into Exposures Bravo 1 and 2 and opened the false ceilings to check for fire extension. Although a heavy smoke condition was present within the roof space, no visible signs of fire extension were found. Firefighters conducted a search of these exposures and no persons were located.

Pumper 49 firefighters placed a 70mm attack into operation from Rescue Pumper 101 and conducted fire attack within the fabric shop. The 70mm stream was alternated between protecting the separation wall between the fire building and Exposure Bravo and conducting fire attack within the fabric shop. Rescue Pumper 8 firefighters entered the fabric shop and conducted fire attack with a second 70mm attack line, attempting to stop the fire spreading into Exposure Bravo 1.

Operations to protect Delta Exposures: Heavy smoke was issuing from under the awnings of exposures to the south of the fire building, indicating possible fire extension. Rescue 8 firefighters forced entry into Exposures Delta 1 and 2, where a moderate smoke condition was found.

Primary searches of both exposures were conducted and no persons were found. These searches did not identify fire extension at this time.

Firefighters resume interior offensive operations: Rescue Pumper 8 and CAFS Pumper 31 firefighters again re-entered the discount shop, in an attempt to continue search and rescue operations and conduct fire attack. Firefighters reported visibility was slightly better, although the internal temperature of the shop was much hotter. The search crews reported the internal condition was like a maze, particularly due to the racking and the falling stock. Occasionally visibility would improve, however it was completely black for most of the time firefighters were inside the shop. Firefighters reported the overhead noises were extremely loud, consisting of loud popping, cracking and crashing of materials. Burning overhead material began to drop and fall onto firefighters. Firefighters could now see fingers of flame flickering through the smoke below ceiling level, accompanied by extremely violent noises. The temperature was now extremely hot. Firefighters had advanced a significant way into the shop. The intense fire burning within the roof space was starting to break through the internal ceiling above firefighters' heads. The fire attack was having no impact on the fire and the decision was again made to withdraw from the discount shop, due to the deteriorating conditions.

Command transferred: Duty Commander South West Inspector Tom Clarkstone

arrived on scene and following a handover briefing, command was transferred to Duty Commander South West at 1440 hours. SO Baker was designated Alpha Sector Commander.

Response increased to 7th Alarm: The fire was still not under control, had not been contained and most resources were committed. At 1441 hours the Incident Commander increased the response to a 7th Alarm to ensure adequate resources were in place to manage any extension of fire into exposures and to conduct proper three deep deployment. Most importantly, a requirement existed to ensure availability of adequate SCBA crews to conduct search and rescue operations for persons still reported missing.

Charlie Sector operations: From the rear of the building, the fire was beginning to break through the roof and flames were impacting Bravo and Delta exposures. The taller Delta Exposure was now beginning to come under threat, as flames broke through the roof of the fire building and began to directly impact the northern side of the exposure building. Smoke began to issue from beneath the roof of exposure Delta 1.

Wall collapse within Charlie Sector was a major concern. The parapet wall on the Charlie Side of the building began to display cracking, was starting to lean outwards and was in imminent danger of collapse. NB: there were no external indicators this wall was a parapet wall. A collapse zone was established (and strictly enforced) on either side of the



Firefighters direct multiple attack lines into the building from Alpha Sector along the Macquarie Street frontage

suspect wall and secured with barrier tape. Information was broadcast to all firefighters across the fireground radio of the establishment of the collapse zone.

Aerial attack from Charlie Sector: Access to the Charlie side of the building was via a narrow lane (known as George Serviceway) and numerous vehicles on this lane were preventing entry of fire appliances. SO Simon Busby began clearing these vehicles, enabling FRNSW appliances to access the Charlie side of the building. Aerial Pumper 47 positioned to the north of the fire building, outside of the collapse zone and began to set up for an aerial attack. There were no hydrants located in George Serviceway, necessitating a lengthy hose lay from the closest hydrant at George and Moore Streets, to establish a water supply to Aerial Pumper 47. At this time, large flames had now completely broken through the roof at the rear of the fire building and Exposures Bravo and Delta were being directly impacted by fire. The aerial monitor of Aerial Pumper 47 was placed into operation and the master stream directed onto the walls of Exposures Bravo and Delta. The aerial stream was alternated between exposure protection and direct fire attack, enabling the fire intensity to be reduced.

Aerial Pumper 7 was positioned to the south of the fire building, outside of the collapse zone and similarly began to set up for an aerial attack. Due to the lengthy distance to the closest street hydrant, Pumper 84 relay pumped water from the intersection of George and Memorial

Streets, to Aerial Pumper 7. With water supplies secure, the two aerials began to conduct a direct attack on the fire. This attack was very effective as the cement sheet roof at the rear of the building had completely collapsed, providing good access onto the fire for the aerial streams.

Major wall collapse: Towards the rear of the shop, fire broke through the false ceiling, enabling flames to directly impact the steel I-beams that formed the roof support frame. The unprotected steel I-beams were now being exposed to intense heat and began to expand. The centre I-beam extended from the front to the rear of the structure. The end of this I-beam sat at the base of the rear parapet wall. The web of this beam was approximately 600mm high and the flange 400mm wide. As the centre I-beam began to expand, it also began to push out against the base of the parapet wall, causing the wall to begin to lean. The continuous heating of the I-beam due to the impact of fire caused the I-beam to continue to expand, pushing outwards against the base of the parapet wall, causing the wall to continue to lean. Cracking of the wall occurred, further weakening the wall. Leaning of the wall continued until the wall reached a point of instability and suddenly collapsed. Wall collapse was quite sudden and occurred with little warning (movement of the wall was not noticeable to the human eye). The entire parapet wall fell, landing on motor vehicles parked in the street. Due to the prior establishment of

collapse zones, the wall fell harmlessly into the street. A personal accountability report was obtained and the collapse was reported by the Sector Commander to the IC. Firefighting continued without interruption.

Steel truss roof collapse: The building was fitted with a steel truss roof. This roof was concealed by the false ceiling and not visible to firefighters. The false ceiling provided very limited protection of the truss roof, however once the ceiling failed (approximately 10 minutes after fire ignition), the unprotected steel within the roof trusses was immediately exposed to direct flame attack and heat impact, causing expansion of the top and bottom chords and separation of the webs and lateral braces at the truss plates, resulting in complete failure of the truss and total collapse of the roof over the rear of the building. As the fire moved forward, progressive failure of trusses and collapse of sections of the roof occurred.

Operations continue to protect Exposures Bravo and Delta: Firefighters gained access to exposures Bravo and Delta from Charlie Sector, to ensure there had been no fire extension. Pumper 92 secured a hydrant on George Street and protection lines were deployed through an arcade to Charlie Sector and into Exposure buildings. Within Exposure Delta 1, firefighters removed sections of false ceiling and discovered burning timber roof beams, ignited by the earlier severe flame impact, which were extinguished with a 38mm attack line.



From Charlie Sector, Aerial Pumpers 7 and 47 are located outside of collapse zones, conducting an aerial master stream attack from flanking positions

CAFS attack: From Alpha Sector, firefighters switched firefighting operations to a Compressed Air Foam Systems (CAFS) attack, from CAFS Pumper 31. Attack lines with plain water were shut down. One 70mm CAFS line and two 38mm CAFS lines were placed into operation from Alpha Sector, which had an immediate effect on the fire, significantly reducing fire intensity.

Commissioner attends the fireground: At the height of firefighting operations, Commissioner Greg Mullins attended the incident and was given a full briefing of firefighting operations by the Incident Commander. Commissioner Mullins conducted a tour of the fireground, where he witnessed firsthand the ferocity of the fire and the determined efforts of firefighters to bring the fire under control. The Commissioner met with members of Incident Command and provided advice in a command/expert senior advisory capacity. He also conducted a detailed briefing to the assembled media present, providing a comprehensive report on the ferocity of the fire and the determined efforts of firefighters to bring the fire under control. FRNSW firefighting operations at the fire received high profile national media coverage during

news bulletins later that afternoon and throughout the following day.

Fire brought under control: After several hours of determined firefighting, the fire had significantly subsided and operations were able to move to salvage and overhaul phase. The fire building was extensively damaged by fire, however only minimal fire extension had occurred to Exposure Delta. Exposure Bravo had only received smoke extension. A comprehensive post-fire search of the scene did not locate any people within the structure. FRNSW crews remained at the scene for a further 30 hours. Fire Investigation and Research Unit officers attended the fireground to conduct fire cause and origin investigations. A fire duty remained in place for a further 36 hours, ensuring all pockets of hidden fire were completely extinguished.

Notes

1. Discount/variety stores contain very high fuel loads, consisting of lightweight goods formed of volatile, combustible and flammable materials. Many of these materials include assorted plastics, paper, cardboard and rubber and other hydrocarbon-based products. Discount/variety stores also contain

large quantities of LPG-powered aerosol products and hydrocarbon liquids, accelerating fire behaviour and producing explosions. These types of goods result in rapid early fire development, high heat release rates and rapid fire spread, promoting extreme fire events including flashover and fire gas ignitions. Following ignition, conditions within discount/variety stores can deteriorate extremely rapidly. Fire behaviour is often intense and ferocious.

2. Goods within discount/variety stores are usually located on vertical racking and shelving in long rows. It is not uncommon for goods to be stacked to ceiling level. This type of fuel load arrangement results in very rapid vertical fire spread, which quickly leads to flashover, particularly in stores with low ceilings.

3. In the early stages of fire growth, the types of fuel loads involved in fire within discount/variety stores often result in the production of large volumes of thick, dark and acrid smoke, until ventilation of the structure occurs. This smoke is superheated, turbulent and forcibly vents from the structure under high pressure.

4. Almost all discount/variety stores are formed of open plan, non-compartmented construction, resulting in rapid and uncontrolled fire spread.

5. Often, stock within discount/variety stores is stacked high on vertical racking and shelving. During firefighting operations, it is common for shelving and stock to begin to collapse into aisles, falling onto hose-lines, obstructing search and rescue efforts, blocking egress paths and creating significant obstacles for firefighters, usually in conditions of zero visibility. In addition to the hazards created by this situation, firefighting conditions are very exhausting and fatiguing.

6. To achieve maximum stocking of discount/variety stores, full use of space is made for storage racking and shelving. As a result, aisles are often narrow creating difficulty for SCBA crews to manoeuvre, advance hose-lines and conduct search and rescue operations, often in situations of zero visibility. It is not uncommon for firefighters to be prevented from turning around, due to the narrowness of aisles.

7. During trading hours, many discount/variety store traders will place excessive stock out onto footpaths. At the cessation of trading, this stock is then placed inside the store, stacked on aisle floors, increasing the fuel loads and greatly obstructing the progress of firefighters.

8. Discount/variety stores typically create very hostile environments for SCBA crews. Even with the assistance of thermal imaging cameras, conditions described above can create disorientation and entrapment and can be treacherous for firefighters.

9. This fire occurred at a time of day and time of year when numerous shoppers were located within and in proximity to the fire building, presenting a high life risk. The early response of a higher alarm (initial 5th Alarm response increased to a 7th Alarm) ensured there were adequate resources available to mount a major firefighting and search and rescue operation, commensurate with the level of fire activity and potential life risk that existed.

10. The fire building was fitted with front and rear parapet walls. Parapet walls at the front were covered by the fitting of a large façade and awnings, completely concealing the presence of the front parapet walls. From the rear of the building, it did not appear obvious the building was fitted with a parapet wall. When conducting roof reports, aerial operators should be alert to the presence of parapet walls. It is advantageous to note the presence of parapet walls when conducting pre-incident planning exercises.

11. Within Sector Charlie, the brick wall displayed early signs of imminent collapse, including cracking and development of a lean. Vigilance by firefighters ensured appropriate structural collapse precautions were immediately taken, including the establishment of a collapse zone. When collapse occurred, the parapet wall fell harmlessly into the collapse zone and firefighting continued without interruption.

12. In situations where extreme fire behaviour is impacting the building structure, firefighters should expect and prepare for major structural failure and collapse, even though signs may be minimal.

13. This building was fitted with a lightweight steel truss roof which has a history of notorious failure once exposed to fire. Failure of the steel truss roof occurred very early at the Liverpool fire. Within minutes following ignition, fire had broken through the false ceiling at the rear of the building and flames began attacking the lightweight unprotected steel that formed the truss structure. Direct flame impact to the truss resulted in the truss webs and lateral braces softening and losing strength, causing the loadbearing capacity of the roof to weaken. Flame impact to the steel top and bottom chords resulted in the chords expanding, resulting in separation of the chords from the webs and lateral braces at the truss plates, leading to failure of the truss roof and collapse. As fire travelled forward through the building, further sections of lateral trussing were progressively exposed to fire, resulting in truss failure and collapse. Truss roof failure occurred to the rear 75% of the building. At the Liverpool fire, the steel truss roof was hidden by the false ceiling. The violent noises interior firefighters could hear above their heads within the roof space were most likely separation of the steel chords from the steel webs and lateral braces at the truss plates. Firefighters must always be alert to the presence of steel truss roofs fitted to structures, particularly when hidden by false ceilings and are best identified during pre-incident planning exercises. The engineering strength of a steel truss (lightweight steel and geometric design) becomes the truss's weakness when exposed to fire. Steel truss roofs will fail and collapse early once exposed to fire, without warning.

14. Following establishment of the Charlie Sector collapse zone, the placement of aerial appliances outside of collapse zones and operation of aerial master streams enabled a defensive fire attack to be undertaken, consisting of exposure protection and direct fire attack,

without placing firefighters in danger. This aerial attack was highly effective.

15. As was the case in most situations where aerial appliances are placed in operation, firefighters at the Liverpool fireground quickly located remote water mains to establish water relays from, to supply the large volumes of water required for aerial master stream operations (and not impact firefighting already underway). The water relays at Liverpool were established very efficiently, due to the skill and hard work of firefighters. Crews reported the recently installed appliance mobile data terminals were a significant asset, enabling them to rapidly locate mains and hydrants for the relays.

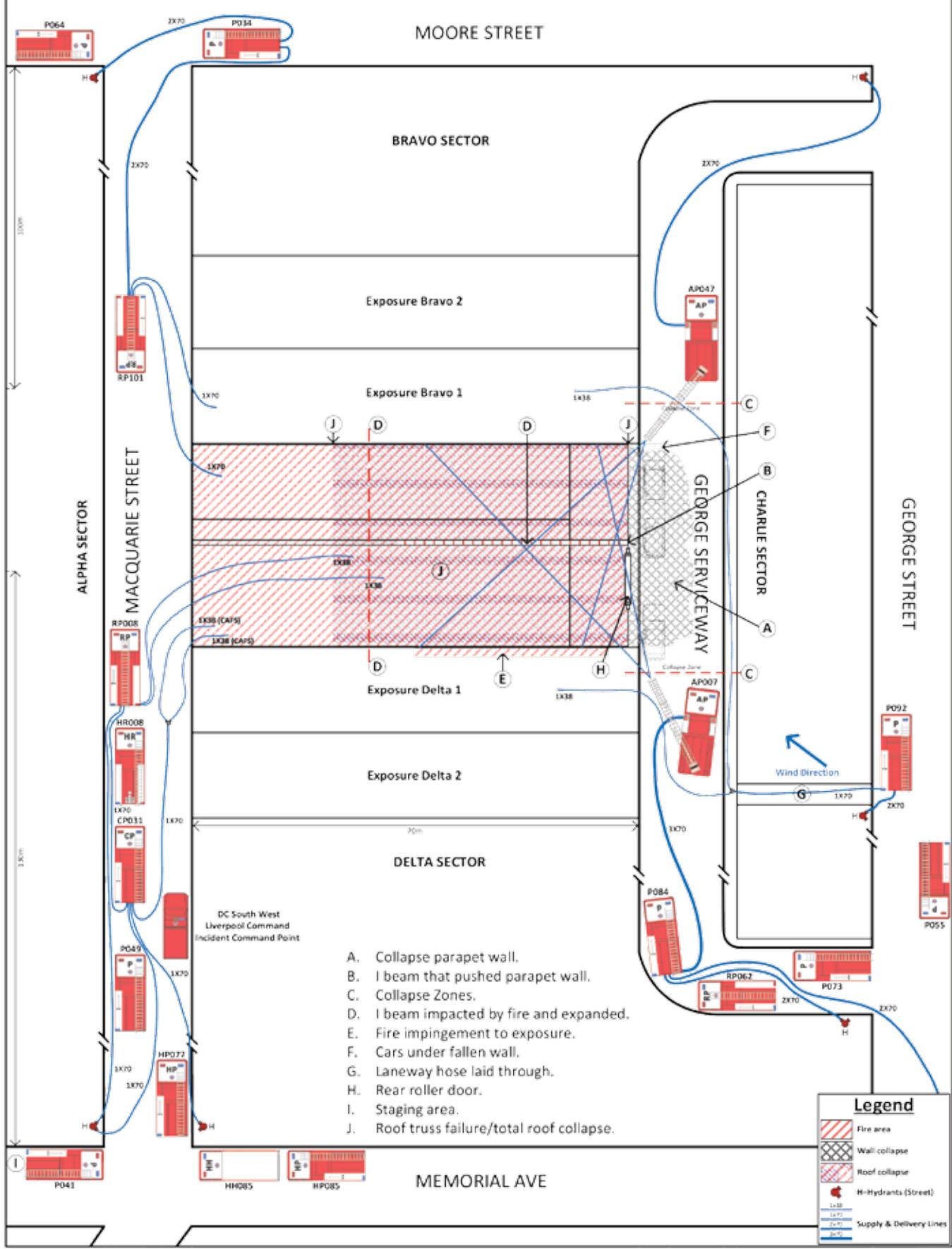
16. At the Macquarie Street fire, firefighters ensured exposures were secured on all sides, due to the fast-moving nature of the fire. Once the flanks were controlled, efforts then moved to fire control and extinguishment. In situations where fire is spreading rapidly and exposures are at risk, it is critical to identify and establish cut-off points in front of the fire. Such operations are very resource intensive. A high alarm response will ensure adequate resources are in place to conduct operations within exposures as well as the main fire building.

17. Firefighters were withdrawn from the building at the direction of the Incident Commander when venting smoke conditions were observed to change colour from dark grey to black and increase in density, volume and pressure. These signs were indicative of a severe escalation in fire conditions (and an extreme fire event such as a flashover was imminent) and fire attack was having minimal impact on the fire. The ability of the Incident Commander to read the signs a fire is showing and make decisions accordingly are critical to firefighter safety, particularly when firefighters are conducting interior offensive operations.

18. All firefighters displayed skill, resourcefulness and worked tirelessly at this dangerous, destructive and fast-moving fire, ensuring the fire was contained and did not spread to exposures. Special mention must be made of the determination and resolve shown by first arriving firefighters who advanced attack lines into the heavily involved store to conduct search and rescue operations under extreme and horrendous conditions when it was apparent a life risk existed; their efforts under the conditions encountered were exemplary. **END**



Discount/Variety Store Fire (7th Alarm)
 Macquarie St, Liverpool
 21st November, 2015
 Design by: Inspector Kernin Lambert
 Drawing by: Glenn Miller





Firefighters direct a 70mm attack stream onto the fully involved factory



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FIREFIGHTERS BATTLE 5TH ALARM MARRICKVILLE FURNITURE FACTORY FIRE

Incident summary: Firefighters responded to a furniture factory that was totally involved in fire with flames venting through the roof on arrival. Due to the advanced state of the fire, firefighters quickly identified the highly dangerous hazard of potential structure collapse that existed and collapse zones were immediately established. Within two minutes of arriving on scene, the first of several major wall collapses occurred. Firefighters established a fully defensive strategy, enabling all exposures to be successfully protected and this large building fire safely brought under control.

Incident type: Factory fire.

Time, date and place of call: 2142 hours on Monday 30 May 2016, 2 Rich Street, Marrickville.

FRNSW response: Pumpers 28 (Marrickville), 5 (Newtown), 22 (Leichhardt), 18 (Glebe), 14 (Ashfield), 26 (Mascot), 29 (Arncliffe), 10 (Redfern) and

38 (Pyrmont), Flyer 1, (City of Sydney), Rescue Pumper 1, Ladder Platforms 1 and 21 (Kogarah), Ladder 18 (Glebe), Hazmat Pumpers 13 (Alexandria) and 85 (Chester Hill), Heavy Hazmat 13, Heavy Rescue 1, Logistics Support Vehicle 1, Mobile Command Centre Bravo, CO2 38, Rehab 1 and TAF 20

Duty Commanders ME3 (Ashfield) Inspector Bob Sayer, ME1 (City of Sydney) Inspector Philip Vaiciurgis and MS2 (Kogarah) Inspector Glen Moran, Fleet Operations Officer SO Travis Broadhurst, Zone Commander Inner West Superintendent Adam Dewberry, Assistant Director Training and Development Chief Superintendent Phil Lindsay, Operational Safety Coordinator LF James Davies, Capability Manager Hazmat Acting Superintendent Michael Jay, Manager Operational Improvement Acting Superintendent Michael Morris, Commissioner Greg Mullins, Deputy

Commissioner Jim Hamilton, Training Officer Resource 2, Operational Research Officer SO Glen Mole and Tactical Operations Research Analyst.

In addition to above, a further 16 FRNSW appliances and numerous other senior officers and specialist support staff responded to the incident over the following 24 hours for relief and fire duty purposes.

Additional agencies/services in attendance: NSW Police, Ambulance Service of NSW, gas authority, electricity authority and local council.

Fireground description: The fire building was a factory, single level, 90m x 35m, double brick construction, timber/iron frame and iron sheet saw tooth roof. The building was fitted with a 40m long, 2.2m high parapet wall along the southern wall at the front of the building at the eastern end. The eastern 50m x 35m section of the building consisted of a furniture

factory, engaged in the manufacture of timber furniture. The western 40m x 35m section of the building consisted of two separate occupancies, an arts studio and an arts supply warehouse. The eastern and western occupancies were divided by a non-fire rated cement besser block wall that did not extend completely to the roof. The fire building was constructed in about 1920 and was not fitted with any form of installed fire detection or suppression systems.

Initial call and response: FRNSW Alexandria Fire Communications received the first of numerous 000 calls reporting a factory fire at Rich Street Marrickville at 2142 hours on Monday 30 May 2016. Due to the number of calls being taken, the initial response was increased to a 2nd Alarm.

FRNSW operations: As first assigned Pumpers 5 and 28 responded towards the location of the fire, firefighters observed a large plume of smoke with a bright glow at the base while still at a distance several kilometres from the call address, indicating the fire was already at an advanced state.

Pumper 28 under the command of SO Jeff Lay, and Pumper 5 under the command of SO Mike Stuart, arrived on scene at the same time to find the factory totally involved in fire. Large flames were venting through the roof of the factory. SO Stuart immediately sent a RED message at 2149 hours requesting the response of a 4th Alarm. Due to the advanced state of the fire and likelihood of building collapse, both appliances positioned as wide as possible from the fire building on Rich Street, outside of potential collapse zones. Rapid size-up identified that operations would be defensive and firefighters ensured adequate room was left for positioning of later arriving aerial appliances. SOs Lay and Stuart reinforced

to firefighters the likelihood of wall collapse and emphasised the importance of staying out of the collapse zones to their crews. At that time, the size of the fire building, extent of fire and exposures under threat was not fully known and it was imperative a 360 degree size-up be conducted as quickly as possible. SO Stuart assumed the role of IC and SO Lay commenced to conduct a 360 size-up. A Command Point known as "Rich Street Command" was established. A staging area was designated on Victoria Road.

About two minutes after firefighters arrived on scene, the roof of the factory collapsed, followed almost immediately by a major collapse of the front wall on the Alpha side of the factory, onto the street and numerous parked cars. Due to the early establishment of collapse zones, the brick wall fell harmlessly within the collapse zone and all firefighters remained safe. Firefighters reported the wall collapse occurred quite suddenly, with no warning signs of a pending collapse. Highly unstable sections of the parapet wall that did not collapse remained standing unsupported and the threat of further secondary collapses now existed. Uncontained fire was now burning fiercely from the factory and exposures on the Bravo, Charlie and Delta sides were potentially under threat. At 2152 hours SO Stuart sent a further RED message, reporting the wall collapse, stating firefighters were operating in the defensive strategy and requesting the response be increased to a 5th Alarm. SO Lay was appointed the Alpha Sector Commander.

From the Alpha Sector, working outside of collapse zones firefighters began to attack the fire with two 70mm attack lines. Firefighters experienced early problems locating water supplies, necessitating establishment of a water

relay from Victoria Road, via base Pumper 22 to Pumper 28.

Pumper 14, under the command of SO Ian Arkley was directed to go to the Charlie side of the building to investigate fire spread. SO Arkley was appointed the Charlie Sector Commander. Firefighters began to operate a 70mm attack line, directing the stream into the involved factory. Within minutes of the arrival of Pumper 14, a major collapse of the Charlie Sector wall occurred. Hazmat Pumper 13 went to Charlie Sector and a second 70mm line was placed in operation, which was later converted to a ground monitor attack. It was necessary to establish a water relay from Victoria Road via Pumper 29 and Hazmat Pumper 13 to supply water to Pumper 14. Pumper 22 firefighters gained access to a yard located on the Delta side of the fire and directed a 70mm attack stream onto the fire from this location.

Duty Commander ME3 Inspector Bob Sayer arrived on scene and transfer of command occurred. Duty Commanders MS2 and ME1 arrived on scene and were appointed Sector Commanders of Sectors Alpha and Charlie respectively. Ladder 18 was positioned at the western end of the fire building and placed in operation as a water tower, directing an aerial master stream onto the fire. Pumper 5 supplied water to Ladder 18. In addition to conducting a direct attack on the fire, the aerial stream was able to protect the non-fire rated dividing wall being heavily impacted by fire located between the totally involved factory and heavily threatened Bravo exposures. Rescue Pumper 1 firefighters under the command of SO Brad Lewis used a power saw to cut into the roller door of Exposure Bravo 1, enabling Pumper 18 internal attack crew to deploy a 38mm



Firefighters operated well outside of collapse zones



Ladder 18 operates an aerial stream onto the fire



Firefighters direct 70mm attack streams onto the fully involved factory from Alpha Sector. The walls have now collapsed

protection line. Fire was spreading into exposure Bravo 1 through the gap between the roof and top of the dividing wall, which firefighters were able to control and extinguish. Heat had also transferred via conduction along a steel beam that went through the dividing wall from the furniture factory, igniting fabric within the art studio, which was quickly extinguished by firefighters.

Upon the arrival of Mobile Command Centre Bravo, the Command Point was transferred to the MCC, which provided a high technology base for the Incident Management Team to support the major firefighting operations underway. Assistant Director Training and Development Chief Superintendent Phil Lindsay arrived at the fireground and following a handover briefing, command was transferred to Chief Superintendent Lindsay and Inspector Sayer was appointed Operations Officer.

The defensive attack continued to be strengthened. Ladder Platform 1 was deployed to Charlie Sector and directed an aerial master stream onto the fire.

Ladder Platform 21 was positioned at the eastern end of the fire building and similarly attacked the fire with an aerial master stream. The fire was now being contained on all sides. All exposures were now secure and the large calibre aerial attack slowly brought the fire under control after several hours of intense firefighting. No fire spread to exposures occurred.

What brought the parapet wall down this time?

The building was fitted with a 40m long, 2.2m high parapet wall along the southern wall at the front of the building at the eastern end, formed of double brick construction. This wall was free-standing, not tied in to any other part of the structure and inherently highly unstable. It was extremely difficult to identify the existence of the parapet wall. The frame supporting the roof was formed of unprotected timber columns and beams. Intense fire activity from the fully involved factory caused frame timbers to be consumed and fail, resulting in sudden and complete

collapse of the roof. The supporting wall tied-in to the roof was now free-standing and highly unstable due to the 2.2m high parapet wall sitting above. A cantilever effect created by the roof beams dropping caused the top of the support wall to push out slightly. Minimal movement of the support wall resulted in major collapse of the parapet wall above.

In addition to the collapse of the parapet wall, most of the supporting wall was also brought down in the collapse. Firefighters on scene when the collapse occurred reported the wall showed no signs of collapse before the collapse occurred; nevertheless the advanced state of fire caused them to believe wall collapse was likely and collapse exclusion zones were immediately established. NB: For further information concerning parapet wall collapse, refer to Fire and Rescue Operations Journal # 4, "Liverpool Building Fire Highlights Dangers of Parapet Wall Collapse".



All appliances were positioned well outside of collapse zones in Alpha Sector. The parapet wall collapsed within two minutes of firefighters arriving on scene



Firefighters gained entry to an adjoining factory and stopped fire spreading to the Bravo One exposure

Notes

1. Situational Awareness is critical to safe firefighting. En route to this fire, firefighters observed conditions that indicated the fire was at an advanced state. Upon arrival, observation of structure type and the advanced state of the fire immediately alerted firefighters to collapse dangers, causing appliances to be positioned well clear of collapse zones. Officers reinforced to their firefighters the dangers of structural collapse, ensuring all crews remained well outside of the collapse zones. Within two minutes of arriving on scene, the first of several major wall collapses occurred. Walls fell harmlessly into collapse zones and all firefighters remained safe. Information concerning the collapses was immediately broadcast to Fire Communications, alerting all other incoming crews of the collapse dangers at this fire. Situational awareness was excellent at this fire.

2. A rapid early size-up enabled firefighters to identify that the main firefighting strategy was going to be defensive at this fire. Similarly, size-up identified the extent of fire involvement, exposures under threat and the likely resource requirement for firefighting operations, enabling a plan to be established and implemented from the

arrival of the first fire appliance. The size-up process did not stop at this fire until the last FRNSW appliance left the scene.

3. Aerial appliances were positioned at key locations, enabling aerial master streams to be placed in operation that effectively contained the fire, protected threatened exposures and brought the fire under control.

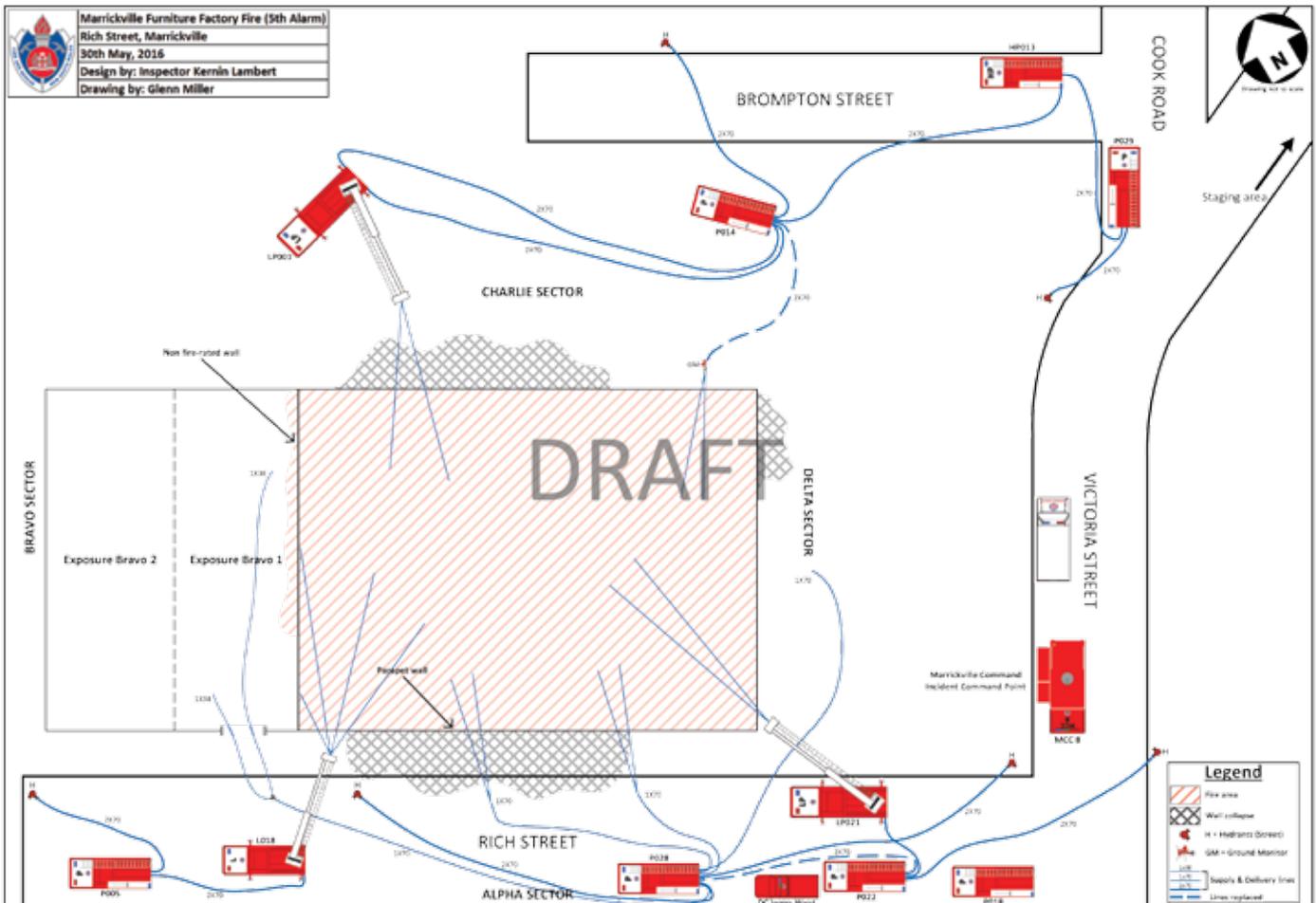
4. Firefighters gained entry into a heavily threatened adjoining exposure and were able to contain fire spread; at this time fire was spreading past the dividing wall and the exposure was under imminent threat. The actions of firefighters unquestionably saved 50% of the fire building consisting of two highly vulnerable exposures (containing irreplaceable art works) that would have otherwise been destroyed.

5. The dangers of parapet walls exposed to fire conditions were again seen at this fire. Collapse was sudden and without warning. The early establishment of collapse exclusion zones ensured all firefighters remained safe at this very dangerous fire.

6. Once again, FRNSW firefighters displayed determination, skill and professionalism at this difficult and dangerous fire. **END**



A section of the major wall collapse in Alpha Sector. The top one third of the wall is an unsupported parapet wall, that fell within two minutes of firefighters arriving on scene





Firefighters begin to conduct a foot-well exposure on the off-side of the vehicle, for the purpose of being able to sight the patient's lower limbs and feet

FIREFIGHTERS RESPOND TO HIGH SPEED MOTOR VEHICLE COLLISION INTO WALL AT GREENACRE

FRNSW crews responded to initial reports of a motor vehicle accident and person trapped. The first FRNSW appliance to arrive on scene found a chaotic scene, involving multiple casualties, a severe entrapment and numerous hazardous conditions. A high speed collision had occurred involving a vehicle that had struck a power pole, a brick wall and a bus stop. The vehicle was suspended on a partially collapsed and unstable brick wall. The driver was severely trapped by compression due to the severity of impact. An elderly pedestrian at the bus stop had been struck and thrown over the brick wall. A second elderly pedestrian had been struck several hundred metres from the rescue scene, prior to the vehicle impacting the wall.

Incident type: Motor vehicle accident with persons trapped.

Call details: 1127 hours, Thursday 28 January 2016, direct line call from Police RCO, MVA persons trapped, Boronia Road, Greenacre.

Nature of entrapment/emergency: A high speed motor vehicle off-set frontal collision. The front of vehicle impacted into an electricity power pole, bus stop and 1.2m high double brick wall. The offset nature of impact had caused a severe distortion of the front of the vehicle, pushing the off-side front wheel into contact with the driver's seat. As a result of the collision, the brick wall was partially demolished and sustained a lean of approximately 15°, was unstable and in danger of further collapse. The rear of the vehicle came to rest on the brick wall in an elevated position. The front of

the vehicle was located approximately 0.5m from the impacted electricity pole. Several overhead electricity lines had become dislodged from mountings and an overhead street light had broken from its support and was in danger of dropping.

Within the motor vehicle the female driver was severely trapped by compression to the lower limbs. As a result of the force of impact, the off-side front wheel had pushed the foot-well onto the driver's seat, resulting in the driver's legs being trapped between the foot-well and the seat. The firewall and dash were displaced rearwards onto the driving seat, the floor-pan had folded around the driver's feet, and the dash was compressed down onto the driver's lower limbs.

Firefighters would only discover much later the driver's legs were intertwined at the feet, the driver having sustained a severe compound fracture of the lower left leg due to the impact compression, causing complications for extrication. The upper body of the driver was protruding from the partially opened front off-side door.

During the collision, an elderly man who had been standing at the bus stop was struck by the vehicle and thrown through the air, over the brick wall and was laying on the ground in close proximity to the unstable brick wall. Approximately 250m to the southeast of the collision scene (also on Boronia Road), an elderly woman was located on the footpath with critical injuries as a result of being struck by the vehicle a short time before the subject collision.

FRNSW response: Pumper 64 (Lakemba), Rescue Pumpers 62 (Bankstown) and 15 (Burwood), Heavy Rescue 20 (Hurstville) and Duty Commander ME3 (Ashfield).

Additional services in attendance: Ambulance Service of NSW, Ambulance Aeromedical Retrieval Unit, NSW Police, electricity authority and Roads and Maritime Services.

First FRNSW appliance arrives on scene: Rescue Pumper 62 under the command of SO Paul Jones arrived on scene and found the situation as described above (see section "Nature of entrapment/emergency"). At this time, only one other emergency vehicle was in attendance (a police highway patrol car). SO Jones immediately sent an arrival message, describing incident conditions.

Firefighters began to conduct an assessment of the crash scene and observed the driver was severely trapped, seriously injured and partially protruding from the vehicle. SF Stephen Wislang went to the aid of the driver and while conducting an assessment of the driver, began to reassure and comfort the driver. The driver, who was conscious and able to communicate with firefighters, was understandably in a highly distressed state; SF Wislang held the driver's hand and significantly, either a firefighter or a paramedic held the driver's hand for the entirety of the rescue operation, ensuring the driver was never left alone. There is little doubt this had an enormous impact on the welfare of the driver's mental state and was a significant factor in the driver's survival.

During the scene assessment, SO Jones observed an elderly man lying on the ground in a dazed condition, within the front yard of a house near the unstable brick wall. Ambulance Paramedic Kerry Joseph, who had been conducting advanced resuscitation training at nearby 62 Station when Rescue Pumper 62 were called to the incident, also attended the rescue scene. Paramedic Joseph had brought her EMT kit with her, conducted a patient assessment of the trapped driver and requested SO Jones send a further message, requesting the urgent attendance of Ambulance due to the serious condition of the driver. Immediately, SO Jones sent a further message to FireComs, requesting the urgent attendance of Ambulance.

Initial scene stabilisation: Firefighters commenced stabilisation of the vehicle and wall, utilising wooden step blocks and the long bar. Fire protection was established. The windscreen glass had shattered, requiring firefighters to use plastic sheeting for glass management to protect the patient. Firefighters carefully placed a debris sheet onto the dash, to provide protection from a large quantity of glass shards located on the dash.

Second injured pedestrian discovered: Pumper 64 was responding to the rescue scene and as they travelled along Boronia Road, observed an elderly female lying on the footpath approximately 200m to the east of the crash site. This person was being attended to by police officers. At this time, there was nothing to indicate this person was linked to the rescue incident. SO Ross Jones sent a message to FireComs, advising of the person lying on the footpath. As emergency services were already in attendance at this incident attending to the patient (and due to the urgent nature of the message sent by Rescue Pumper 62), Pumper 64 continued on to the call address.

Rescue operations get underway: When Pumper 64 arrived on scene, SO Ross Jones informed Paramedic Joseph of the elderly woman they passed a short distance away. At this time, the first ambulances were beginning to arrive. Paramedic Joseph conducted a brief patient handover with first arriving paramedics then travelled on foot to the elderly woman, where she commenced patient care duties, continuing treatment of the patient including transport of the



Firefighters continue the foot-well exposure



Firefighters cut away sections of the front near side of the vehicle, attempting to expose the patient's lower limbs

patient to hospital (tragically, despite the best efforts of Ambulance paramedics and hospital staff, the injured pedestrian passed away after arriving at the hospital, due to the severity of her injuries). SO Paul Jones was heavily committed to the rescue and transferred command of FRNSW operations to SO Ross Jones. Pumper 64 Firefighter Sally McEwan attended to the injured elderly male pedestrian, providing reassurance and assessing his injuries which included lacerations, fractures and a head injury. This person was dazed, confused and in distress. Firefighter McEwan kept this person in the shade and away from the unstable brick wall, remaining with the patient until arrival of Ambulance paramedics and subsequent transport of the patient to hospital by ambulance. Pumper 64 firefighters provided significant assistance to the rescue crews, ferrying rescue equipment, supporting the vehicle structure during cutting, holding patient protection shields in place and providing any help the rescue team needed throughout the extrication. This assistance was invaluable.

Patient access gained: Following stabilisation of the vehicle, firefighters gained access for paramedics to the vehicle via removal of the off-side rear door. At that time removal of the front off-side door was not practical because it was supporting the driver. Access via the near side rear door was not possible because this door was elevated and wedged into the brick wall.

Extrication plan formed: After conducting an assessment of the entrapment and in consultation with Ambulance paramedics, firefighters formed an extrication plan consisting of removing the roof, managing glass, exposing the vehicle foot-well and lifting the dash. Paramedics informed the rescue crew they wanted the driver out as quickly as possible. Paramedics also stipulated that due to the patient's injuries, the patient could not be straightened in the seat. SO Jones liaised closely with the Ambulance Commander for the duration of the incident. SO Jones later reported that although the first part of the plan was successful, as the rescue proceeded significant obstacles caused the release plan to be re-evaluated, revised and new plans formulated to meet changing conditions on a number of occasions.

Scene hazards identified and safety strategies put in place: FRNSW Commander SO Ross Jones conducted a further scene assessment and observed numerous hazards present, which were identified and safety strategies implemented. The most serious of these was the damage to the electricity power pole, where overhead mains and a street light were in danger of dropping due to dislodgement of attachments. An exclusion zone was set up beneath the potential fall zone, secured with traffic cones and all persons were briefed of the hazards (NB: all persons that entered the scene were given full briefings of the safety hazards present). The attendance of the electricity authority was requested as a matter of urgency.

Request for additional assistance: Duty Commander Inner West arrived at the incident. Following a handover briefing, command of FRNSW operations was transferred to DC Inner West and SO 64 appointed Safety Officer. Due to the complexity of the rescue, the involvement of an unstable brick structure, severity of collision and involvement of multiple patients, FRNSW Commander sent a RED message at 1143 hours describing incident conditions and requesting the attendance of a heavy rescue unit.

A further survey of the scene indicated a pedestrian being treated by firefighters and the involvement of a bus stop in the collision (with the possibility there may be yet more casualties, not excluding the possibility of persons trapped under the vehicle). The vehicle was severely impacted and it appeared extrication would most likely be of a protracted and complex nature. At the time, the temperature was quite warm and humidity was high, creating exhausting conditions for the rescue crews. Due to these considerations, at 1146 hours FRNSW Commander sent a further message requesting the response of an additional rescue pumper (for the provision of additional rescue operators).

Rescue operations continue: Firefighters conducted a roof removal, greatly increasing access to the patient and improving the ability to operate rescue tools in the area of entrapment. In accordance with the initial extrication plan, firefighters began to conduct a foot-well exposure on the off-side of the vehicle, for the purpose of being able to



Two teams of rescuers are now in operation, from the off-side and near side of the vehicle, working down through vehicle debris towards the patient's lower limbs

sight the driver's lower limbs and feet. The rescue crew had not been able to access the patient's lower limbs and did not know where they were located, because of the large amount of debris covering the foot-well. The severity of impact had resulted in the front off-side wheel being compressed against the driver's seat, causing the sill to fold under the car, preventing the shears from cutting the foot-well, resulting in firefighters being unable to effect the foot-well exposure. Similarly, attempts by firefighters to create a foot-well exposure through the operation of hydraulic spreaders were also unsuccessful.

Part of the early release plan involved cutting the front lower support brackets of the driver's seat with hydraulic shears. However due to the position of the patient, firefighters were unable to gain access to this location, causing the extrication plan to be revised and amended.

Wall stabilised: Heavy Rescue 20 and Rescue Pumper 15 arrived on scene. From the rear of the vehicle, firefighters set up timber block cribbing to take the weight of the vehicle off the partially demolished and unstable brick wall.

Extrication teams formed: Rescue crews then split into two teams; the near-side extrication team, consisting of Rescue Pumper 15 firefighters and

the off-side extrication team, consisting of Rescue Pumper 62 and Heavy Rescue 20 firefighters.

Dash lift: The extrication plan then moved to lifting the dash. Firefighters positioned a timber crib-block on the near-side of the transmission tunnel and placed the tips of the hydraulic spreaders between the block and the base of the dash and slowly began to expand the spreaders, in an attempt to lift the dash away from the patient. This operation created a cantilever effect, resulting in the off-side of the dash beginning to push downwards towards the patient. The spreaders were then lowered and removed.

Lower limbs exposed: Firefighters then began to pull sections of the dash away by hand. As firefighters removed debris from the dash assembly, they were able to view the driver's lower limbs for the first time, observing the driver's legs and feet were intertwined and noting the driver had sustained a compound fracture of the lower left leg. This information was immediately passed to Ambulance paramedics and was significant in enabling paramedics to determine an appropriate treatment strategy.

Firefighters were able to see that the driver's lower limbs and feet were trapped between the fire-wall, the gear select lever and the driver's seat. Working from the near-side of the vehicle, Rescue

15 firefighters began to remove plastic pieces of the dash and began to unbolt and disassemble the metal gear selector lever, while Rescue Pumper 62 firefighters continued to remove dash material from around the patient's lower limbs and feet. The steering wheel was tied back and secured with a ratchet strap.

Once the patient's lower limbs had been exposed, the patient was close to final release. The patient was protruding from the vehicle, being supported by the front off-side door. This door was also obstructing release. Firefighters had been delaying removal of this door until as late as possible because of the support it had been providing to the patient. With final release now close, firefighters utilised hydraulic spreaders to separate the door from the B pillar. After the door was removed, the patient was held by firefighters and paramedics until a rescue board could be put in place.

Final release: From the off-side of the vehicle, firefighters used hydraulic shears to cut the back of the seat and then began to disassemble the seat by cutting the support pads away from the seat base, enabling large sections of foam infill to be removed. Once the seat support pads were removed, about 10cm of space was created, which was sufficient to enable the driver to be prepared for release. Firefighters working with paramedics



Firefighters continue to attempt to spread metal away from the patient

carefully manipulated the patient's feet and lower limbs from around the obstructions within the lower foot-well, enabling the patient to be released from the vehicle. The patient was then able to be placed onto a rescue board, removed from the vehicle and placed onto an ambulance stretcher before being conveyed to hospital by ambulance, escorted by police highway patrol.

Notes

1. Firefighters were initially confronted with a chaotic scene of multiple competing urgent priorities. Rapid early size-up by first arriving SO Paul Jones enabled scene priorities to be identified, ensuring the most effective use of resources was deployed at this critical time. Scene size-up identified numerous hazardous conditions. An incident strategy was developed to ensure all hazardous conditions were effectively managed and the scene remained as safe as possible for emergency responders and injured persons. Rescue crews worked systematically and deliberately, enabling extrication to be conducted in a controlled and planned manner.

2. The response of additional rescue resources, in particular the heavy rescue unit, ensured the extrication team had the maximum options available for any unplanned or unforeseen contingencies that could arise. Given the initial size-up identified an unstable partially demolished brick wall, a high speed collision, a severe entrapment and multiple casualties, it was important to plan and be prepared for any unexpected situations that could arise.

3. Pumper 64 firefighters worked tirelessly at this incident and provided a vital and critical role supporting the rescue teams.

4. As always, there was a very high level of seamless cooperation and consultation between firefighters and Ambulance paramedics.

5. Special mention must be made of Ambulance Paramedic Kerry Joseph, who only minutes before had been delivering advanced resuscitation training to firefighters at 62 Station. With minimal equipment, Paramedic Joseph conducted an initial patient assessment and commenced care of the severely

trapped driver at the crash scene. Upon being informed of the injured pedestrian 200 metres from the crash scene, Paramedic Joseph travelled on foot to the pedestrian, where she commenced assessment, stabilisation and patient care with what minimal equipment she had with her, until arrival of an Ambulance paramedic unit. The condition of the patient was so serious, the ambulance was given a police highway patrol escort under lights and sirens to Liverpool Hospital. Paramedic Joseph went with the Ambulance crew to Liverpool Hospital, however their best efforts could not save the pedestrian, who had sustained critical injuries and died a short time after being admitted to hospital. The level of commitment and determination by Paramedic Joseph to patient care and saving life was exemplary.

6. At the rescue scene, firefighters and emergency responders worked tirelessly in oppressive conditions. All crews worked with a high level of skill, determination and professionalism.

END

FIREFIGHTERS RESPOND TO HEAD-ON COLLISION BETWEEN CAR AND SEMITRAILER AT ST MARYS

FRNSW crews responded to a complex entrapment involving a driver severely trapped within a utility, located partially beneath the front of a semitrailer, following a head-on collision. The complex nature of the entrapment resulted in extrication being conducted in a series of carefully planned stages. The extrication involved a highly coordinated operation between the rescue team and the medical team. All crews performed with a high level of diligence and professionalism, resulting in a successful extrication and the best possible outcome for the patient.

Incident type: Motor vehicle accident with persons trapped.

Call details: 2328 hours, Wednesday 30 December 2015, direct line call from Police RCO, MVA persons trapped, Mamre Road, St Marys.

Nature of entrapment/emergency: Head on/vehicle under-ride collision between a utility and a semitrailer. Following collision, the front of the utility (from the firewall forward) came to rest under the front of the semitrailer prime-mover. The 21 year old male driver (sole occupant of the utility) remained severely trapped. The bullbar of the semitrailer prime

mover had impacted the firewall of the utility, causing the firewall to travel in a rearwards direction. The rearward travel of the firewall resulted in the dash being pushed back onto the upper chest of the driver, trapping the driver by compression. Only the upper chest, shoulders, head and right arm of the driver were visible, the remainder of the driver located beneath the dash.

FRNSW response: Hazmat Pumper 77 (St Marys), Rescue Pumper 78 (Dunheved), Heavy Rescue 102 (Regentville), Heavy Hazmat 77 and Duty Commander MW1 (Huntingwood) Inspector Les Gorie.

Services in attendance: Ambulance Service of NSW, Ambulance Aeromedical Retrieval Unit, NSW Rural Fire Service, NSW Roads and Maritime Services and NSW Police.

Weather at time of incident: Although the incident occurred close to midnight, crews worked in warm and oppressive conditions, with no wind and high humidity.

Initial FRNSW operations: Hazmat Pumper 77 under the command of SO Pat Dowd was the first FRNSW appliance to arrive on scene. Upon arrival, firefighters found the front of a utility vehicle located

under the front of a semitrailer prime mover and the driver of the utility severely trapped. A large fuel spill from the utility had also occurred. SO Dowd sent an arrival message, confirming the entrapment (via compression) and the requirement for rescue. SO Dowd assumed the role of FRNSW Commander. A 38mm hose line was deployed for fire protection. The high pressure hose reel, foam-making equipment and a dry chemical powder portable extinguisher were also deployed, increasing fire protection, due to the increased fire risk associated with the large amount of fuel on the roadway. Firefighters placed absorbent material onto the spilled fuel. SO Dowd advised the risk of fire due to the large fuel spill remained a major concern for firefighters for the entire incident. At this time, Ambulance had not yet arrived on scene. Senior Firefighter Antony Crowe commenced a patient assessment of the trapped driver. The driver was barely visible. Due to the severity of the entrapment, only the upper chest, shoulders, head and right arm of the driver were visible to SF Crowe.

Request for additional assistance: A short time later Rescue Pumper



Rescue crews attempt to access the patients lower limbs


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78 under the command of SO David McPherson arrived on scene. Ambulance paramedics also arrived on scene at this time. SO Dowd conferred with SO McPherson and the decision was quickly made to request the attendance of a heavy rescue unit, resulting in Heavy Rescue 102 being responded. As well as the additional rescue operators and equipment aboard the Heavy Rescue unit, SO McPherson recognised the early need for additional timber cribbing blocks would be required, to enable the truck to be lifted. SO McPherson was appointed Rescue Team Leader.

NSW Rural Fire Service crews arrived at the scene and were tasked with providing fire protection, releasing all FRNSW firefighters to assist the extrication. SO Dowd advised this greatly assisted rescue operations.

Initial extrication plan formed: SO McPherson conducted an initial assessment of the entrapment and formed an extrication plan involving the release being conducted in several stages, consisting of:

1. roof removal to provide improved access for Ambulance paramedics

2. truck lift to enable the utility to be pulled out from under the truck
3. dash push to lift the dash off the driver, enabling the driver to be released from entrapment.

Initial access gained to trapped patient:

Although firefighters had initially planned to conduct a roof removal, this was delayed for a short time while Ambulance paramedics placed an intravenous line into the patient. While paramedics were placing the line into the patient, firefighters prepared to remove the near-side door to provide better access for the paramedics. At this time, firefighters were unable to gain access to the off-side door, which had folded over and was severely distorted. The steel bullbar of the prime mover was pushing against the front near-side of the utility, obstructing opening of the near-side door. Firefighters used hydraulic shears to cut part of the bullbar away. Removing part of the bullbar at this time was advantageous, as it was protruding into the utility and would have become a major obstruction in later efforts to pull the utility out from under the truck. Firefighters were then able to open the front near-side door of the utility,

providing improved patient access to paramedics.

Upon arrival of Heavy Rescue 102, the command lights of the heavy rescue were set up, as well as a handheld light and two portable lights located on a light stand, greatly improving scene lighting.

Vehicle roof removed: Following patient stabilisation by paramedics, firefighters then began to remove the roof. The dash of the utility had been pushed a significant distance towards the off-side of the vehicle, causing the A pillar to come to within 100mm of the patient's face. Because of this, the rescue crew had to decide whether to cut the A pillar high or low. The decision was made that it was safest to cut the A pillar at the midpoint, about 150mm from the base, to ensure the rescue tools were not getting too close to the patient. After making the necessary cuts with hydraulic shears, firefighters were then able to remove the roof from the vehicle, greatly improving patient access to paramedics and the medical team. Following the roof removal, firefighters then completely removed the front near-side door from the vehicle.



The vehicle is wedged under the front of the semi-trailer. Firefighters prepare to winch the vehicle out



Firefighters and paramedics work closely to access the patients lower limbs

Duty Commander MW1 Inspector Les Gorey attended the incident and established a FRNSW Incident Command Point. The Duty Commander remained in constant liaison with commanders of all services present at the scene and the FRNSW Rescue Team Leader, for the entire incident.

Truck lifted: The rescue team then prepared to lift the prime mover, to enable the utility to be pulled out from under the front of the prime mover. Firefighters planned to lift the truck on both sides. Two 30-tonne rams, powered by air over hydraulic systems, were placed on timber blocks beneath the truck on either side, directly beneath the flat of the leaf springs, as close as possible to the cylinder. Timber crib blocks used as packing were placed under the truck axles. As the rams were extended and the truck was lifted, additional crib blocks were put in place, increasing the packing. Operation of the rams lifted the truck 200mm, which was a sufficient distance to enable the utility to be then pulled out. Throughout the entire lift, Firefighters Sean Powell, Andrew Wheeler, Shane Morrison and Rex Meredith remained under the truck, setting the rams and adjusting/placing packing timbers into place as the truck was lifted.

Steering wheel removed: After the truck was lifted, paramedics requested firefighters remove the steering wheel from the vehicle, which had completely dislodged during the collision and was

pressing into the patient's chest. Only the top and sides of the steering wheel were visible. The remainder of the steering wheel was out of sight, located beneath the compressed dash. Firefighters placed a patient protection shield over the driver and then used the pedal cutter to make two cuts into the steering wheel, enabling the whole steering wheel to be then pulled out.

Vehicle winched out from under truck: A Tirfor winch was set up to pull the utility out from under the truck. Two wire rope slings were attached to the axle tubes at the utility's differential. The Tirfor was anchored to the base of a traffic control signal light pole and a salvage sheet placed over the cable. The winch was then operated very slowly, enabling the utility to be pulled back approximately two metres, sufficient for it to be removed from under the front of the truck and clearing any obstructions caused by the truck. As the vehicle was winched backwards, Firefighter Sean Powell followed the rear near-side wheel back with a wheel chock, in case of any unexpected equipment failure that may have caused the vehicle to return back under the truck.

Further stabilisation of incident: After the utility had been pulled out from under the truck, firefighters then re-stabilised the vehicle with timber blocks. During the collision, the steel fuel line of the utility had been torn from the fuel pump, causing fuel to continuously pour from the fuel line onto the road beneath

the vehicle. After the vehicle had been stabilised, SO McPherson attempted to use a crimping tool to close the broken fuel line, however insufficient space prevented this. SO McPherson was then able to fold the fuel line over, successfully closing it and stopping the release of further fuel. All material was also removed from the rear tray of the utility, to create as much space as possible for the rescue operation. Heavy Hazmat 77 responded to the scene, to assist management of the large fuel spill onto the road surface.

Crush syndrome considerations: As is the case with all rescues, firefighters worked very closely with Ambulance paramedics throughout the entire extrication. However, particularly close and careful consultation was required during the dash push, due to concerns by paramedics the patient may have been suffering from crush injury syndrome, due to entrapment compression. Paramedics did not wish for any compression to be released from the patient until medical stabilisation had been completed. This was a major consideration for the Rescue Team Leader, who liaised with the Ambulance Paramedic Commander prior to, during and after the dash push operation.

Dash push operations: After the vehicle had been pulled out from under the truck, firefighters were able to look through the engine compartment and could now see the patient's legs and feet, which appeared to have not suffered major

injury due to the collision. Firefighters then worked on the third part of the extrication plan, which involved pushing the dash off the patient. As a result of the collision, the dash was situated at a 45° angle, causing difficulty for the operation of rescue equipment. Due to the severity and complexity of the dash compression, the dash push had to be undertaken in several stages.

The first stage involved setting up a chain puller set, due to concerns that as the rams operated and pushed the dash forward, the dash and A pillar could in fact begin to travel in the wrong direction, back towards the patient (the A pillar was still close to the patient's face). To prevent this from happening, a chain pull was set up, from the off-side A pillar, through the crushed section of the bonnet, to the centre of the truck bullbar (anchor point). The chain puller also acted as additional packing during the dash push.

Once the chain puller was in place, a small ram was placed in the centre of the vehicle (between the two front seats) extending from the rear cabin bulkhead to the dash and a large ram was placed on the near-side of the vehicle, between the base of the B pillar and the A pillar at dash level. Timber packing was placed under the near side B pillar. Light tension was taken on the rams and relief cuts were then made in the gusset of the A pillar. The spreaders were placed on the near-side of the vehicle and extended between the sill and the dash, to take some of the weight off the dash. On the initial operation of the centre ram, the

ram slipped. A timber block was placed on the rear cabin bulkhead providing greater traction for the ram, which was then able to extend correctly.

On the off-side of the vehicle, relief cuts were made at the base of the A pillar and spreaders were positioned between the off-side B pillar and the door lock of the off-side door. All equipment was now set for the dash push to commence. When medical stabilisation was complete, the Ambulance Paramedic Commander advised the Rescue Team Leader that firefighters could go ahead and commence releasing the patient from compression. A highly coordinated operation then commenced, involving the simultaneous operation of four rescue tools at once; Extension of the long ram, extension of the small ram, widening of the off-side hydraulic spreaders and tensioning of the chain puller. This combined operation resulted in the dash moving forward approximately 100-150mm. Paramedics were able to free the patient's left arm, which had been located under the dash. A gap was also made between the off-side door and B Pillar, creating improved patient access for paramedics. As the dash was being lifted, timber wedges were placed in the relief cut openings that had earlier been made on the near and off-side A pillars (preventing the pillars from collapsing onto themselves, in the event the rams slipped/failed).

Following the first stage operation of the dash push, firefighters stopped to reset the rams. While the reset was taking

place, Ambulance paramedics conducted further medical stabilisation of the patient. With the off-side door now open, firefighters were able to place a ram on the off-side of the vehicle to assist pushing the dash forward. The telescopic ram located in the centre of the vehicle was removed and relocated to the off-side of the vehicle between the gusset at the base of the B pillar and the dash. A larger ram replaced the telescopic ram in the centre of the vehicle. While the rams were being swapped out in the centre of the vehicle, the dash was being held securely in place by the chain puller, preventing any movement of the dash. The spreaders located on the off-side of the vehicle were removed.

Following resetting of the rams, the second stage of the dash push commenced. The three rams were extended and tension taken on the chain puller. During this extension, a further 200mm of movement of the dash was achieved. When the second ram extension stopped, paramedics conducted further assessments and stabilisation of the patient, while firefighters undertook a second reset of the rescue equipment. During this reset, the centre ram was changed out with a small single acting non-telescopic ram. A reset was also undertaken on the chain puller. During the process of pushing the dash forward, the "rolling" motion of the dash had caused the A pillar to move from a relative vertical position to more of a horizontal position and there was a danger the chain could slip off the



Extrication was a carefully coordinated operation carried out over several steps, operating multiple tools simultaneously



The rams are slowly extended, pushing the dash off the driver

A pillar. The chain was then resecured around the steering column. The chain pull reset was able to be undertaken because the load was being held by the rams.

During the process of pushing the dash forward, the angle of the dash relative to the rams was changing, causing the rams to have less traction and reducing pushing capacity. The dash was also beginning to split. Timber crib blocks were placed behind the ram against the rear cabin bulkhead and small timber blocks were placed against the dash. In addition to providing greater traction for the ram, placement of the timber blocks also spread the load during the operation of the ram, increasing the operating efficiency of the ram.

Final dash push and release of patient:

Following the second reset, the third stage of the dash push was undertaken. Tension was taken up on the chain-pull set and rams. The centre ram was operated to full extension, resulting in a total forward movement of the dash of 500mm. Following this extension, the driver's feet were now fully visible and the driver was completely removed from compression. Patient protection was put in place around the driver and firefighters then operated hydraulic shears to remove the remnants of the off-side front quarter panel. Firefighters then completely removed the off-side door, creating an opening adequate for the removal of the patient. Under the guidance of paramedics, the patient was placed onto

a rescue board and released from the vehicle, approximately 90 minutes after firefighters arrived on scene.

Notes

1. Initial scene size-up resulted in identification of additional specialist resources, which were promptly requested, providing significant capability to the rescue.
2. A careful and thorough assessment of the entrapment identified a number of complexities and issues associated with the manner in which the patient was trapped. The complexities associated with the entrapment demonstrated the importance of forming a release plan, consisting of a number of a number of stages, enabling each issue to be systematically overcome as it was encountered.
3. Entrapment was complex, requiring a detailed assessment by the rescue crews in consultation with Ambulance paramedics, taking into consideration each patient's individual medical condition, resulting in the formation of a considered extrication plan. Release was a slow and careful step-by-step operation, with each step reviewed as the extrication proceeded, ultimately resulting in the best possible outcomes for the patient.
4. A high level of inter-agency communication and cooperation was evident at this incident, (in particular consultation between firefighters and

Ambulance paramedics/medical team) resulting in seamless operations, again resulting in the best possible outcomes for the patients. In particular, the possibility of crush injury was an important consideration during release. Once again, the relationship between firefighters, paramedics and the medical team was excellent.

5. Extrication crews were met with a complex entrapment scenario, however a combination of ingenuity, significant skill levels of the rescue operators, excellent command leadership and the right rescue equipment resulted in rescue operations that were safe and highly effective.
6. The work performed by 77 Station firefighters assisting the rescue crews was critical to the successful outcome of this incident.
7. From the outset, firefighters recognised the dangers presented by the large fuel spill that had occurred, placing significant fire protection in place.
8. Firefighters provided initial patient care to the trapped driver until the arrival of Ambulance paramedics. In the chain of survival, early patient care is a vital link to patient survival.
9. Congratulations to all crews present, who performed with distinction and with complete professionalism. **END**




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Aerial view from Polair 4 of the fully involved wrecking yard, threatening exposures on all sides. Note the aerial master stream of Aerial Pumper 47, protecting the vulnerable northern side of the Exposure Delta factory. Photo courtesy NSW Police Aviation Support Branch

FIREFIGHTERS CONTROL FIERCE 8TH ALARM REVESBY WRECKING YARD FIRE

Incident summary: Following an explosion, an intense fire broke out within a car wrecking yard, resulting in rapid fire spread and intense fire activity. Numerous explosions continued to occur due to the involvement of stored LPG cylinders. Numerous exposures were directly in the fire’s path and under threat. Firefighters placed a systematic containment strategy in place, using a combination of handlines, aerial master streams and ground monitor streams to halt fire spread. CAFS was used to very good effect, producing significant fire control.

Incident type: Wrecking yard and factory fire.

Time, date and place of call: 1555 hours on Wednesday 25 May 2016, Fitzpatrick Street, Revesby.

FRNSW response: Pumpers 48 (Mortdale), 29 (Arncliffe), 30 (Lidcombe), 34 (Riverwood), 70 (Maroubra), 84

(Macquarie Fields), 20 (Hurstville), 90 (Menai), 52 (Campsie), 22 (Leichhardt), 21 (Kogarah) and 73 (Yennora), CAFS Pumper 31 (Busby), CAFS Tanker 93 (Narellan), Rescue Pumpers 62 (Bankstown) and 15 (Burwood), Tanker 90, Aerial Pumpers 47 (Revesby) and 7 (Horningssea Park), Ladder Platforms 21 and 27 (Parramatta), Ladder 18 (Glebe), Hazmat Pumpers 85 (Chester Hill), 77 (St Marys) and 13 (Alexandria), Heavy Hazmat 77, Heavy Rescues 8 (Liverpool) and 20, Logistics Support Vehicles 92 (St Andrews) and 1 (City of Sydney), Mobile Command Centre Bravo, Rehab 1 and TAF 20

Duty Commanders MS2 (Kogarah) Inspector Kevin Baxter, ME3 (Ashfield) Inspector Mick Wren, MS3 (St Andrews) Inspector Michael Carroll and MW2 (Parramatta) Inspector Jeffrey Roche, Zone Commander Inner West Superintendent Adam Dewberry, Area Commander Metro East Chief

Superintendent Marcus Baker, FRNSW Commissioner Greg Mullins, Fleet Operations Officer SO Serge Meunier, Operational Research Officer 2 SO Glen Mole, Deputy Commissioner James Hamilton, Operational Media Coordinator Superintendent Ian Krimmer, Chaplain Lyndsay Smith and Tactical Operations Research Analyst.

In addition to the above, a further 18 FRNSW appliances and numerous other senior officers and specialist support staff responded to the incident over the following 32 hours for relief and fire duty purposes.

Additional agencies/services in attendance: NSW Police, Ambulance Service of NSW, gas authority and electricity authority.

Fireground description: The fire occupancy consisted of a motor vehicle wrecking yard, 80m x 80m, comprising a large pile of crushed cars. A number



This view from Polair 4 shows the fully involved wrecking yard; note heavy black smoke pouring from the roof of Alpha Exposure, to the right of the main fire. At this time, firefighters were establishing a cut off to prevent this factory being lost. Photo courtesy NSW Police Aviation Support Branch



Firefighters conduct a determined attack to stop fire spreading into the adjoining Alpha Exposure

of LPG cylinders removed from wrecked motor vehicles were stored on site. Factories were located on all sides of the wrecking yard. Exposure Alpha was a factory 60m x 20m located to the west of the car stack, with the eastern end open and exposed to the fire area. This factory was stacked from floor to ceiling with wrecked cars and a large pile of rubber tyres was located at the open end of the factory close to the wrecking yard. Exposure Charlie was a factory containing large quantities of stored flammable liquids and gas cylinders.

Initial call and response: Staff were operating in the wrecking yard when an explosion occurred, resulting in two workers receiving serious injuries. Ignition of the wrecked car stack occurred. Occupants from neighbouring businesses heard the explosion, observed flames and a large plume of black rising from the site and began to ring 000 to report a major fire in progress. Due to the number of calls being received, a 2nd Alarm response was assigned to the fire. A number of major explosions began to occur, involving the LPG cylinders stored on site; one burning cylinder was propelled into the air and crashed through the roof of a factory located approximately 30 metres away (and subsequently self-extinguished without fire spread occurring).

FRNSW operations: Firefighters aboard first responding appliances Rescue Pumper 62 under the command of SO Dave Cross, and Aerial Pumper 47 under the command of SO Bob Wilson, observed a large column of thick black smoke while still several kilometres from the reported fire, indicating a major fire was in progress. SO Cross sent a RED message while still en route, reporting the size of the smoke plume visible and requesting the response of a 2nd Alarm. As additional 000 calls continued to be received by Fire Communications, including reports of major explosions and people seriously injured, the Fire Communications supervisor made the decision to increase the response to a 3rd Alarm.

As first arriving appliances Rescue Pumper 62 and Aerial Pumper 47 arrived in Fitzpatrick Street, firefighters were confronted with a rapidly deteriorating and highly chaotic scene. A very large smoke plume was rising rapidly high into the sky from the fire and numerous explosions from stored LPG cylinders were occurring. Fuelled by the highly volatile materials within the wrecked motor vehicles (rubber tyres, polyurethane foams, plastics, synthetic rubbers, adhesives, hydrocarbon based materials and other synthetic products) the fire was burning fiercely and spreading rapidly. Police were already

on scene and were evacuating occupants of neighbouring properties. Firefighters received reports that at least two workers from the factory had been seriously burned in the fire. SO Cross sent a RED arrival message requesting the response of a 3rd Alarm, while investigations were made. SO Cross assumed the role of IC, commenced a 360 degree size-up of the fire, designated the incident "Milperra Command" and established a staging area on Fitzpatrick Street.

Duty Commander ME3 (Ashfield) Inspector Mick Wren was responding to the fire, observed the size of the smoke column and was aware the fire was at a very advanced state. Inspector Wren had attended a major fire in close proximity to the subject fire about 12 months previously and was aware of the issues associated with a major fire at this location and the operational requirements. Aware water shortage was a critical issue, Inspector Wren increased the response to a 4th Alarm to ensure adequate pumpers were responding to establish water relays. Aware of the need for aerial appliances, Inspector Wren requested the response of a further Ladder Platform and a CAFS appliance.

At the conclusion of the size-up, recognising the need for additional pumpers to establish water relays, SO 62 sent a further RED message



Aerial Pumper 47 directs an aerial master stream onto the wall of Delta Exposure, being heavily impacted by flames and radiant heat

and increased the response to a 5th Alarm. The first objective of the IC was to protect the Alpha Exposure factory which was the most seriously threatened exposure under threat. Rescue Pumper 62 firefighters wearing SCBA deployed a 70mm attack line to the western edge of the fire to commence protection of the threatened factory, now under immediate threat. The large pile of tyres inside the factory was already well alight. Firefighters fought conditions of intense radiant heat, fierce flames and thick black smoke, attempting to control the fire spreading into the threatened factory. Firefighters placed a second 70mm line in operation at this location as additional crews arrived on scene, strengthening the attack. Large explosions of LPG cylinders continued to occur as firefighters battled to stop the fire from spreading into the Alpha Exposure factory. Firefighters located the two workers from the factory who had received serious burns. At this time, ambulances were beginning to arrive on scene and care of the injured workers was transferred to Ambulance paramedics. Aerial Pumper 47 was positioned in an open yard in front of the Delta Exposure factory and immediately commenced operations as a water tower, directing an aerial master stream onto the car stack in an attempt to reduce the fire intensity. The aerial stream

alternated between direct fire attack and protection of threatened exposures. Firefighters operating a 38mm line provided fire protection inside Exposure Delta, extinguishing a number of spot fires within the exposure that ignited. Pumper 34 firefighters established a ground monitor stream at the front of Alpha Exposure to assist efforts to stop the fire spreading into the exposure.

A concern of the IC was fire spread into Charlie exposures. The Charlie side could not be accessed during the 360 degree size-up and was not visible to the IC because of the size of the fire. Pumper 48 was deployed to the Charlie side to investigate the extent of the fire and commence protection of any exposures under threat. Pumper 48 firefighters deployed 70mm attack lines and commenced protection of the Charlie Exposure factory, containing large quantities of flammable liquids and gas cylinders.

Duty Commander MS2 (Kogarah) Inspector Kevin Baxter was returning from drill and in close proximity to the fire when assigned to the incident. Inspector Baxter arrived on scene a short time later and following a handover briefing, command was transferred to him. The IC's main objectives were to contain the fire by stopping it from spreading to Exposure Alpha and the

protection of Charlie and Delta Exposures under threat. To assist overcoming water shortages being experienced in Alpha Sector, a water relay was established from Milperra Road consisting of Base Pumper 84, Hazmat Pumper 85 and Pumper 34. Operations continued to protect Alpha exposure. Firefighters used a power saw to cut through the metal walls of the factory, in an attempt to gain better access to the fire. The two 70mm handlines at the eastern end of the factory were shut down and lines connected to a ground monitor, increasing protection of the eastern side of the factory being heavily impacted by fire. NSW Police Air Wing helicopter Polair-1 was over the fire ground and able to provide important intelligence to the IC, via the FRNSW Communications Centre, identifying exposures at risk and hazardous materials located in the fire's path.

Duty Commander ME3 Inspector Mick Wren went to Charlie Sector to direct protection of Charlie exposures under threat. Ladder Platform 21 was directed to Charlie Sector and was placed in operation directing an aerial master stream onto the fire. Upon the arrival of CAFS Tanker 93, the extinguishing medium was switched from water to CAFS at medium density supplied at 900kPa. Aerial operator SF Scott Simmons reported that CAFS provided

very rapid knockdown of fire burning within the car stack. Zone Commander ME3 Superintendent Adam Dewberry attended the fireground and command was transferred to him. The Incident Command Point was transferred to the mobile command centre. Water shortage continued to be a problem and the response was increased to a 7th Alarm to enable a water relay to be established along Violet Street, supplying water to Charlie Sector (consisting of Base Pumper 52 and Pumper 29). Commissioner Greg Mullins attended the fireground and was provided a full briefing on incident operations. The Commissioner subsequently conducted a tour of the fireground and oversaw firefighting operations, providing advice to Incident Command in a command/expert senior advisory capacity.

Hazmat crews from 77 and 85 stations conducted atmospheric monitoring with AreaRAE monitors around the fireground, investigated hazardous materials stored at a number of sites, serviced SCBA cylinders and tested run-off water in conjunction with the EPA and local council. A 70mm attack line was deployed to the car stack fire from CAFS Pumper 31, supplying foam at 0.5% medium concentrate. Firefighters reported the CAFS application was quite effective, making a noticeable difference to the fire

attack and providing significant fire knock down among the wrecked cars.

Following several hours of intense firefighting, fire within the wrecking yard began to significantly diminish. Although the eastern end of the open Alpha Exposure was heavily impacted by fire, this building was saved. Spot fires within Delta Exposure were extinguished. No fire spread to any other exposures occurred. Firefighters remained on scene throughout the night and final extinguishment occurred the following day when heavy machinery was used to break up and open the car stack, allowing hose streams to extinguish deeply seated burning fire.

Notes

1. Size-up was invaluable at this fire. En route size-up ensured adequate resources were available to commence initial firefighting operations. Although there were numerous exposures under threat, the 360 degree size-up enabled the first line to be placed where it was most needed and would be most effective. Subsequent placement of hose lines, ground monitors and aerial streams was identified via the size-up process, ensuring the most effective use of resources was made. Despite the ferocity of this fire and difficulties encountered, the sound tactics employed ensured no exposures were lost.

2. As part of the initial size-up process, the IC determined a fire attack consisting of large calibre streams from aerial appliances and ground monitors would be necessary to control and extinguish this fire, which in turn would require a significant water supply in an area where water supplies were known to be poor. Rather than wait until water supply became an issue, the IC proactively increased the alarm level to ensure the response of sufficient resources to establish water relays, to enable continuity of fire attack to be maintained once large calibre streams were placed in operation. This decision undoubtedly contributed to this fire being prevented from spreading to adjoining exposures.

3. The use of CAFS proved to be effective at this fire. Firefighters reported that upon switching the firefighting medium from water to CAFS, there was a significant and noticeable knockdown of fire.

4. Once again, the responding FRNSW crews showed great skill and determination, particularly in the face of extreme and severe fire conditions. Congratulations to all crews and command staff on a job very well done.

END

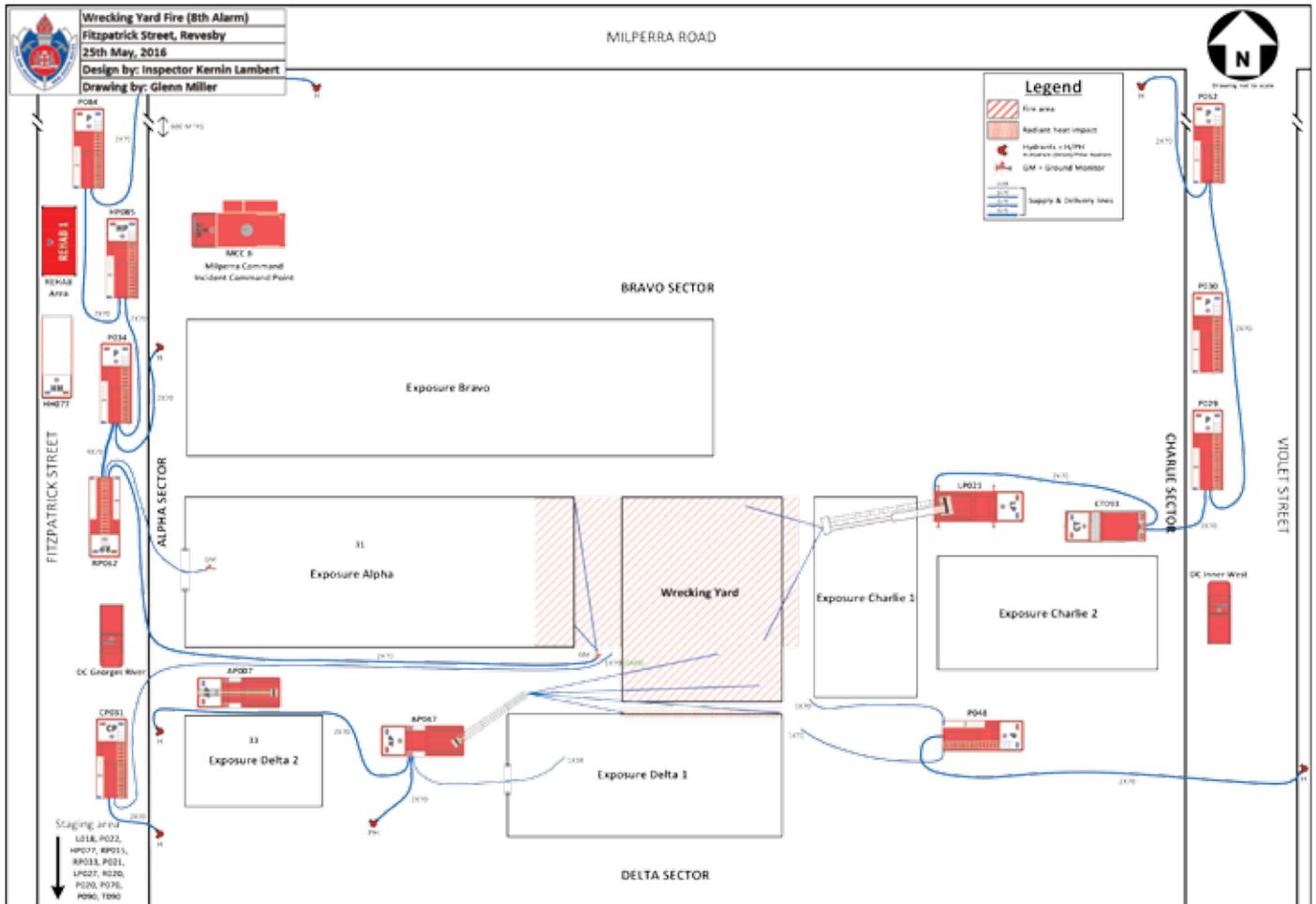


Firefighters protecting Alpha Exposure press home a determined attack



From Charlie Sector, Ladder Platform 21 directs an aerial master stream to protect Charlie Exposures

8TH ALARM REVESBY WRECKING YARD FIRE



Ladder Platform 21 operators reported the CAFS stream significantly improved fire knockdown capability amongst the wrecked cars



Immediately following the collapse, firefighters conduct a defensive attack on the fully involved church from outside the collapse zones. Photo courtesy SO Janine Bailey



Ladder Platform 21 attacks the fire with an aerial master stream. Photo courtesy Damian Hofman

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FIREFIGHTERS CONTROL FIERCE 5TH ALARM ROCKDALE CHURCH FIRE

Incident summary: Firefighters responding to a church fire in Rockdale commenced firefighting operations at a heavily smoke-logged building showing minimal signs of advanced fire activity. Suddenly and with little warning, a major collapse of the roof and side walls occurred, followed by a rapid and extreme increase in fire activity, resulting in total involvement of the church, producing flames that extended 40 metres high. Numerous exposures were placed under immediate threat, including a three level aged care facility containing 62 persons located just five metres from the fully involved church. Firefighting transitioned to a major defensive operation to protect the numerous exposures now in imminent danger. A large operation was underway by firefighters within the aged care facility to evacuate all occupants to safety. The large and determined firefighting operation resulted in protection of all

exposures and removal of all threatened persons to safety. This fire highlights some of the unique hazards and conditions that can exist at church fires.

Incident type: Building fire (church).

Time, date and place of call: 2143 hours on Sunday 1 May 2016, Frederick Street, Rockdale.

FRNSW response: Pumpers 21 (Kogarah), 29 (Arncliffe), 52 (Campsie), 28 (Marrickville), 35 (Botany), 64 (Lakemba), 26 (Mascot), 48 (Mortdale), 5 (Newtown) and 34 (Riverwood), Rescue Pumper 15 (Burwood), Aerial Pumpers 45 (Miranda) and 47 (Revesby), Ladder Platform 21 (Kogarah), Ladder 18 (Glebe), Hazmat Pumper 13 (Alexandria), Heavy Hazmat 13, Logistics Support Vehicles 21 and 1 (City of Sydney), CAFS Tanker 45, Mobile Command Centre Alpha, Rehab 1 and TAF 20

Duty Commanders MS2 (Kogarah) Inspector Kevin Baxter, ME3 (Ashfield) Inspector Mick Wren and ME1 (City of Sydney) Inspector Rob Harley, Fleet Operations Officer SO Serge Meunier, Zone Commander Inner West Superintendent Adam Dewberry, Assistant Director Workplace Standards Chief Superintendent Paul McGuiggan, Capability Manager Hazmat Acting Superintendent Michael Jay, Manager Counter Terrorism and Aviation Superintendent Kel McNamara, Commissioner Greg Mullins, Community Engagement Unit 3, Training Officer Resource 2, Operational Research Officer 2 SO Glen Mole and Tactical Operations Research Analyst.

Additional agencies/services in attendance: NSW Police, Ambulance Service of NSW, gas authority and electricity authority.



Collapse of the structure was sudden and with little warning, bringing down tons of debris. Firefighters were operating safely outside of collapse zones. Photo courtesy Damian Hofman

Fireground description: The fire building was a church, single level, 30m x 20m, brick construction, rendered walls, exposed timber joist frame and steeply pitched timber truss and tile roof. Transversal iron beams extended across the roof. The building was 12m high at the roof peak. The building was fitted with two timber-lined ceilings beneath the roof to facilitate the extensive air-handling system, creating a large concealed void within the ceiling and roof space. The roof was lined with timber. The building was fitted with a timber floor and pews. The “front” of the church facing Frederick Street was the location of the sanctuary and altar. Usual access to the church was via side doors, located midway along the sides of the church. A large timber partition separated the nave (the main area of the church) from the sanctuary. The church was constructed in 1892 and was not fitted with any form of installed fire detection or suppression systems.

The fire building was surrounded by exposures on Bravo, Charlie and Delta sides. Significantly, Exposure Delta 1 was an aged care facility, of three levels, 40m x 50m, brick and tile construction,

containing 60 residents and two staff. This building was protected by sprinklers and an internal hydrant system. Numerous windows were located on all three levels on the southern side of the building, facing the fire building. This building was located 5m to the north of the fire building.

Initial call and response: FRNSW Fire Communications received the first of numerous 000 calls reporting a church on fire at 2143 hours. Due to the number of calls being taken, the response was increased to a 2nd Alarm.

FRNSW operations: Firefighters aboard initial responding Pumper 21 under the command of SO Kurt Ingle and Pumper 29 under the command of SO Janine Bailey observed the entire street in front of the fire building was full of smoke when they were about one block from the fire. Upon arrival, the street was so heavily smoke-logged, firefighters were unable to see the fire building. First arriving SO Ingle established command and confirmed the response of a 2nd Alarm while investigations were being made. From the street, smoke was banking down to ground

level and visibility was less than three metres, necessitating that all firefighters (including pump operators) wear SCBA.

SO Ingle attempted to conduct a 360 degree size-up, however he was prevented from completing the size-up due to the layout of the site. At that time, flames were visible within two front windows on the Alpha side of the building, although the fire did not appear to be of significant size. Firefighters wearing SCBA began to direct an external 38mm hose stream through the front windows onto the fire. SO Bailey observed the close proximity of the aged care facility on the Delta Side of the fire building and informed police who had just arrived on scene to instruct facility staff to prepare for (but not commence) an evacuation. Staff were directed to close all doors and windows to restrict smoke entry. Pumper 29 Firefighters Matthew Chaffer and Luke Ryan wearing SCBA deployed a second 38mm attack line to the Delta side of the church, where large volumes of black smoke were issuing from under the roof eaves. No flames were visible and firefighters could find no means of accessing the fire from this

location. The second 38mm attack line was re-deployed to the church door on the Alpha side. Firefighters forced entry through two sets of doors, which led them to the timber sanctuary located on a mezzanine level of the church. Thick smoke poured from the church door to ground level. The church interior was very heavily smoke-logged and visibility was poor. Firefighters observed numerous dry palm fronds located all through the church. Fire was burning under the altar, in a gap beneath the floor. Firefighters began to direct the attack stream towards this fire, which seemed stubborn and difficult to extinguish. Fire was also burning at the south east corner of the church. Flames and a dark red glow were visible midway through the church, along the southern side of the nave of the church near floor level. Firefighters were also able to observe an orange glow towards the ceiling. Fire activity did not seem to be particularly intense.

Duty Commander MS2 Inspector Kevin Baxter arrived on scene and a transfer of command occurred. The IC increased the response to a 3rd Alarm to ensure SCBA relief crews were in place. A staging area was established on Frederick Street, ensuring appliance congestion at the fireground was minimal (this would later

prove to be critical when three aerials were placed in operation at a fireground with very restricted space). Ladder Platform 21 was positioned in Alpha Sector to the north of the fire building to protect the most vulnerable exposure threat (Delta aged care facility) in the event conditions escalated and to survey the church roof space for signs of fire involvement. Thick smoke continued to issue from the building, staying low to the ground and obscuring the church. Firefighters observed smoke was so thick, they could not see the height of the church and arriving stations reported large volumes of smoke covering the Princes Highway. Firefighters could only see a glow visible from the middle of the church within the smoke located low down. There were no indications the fire was escalating and all signs indicated the fire was containable and the church saveable via an offensive interior attack. Pumper 52 firefighters wearing SCBA deployed a 38mm line to the Bravo side of the church and directed the attack stream through a side window, however could not see whether the stream was being effective due to thick smoke pouring from the window. Entry was gained through a door near the western end of the

church on the Bravo side and firefighters repositioned the 38mm attack line to this location. Pumper 28 firefighters wearing SCBA were repositioning a 70mm hand line from the Alpha side to the Bravo side to gain better access to the fire. SO Dean Adam observed heavy smoke being drawn back into the church through the open door on the Bravo side. Inside the church SO Adam observed flames beginning to appear within the smoke towards ceiling level, which began to rapidly increase in size. Recognising a very sudden increase in fire intensity and possible flashover was about to occur, SO Adam ordered all firefighters immediately withdraw to a position of safety. Externally, smoke began to clear. At the same time, Pumper 29 firefighters attacking the fire inside the church on the Alpha side heard a slight rumbling sound coming from the rear (Charlie side) of the church that lasted for a short time then stopped. FF Chaffer advised this noise did not sound right, causing them to immediately begin withdrawing from the building. The rumbling commenced again, described by FF Chaffer as "sounding like thunder" towards the rear of the church and moving forwards. FFs Chaffer and Ryan had now managed to withdraw from the building and a



The Ladder Platform 21 aerial master stream protected Delta Exposure, being heavily impacted by radiant heat. Photo courtesy Damian Hofman

short time later complete collapse of the roof occurred, followed closely by major collapse of walls on all sides of the church. Pumper 35 firefighters had been deployed to the Delta Exposure and reported that fire conditions escalated very rapidly. Almost as soon as flames began to vent out of all windows on the Delta side of the church, the roof timbers and complete collapse of the roof occurred, followed almost immediately by collapse of the walls. SO Bailey reported that without warning "huge amounts of bricks and wall came down on all sides". Pumper 21, 28 and 52 firefighters were in the process of withdrawing when the collapse occurred. One firefighter on the edge of the collapse zone was struck by falling debris, becoming injured and immobile. Without hesitation, retreating firefighters immediately turned back towards the collapse zone and located the injured firefighter among the debris, who they then carried to safety and nearby Ambulance paramedics. Following the major collapse, an accountability check was rapidly conducted and all personnel on the fireground were found to be safely accounted for.

Immediately following the collapse, the situation rapidly deteriorated as fire conditions significantly escalated. Intense

flame momentarily extended to a height of 40 metres into the air. As the collapse occurred, an enormous volume of embers were directed vertically into the sky. The church was now fully involved in fire and large flames were fiercely venting at least ten metres above what had been the roof line of the church. The situation was worsened due to the collapse of church walls, allowing the release of large amounts of radiant heat, placing all exposures at immediate risk. The aged care facility (located less than five metres away) was now under immediate and imminent threat. Recognising the dangers the rapidly escalating fire situation now presented, the IC sent a RED message at 2209 hours increasing the response to a 5th Alarm, advising a major collapse had occurred, collapse zones were being established and the aged care facility was being evacuated. Firefighting was switched to a totally defensive strategy and collapse exclusion zones were established in all sectors. All 38mm attack lines were switched to 70mm lines to enable a large calibre defensive attack to get underway and enable attack streams to be operated at the maximum distance from the building, well out of collapse zones. The IC ordered the complete

evacuation of the aged care facility take place. Pumpers 28 and 35 firefighters deployed a 70mm line breached into two 38mm protection lines deployed to levels one and two of the aged care facility. Fierce radiant heat was now impacting the windows of the aged care facility, causing the outer glazing to break. From the aged care facility, firefighters could now see explosions occurring within the church. Flames the entire length of the Delta side of the fire building were now impacting the aged care facility, striking under the roof eaves. Firefighters operating inside the aged care facility reported conditions were getting very hot and fire spread was imminent. At the same time firefighters inside the aged care facility were laying out hoselines, they were also evacuating residents. Most of the residents were elderly, frail and with very limited mobility, and many of them used walking frames. Police and ambulance paramedics entered the aged care facility to assist the evacuation. Firefighters reported that due to the frailty and immobility of the residents, the evacuation was quite lengthy. In preparation for fire extension, firefighters deployed hose reels on level three in addition to the 38mm protection lines on levels one and two. Ladder



Following collapse, fire activity was uncontained, threatening exposures on Bravo, Charlie and Delta sides. Photo courtesy SO Janine Bailey



Occupants from the aged care facility were located at the evacuation point as firefighters battle to control the fire in the background.

Platform 21 was placed in operation and began to direct an aerial master stream onto the side of Delta exposure, providing a substantial cooling deluge. Aerial operator SF Brad Meyn alternated the aerial stream between exposure protection and direct attack on the fire building, reducing the fire intensity. From the Charlie side, Pumpers 13 and 26 firefighters wearing SCBA placed a 70mm line in operation from the Charlie/Delta corner, directing a cooling stream onto the heavily impacted southern side of Delta Exposure. SO Peter Cleary reported that he believed ignition of the aged care facility was imminent due to the ferocity of fire impact. From inside the aged care facility, firefighters reported that once the cooling streams began operating, there was an appreciable drop in temperature. 62 persons were safely evacuated and placed in the care of Ambulance paramedics at an evacuation area to the north of the fire scene. Following the evacuation, firefighters continued to conduct further searches of the building to ensure no-one remained in the building, closing all doors as they went to slow down any lateral spread of fire. Firefighters continued to search all parts of the aged care facility for signs of fire spread and constantly checked all windows for signs the fire had breached.

DC ME1 Inspector Rob Harley was appointed Alpha Sector Commander, DC ME3 Inspector Mick Wren was appointed Charlie Sector Commander and Superintendent Kel McNamara was placed in charge of operations inside Delta Exposure. At the height of firefighting operations, Commissioner Greg Mullins attended the incident and witnessed firsthand the determined efforts of firefighters to control the fire, save the lives of the residents directly in the fire's path inside the aged care facility and protect the numerous exposures that were under threat and the difficult conditions under which the fire was being fought. The Commissioner met with members of Incident Command and provided advice in a command/expert senior advisory capacity. From Delta Sector, Pumper 29 firefighters alternated a 70mm line between protecting Delta Exposure and fire attack on the fully involved church. From Bravo Sector, Pumper 52 firefighters experienced inferno-like conditions from the fully involved church and a venting gas cylinder, as they used a 70mm line from a position of substantive cover to protect a kindergarten under threat. The canopies of several large trees were alight and embers were dropping onto exposures. Firefighters forced entry into exposures

to ensure no fire spread had occurred. Pumper 48 and Rescue Pumper 20 firefighters operated 70mm defensive lines from Alpha Sector, protecting Bravo exposures and directing large volume streams onto the church fire. From Alpha Sector, Aerial Pumper 45 was placed in operation and directed an aerial master stream onto the church. From Bravo Sector, Aerial Pumper 47 was able to direct an aerial master stream onto the rear of the church that was out of the reach of aerials operating in Alpha Sector, protecting Charlie Exposure. The combined aerial master stream and large calibre handline attack from all sectors was highly effective, slowly bringing the fire under control. Aerial operators provided critical aerial reports to Sector Commanders from positions of height vantage, ensuring the greatest tactical advantage was being gained by the firefighting operations. Once the fire had been brought under control and no further threat of fire spread to surrounding exposures existed, firefighters worked hard to enable the reoccupation of the aged care facility to take place as soon as possible. Crews carried out ventilation, salvage operations and undertook atmospheric monitoring from inside the aged care facility. When conditions inside the aged care facility



Firefighters conducted a major attack from Alpha Sector. Aerial Pumper 45 directs an aerial master stream onto the fire



Commissioner Mullins talks to crews operating in Delta Sector

were safe for reoccupation, firefighters assisted residents out of the cold night and back into their place of residence. Despite ferocious fire activity (almost all outer window glazing on the southern side of the aged care facility being either cracked or broken from the radiant heat impact), no fire spread to the aged care facility occurred. All other exposures were protected. As firefighting operations began to reduce, Commissioner Mullins provided a detailed briefing to the very large media contingent that were in attendance, which led news bulletins on most networks the following day. FRNSW Fire Investigation and Research Unit investigators and Police forensics officers spent several days at the scene conducting cause and origin investigations.

Notes

1. This church contained a number of large hidden spaces, within the roof and beneath the floor, where inaccessible fire could spread. The building also contained large amounts of exposed timber, increasing fuel loads. Large churches built prior to about 1930 contain large open areas, numerous concealed spaces, combustible interior finishes, vast amounts of timber framing and inaccessibility of portions of the structure, making them susceptible to heavy fire activity and destruction.¹

2. This building contained steel transversal beams. If structural steel or cast iron members are involved in church construction, collapse can be total and involve sidewalls. Collapse in this type of building can occur with little or no warning. There is no way of predicting which way the building will fall.²

3. Possible collapse of the roof could send a thermal column skyward, severely jeopardising all surrounding exposures. The build-up of heat in the high reaches of the church, coupled with a lack of ventilation, make such a collapse a likelihood.⁴

4. Collapse of the church roof could result in an eruption of fire and flying embers through the roof opening. Failure of exterior walls could result in the uncontained release of large quantities of radiant heat. These situations will place exposures under serious threat. Numerous supply lines will be required to supply heavy streams and to protect exposures. When available, aerial master streams are the most effective means of protecting exposures and reducing fire intensity in these situations.¹

5. At a time when the Rockdale church fire appeared “containable”, firefighters pro-actively positioned an aerial appliance to protect the most vulnerable exposure and requested the response of additional alarms. These decisions

enabled operations to immediately commence when a sudden and unexpected escalation in fire conditions occurred due to the building collapse, stopping fire from spreading into a highly vulnerable exposure where a high risk to life existed.

6. Fire in an extensive area of the roof space indicates that collapse of the ceiling and possibly the building is imminent. Firefighters should be withdrawn and an exterior attack commenced. When firefighters are conducting interior operations, it is advantageous to position aerial appliances to survey the building, in particular to look for signs of fire extension into the roof space, which will seldom be visible from the church interior.⁶

7. This fire occurred during the Easter period. Firefighters observed large quantities of dry palm fronds throughout the church interior. At times of significant religious celebrations, churches often contain additional decorations and adornments, adding to fuel loads and resulting in increased fire activity.³

8. Church front doors are often locked and heavily fortified, requiring extensive forcible entry work; entry may be more easily forced through rear and side doors.⁴

9. Following the major collapse and significant escalation in fire conditions, the IC seamlessly transitioned the attack from offensive to defensive. At the same time as large defensive operations were underway to contain the fire, firefighters operated inside the aged care facility to ensure all of the highly vulnerable occupants were removed to a location of safety.

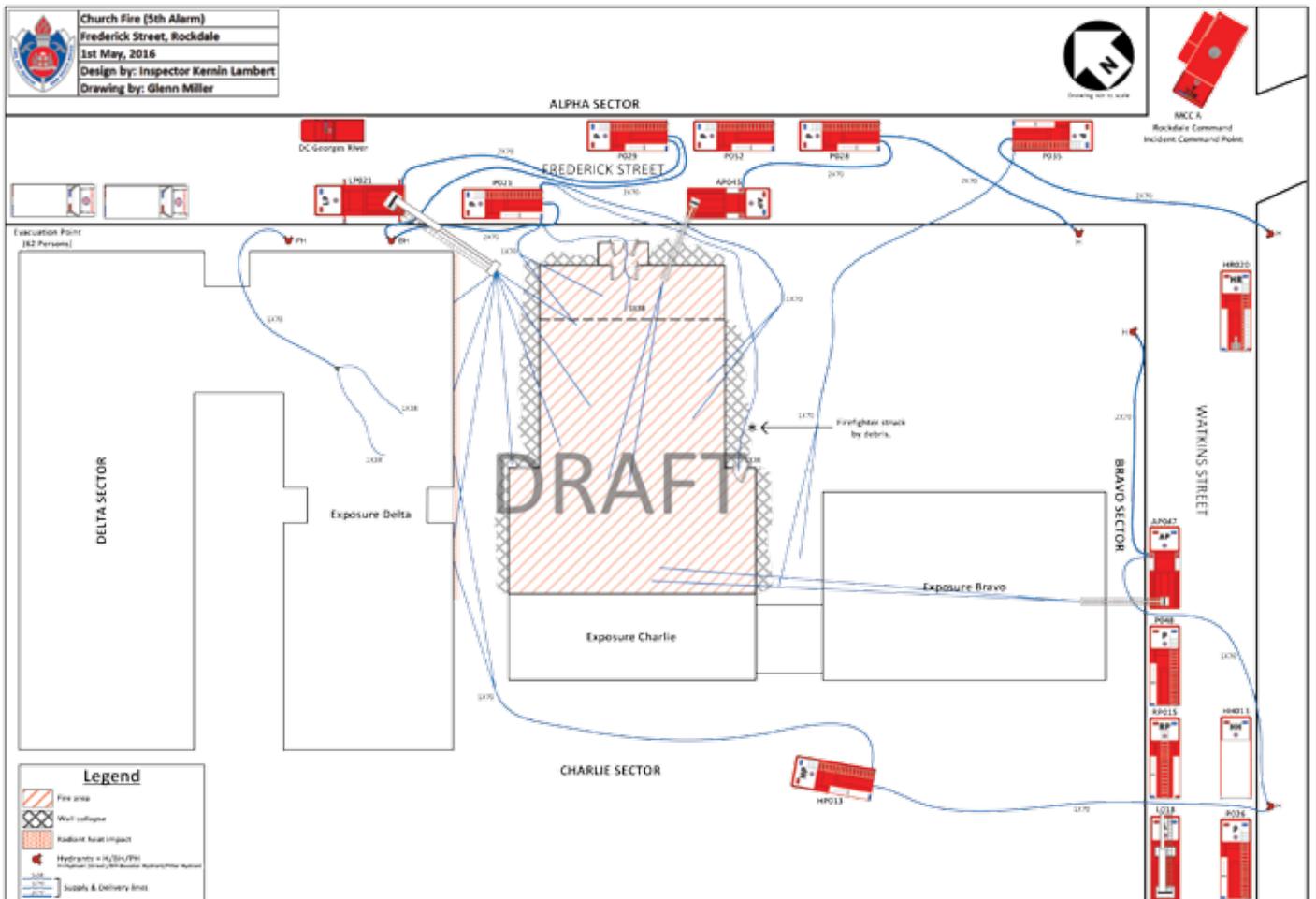
10. No two churches are the same. Many are the subject of renovations and alterations over the years and many contain concealed spaces, avenues of hidden fire travel, exposed structural elements and high combustible fuel loads. It is highly advantageous for firefighters to conduct familiarisation visits of churches to identify the peculiarities that exist at each individual church that may result in unusual fire behaviour and may impact firefighting operations.⁵

11. Reflecting on the sentiments of Inspector Kevin Baxter in his debrief report, all crews should be congratulated for their diligence, professionalism and determination in bringing this difficult and complex incident to a successful conclusion. **END**

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6. SOWINSKI, Arthur. A, Deputy Chief, FDNY (1978), 'Queens 3rd Alarm Trinity Church', WNYF 1/78.



The Mobile Command Centre provided incident commanders significant benefits of a high technology platform to command and support operations from



FRNSW IN THE MEDIA

FRNSW's operations and activities attract significant attention in the media and the wider community. Through multiple social media accounts, FRNSW is building meaningful and responsive relationships not only with its own employees, but also with the general public and the communities it serves.

Making public comment online is increasingly common for FRNSW employees – in official, professional and private capacities. FRNSW recognises the opportunities and benefits for employees to embrace these communication channels.

To provide staff with clear guidelines on appropriate use of social media, in May FRNSW released its Public Comment & Social Media Policy which is published on the intranet. The overall aim of the policy is to protect FRNSW's standing in the community, and in turn the good reputation of staff as firefighters and public sector employees.

The policy establishes the professional behaviours, standards and ethics expected of all employees in regard to public comment, including use of social media. It supports employees in using social media positively for themselves, and when making official comment, in a way that enhances the reputation of FRNSW.

Whether you are on or off-duty, uniformed or non-uniformed – if you can be identified as a FRNSW employee, comments you make publicly are subject to this policy. Even something as simple as using FRNSW terminology – “permo” or “AFA”, for example – might identify you as a FRNSW employee.

The policy applies to all platforms through which you might make public comment, including (but not limited to) news media, public speaking engagements, mobile communications, websites, blogs, online forums and social media.

Importantly, it also includes comments you might make as a private citizen on your personal social media accounts, such as Facebook and Twitter. Content you create, post, “like” or “share” is all defined by the policy as public comment.

Breaches of the policy may include public comments by FRNSW employees that:

- are obscene, defamatory, threatening, harassing, discriminatory or hateful
- harshly criticise FRNSW, the government, a Member of Parliament, or their policies and initiatives
- disclose an individual's private information, including photos and details of fire victims
- speculate on the cause of an incident, especially when it is under the responsibility of another agency
- reveal information that is commercially sensitive
- cause embarrassment or harm to the reputation of FRNSW or the NSW Government.

The policy is not intended to discourage or unduly limit personal expression. In fact, FRNSW recognises the huge potential of social media as a tool for engaging with the community, whether it's about current incidents or fire-safety advice.

This potential is well demonstrated on FRNSW's Facebook and Twitter accounts. Managed by the Media and Communications Unit (MCU), these social media sites have currently received more than 107,000 Facebook likes and attracted 43,200 Twitter followers. A recent video posted on Facebook about retained recruitment was viewed more than 80,600 times.

FRNSW is also very supportive of individual fire stations establishing their own Facebook page. 82 have already done so, and with great results. Fire stations with active Facebook pages found this was an effective way of promoting their Open Day activities.

82 FIRE STATIONS HAVE ESTABLISHED THEIR OWN FACEBOOK PAGE – WITH GREAT RESULTS

Here are some tips for running a successful fire station Facebook page.

- Only post information about operational responses to fires and other incidents, community safety advice, community engagement activities and posts about firefighter or station achievements.
- Steer clear of posts about FRNSW or government policy or anything else outside the scope of your station's responsibility.
- Do not post personal or private information or information that is for FRNSW internal purposes only – for example, policy or operational documents.
- Seek permission before posting images or video of members of the public, and check the images or video does not contain any private or sensitive information.
- Social media is a great platform for FRNSW to engage with the public, so be creative and have fun!

If you are in doubt about posting content or comments that have been posted on your page, seek advice from your line manager and/or MCU phone 9265 2907 or email media@fire.nsw.gov.au.



Article published: Northern Daily Leader, Tamworth NSW 07 Nov 2016



SAVVY: Superintendent Tom Cooper with area admin officers Gretel Vincent, Jaqui Yabsley and relieving duty commander Erin Rampling. Photo: Gareth Gardner 041116GGD01

Social savvy firefighters

WITH a big red truck in tow, the region's firefighters turn heads wherever they go.

But now locals are able to keep up-to-date with what they've been up to around their area, with fire brigades turning to social media.

Crews in the Tamworth zone have been busy on Facebook, with pages created for most fire stations in the wider New England area.

In Tamworth, crews have been posting photos from their fire call outs, which have included everything from burnt out cars to capturing snakes in the city's CBD.

The move was spearheaded by zone Superintendent Tom Cooper, who said it was important that firefighters continued to interact with the community.

“As far as the fire brigades themselves are concerned, it's good for the other brigades to keep across what each other is doing – it's more like a bush telegraph,” he said.

“It also tends to be a little competitive for them and at the same time they share some of the drills they are doing and the good things they are doing.”

“The idea also is to create a more confident community, that will see what the firefighters are doing and know that they are always there.”

Superintendent Cooper said the social media channels have also been beneficial in terms of recruitment, with three applicants for retained firefighter positions in Boggabri in recent weeks.

“Using social media creates awareness of what firefighters do and gives people information on recruitment to help bolster our ranks – and it appears to be working,” he said.



LEGACY FOAM USE & INVESTIGATION INTO POTENTIAL RISKS

FRNSW, the NSWRFs and other agencies are assisting the EPA as it investigates the historical legacy of perfluorinated compounds across NSW.

What are perfluorinated compounds?

Perfluorinated compounds (PFCs) are a group of manufactured chemical compounds used in a wide range of products including common household products such as non-stick cookware, food packaging and stain resistant textiles.

They are also used in firefighting foams – specifically aqueous film-forming foam (AFFF), which have the ability to spread over the surface of hydrocarbon-based liquids. AFFF has been used for fire suppression in many industries including petrochemical, aviation and public fire services.

Two common PFCs are perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). PFOS and PFOA have unique surfactant properties and many useful characteristics, including heat, chemical and abrasion resistance. They are very effective as wetting and dispersion agents.

Historic use of firefighting foam

FRNSW has used various types of foams. In the 1960s, the 3M Company and the United States Navy developed an aqueous film-forming foam (AFFF) called 3M Lightwater, specifically for fighting fuel fires. It was designed to spread rapidly across the surface of burning fuels and create a water film beneath the foam to cool the liquid fuel and stop the formation of flammable vapours. This AFFF had superior fire knockdown capability which was particularly effective for firefighting operations, and was used by many fire services around the world, including FRNSW.

By 2003, it was recognised that the PFCs contained in AFFF showed long persistence in the environment, and although there were no known harmful effects, producers started to look for alternatives. FRNSW tried various non-AFFF foams from 2003 and ceased use of AFFF in a progressive recall and replacement program in 2007.

FRNSW currently uses a PFC-free product called Solberg RF6 which is a Class B firefighting foam.

EPA site investigations

In November 2015 the Environment Protection Agency (EPA) wrote to FRNSW to advise that PFC presence in the environment was now being treated as a contamination issue, and indicated that FRNSW should review its past foam use and assess whether any of its sites need further examination.

FRNSW has been working with the EPA to identify sites such as training facilities that may have seen high usage of AFFF firefighting foams containing PFCs. In early 2016 the EPA visited FRNSW training sites to undertake preliminary soil and water sampling. Results at Albion Park, Armidale, Londonderry and Deniliquin indicated the presence of PFOS and PFOA pointing to the need for more extensive testing. Very low concentrations were found at Wellington, which EPA considers is not a priority for further investigation.

Engagement of environmental consultants

In June this year, FRNSW engaged environmental consultants GHD to undertake further investigation of these sites. GHD is reviewing historical site usage data, FRNSW records, and statements from current and former staff regarding site usage, which may then be followed by more extensive soil and water testing. This investigation is expected to take approximately 12 weeks.

Presently no guidelines exist in Australia for assessing the implications of PFC contamination in the environment. In the absence of formally agreed levels, EPA in NSW has adopted the 'precautionary principle', which sets a very low threshold (down to 1 microgram per litre in water and 10 micrograms per kilogram in soil) as the threshold above which further priority investigation is warranted.

Health effects of PFCs

Studies have shown that almost everyone has PFCs in their blood. People may be exposed to PFCs in the air, dust, food, water and various consumer products. Scientists have found that PFCs do not readily break down and are highly persistent in the environment.

Advice from Australian health authorities states that whether PFOS or PFOA cause health problems in humans is presently unknown, but on current evidence from studies in animals, the potential for adverse health effects cannot be excluded.

FRNSW is keeping a very open mind on this subject, and will continue to seek advice from experts to ensure that it understands the latest research globally on potential health and safety impacts of PFC exposure. FRNSW will also continue to inform staff as understanding of this issue develops. ■■■ END

FIREFIT ON THE ROAD

One element of staying healthy is to stay active. With that in mind, the Health & Safety Branch has been on the move around regional NSW providing information on the FireFit pillars of Mind, Fuel and Train.

From a 'BeSafe' stand at the Regional Firefighter Championships at Forbes, Grafton and Tamworth, to the distribution of new mobility packs, the branch has been interacting with as many FRNSW employees as possible.

At the championships, firefighters and their families had the opportunity to learn first-hand about existing Health & Safety Branch programs and resources including:

- Cardio check – confidential on-the-spot cholesterol and blood glucose results
- Functional movement screening (FMS) – including registering a station's interest in a Health & Fitness Advisor follow-up session, focusing on education and training on how to get the most out of a FireFit Mobility Pack
- Peer support and the Employee Assistance Program
- Operational safety information relating to Hazard Alerts and Safety Bulletins.

Competitors also had the opportunity to reduce the risk of injury with a movement specific warm-up session delivered by Health & Fitness Advisors.

In April the branch obtained 230 FireFit Mobility Packs which include foam rollers and spiky massage balls. As the team continues to deliver the FMS program (more than 1,000 screens have been carried out since 2014), they can allocate a mobility pack to stations to give firefighters the tools to do the corrective exercise programs that may have been provided.

Also in April the team delivered a session entitled 'FireFit when on the road' at the annual Education & Training Conference at the State Training College Alexandria. The session targeted instructors and those who spend many hours travelling and staying in locations with limited or no access to fitness facilities.

The session included the provision of easily transportable fitness equipment, including mobility packs and stability and strengthening equipment (mini bands, power bands and exercise mats). Many participants were surprised at how much work they needed to do to combat the issues of extended sitting postures, as well as how easy it was to greatly improve their strength. Feedback following the session was extremely positive.

To find out more about the Health & Safety Branch and the programs it offers contact the team on 9265 2800, visit the intranet toolkit (Toolkits → Organisation Wide → Health, Fitness & Wellbeing → Fitness), or see the Health, Fitness & Wellbeing video channel on Office365. **END**



RELIEF IN TIMES OF NEED

Now in its 27th year, FRNSW's Relief & Welfare Fund provides peace of mind for you and your loved ones while helping you support friends and colleagues in their time of need.



The fund is open to all permanent firefighters, retained firefighters and administrative and trades staff, as well as NSW Fire Brigades Employees' Union staff, via a nominal payroll deduction.

Member contributions help support colleagues during financial hardship or on the death of a member, member's partner or dependent child. In addition to financial assistance and support, all members have access to emergency accommodation in Sydney, holiday units in Forster and free Taronga Zoo passes. The fund is administered via a 12-person committee elected by members.

Fund Secretary, Station Officer Mark Black says the premise is simple, but the impact can be immeasurable.

"For some people, the fund is a lifesaver. We often have people staying at the emergency accommodation in Marrickville because they have to come to Sydney for medical treatment. Having somewhere to stay is one less thing to worry about.

"As soon as you join, you're helping others, and if you ever need help yourself, it's there. Being on the committee takes time and effort but we don't do it for recognition. At the end of the day, it's about looking after each other."

A recurring theme in the visitor book at the Marrickville accommodation is immense gratitude. Often these comments come from people who never thought they'd need to ask for assistance themselves.

The fund has provided members and their families with assistance worth more than \$2 million since 1990. All applications are treated promptly and in the strictest of confidence, with the identity of those receiving assistance known only to the committee and the fund's auditors.

For more information, the fund can be found on the intranet under the heading 'Assistance' or by visiting <https://rwwfund.nswfire.nsw.gov.au>. **END**

MEMBER SUPPORT MAY INCLUDE:

- Financial assistance in times of hardship
- Mortality benefit in the event of a death of a member, member's partner or dependent child, by providing financial assistance towards funeral costs
- Assistance to purchase medical equipment or mobility aids
- Emergency accommodation unit located above Marrickville Fire Station and available for members who require accommodation in Sydney due to medical or other urgent needs, on a short-term basis
- Referrals for financial advice
- Holiday accommodation in Forster (allocated by ballot)
- Free Taronga Zoo and Western Plains Zoo family passes
- Peer support and friendship.



THE NEW LEADERSHIP FRAMEWORK – LEADERSHIP STARTS WITH YOU

Individually and together, regardless of rank or role, we are all leaders.

A series of staff forums at the end of 2015 turned the old view of leadership in FRNSW upside down. Participants, from across all ranks, decided that leadership and leadership development should no longer be limited to a select group – they believe that leadership can be exercised by all staff.

“Leadership belongs to everyone, and everyone has a legitimate role in how we take FRNSW forward. At FRNSW, all of us can be in a leadership situation, in our communities, in our families or in our roles at work,” said Chief Superintendent Bob Murray, Assistant Director Training.

Leadership is not about rank. It is not about aiming to be the Commissioner or an Inspector, it is about where you are in the organisation and how you can be influential and successful, and how you demonstrate our values in that role. Leadership development is not a ladder leading to promotion. It is a mindset of continual learning, living our FRNSW values, empowering others and being the best that we can be. Regardless of role or rank, all FRNSW employees have the ability, and responsibility, to act as leaders and to develop leadership skills. This impacts how we view our careers and our development opportunities.

The executive leadership team agreed that improved leadership skills would enable FRNSW to meet challenges, solve problems and achieve our important priorities. Leadership development had been set as a priority in business plans. To understand what this meant to FRNSW

staff, international consultants Price Waterhouse Coopers were commissioned to lead a series of workshops and interviews to answer the following questions:

- What is leadership at FRNSW and why is it important?
- What are our leadership strengths?
- What are our opportunities for improvement?

The results of the workshops were clear and profound and led to the creation of a new Leadership Framework. This was endorsed by Commissioner Greg Mullins in October 2015, and is summarised in three elements:

- the Leadership Model
- the Leadership Capability Cog
- the Leadership Development Roadmap.

The Leadership Model

This model captures a description of leadership expectations consistent for every role across FRNSW. Based on the employee input, there was agreement that the Leadership Model must:

- reflect a focus on community safety
- have personal leadership at its core
- use simple language and format
- resonate with FRNSW employees.



I DON'T MANAGE PEOPLE, OR CONTROL INCIDENTS, HOW CAN I BE A LEADER?

By joining FRNSW there is an expectation that you will show leadership. Leadership is not linked to a role. It starts with personal leadership, and then leadership within our teams, organisation and within the community.

Leadership begins with FRNSW's shared values of Respect, Integrity, Service and Courage and leadership skills grow as we strive to be the best we can be in our current roles.

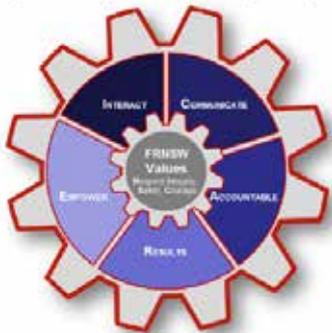
We show leadership when we pro-actively solve problems and drive innovations. Leadership is taking action to build our own skills and empowering those around us.

We are leaders when we mentor new employees, when we help others serve the community better, and when we help our management achieve our goals.

The Leadership Capability Cog "ICARE"

The Leadership Capability Cog is a simple diagram that summarises the key leadership capabilities and values that are important to all roles. This came from the themes drawn from the desktop research, workshops and interviews, and it aligns with the NSW Public Sector Capability Framework, FRNSW values and Performance Partnering.

Interact Communicate Accountable Results Empower (ICARE)



The capabilities are:

- interact – work collaboratively
- communicate – communicate effectively
- accountable – demonstrate accountability
- results – deliver results
- empower – empower and develop people.

These capabilities are relevant to everyone, but may look different depending on the different roles and ranks. The leadership capabilities start

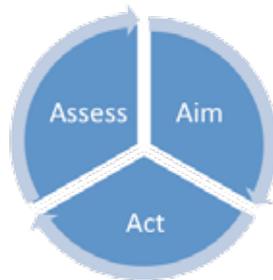
with communication and collaboration – interacting within our teams and between teams. Then we must be personally accountable and results-driven, knowing that our success and the success of FRNSW are up to us. Finally, it is our responsibility to empower ourselves and the people around us. We help the community by finding solutions, sharing our skills and building the confidence and skills of those around us.

“If someone wants to work towards becoming a chief officer or a specialist in a particular area, there will be a specialised skillset and qualifications required, and FRNSW will work with them to find opportunities. But first, there is a common set of leadership skills that we all need to develop and practise – this is the foundation for everything else,” said CSupt Bob Murray.

The Leadership Development Roadmap

The Leadership Development Roadmap is based on the following ideas.

- Leadership is a learning journey with everyone travelling a unique path.
- The journey is not a linear path to the top, it is about personal growth.



- Leadership development is based on a foundation of technical and professional capability and requires commitment and personal effort.

Anything worthwhile and important requires commitment and effort, and this is true for those wishing to build their leadership skills.

The Leadership Framework encourages people to assess their own skills in regard to their current role and future roles, to set personal goals and aim to build their skills in relevant areas. They then act by finding new information, reading or taking on personal study, looking for on-the-job training and mentoring opportunities, watching relevant videos, doing online courses and looking out for FRNSW development opportunities

Enrolling in a leadership program doesn't make you a leader. Individual effort, observation, reflection and interaction will help you become a better leader. This encourages people to create their own leadership development plan that incorporates personal development, work based activities and formalised training.

Tapping into leadership resources

The new Leadership Framework Toolkit provides access to a wealth of resources and courses that help you along your individual leadership development journey. There are links to online courses, through local and international universities, some of which are free. There are also videos on topics such as resilience, communication skills and innovation, and links to the best leadership presentations available from TED talks. **END**





From left: Captain Terry Dryburgh, Supt Martin Goode (Federal Police), Supt Suzette Poo (Hong Kong Police), Chief Supt Ken Murphy, Steve Hall (SES Chaplain)

CAPTAINS OF THE LEADERSHIP

In May 2016, 40 Retained Captains and Deputy Captains became the first graduates of FRNSW's Captains Leadership Development Program.

The ongoing program, which has been delivered in partnership with the Australian Institute of Police Management (AIPM), is FRNSW's most comprehensive investment in the development of retained officers. The program builds on the institute's 50-year experience in management and leadership development for police and emergency service managers and executives.

Commencing in 2014, more than 200 Captains and Deputy Captains have completed at least one of the three phases of learning, with the 40 graduates the first to finish the entire course. Each phase has a different focus – phase one concentrates on leading yourself, phase two on leading your team, and phase three on leadership in an organisational context.

As one of the key drivers, Regional South Area Commander, Chief Superintendent Ken Murphy said participants have demonstrated their ongoing commitment to improving their ability to serve their communities.

"They've given up a total of nine days of their own time, which is above and beyond their commitments to their primary employment, families and duties as FRNSW officers.

"Our regional and rural communities should feel confident that their FRNSW fire stations are being led by people with a passion for their communities and a commitment to being the best leaders that they can be."

A business impact analysis conducted to assess the efficiency of this leadership training found significantly increased engagement by Captains and Deputy Captains who had participated in this training program.

The next phase took place at the AIPM in Manly in August. **END**

KIAMA CAPTAIN TERRY DRYBURGH

I cannot sing the praise enough for this course. Fantastic. Thank you Ken Murphy and co. who have contributed to this course and others alike becoming reality. I don't make these comments lightly; it really is a massive step forward.

WAUCHOPE CAPTAIN ROBERT PURSEHOUSE

With time now having passed since phase 3 of this amazing program, I wish to applaud Ken Murphy and the team involved. The insight and direction has certainly been very useful to my team and our wider networks.

RETAINED SKILLS ON DISPLAY AT REGIONAL FIREFIGHTER CHAMPIONSHIPS

The Firefighter Championships are important to continue honing firefighters' vital skills.



The Regional North 2 Firefighter Championships, ably hosted by Grafton and South Grafton brigades, were held on the weekend 28-29 May. Competition in the eleven events was fiercely contested with 14 FRNSW brigades (eight in zone and six out of zone) and two NSWRFs brigades in action. The eventual overall winner was Kootingal RFS with FRNSW Bega, Wyong and Kelso brigades taking out second, third and fourth places respectively. Community involvement was very strong, with a colouring competition and safety talks delivered to Grafton Primary schoolchildren, and the local newspaper and radio reporting on the competition and broadcasting fire safety information.

Several months later, the third round of the Firefighter Championship series



FRNSW TEAMS DEMONSTRATE THEIR SKILLS AT RESCUE CHALLENGE

In late July, FRNSW teams from Primary Rescue stations 36 Crows Nest and 295 Forster participated in the 2016 Australasian Road Rescue Challenge (ARRO) which was held in Victoria.



Top: 295 Forster demonstrates vehicle stabilisation and patient rescue following simulated tractor rollover
Bottom: 36 Crows Nest demonstrates basic life support skills in the Trauma Challenge



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was keenly contested in Tamworth on the weekend 13-14 August. A total of 23 teams from 19 fire stations competed in 10 events over the two days, including teams from three NSWRFs brigades. Overall winners were Kelso on 1092 points, with Bega a close second on 1066 points and Kootingal RFS third on 775 points. Local team Tamworth did a great job of hosting the event and placed 5th in the overall tally. **END**

This year's Challenge was again strongly contested with teams from across Australia and the Pacific competing vigorously in the various events. Overall winner this year was New Zealand Fire Service's Geraldine Volunteer Fire Brigade, with Queensland Fire and Emergency Services Cairns Brigade the runner-up.

FRNSW's Crows Nest C Platoon placed 9th overall in the Rescue Challenges with a 4th place in the Controlled event. Their medics placed third in the Trauma Challenge against some stiff opposition, including ambulance paramedics.

295 stn SO Jim Ballantyne said, "We learned more in four days at ARRO than in the many years as rescue operators in station. We look forward to next year and hope to improve and are proud to represent FRNSW."

Forster's retained team also performed admirably and look forward to meeting other rescue crews and learning from their experiences to improve on last year's competition results.

36 stn Captain Paul Langley said, "It was as an invaluable experience for us all. Great for learning new rescue techniques, particularly for motor vehicle accidents which make up the majority of our work."

FRNSW's Wollongong team triumphed as overall winners of last year's ARRO Challenge. In October, they are heading to Brazil to pit their skills against more than 1,000 rescue professionals from across the globe at the World Rescue Challenge. **END**



Nura Gunyu performers with FRNSW staff at NAIDOC Week event

FRNSW CELEBRATES NAIDOC WEEK

NAIDOC Week is held across Australia each July to celebrate the history, culture and achievements of Aboriginal and Torres Strait Islander peoples.

From 3-10 July, FRNSW staff across the State participated in NAIDOC activities in their local areas to support Indigenous communities and colleagues.

City of Sydney

FRNSW's Diversity Unit arranged several key events at City of Sydney Fire Station to mark NAIDOC Week.

- On 5 July Commissioner Greg Mullins spoke at FRNSW's NAIDOC Week launch which featured the 'In Living Memory Exhibition' made available by State Records. This exhibition is a collection of surviving photographs from the records of the NSW Aborigines Welfare Board from 1919 to 1966, along with contemporary images of elders, families and communities by photographer Mervyn Bishop.
- On 6 July Aboriginal artist Jasmine Sarin conducted an interactive boomerang painting art workshop. Jasmine is a proud Kamilaroi and Jerrinja woman from NSW. She is currently participating in the Indigenous Fire and Rescue Employment Strategy (IFARES) program, and applied to join FRNSW in the 2016 permanent firefighter recruitment campaign.



- On 7 July the Nura Gunyu (Swan Country) performers from NSW's South Coast sang, danced and conducted a smoking ceremony. They also explained various aspects of Aboriginal culture, including the use of fire not only for warmth and cooking, but also for cleansing and renewal of the Australian landscape through carefully controlled burning (many native Australian plants require fire for their seeds to germinate).

Tamworth

On 8 July crews from 452 and 508 stations joined in NAIDOC Week celebrations at a family fun day held at the Sports Dome in Tamworth. Tamworth's Aboriginal community, the Kamilaroi people, make up 9% of the town, making them a significant cultural group within the local population.

The day's activities included performances by local Aboriginal artists, an Aboriginal cook-off, jumping castle, face painting and displays from various agencies. FRNSW staff promoted home fire safety and the IFARES program. The children had fun with the mini fire truck and getting to meet Inspector Bernie Cinders. A parade through city streets gave way to the biggest NAIDOC Week march ever seen in Tamworth.

Campbelltown

On 4 July, FRNSW participated in Campbelltown Council's NAIDOC week celebrations. After a flag-raising ceremony and performance by Aboriginal dancers, a large crowd marched through Campbelltown to Bradbury Oval. 88 stn firefighters held displays and promoted fire safety information and home fire safety checks to the 700+ crowd. They also gave kitchen fire simulator demonstrations.

On 7 July, more than 2,000 people attended an event at the Tharawal Local Aboriginal Corporation in Airlds. Again FRNSW were well represented with 88 Tanker and retained crew using the kitchen fire simulator display plus 87 Pumper and crew. MS3 Zone Commander Supt Ed Salinas attended the event and spoke to local elder Uncle Ivan Wellington about connecting with the Indigenous community. MS3 have played a significant role in NAIDOC events over the past three years forming valuable partnerships. **END**

A DESIRE TO FIGHT FIRE: 1,700 WOMEN APPLY IN 2016 RECRUITMENT CAMPAIGN

On International Women's Day 2016, Commissioner Greg Mullins announced FRNSW's 'Pledge for Parity' to deliver an equal number of males and females into permanent firefighter recruit classes.

FRNSW's permanent firefighter recruitment is the biggest NSW Public Sector recruitment campaign with more than 7,000 applications each year. Despite this, many women are not aware that firefighting is a genuine career option open to them.

In the lead-up to the 2016 campaign, FRNSW partnered with Women & Firefighting Australasia (WAFSA) to run four female-only Physical Aptitude Test (PAT) information sessions at Alexandria, Campbelltown, Newcastle and Wollongong.

More than 300 women attended to get a better understanding of the physical demands involved in firefighting and the fitness level required to pass the PAT. The PAT, like all stages of the recruitment process, is exactly the same for men and women, and requires candidates to train specifically for a range of key tests.

Two general information sessions were also conducted with more than 600 people attending. For the first time, one information session was recorded and made available to candidates from across the state, interstate and overseas via the FRNSW website.

Following feedback from previous campaigns, the Recruitment team worked closely with the Media and Communications Unit to provide a more thorough explanation of the key stages of the process on the FRNSW website. Recruitment documents were overhauled and a new 'Preparing for interview' guide was published. In addition, a flowchart graphic was created to help guide candidates and inform current firefighters about the process.

"These updates are particularly important because so many candidates talk directly with firefighters about the recruitment process with the hope of gaining an insight," said Assistant Director Recruitment & Staffing Michael Taylor. "It's a reminder to us all to be informed or to refer people on to the Recruitment team."

Applications were open for two weeks in May, with the largest ever number of female candidates applying out of a total of more than 7,500 candidates.

"This year more than 22% of candidates were female," said Mr Taylor. "The number of female candidates increased by 18% from last year which is an outstanding response. The interest and demand is most definitely there with more than 1,700 females applying for a role with FRNSW this year."

The top male and female candidates were progressed through the various recruitment stages with 300 of each gender invited to attend the PAT in July. The first recruit class commenced in September comprising 12 men and 12 women.

"FRNSW is proud and lucky to have so many candidates wanting to become permanent firefighters. Unfortunately with this benefit comes the reality that so many high calibre candidates will miss out on their dream," said Mr Taylor.

"However we know that the 2016 campaign has delivered more than enough quality candidates for FRNSW to meet its pledge to fill classes with equal numbers of men and women throughout 2017." **END**

YOUNG WOMEN CONSIDER FRNSW CAREER OPTIONS AT LONDONDERRY



In July, FRNSW's TestSafe facility at Londonderry hosted a number of students from Western Sydney University's Women in Science and Engineering (WiSE) program to gain an insight into FRNSW's testing work.

The WiSE program supports and encourages female students in the science and engineering faculties by facilitating mentoring, workshops and visits to employers. The visits help students gain an understanding of what is expected by prospective employees and the wide variety of roles and career paths available.

During the visit, Assistant Commissioner Mark Whybro and Fire Investigation and Research staff showcased FRNSW's science and engineering roles. The WiSE students were given a demonstration of FRNSW's gas analysing equipment and were shown a small lounge room fire progressing to flashover.

Superintendent Jeremy Fewtrell said the students were very interested and surprised by the range of applications for scientific and engineering skills being used by FRNSW. **END**



RICH HISTORY, BRIGHT FUTURE

FRNSW celebrated the past and future at a number of special events in recent months.



(from left): Senior Instructor Country Tim McGrath, Duty Commander Greg Symonds, Commissioner Greg Mullins, Area Admin Officer Deb Gorman, Zone Commander Greg Windeatt, Area Admin Officer Felicity Harnden, Duty Commander Michael Woodward

NEW RUTHERFORD FIRE STATION AND LOWER HUNTER ZONE OFFICE OPENED

On 6 April MLC Scott Farlow and Maitland Deputy Mayor Bob Geoghegan joined Commissioner Greg Mullins, firefighters, community leaders and members, schoolchildren and other guests for the official opening of the \$4.2 million Rutherford Fire Station and Lower Hunter zone headquarters.

The new station has a double fire engine bay, improved and larger staff accommodation areas and training facilities, separate male/female amenities, and improved storage. The new Lower Hunter Zone Headquarters has administration areas and office space.

The new Rutherford Fire Station is staffed with a mixture of fulltime firefighters covering business hours Monday to Friday, and retained firefighters covering the after hours period. Commissioner Mullins said the new fire station could be modified to accommodate a full-time crew on a 24-hour basis in future if growth in the Rutherford area demanded a heightened level of protection.

“The current full-time/retained staffing structure is sufficient to meet the community’s present needs,” he said. “But we will continue to review the operational requirements of the station to ensure the community’s needs are met as the area grows.”



Commissioner Mullins and Deputy Commissioner Jim Hamilton with retired retained firefighters Peter Watson and Kevin Sinclair who joined the Brigade in the 1950s

CAMDEN CELEBRATES A CENTURY OF SERVICE

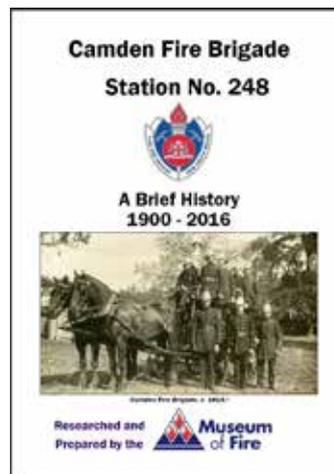
On 4 June, Commissioner Greg Mullins, Chris Patterson MP, community leaders and representatives, firefighters and local schoolchildren gathered to celebrate Camden brigade’s century of service to the community.

Firefighters have been protecting Camden and the surrounding communities since a volunteer brigade was first formed in 1900. However, it wasn’t until the Board of Fire Commissioners bought the old Temperance Hall on John Street at the end of 1915 that a more permanent fire station was built.

“Camden firefighters have responded to all manner of emergencies – first from the John Street fire station, and then from the current station on Macarthur Road – for the past 100 years,” Commissioner Mullins said.

A new \$310,000 Mercedes Benz appliance was formally handed over during the event and a Commissioner’s Commendation presented to Eschol Park resident Craig Sawyers for his actions helping to rescue an elderly man whose house caught fire.

Mr Patterson afterward praised Camden’s milestone in State Parliament: “I had the privilege of attending the centenary of the Camden Fire Station ... the one hundred years of history of this station is remarkable. Under the outstanding leadership of Captain Daniel Coles, the Camden Fire Brigade – now with its state-of-the-art equipment – and the Camden community are in very good hands. I thank Captain Daniel Coles, Deputy Captain Joel Kursawe and all the members who do such an outstanding job. I thank them for putting their lives on the line for the Camden community on a daily basis. We appreciate all their efforts.”





NEW BALLINA FIRE STATION AND NORTHERN RIVERS HQ OPENED

On 9 September, Minister for Emergency Services David Elliott and Deputy Commissioner Graeme Finney officially opened the new \$4.3 million Ballina Fire Station and Northern Rivers zone headquarters. They were joined by local MPs and council members, FRNSW firefighters, fellow emergency services representatives and other special guests. The Ballina Primary School choir also joined the celebrations.

Deputy Commissioner Finney said the former fire station in Crane Street, built in the 1920s, was too small and no longer met the requirements of a modern firefighting and rescue service.

“With only a single engine bay and the station’s ageing facilities impacting on maintenance costs, it became necessary to provide our firefighters with a better base,” he said. “The old fire station was also located on the fringe of the Ballina central business district which was no longer the best position from which to service the area’s rapidly growing population and infrastructure.”

The new fire station in Tamarind Drive features a watchroom, double fire engine bay, operations room and station commander’s office, as well as a meals room, training room, separate male/female amenities, gym and storage facilities. A new training prop has also been installed in the backyard.

The station has been built so it can be modified to accommodate a permanent crew if the growth and demand in the Ballina area makes that change necessary **END**



ALBURY CIVIC FIREFIGHTERS CELEBRATE 100 YEARS OF SERVICE

On 6 September, A/Commissioner Jim Hamilton and Albury MP Greg Aplin joined firefighters past and present and community representatives as they celebrated Albury Civic Fire Station’s centenary of service. The arrival of a \$450,000 hazardous materials firefighting tanker was also announced, which increases FRNSW’s capability to deal with large hazmat incidents in the region.

Talk of forming a fire brigade first began in 1863 when a bushfire almost burned Albury to the ground. That first brigade was shortlived and it wasn’t until 1885, after several major fires struck the town, that the second Albury brigade was formed with Walter Billson as Captain.

Captain Billson secured a hose reel from the Beechworth Fire Brigade in Victoria and the brigade got to work. By 1886, Captain Ryan was in command and the brigade was operating out of an old shed on Kiewa Street. In the same year, Albury got a reticulated water supply.

Albury firefighters lobbied for horses and then a motorised fire truck, but the remote nature of the town and the First World War meant they did not receive a new truck until the new station was built. It was finally opened in 1916 at a cost of 3,160 pounds (equivalent to \$276,000 today).

As Albury developed and grew, subsequent stations were later built at Albury North in 1969 and Albury Central in 1981. The opening of Albury Central saw the closure of the station on Kiewa Street but two years later, in 1983, it was reopened as a retained fire station and forever known as Albury Civic.





PYRMONT FIRE STATION RENOVATION WINS AWARDS

FRNNSW's Pyrmont Fire Station was recently recognised in two major urban development and architecture awards. At the 2016 UDIA (Urban Development Institute of Australia) Meriton Awards for Excellence awards ceremony held in August, Pyrmont's renovation was recognised as the best development in the category of 'Urban Renewal/Adaptive Reuse'. The annual awards acknowledge the best in urban development across NSW and the ACT.

The Pyrmont refurbishment also picked up a silver award in the prestigious 2016 Sydney Design Awards. The station won the award in the category for public or institutional architecture.

Pyrmont Station was constructed in 1906 by renowned Government Architect Walter Liberty Vernon. The renovation was managed by Property Services, with Group GSA as the project architect and Artel Constructions as the builder. The upgrade required significant work to both the fire station and the derelict upstairs levels of the building, including structural upgrades, rejuvenation of the tired old fire station and a contemporary extension with a state-of-the-art internal fit-out. **END**

NEW WAYS OF WORKING PREPARE STAFF FOR MOVE TO 1 AMARINA

Construction of FRNSW's new headquarters at 1 Amarina Road Greenacre is progressing at a rapid rate. With a full frame now up, it's easy to see the impressive scale of the building which will house personnel from many FRNSW directorates



In February 2017, staff will move from the Head Office in the Sydney CBD, along with Operational Capability staff and also Directors from Metropolitan and Regional Operations and their support staff to the new building in Greenacre.

The new working environment will be open flexible spaces allowing staff the mobility to work across a range of different work spaces – matching the space to the task at hand. New ways of working will allow staff to be more responsive to work demands, more collaborative and mobile across different teams. To make the most of this dynamic new workplace, Head Office staff are participating in a variety of professional development and upskilling sessions including workshops, lunchtime 'power hour' sessions with guest speakers, master classes and training sessions.

In addition to these ongoing professional development opportunities, the roll-out of laptops is underway, and includes training on new features and tools. This is a good time for affected staff to brush up on skills and make the most of the new equipment and software. Follow-on master classes are available to those who want to learn even more advanced skills – improved tools for new thinking and ways of working!

The live program of works can be viewed on the 1 Amarina toolkit on the intranet, including progress updates on preparation activities as FRNSW prepares to transition to the new site. The toolkit also displays time lapse images of the progress of the new building from start to the current day, with images captured every five minutes. **END**



THREE LIVES SAVED BY HOME FIRE SAFETY CHECK



When 345 Stn Kempsey conducted a series of targeted home fire safety checks in South Kempsey in April, they were surprised at how many houses didn't have smoke alarms.

Just five weeks later, their diligence in installing alarms in at-risk households paid off when the crew responded to a house fire in the same area.

"The house was well alight when we arrived," said Retained Firefighter Phil Dowling. "But it was relieving to see the residents on the front lawn safe."

Crews quickly brought the blaze under control and extinguished the fire, but unfortunately the house and contents were destroyed. The family dog also became lost and confused in the fire, and was found deceased in one of the bedrooms.

"In speaking with the occupant of the house after the fire was extinguished, she reminded me that we had only been there a few weeks earlier to install a smoke alarm for her," RetF Dowling said.

The occupant informed firefighters that a young child had started a fire in one of the bedrooms but she was alerted when one of the smoke alarms was activated. This allowed her to get the two children out of the house quickly and safely.

Commissioner Greg Mullins said that if the crew of 345 had not conducted the home fire safety check, the outcome could have been tragic.

"I congratulate Kempsey Captain Tony Hackenberg AFSM and his crew for their prevention efforts which ultimately saved the family's lives."

Although some crews have been wary about the HFSC program, many stations have found residents are happy to let them in. In Cessnock, SO Neil Lawler said the crews were received more positively than expected but, like RetF Dowling, he was surprised at how few houses actually had a working smoke alarm.

"Many stations think households in the most at-risk areas will simply slam the door in their face," said Community Engagement's Command Liaison Officer Inspector Gary Williams. "The perception is that certain members of the community will not be receptive to FRNSW. The reality is often very different. Even in lower socio-economic areas we are viewed positively and most people, when approached, are open to the advice we provide to make their family safer."

■ END

ABOUT HOME FIRE SAFETY CHECKS (HFSC)

The HFSC program was piloted in 2014 with the aim of engaging and educating targeted at-risk groups to prevent home fires and save lives. After consultation with the FBEU, the program was approved in March 2016 (SITREP 9/2016). For more information about conducting a HFSC deployment (including using the Station Risk Profile to find the homes most at risk), visit the intranet toolkit (Toolkits → Operational → Community Safety → Home Fire Safety Checks).



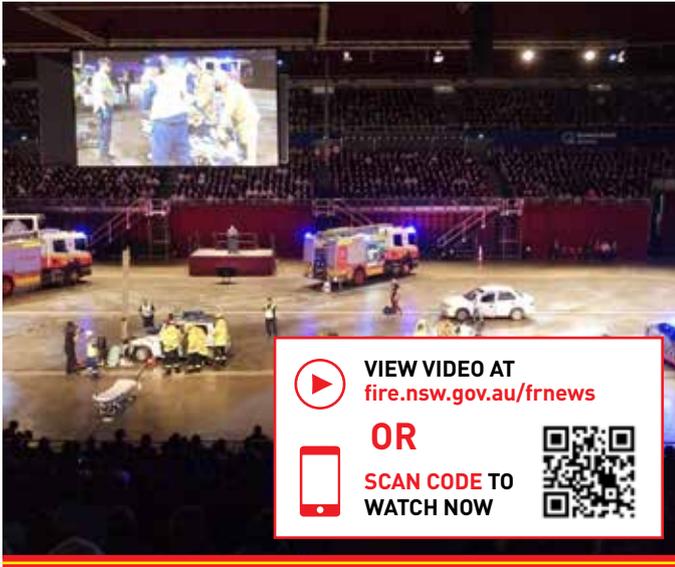
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YOUNG DRIVERS GET STREET SMART



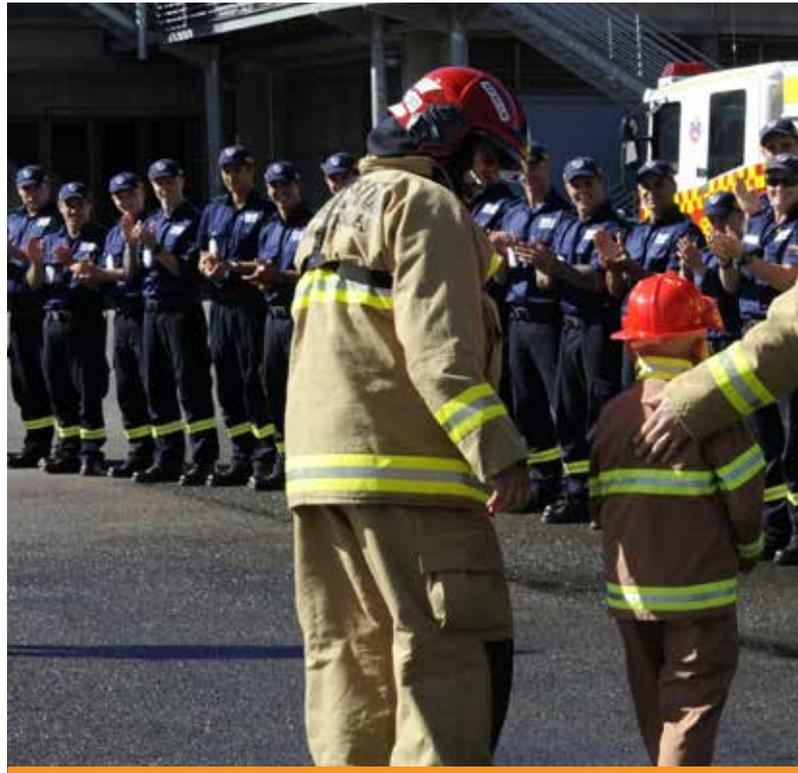
In August FRNSW again participated in the annual **bstreetsmart Youth and Road Trauma Forum** which was held at Qudos Bank Arena, Homebush.

This initiative aims to reduce the fatality and injury rates of young people by promoting road safety. It increases awareness of the consequences of distracted/dangerous driving, speeding, driver fatigue, and driving while affected by drink and/or drugs. It also helps students and teachers to understand their responsibilities as drivers and passengers, and provides information and strategies about how to avoid serious road-related injuries and death.

In its 11th year, the 3-day event again attracted large numbers with around 23,000 school students from years 10, 11 and 12 attending. Technical Rescue Training and Community Engagement sections, together with crews from 15 Burwood and 30 Lidcombe, helped prepare and deliver the FRNSW presentation and display. **END**

Many students commented on Facebook about the Forum's impact on them

- I will remember the outcomes of stupid choices.
- Wonderful day and very confrontational but an awesome lesson!
- Extremely powerful and emotion-provoking. I think every teenager needs to witness something like that.
- I will never forget what I saw and heard today ... it has inspired all of us to be much more responsible and aware of the dangers of getting into a car.



DREAMS DO COME TRUE

By Bronwyn Hilton, FRNSW Media and Communications Unit

In May, FRNSW teamed up with the Make a Wish Foundation to bring a very ill little boy's dream to life. Seven-year-old Lyam was battling acute lymphoblastic leukaemia. His dream? To be a firefighter, of course!

Through the hard work of Superintendent Josh Turner in the Office of the Commissioner, and on an extremely tight timeframe, a spectacular extravaganza of firefighting thrills was organised for Lyam. Then, just a day before, medical staff were forced to call everything off. Lyam was taking a turn for the worse and Make a Wish called to cancel, everyone was concerned. However, a few hours later, Lyam's strength returned spurring an organisational scramble at FRNSW, and it was all back on!

This little fighter put his bravery to the test in the training yard at Alexandria when he became a firefighter for the day. It was a day full of great moments: Lyam's first fire truck ride dressed in a firefighting uniform (that he later refused to take off); Lyam beating down a blaze in the tower with a first aid reel; Lyam soaring seven stories high in the Bronto with an unwavering smile on his face; and Lyam rescuing a live victim, re-entering the yard at the head of the Stokes litter to a rousing ovation and guard of honour that brought a tear even to the eye of our Commissioner, who then proudly presented him with a plaque, a black helmet and some other goodies.




VIEW VIDEO AT
fire.nsw.gov.au/frnews

OR


SCAN CODE TO WATCH NOW




Inspector Serge Meunier with Lyam and his mum

The activities at Alexandria were capped off with a feast at No.1 City of Sydney, where the people-mover with its animal call siren was another clear favourite for Lyam.

Inspector Serge Meunier, a firefighter working with Fleet, was in a privileged position to see Lyam live his dream. Little Lyam only speaks French and was here temporarily in Australia for specialised medical treatment so Serge, one of our bilingual firefighters, stepped up to help out, becoming Lyam's conduit for the day. He had the very important job of making Lyam comfortable, explaining what was happening and what might be coming next, and gauging his energy level and his capability to do things that many able children never get a chance to do.

It's true that a bond often develops between translator and subject, but as this day unfolded, Serge gradually realised exactly how much he and this little boy had in common. Experiences began to stack up as they talked and many coincidences emerged. Serge realised that not only did they speak the same mother tongue, but remarkably they also came from the very same place in the world.

"I felt very privileged and honoured to be asked to participate in Make a Wish for Lyam," said Serge. "Then, when I met him and his mother Erika, I realised that they were from New Caledonia and Lyam was going to the same school that I attended!

"I was overwhelmed by this little guy and his fight against this horrible beast (i.e. cancer). I was blown away by his courage and willingness to take part in the fire scenario, and his coolness going up in the bronto. I was also impressed by Erica's strength. "The little warrior (soldat dû feux) earned a special place in my heart."

As the day came to a close, Lyam headed home with a huge smile on his face. His mum said, "To see my son happy after such a long time in treatment, just makes me so happy. Today I saw a gleam in his eyes that I have not seen for a long time".

END

400IN4 PRESENTS CHEQUE FOR \$107K TO BURNS UNIT



Chief Supt Marcus Baker with Dr John Harvey

In July firefighters who participated in the 2016 annual 400in4 fundraising ride presented a cheque for \$107,685 to the Burns Unit at The Children's Hospital at Westmead. This brings the total raised to date to around \$560,000.

Head of the Burns Unit Dr John Harvey described how these funds will assist patients who have suffered acute burns. In particular, they will contribute towards a trial of ReCell, a medical device which uses cells collected from a patient's own skin to create a suspension that can regenerate wounds caused by burns. The process can cost as much as \$1,300 per sample but, when successful, it has the potential to save on numerous dressings or even surgery, representing a considerable return on investment.

Dr Harvey said the riders have become part of the hospital's family. "It really is hard to think about the Burns Unit, hard to look at it, without finding something that you (i.e. the riders) have been involved right across the board, in building, or supporting, or buying for us."

Sydney Children's Hospitals Network Director Community Relations & Marketing Gilly Paxton said the team's effort this year was extraordinary. "I think when you ride from Wagga you are superheroes, but to set off in that way and to ride from here to Brisbane was just a feat beyond anything that I would ever expect people to do," said Mrs Paxton. "So thank you all very much for that, because it was truly an enormous achievement." **END**

NEWCASTLE FIREFIGHTERS BALL RAISES FUNDS FOR BURNS VICTIMS

On Saturday 3 September, 226 firefighters and other staff along with their partners, families and friends attended the Newcastle Firefighters Ball. It was a great night which raised more than \$33,000. This brings the total raised to date to more than \$466,000.

Some of the funds raised on the night went to the KIDS Foundation to sponsor a local family, enabling them to attend a camp for burns survivors. The remainder went to the John Hunter Hospital Children's Hospital, with the funds used to buy dermatomes, devices which make it easier to take skin grafts for children with burns. **END**

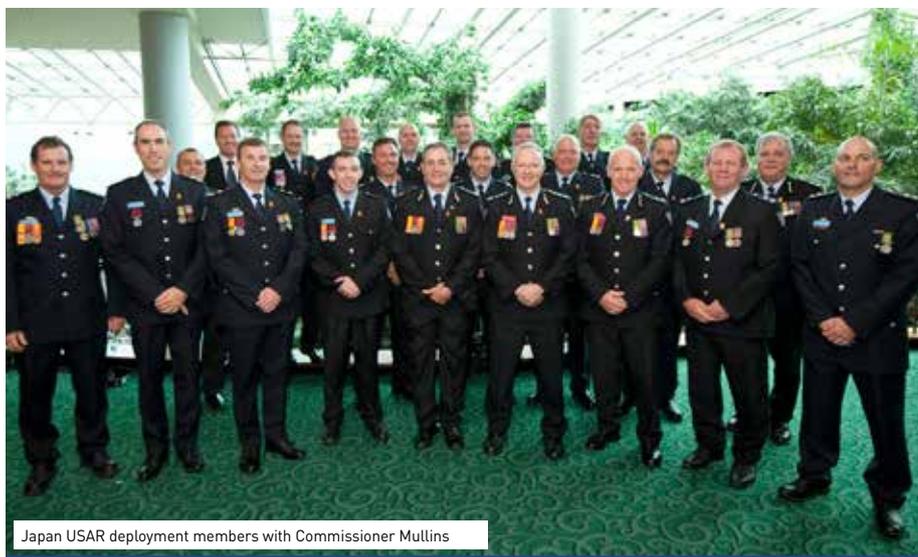
ST FLORIAN'S DAY HONOURS AND AWARDS CEREMONY

St Florian, the patron saint of firefighters, was the first known commander of a firefighting squad in the Roman Empire. He lost his life while demonstrating the selfless ideals that firefighters share to this day. St Florian's Day is observed every year on 4 May and is a day to recognise the ongoing dedication and commitment of firefighters in Australia and worldwide.

On 1 May, Commissioner Greg Mullins hosted the annual FRNSW St Florian's Day honours and awards ceremony at Bankstown Sports Club. The following awards were presented.

- Humanitarian Overseas Service Medals for members of the USAR deployment following the March 2011 Japan earthquake and tsunami.
- Commendation for Meritorious Service to CSupt Greg Buckley for leading preparation and presentation of FRNSW's evidence for the coronial inquiry into a fatal apartment fire at Bankstown on 7 September 2012.
- Commendation for Courageous Action to SO Darren Bofinger for his life-saving actions at an incident at Merry Beach on 29 January 2015.
- Resuscitation Award to SF Guy Fleming for his life-saving actions at an incident at Angourie Beach on 15 April 2015.

END



Japan USAR deployment members with Commissioner Mullins



Chief Supt Buckley receives his award

FRNSW STAFF RECOGNISED IN QUEENS BIRTHDAY HONOURS

In the 2016 Queen's Birthday Honours, five FRNSW officers were awarded the Australian Fire Service Medal (AFSM), one of the highest honours an Australian firefighter can receive.

Those recognised were Superintendent Alex Scott, Inspector Tim Fox, Hamilton Station Officer Barry Cleary, Muswellbrook Captain Chris Kane and Hillston Captain Michael Brettschneider. Each of the recipients of this prestigious award has demonstrated exceptional levels of service and commitment to FRNSW and their local communities for many years. The FRNSW officers were presented with their awards by the Honourable David Hurley, NSW Governor, at an investiture ceremony at Government House on 9 September.

END



Governor Hurley and DC Hamilton with AFSM recipients

AWARDS RECOGNISE BRAVERY AT BANKSMEADOW EMERGENCY



At the September investiture ceremony, Governor Hurley also presented retired Station Officer Ron Morasso with the Australian Bravery Medal. In addition, a number of fire officers including members of crews from 13 Alexandria, 70 Maroubra and 56 Matraville were also presented with the Group Bravery Citation.

These awards recognised the brave actions of FRNSW firefighters when they responded on 12 July 2013 to the Caltex Fuel Terminal in Banksmeadow. One of the Terminal's storage tanks, which contained two million litres of unleaded petrol, had begun leaking fuel, creating the risk of a major vapour explosion and fire that would catastrophically impact both the employees and residents in the surrounding area. The IMT determined that a major vapour explosion and fire was almost inevitable unless a shut-off valve could be closed to prevent further fuel leakage. Despite the extreme danger, SO Morasso entered the bunded area and waded through knee-deep petrol to reach the leaking valve and shut it off. The combined efforts of all FRNSW personnel involved successfully managed the incident thus ensuring the safety and lives of the Port Botany community.

■ END

BRAVERY MEDALS ANNOUNCED FOR BLACKTOWN FIREFIGHTERS



In August the Governor-General, Sir Peter Cosgrove, announced the award of a range of Australian Bravery Decorations. Station Officer David McIlrath, Qualified Firefighter Michael Watts-Seale and Senior Firefighter Barry Jones, all from 63 Blacktown, were awarded the Australian Bravery Medal for their courageous actions at the Quakers Hill Nursing Home fire in November 2011.

The incident was a very challenging one that everyone who attended will never forget. SO McIlrath described conditions at the scene: "It was horrible inside, completely dark and full of smoke ... I've never been more proud of my firefighters – we were under extremely difficult conditions."

A range of internal FRNSW awards were also awarded as a result of the courageous and meritorious actions of firefighters. However the tragedy did lead to significant positive change with all NSW nursing homes now required to have sprinklers.

■ END

2016 ROTARY EMERGENCY SERVICES COMMUNITY AWARDS



In June, four FRNSW firefighters were named as finalists in the second annual Rotary Emergency Services Community Awards in a special announcement at Parliament House. The awards recognise emergency services personnel for community service above and beyond the call of normal duty.

More than 100 nominations were received from peers, superiors and the public with a panel of independent judges assessing nominees on community service, personal attributes and contribution to their organisation. FRNSW finalists were Leeton Captain Graham Parks AFSM, Bangalow Deputy Captain Melissa Madden, Bathurst Senior Firefighter Brad McWilliams and Chaplain Ron Jenkins, Assistant Captain Salvation Army, Hunter Region.

At the awards ceremony in July, Captain Parks was named FRNSW Officer of the Year before also taking out the overall award for officers in a paid capacity. Captain Parks has served FRNSW in his local community for more than 30 years and is an invaluable member of the peer support team which provides assistance and counselling to firefighters affected by traumatic incidents. He has also provided counselling and support to other members of the community, include counselling the Jerilderie Rugby Club after one of its members died in a road accident, and supporting Leeton High School and other community groups after the tragic murder of teacher Stephanie Scott.

■ END

THE PUBLIC SAYS THANKS



Sue Key
6 April 2016

My partner and I drove down from The Blue Mountains on our way to see family in Pagewood at approx. 11.30am when we were caught in a torrential downpour, causing flash flooding in parts of Gardeners Rd Mascot. There was at least a foot of water and our car was hit by several waves of water caused by foolish drivers slamming on brakes and sending the backwash over our car which died and we were literally marooned in the middle of a rather busy Gardeners Rd.

We had the hazard lights on and were trying to get help from the NRMA who said there was nothing they could do. We called for a tow truck but it was going to be half an hour so we had no option but to sit in the car. I was a nervous wreck and quite certain we would be hit. We called 000 in desperation as it really was a dangerous situation not just for us but for other drivers, many of whom, despite our plight, were abusive.

We heard sirens and seemingly out of nowhere a fire engine appeared. At first we thought it was going somewhere else as we were still speaking with the 000 operator. The relief we felt was tremendous let me tell you. They were just so lovely and pushed the car to a safe spot at the side of the road and out of harm's way.

I don't even know which station they were from and so wanted to say thank you. I cannot tell you how grateful we are. I do hope a message can be passed on to those wonderful men & a lady.

Thank you to you all for the tremendous work you do every single day.



Miranda Smith
12 August, 2016

A huge thank you to the team at Castle Hill who came to my rescue today. I discovered a huge diamond python on my back fence whilst I was home alone. I called 000 after speaking with my mum, asked for Fire and the person I spoke to was fabulous. He said that they only come if the snake is in the house but because I was home alone he said he would see what he could do. I soon got a call from the team at Castle Hill who advised me they would be 30 minutes. They were so friendly and made so many jokes to lighten the mood. Thanks again guys, I don't know what else I would have done!!!



Lauren Coghlan
29 July 2016

Thank you so much to the firemen who attended our house earlier today, it was on fire and they rescued my pets who were inside.

Special thanks goes to the wonderful fireman who stayed with my cat over an hour on our front lawn giving him oxygen as he'd found him inside the house, they really made the whole experience much more manageable for us, and as for the kitty, he's okay, he's in intensive care at the vets but he's looking much better than he was earlier, thank you so much, I can't explain how much I appreciate what you do for the community.



Alexander Wood
12 April 2016

Big thanks to the two fellas from fire and rescue that turned up right after I blew a front tire on my truck yesterday. Directed traffic till we could get it into a safe place and made a bad situation a lot easier and safer. Cheers lads!



Macushla McGown
5 July 2016

Thank you to Pyrmont Fire and Rescue for rescuing me off my balcony at 2am! Fantastic group of people and really helpful.



Katy Sass
13 July 2016

Well done to the NSW Fire Brigade Team that efficiently took control over the house fire this evening in Roselands. The fire was strong and quick but you guys made it look so easy. You made us all feel safe and eliminated any dangers or further fire spread. You guys are amazing Thank you.

Letter to the Mosman Daily

Fires to the rescue

A VERY big thank you to those fire officers from Mosman Fire Station who recovered my keys from down a stormwater drain at a playground. I have often noted the friendliness of our local fire brigade but without their swift help this week my little kids and I would have been absolutely stuck. Thank you.

Alex Wills, Mosman
21 Jul 2016

Letters to FRNSW

To all in the Berrigan Fire Brigade

We want to tell you how much we admire your skill and commitment to your job. It was a very scary Friday night and we never want to see that again. We appreciate it is something you all may face any day and we are so lucky to have you. Your efficiency and professionalism undoubtedly saved our home because of proximity to the fire, we may have lost it too.

Everything was in our favour with us being home instead of usually we are out on a Friday night, Nick came in to warn us of the fire and then the brigades came so quickly. We think of our neighbour – it is a terrible thing for someone to lose their home.

We can't thank you enough for your dedication to the protection of Berrigan people and property.

Joe and Carol Cottam
18 April 2016

FAREWELL AND THANKS TO THOSE RETIRING

As a result of the executive restructure in accordance with the Government Sector Employment Act, Deputy Chief Executive Rosemary Milkins PSM finished work at FRNSW in August. This brought to a close a prestigious career of public service spanning about 40 years, including senior roles in the Department of Education, the Department of Health, and as an Assistant Director-General of the Department of Premier and Cabinet.

Ms Milkins was responsible for guiding and overseeing a huge range of reforms within FRNSW in the human resources, information technology, logistics support, finance, workplace standards and project management areas. As a result, FRNSW now benchmarks close to or better than world's best practice (as independently assessed) across a range of corporate services functions. Not all reforms were easy or popular, but Ms Milkins was both diligent and determined in ensuring that FRNSW overcame problems that arose in the past, placing the organisation in a much better position for the future.

Perhaps the most visible and tangible legacies that Ms Milkins left were the new Head Office at Greenacre, the refurbished award-winning Pyrmont Fire Station and upstairs offices, and the new State Training Academy in western Sydney. Once the direction and strategy were agreed upon, Ms Milkins made these projects happen despite many setbacks along the way. The Training Academy in particular required a great deal of stakeholder engagement and coordination, and is an innovative approach that involves a partnership with the private sector. None of these major leaps forward would have happened without Ms Milkins's deft stewardship and direction. **END**



Deputy Chief Executive Rosemary Milkins

Name	Fire station	Date retired
SF K Read	Forestville	8-Jan-16
RetF H Pyle	Berrigan	20-Jan-16
RetF M Hughes	Bundanoon	28-Jan-16
RetF K Thomas	Queanbeyan	19-Feb-16
Supt D Turner	Metro North 2	4-Mar-16
SO K McBain	Berkeley Vale	4-Mar-16
SF B Chappell	Kincumber	4-Mar-16
SF G Baron	Maroubra	11-Mar-16
Supt S Baker	Command, Leadership and Management Section	15-Mar-16
RetF N Fraser	Salamander Bay	16-Mar-16
RetF D Sharp	Nambucca Heads	16-Mar-16
RetF A Harte	Bowraville	23-Mar-16
RetF C Royal	Kariong	25-Mar-16
RetF W McAllister	Broken Hill	1-Apr-16
Supt C Jurgait AFSM	Office of the Commissioner	1-Apr-16
Deputy Commissioner J Smith AFSM	Executive	8-Apr-16
DCapt C Hussey	Deniliquin	12-Apr-16
SO G Arndell	Mayfield West	15-Apr-16
QF G Kain	Balmain	15-Apr-16
Capt L Choice	Scarborough	15-Apr-16
RetF B Klenke	Henty	22-Apr-16
Capt R Orr	Albion Park	29-Apr-16
RetF N Driscoll	Bourke	30-Apr-16
RetF F Sliker	Laurieton	1-May-16
RetF K Brown	Branxton	2-May-16
SF M Vince	Mona Vale	12-May-16
RetF S Schmidt	Temora	13-May-16
RetF A Godfrey	Barham	13-May-16
RetF J Aldous	Laurieton	18-May-16
SO A Gilbert	Warrawong	27-May-16
SO M Houlder	Avalon	27-May-16
SF P McIvor	City of Sydney	10-Jun-16
SF D Ball	Newcastle	10-Jun-16
QF B Williams	Springwood	17-Jun-16

VALE: WITH GRATITUDE FOR SERVICE TO THE PEOPLE OF NSW

Name	Fire station	Date deceased
Retired FF William Wray	Wagga Wagga	1-Mar-16
SF M Smith	Mayfield West	1-Mar-16
Retired SO J Alexander		17-Mar-16
Retired Engine Keeper A Fuller	Young	26-Mar-16
Retired SF G Ward	Wollongong	1-Apr-16
Retired DCapt W Wright	East Maitland	7-Apr-16
Retired SF D Good	Guildford, Busby, Campbelltown, St Andrews and Horningsea Park	7-Apr-16
Retired DCapt K Fitzgerald	Wallerawang	25-Apr-16
Retired SO R Smith	Revesby, Liverpool and Riverwood	28-Apr-16
Retired Supt G Kempshall	Headquarters and Zone 4	8-May-16
Retired SF R Lynch	Fairfield and Lidcombe	9-May-16
Retired SO B Russo	Manly	15-May-16
Retired SO J MacKay	Smithfield and Fairfield	22-May-16
Retired SO F Wiley	Botany and Maroubra	26-May-16
Retired Deputy Commissioner J Benson AFSM	Executive	6-Jun-16
Retired DCapt G Smith	Rhodes	9-Jun-16
Retired Insp J Clough	Burwood and City of Sydney	10-Jun-16
Retired SF C Simpson	Mascot, Headquarters, Woollahra and Rockdale	10-Jun-16
Retired SF J McVicar	Tighes Hill and Newcastle	16-Jun-16
Retired SF A Hayter	Kogarah and City of Sydney	23-Jun-16
Retired Capt D Redman	Dungog	23-Jun-16
Retired Capt D Masterson	Wellington	30-Jun-16

CONTRIBUTORS

Editors

Peter Walker
Michelle Bowers

Fire & Rescue Operations Journal Editor
Insp Kernin Lambert

Art Director
DesignDavey

Production, photography and editorial
Heather Abrahams
Malissa Milligean
Bronwyn Hilton
Jan Crombie-Brown
Supt Ian Krimmer
Kerry Labuts

Online and digital
James Hanney

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T: (02) 9265 2907

E: internalcomms@fire.nsw.gov.au

FIRE & RESCUE NEWS

Send any high-resolution photos (larger than 1,000KB) to:
frnews@fire.nsw.gov.au

GHS chemical labelling— are you ready?

On 1 January 2017 the new Globally Harmonised System of Classification and Labelling of Chemicals (GHS) takes effect, and includes new standardised terms and symbols.

The Australian Code for the Transport of Dangerous Goods by Road or Rail (ADG Code) will still be used for chemicals in transit, but the GHS will be used in workplaces. As a result, ADG and GHS signage may both appear on some products.

Firefighters and commanders must be familiar with GHS terms and symbols so they can correctly manage chemical risks at incidents.

For more information see www.safeworkaustralia.gov.au or www.workcover.nsw.gov.au.

GHS Pictograms

ADG Code



Flame



Gas cylinder



Exploding bomb



GHS Pictograms

ADG Code



Flame over circle



GHS Pictograms

ADG Code



Skull and crossbones



Corrosion



Environment



GHS pictograms for Health Hazards



Exclamation mark
(eg harmful if inhaled
or swallowed)



Health hazard
(eg carcinogen, mutagen,
reproductive hazard)