

Fire & Rescue

Spring 2015

News

**OPERATIONS
JOURNAL:
WIND
IMPACTED
FIRES**

**CHAMPIONSHIP
SPIRIT:
BERRY TAKE
FINAL HONOURS
IN 2015**



Fire &
Rescue NSW

The Minister WRITES



In May this year, more than 500 police, emergency services, paramedics and other personnel participated in an exercise to comprehensively test Sydney's readiness to deal with a major emergency in the CBD.

It was highly gratifying to see all the State's various agencies working together efficiently and collaboratively to ensure rapid and effective response to deal with the unfolding 'incident'.

Through regular inter-agency exercises like this, the people of NSW can have a high degree of confidence in the ability of our emergency services and other agencies to protect and assist them when emergencies and natural disasters threaten.

The professionalism and expertise of our State's emergency services was further demonstrated recently when assistance was provided to other countries. In July, 33 personnel from New South Wales firefighting agencies, including Fire & Rescue NSW, joined an Australian contingent deployed to Canada to assist firefighters battling extensive bushfire activity. This was followed in August by the deployment of three FRNSW personnel to the US, again to assist with bushfire operations. Later this year, Malaysian rescue personnel will come to Australia to undertake urban search and rescue training at FRNSW's Ingleburn training facility, assisting Malaysia as it seeks UN accreditation for its USAR capability.

Mutual aid arrangements with our international partners are absolutely vital to enable emergency services worldwide to support each other and share ideas and resources when major natural disasters or emergencies strike.

Fire & Rescue NSW is at the forefront of international cooperation and I am proud of the fact that it is acknowledged as a leader in many fields.

David Elliott MP
Minister for Corrections, Emergency Services and Veterans Affairs

The Commissioner WRITES



As I write this message, recent weeks have been very busy for FRNSW. The picturesque Blue Mountains went from significant snowfalls to a bushfire within the space of just a fortnight.

It was a timely reminder that emergencies can happen at any time; and as an agency, we need to always be ready and prepared to deal with the unexpected, whenever and wherever it occurs.

This is the second issue of the magazine incorporating the Fire & Rescue Operations Journal. Thank you to those of you who provided feedback on the magazine's increased operational focus; any further feedback can be emailed to internalcomms@fire.nsw.gov.au.

By the time this magazine hits mess tables in stations, the bushfire season will be starting. The latest climate outlook from the Bureau of Meteorology describes a strengthening El Niño, which is typically associated with above-average temperatures over eastern Australia and below-average rainfall over the southern half of the country. The Bushfire/Natural Hazards Cooperative Research Centre bushfire outlook for the coming season predicts 'above average' bushfire conditions.

In June, Director Logistics Support Emmanuel Varipatis accompanied me to Hannover in Germany where we attended Interschutz, the largest fire equipment expo in the world. While there, we saw many new products and innovations including pumpers, aerial appliances, PPC, USAR equipment, etc.

I will be sharing exciting news on the equipment front with you over coming months as we continue to leverage the best technologies to keep firefighters and the communities we protect safer. These innovations will ensure that we continue as a highly professional and responsive world-class emergency service well-placed to meet the challenges of change and the ever-increasing demands on our services.

Greg Mullins AFSM
Commissioner



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SO Phil Etienne with The Earl and Viking

FOUR-LEGGED FIREFIGHTERS AT WORK WITH FRNSW'S K9 TEAM

Accelerant detection canines are a vital tool used by FRNSW to investigate and determine the cause of fire, particularly where arson is suspected.

Farewell Sheba and Winna

On 19 May, FIRU's K9 Team farewelled one of its own as 10-year-old golden Labrador Sheba began her retirement with SO Peter Eastman in Kiama Downs.

After spending eight years working as an accelerant detection dog for FRNSW, Sheba's new life as a family dog on the NSW South Coast will be a great change.

"Sheba is an extremely devoted and loyal dog," said former handler, Qualified Firefighter Tim Garrett. "She loves swimming in any type of water and is a big fan of walks along the beach, but of course until retiring she hadn't been socialised with other dogs or people. I have no doubt she will adjust to both with patience."

The decision to re-home Sheba with SO Eastman and his family was made after an internal EOI process and house visits conducted with Sheba to assess the suitability of the shortlisted candidates.

The same process will be followed when another hardworking FRNSW K9, 9-year-old black Labrador Winna, is retired later this year.

When they find an odour, they adopt the sit position and direct our attention to the source ...

Welcome The Earl, Viking and Opal

For QF Garrett, life after Sheba has also meant adapting to change with his new canine, 21-month-old male golden Labrador The Earl. The Earl is one of two new accelerant detection dogs handpicked from the Australian Border Force in Victoria. The other, 14-month-old male black Labrador Viking, is now the charge of Station Officer Phil Etienne.

Together QF Garrett and SO Etienne assessed six dogs, before selecting The Earl and Viking for their high hunt/prey

drive and response to reward-based praise and games.

"The dogs were put through a number of physical and mental obstacle assessments, including climbing, jumping and running, and dealing with dark places, hanging obstacles and noise," said SO Etienne.

"All the dogs we assessed were of a standard we would be proud to have commissioned and trained but The Earl and Viking were the standouts."

Once selected, new dogs are put through at least three months of intensive training, including learning how to hunt for the odour of five ignitable liquids.

"When they find an odour, they adopt the sit position and direct our attention to the source by either staring or pointing with the nose or paw," said SO Etienne. "We then throw down a rolled-up towel, tell the dog that they are the best in the world and have a tug of war game with them while safely guiding them out of the scene."

"Once we train them to find the odour, we have to get them used to finding their target odour on burnt objects. Then we train them off anything that is similar to their target odour. This process can take some time."

In addition to detecting odours, the dogs are put through environmental training to ensure they are prepared for all situations they may face including working at night, working in noisy areas and travelling in helicopters.

Once the dogs are 'operational', they will be on call with their handlers 24/7 ready to attend incidents – including structure fires, bushfires, and assisting police with warrant, clothing and people searches – across NSW and possibly interstate.

A few months ahead of The Earl and Viking in her training, 2½-year-old black Labrador Opal, who is the charge of canine handler SF Joel Walton, graduated alongside FRNSW's newest recruit firefighters at the Training College in Alexandria on 30 July.



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

OR



SCAN CODE TO
WATCH NOW





SO Phil Etienne with Viking



QF Tim Garrett with The Earl

The life of a canine handler

For SO Phil Etienne, being a canine handler is one of the most difficult roles he has had in his 25 years at FRNSW as there's never a chance to 'switch off'. However the returns make it all worthwhile.

"The training is the most challenging part, but with any challenge comes great reward in watching these dogs learn and then assisting so many agencies and communities.

"No two days are ever the same and I have travelled widely attending incidents over the past 12 years. We have a great network with other government K9 units and we have combined training days and bi-annual service dog trials where we compete against each other. We often win which reaffirms that what we are doing works!"

QF Tim Garrett agrees it's a very rewarding experience and considers himself lucky to have spent the last two years of Sheba's working career as her offsider.

"I'm now responsible for bringing on The Earl and that process is proving no less rewarding," said QF Garrett. "In fact possibly more, as I put into practice what I've learned over the past two years. He is progressing through our training at a great pace, which pretty much sums him up. The dog loves to run!"

QF Garrett says being a canine handler has highlighted the diversity of service that FRNSW provides and involved many different experiences across the State, including showcasing K9s to retained firefighters and local schools.

"In all, while I do miss the team environment of being 'on the trucks', I am enjoying immensely being one of FRNSW's three K9 handlers. For now, I have no desire to be anywhere else." **END**



Opal graduates with SF Joel Walton

FRNSW'S 2015/16 BUDGET FUNDS NEW STATIONS AND VEHICLES

In the June 2015/16 State budget announced on 23 June 2015, FRNSW was allocated \$679.8 million in recurrent funding, the largest in the organisation's 131-year history.



This funding is an increase of more than \$14 million on the previous year's budget. In addition, FRNSW's 2015/16 capital budget is \$62 million. This includes \$18.4 million to start work on new fire stations and upgrade existing fire stations across NSW. Along with projects already underway at Ballina, Tregear, Lambton, Maryland, Rutherford and South Windsor, the 2015/16 capital budget funds work on 11 new building projects, including new stations at Abermain, Batlow, Gulgong, Henty, Marsden Park, Mount Druitt, Murrurundi, Nyngan and Oran Park; as well as major renovations to Wingham and Wollongong fire stations.

In addition, \$17 million has been allocated for the continued replacement of firefighting, specialist and rescue appliances to maintain the optimum age and operational profile of our fleet.

END



In July 2015, the Education and Training Directorate installed the first Tier 3 training prop at 8th Stn Liverpool.

Tier 3 centres are specialist station-based training facilities that provide enhanced training capabilities. They will be strategically located in regional and metropolitan centres, generally where access to a Tier 1 (State Training College) or Tier 2 (regional training centre) facility is more than 2.5 hours away, or where demand on prop use is high (such as a high number of primary rescue stations).

The prop's primary purpose is to provide a cost-effective multipurpose training facility that caters for a wide range of skills acquisition and skills maintenance training for firefighters. It is used to conduct formal instructor-led training programs as well as station-based training led by Station Commanders.

The prop is designed to support a wide range of training scenarios. It consists of two shipping containers that are prefabricated and assembled on site. On top of the containers is a roof structure with a range of different roof surfaces,

and a confined space access platform. While not readily transportable, the prop can be disassembled and relocated if required, and it incorporates the following features:

- reconfigurable interior
- simulated electrical switchboard and solar power system
- additional confined space access hatches at various locations within the prop
- mobile door entry prop.

The prop is furnished to simulate a domestic environment. It is supplied with a smoke machine, search and rescue dummies, confined space access equipment and cordage kits to support the range of possible training activities.

To maximise training benefits through combining a range of skill sets within a scenario, the prop comes with a training manual and suggested scenario plans. Each scenario plan outlines the safety considerations of each activity.

The first Tier 3 prop at Liverpool is being evaluated. This evaluation includes a review of the prop's durability and utility, its placement on site, and user feedback from instructors and training participants. The outcomes of this evaluation will inform the development of a standard FRNSW design, prop facilities and support arrangements.

While the first Tier 3 prop has been installed as a stand-alone structure at an existing station to allow for evaluation, the long-term intent is for these props to be incorporated into new station builds. In 2015/16, this will include new stations at Ballina and Maryland. Over time, the Education and Training Directorate, in collaboration with Logistics, Operational Capability and Area Commands, intends to strategically locate Tier 3 props in areas where they can:

- reduce travel time to training venues and associated costs
- reduce impacts on operational availability due to travel times
- increase access to training resources
- maximise time available for training.

Tier 3 training centres are designed to incorporate a wide range of existing FRNSW-specific training and nationally accredited training programs where units of competency are issued. The Tier 3 Training props also support scenario-based practical training incorporating multiple skill sets.

NATIONALLY ACCREDITED TRAINING – SKILLS ACQUISITION

- Confined Space Entry
- Confined Space Rescue
- Operate Open Circuit Breathing Apparatus
- Identify, Detect & Monitor Hazardous Materials
- Safe Working at Heights

FRNSW ACCREDITED TRAINING – SKILLS ACQUISITION

- Risk Manage Electrical Hazards
- Thermal Imaging Camera - FRETCS02A

REFRESHER TRAINING – SKILLS MAINTENANCE

- Operate Breathing Apparatus
- Confined Space Entry
- Confined Space Rescue
- Thermal Imaging Camera
- Safe Working at Heights
- Core Skills Refreshers
- Risk Manage Electrical Hazards
- Door Entry Techniques
- Ventilation
- Gas Monitoring

Tier 3 Training Props supplement FRNSW's existing training centres at Londonderry, Wellington, Albion Park, Armidale, Deniliquin, Terrey Hills, and the State Training College. **END**





NEW LEARNING FOR PERMANENT FIREFIGHTER PROGRESSION

In June and July, FRNSW commenced delivery of its first FRNSW Leading Firefighter and Leading Station Officer programs to enrolled Senior Firefighters and Station Officers, respectively, under the changes to the *Permanent Firefighting Staff Award 2014*.

These programs were the culmination of eight months intensive work by the Education and Training Directorate with support from Emergency Management and Operational Capability. Each program includes new course content, delivery methods and interactive learning, and is aligned with the Australian Inter-service Incident Management System 4th Edition (AIIMS 4).

These programs significantly change how permanent firefighters undertake required learning for progression and promotion. Unlike previous programs, the new programs use a mix of online, work-based and practical delivery that culminate in a final face-to-face assessment. Each program comprises a number of inter-related courses that participants work through at their own pace, from their own location, to complete within the normal maximum period of 12 months.

When all course work and assessments are successfully completed, participants attend a face-to-face assessment at a training centre where their skills and knowledge are assessed using realistic scenarios.

Participants successfully completing each program are awarded nationally-recognised units of competency as well as FRNSW-specific competencies.

This mix of learning and assessment allows participants to choose the speed at which they complete their learning and assessments within the normal 12-month period. Participants have more opportunities to practise, reflect and participate in work-based learning at their station or location. Managers, Station Commanders and Commands also have a greater role in local learning and assessment activities.

New Senior Firefighter, Station Officer and Inspector programs will all be implemented using the same mixed mode of delivery using online, work-based and practical learning with face-to-face assessment. The Education and Training Directorate will continue to develop, facilitate, assess and review these programs in 2016 and onwards. **END**

Leading Firefighter Program courses

- Introduction to incident management (FRNSW)
- Introduction to emergency management (PESD)
- Emergency risk management
- Control level 1 incidents
- Develop simple prescribed burns

Leading Station Officer Program courses

- Incident and emergency management (FRNSW)
- Liaise with other organisations
- Manage logistics
- Manage a multi team sector
- Control Level 2 incidents

SENIOR FIREFIGHTERS AND STATION OFFICERS ENROLLED IN THE CURRENT PROGRAMS WILL:

- access their learning materials from the Learning Hub
- complete work-based activities
- collaborate and problem-solve with each other
- participate in virtual classrooms and online forums
- undertake interactive simulated incident management training
- submit assignments and assessments online.

Qualified instructors in Command Leadership and Management provide feedback and return marked assessments to each enrolled participant.

NEW STORMS AND FLOODS TOOLKIT

Storms and floods present a range of hazards. Working in these conditions is arduous and dangerous, and FRNSW's first priority is the safety of its people, to ensure that they in turn can save lives and property.



Building on FRNSW's experiences during the recent NSW storms, together with data from NIIENM, Health and Safety and Operational Capability developed a new storms and floods toolkit on the intranet. NIIENM data was compiled from injuries and near miss reports from the severe weather event in April this year.

The new toolkit details hazards including driving through floodwater, falling trees and debris, structural collapse, electrical hazards, swiftwater, hazardous materials, asbestos, slippery, uneven or unstable surfaces, and working at heights. It also outlines safety measures to be implemented while attending these types of incidents. The toolkit will help crews to be aware of critical factors and to be prepared for any future damaging storm event.

FRNSW swift water rescuers save the day

In late August a severe east coast low pressure system formed off the NSW South Coast bringing torrential rain to many areas. The SES asked FRNSW to assist with the provision of Level 3 Flood Rescue Technicians. Swift Water Rescue Task Forces comprising crews from 20 stn Hurstville were dispatched to Sussex Inlet and St Georges Basin. On the evening of 25 August, FRNSW carried out 13 rescues from rapidly rising floodwaters, including rescue of a man on dialysis from his flooded home. **END**





MERCEDES CLASS 1: THE FUTURE OF THE TANKER

Six new state-of-the-art Mercedes Class 1 tankers have been commissioned into the FRNSW fleet in 2015, with more to follow.

Built by Varley Specialised Vehicles on Mercedes Atego chassis, the Class 1 tankers can be configured and stowed as either standard, compressed air foam (CAFS), primary rescue or hazmat vehicles.

The first five vehicles have been fitted with compressed air foam systems and commissioned into service at 345 Kempsey, 508 West Tamworth, 284 Delroy, 405 Nowra and 472 Turvey Park.

In addition, the first of 14 rescue configured vehicles have been delivered with the first rescue tanker commissioned into service at 466 Tumarumba.

Assistant Director Fleet Peter Fanning said the tankers deliver all the features to be expected from any Mercedes vehicle.

“Touch screen technology allows the operator to view alarms and control the status of the vehicle’s systems, thanks to a V-MUX electrical system,” Mr Fanning said.

“The tankers also boast full length body access steps along both sides of the vehicle, a tyre spray protection system, a manually operated light mast on all vehicles with a 20,000 lumens LED light, and a pivoting ladder gantry for easier access and removal of the 8m extension rescue ladder.”

Orders have been placed with Varley to build 27 Class 1 tankers in total.

END

Class 1 tankers can be configured and stowed as either standard, compressed air foam (CAFS), primary rescue or hazmat vehicles.



CLASS 1 TANKER OVERVIEW

Vehicle / chassis	Mercedes Atego 4x4 crew cab seating six people
Engine	7.2 litre Mercedes engine rated at 260HP (Euro 5 compliant)
Transmission	5-speed Allison automatic transmission
Pump	GAAM MK500 single stage pump rated at 2,200 litre/min at 700kPa
Foam system	Waterous Aquis electronic Class A foam proportioning system (fitted on all vehicles)
CAFS	Waterous 140cfm PTO-driven compressed air foam system (fitted on five vehicles only)
Water tank	3,200 litres on standard configured vehicles and 2,700 litres on rescue and hazmat configured vehicles
Foam tank	100 litres of Class A foam
Body construction	Aluminium

A raft of latest technology, including a CAFS appliance, was showcased at the 'truck and trade' show. Inset: Major-General Jim Molan OA AO DSC (retired)



EMERGENCY MANAGEMENT CONFERENCE SETS FUTURE DIRECTIONS

On 17 and 18 June FRNSW held its second Emergency Management Leadership Conference with the purpose of setting strategic directions and priorities for 2015/16.

More than 70 senior officers from Operational Capability, Metropolitan and Regional Operations attended the conference, along with additional attendees from Community Safety and other corporate directorates.

Commissioner Mullins was overseas at the time, but addressed the delegates via video message, praising their achievements and successes to date but warning against complacency.

"In the operational space, we need to be the best," he said. "I think we're up there with the best, let's make sure we're THE best. We're setting the pace, so let's keep looking for new ways to do things, and don't rest on our laurels."

The Commissioner also outlined to delegates the current and emerging challenges in FRNSW's operating environment, including an ageing population, increased global tension and security risks, climate change and shrinking public resources.

We're setting the pace, so let's keep looking for new ways to do things, and don't rest on our laurels.

A highlight of the conference was a presentation by Major-General Jim Molan OA AO DSC (retired). Among his many achievements, Major-General Molan was previously operational commander of Coalition forces in Iraq, and is an incisive and highly respected thinker, commentator author, public speaker and policy consultant. His talk on operational excellence and leadership provided many valuable insights, as did a talk by Assistant Commissioner Tom Dawson from Queensland Fire and Emergency Services on their handling of an exploding ammonium nitrate B-double in Queensland.

The major themes discussed at the conference included governance and leadership and how these underpin operational excellence, and also diversity and engagement. On day 1, the whole group heard presentations on these topics and broke into mixed directorate teams to discuss their implications for FRNSW. The teams identified what their goals were, and how they would partner with other directorates to achieve these goals using the ADEP model. The ADEP model provides a tool for leaders to align and plan by structuring conversations around four areas; what are the mission critical things we need to **achieve**, what do we need to **develop** to get better as a team, how can we make **partnering** and collaboration a strength, and what can we do to make work sustainable and **enjoyable** (i.e. Achieve, Develop, Partner and Enjoy or ADEP).

On day 2, workshops were held in directorate groups to plan activities within each of these themes for 2015/16. Directorates are further refining these plans post-conference.

A 'truck and trade' show was also held on the second day, showcasing the latest technology and innovations including ADASHI mobile data terminals, the new helmets, dynamic coverage tool used by FireComms, rescue/hazmat equipment, and CAFS appliances. The show proved very useful in updating staff on what was new in the organisation.

END

FEEDBACK FROM PARTICIPANTS

Excellent level of engagement from everyone. Good sharing of ideas and planning.

The breakout sessions enabled all to have a voice.

Excellent venue with the trade show very interesting. Also very interesting to see how operational decision-making is similar between fire services and military in rapidly changing environments.

The conference ran well and was focused on achieving outcomes. I think it was time well spent.

Trade & truck show was a great addition.

The networking is the most valuable aspect.

Well organised and structured.

I was inspired by the leadership demonstrated by Emergency Management over the two days.

Huge amount of work to put together but invaluable to future of organisation.

Well organised and conducted.

I thought the themes and tone of the conference were excellent. The presentations had meaning for what we need to achieve in moving forward as an organisation. It was once again good to hear what issues are being faced by Metropolitan and Regional Operations. I really think this year's conference had a really positive feel about it, but also acknowledging we still have more work to do to change some cultural challenges. Looking forward to seeing the outcomes ...

MAJOR GAS 'INCIDENT' IN SYDNEY CBD TESTS EMERGENCY READINESS



On Sunday 24 May, FRNSW participated in one of the largest CBD emergency exercises ever conducted.

More than 500 firefighters, police officers, paramedics, State Rail Fire Service personnel, NSWRFs and NSWSES volunteers (who acted as 'victims'), together with council engineers, RMS and City of Sydney Council staff combined their efforts to create a realistic emergency to test the city's emergency response capabilities.

This exercise was the first in many years to be carried out in the Sydney CBD area. The scope of the exercise included:

- undertaking mass evacuation of civilians from the affected area – including rescue agencies working collaboratively to treat and recover injured civilians
- identifying a safe assembly area and practising the subsequent mass movement of civilians from assembly areas
- testing inter-agency communication
- practising crowd control and traffic management arrangements in and around the affected areas.

A realistic scenario was created in Macquarie Street, directly in front of the Law Courts. The exercise dealt with the preparedness, response and aftermath of an 'emergency' which involved a gas leak from an unknown underground source resulting in a large fire and explosion. This caused a building to collapse onto busy Macquarie Street and St James Road, and subsequent derailment of a suburban train in the St James Station underground tunnel.

FRNSW was the first to respond to the 'incident' at 0900 hours with other agencies swinging into action in real time over the following three hours. More than 300 'building occupants and passers by' were evacuated to nearby Hyde Park as emergency crews contended with multiple fatalities and injuries.

Apart from initial firefighting operations involving handlines and ladder platforms, FRNSW crews rescued numerous 'victims' from under concrete slabs which had fallen onto vehicles. USAR crews were deployed to deal with several collapsed structure scenarios. They successfully used thermal lance and concrete cutting equipment together with thermal imaging and camera probe equipment to locate a number of entrapped victims.

FRNSW and the State Rail Fire Service rescued numerous people from the underground rail network while hazmat crews were deployed to monitor the atmosphere. FRNSW set up a large decontamination area ready to process multiple victims if required.

Senior management were also tested as the NSW Police Operations Centre (POC) was activated to coordinate the logistics of such a large scale operation. Senior officers from all agencies including FRNSW were deployed to the POC and also the Incident Control Vehicle to provide support and logistics to the multiple frontline crews.

The complexity of organising and practising multiple agency responses is significant. Subsequent exercises will be held to further prepare emergency services, affected businesses and the public for any real life incidents

Assistant Commissioner Jim Hamilton attended and judged the exercise, which played out in front of a large contingent of media, a huge success. **END**



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BERRY TAKES LINE HONOURS AT CHAMPIONSHIPS IN CLOSE CONTEST



Broken Hill RetF Amy Ellice and Albion Park RetF Rachel Hessenberger



Assistant Commissioner Rob McNeil and Supt Steve Hayes



Wangi Wangi RetF Glenn Swift

Fifteen teams from FRNSW brigades across the State, as well as a NSW RFS team, competed on the first weekend in August at the Regional Firefighter Championships event at Berry.

The Championships were officially opened by Member for Kiama Gareth Ward, accompanied by Deputy Commissioner Jim Smith and Director Regional Operations, Assistant Commissioner Rob McNeil.

The competition came down to 5/100th of a second in the final event of the competition, a thrilling finish for spectators which demonstrated the skill and motivation of firefighters. Home town heroes Berry not only put on a well-managed event, but were also crowned Regional Champion at their host event. The final results were Berry first on

1,254 points, Dorrigo second on 1,190 and Kootingal RFS taking out third on 965.

A schools education day was held on Thursday 30 July. Around 400 school students attended the display which was hosted by FRNSW. Other participating agencies included the NSW Police, NSW Rural Fire Service, Ambulance Service of NSW and NSW State Emergency Service.

The Championship action next moves to Echuca, Victoria where teams from across Australia and New Zealand will battle it out at the Australasian Firefighter Championships which will be held from 23 to 25 October. **END**

WOLLONGONG TRIUMPHS AT AUSTRALASIAN RESCUE CHALLENGE

On 23–26 July, teams from Primary Rescue stations 503 Wollongong and 295 Forster participated in the 2015 Australasian Rescue Challenge which was hosted and run by the Northern Territory Fire and Rescue Service at Alice Springs.

A total of 17 teams, comprised of 102 rescuers from three countries (Australia, New Zealand and Hong Kong) competed across the three rescue main events of time critical, controlled and entrapped scenarios, as well as a trauma event. FRNSW's expertise was once again highlighted with 503 Wollongong crowned as Australasia's best road accident rescue team, and 295 Forster finished third in the entrapped event.

Success for the Wollongong team was a well-deserved reward after lots of hard work. Wollongong SO Andrew Barber who led the 503 team said, "The boys put in months of training for it ... we've been together for years and thought we'd have a crack at this comp. Second year in, we nailed it!" **END**



295 Forster were placed third in the Entrapped scenario

503 Wollongong achieved first place in the Time Critical Pit, from left SO Barber, QF Taylor and QF Robinson




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FULL RESULTS:

- Overall winners
 1. FRNSW Wollongong
 2. NZFS Hawera
 3. NZFS Rolleston
- Best Technical Team
FRNSW Wollongong
- Best Team Leader
FRNSW Wollongong (SO Andrew Barber)
- Best Medical Team
FRNSW Wollongong
- SES Directors Shield
NSWSES Port Macquarie Hastings
- Winner Entrapped Pit
 1. NZFS Rolleston
 2. FRNSW Wollongong
 3. FRNSW Forster
- Winner Controlled Pit
 1. FRNSW Wollongong
 2. CFA
 3. NZFS Hawera
- Winner Time Critical Pit
 1. FRNSW Wollongong,
 2. NZFS Hawera
 3. NZFS Rolleston
- Winner Trauma Challenge
 1. CFA Werribee
 2. BHP Billiton
 3. QFES Redland City
- Spirit of the Challenge
NTES Hermannsburg



COMMUNITY FIRE UNITS PREPARE FOR THE BUSHFIRE SEASON


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Story by Karolina Marks, CFU Communications Officer

Community Fire Unit (CFU) volunteers used the winter months to prepare their properties and refresh their skills before the start of the bushfire season.

CFU maps have been updated and are now available on the CFU portal in SAP. More than 2,400 maps are currently produced for the CFU Program, including updated information on spatial datasets, aerial imagery, and approved updates to area of activity and unit locations. CFU members have worked hard to identify hazards in their areas of activity, and have submitted an impressive 2,200 pre-incident plans for this purpose. Updates and improvements can now be made to these maps via the new CFU map enquiry e-form.

CFU equipment is also being updated. New and improved CFU trailers are being

rolled out, and units receiving them have given a lot of positive feedback. Some of the enhanced features include increased storage space and improved access, common equipment groupings and standardised layout, dual-lock side and rear doors, and a new information board with a configurable fire severity arrow.

A FRNSW Hyundai iLoad van is being custom outfitted as a **CFU disaster recovery vehicle**. The vehicle is comprehensively fitted out with access to free wi-fi, phone chargers, TV, laptops, printer and access to valuable information for residents caught up in bushfire disaster zones. The vehicle can be staffed by CFU volunteers and

will be deployed to evacuation areas or devastated areas to provide residents with technological support to begin their recovery. The vehicle will also be used for community events.

To improve communications and facilitate better contact during activations, CFU units are also receiving new **radios**. A successful trial was conducted and the TX675 model manufactured by GME was selected. Each unit has been issued with six radios accompanied by work instructions and a manual. The radios are not on FRNSW main frequencies and provide local communication.

The **CFU App** is another major project aiming to better serve CFU members and



SWS – CONNECTING WITH COMMUNITIES ON THE INTERFACE



enhance communications between them and the CFU team. This custom-made smart device application will include simplified unit activation/deactivation notifications, mobile information and streamlined management practices. The project is currently in the solutions design phase, after gathering requirements from CFU members to select and suggest functions they think will be most beneficial.

In order to provide professional development opportunities for CFU volunteers and help CFU Team Coordinators manage their teams better, six sessions of **Train the Trainer** course were conducted in May and June. The courses ran over two days and consisted of two units from the Certificate IV Training and Assessment qualification. CFU member participation was high and

many found the course to be a valuable asset in planning and undertaking trainer/leader roles.

While existing members are offered skills update and upgrade opportunities, the **induction process** for new CFU members has also been enhanced. The CFU team was successful in securing a grant through the Emergency Volunteer Support Scheme from the Ministry of Police and Emergency Services. This funding is now being used to develop an e-learning induction program for new CFU members. The program will provide an interactive web-based, blended learning platform to introduce CFU volunteers to the theory component of the induction program prior to attending practical training and assessment. The program is expected to be launched by late 2015. **END**

The Static Water Supply (SWS) program provides the perfect opportunity for FRNSW personnel to connect with communities living in the bushland urban interface areas in the lead-up to the bushfire season.

The SWS Program lets residents in urban/bushland interface areas assist firefighters by making static water supplies, such as swimming pools or water tanks, available for bushfire fighting. The static water supply is identified by an SWS plate or sticker at the front of the property.

When asking residents if they would like to participate in the SWS program, firefighters and CFU members can also discuss bushfire survival plans and advise on preparing homes for bushfires.

This program has been successfully implemented by many urban/bushland interface stations, and CFUs also identify static water supplies in their areas. SWS data is available on ESMAPS.

The SWS program was reviewed last year and all the SWS materials were updated. For more information, see SWS information, including videos, on the intranet and the CFU website, or contact the Bushfire Section on (02) 8741 5489.

END



AUSTRALIAN DEPLOYMENT HELPS FIGHT CANADIAN BUSHEIRES



Once again in 2015 Australian firefighters were deployed overseas as part of mutual international cross-border arrangements.

The typical forest fire season in Canada runs from April through to October, with most fires generally occurring in the period June to August. As at 29 July, more than 5,041 fires had been recorded and 3 million hectares burnt since 1 January 2015, well above Canada's 10-year average. Most fire activity this year has occurred in the western provinces of Alberta, British Columbia and Saskatchewan, at times forcing more than 13,000 people to evacuate from their homes.

On 9 July, Canadian authorities formally requested Australian assistance to support ongoing firefighting operations. In response, Australia deployed a contingent of 104 firefighters and specialists, with Emergency Management Victoria (EMV) overseeing arrangements on behalf of all Australian jurisdictions. This included 33 personnel from NSW, drawn from the State's various firefighting agencies.

"Australia has a strong network of firefighters and emergency management personnel who operate in specialist roles, and we are pleased to be able to share our

expertise with our international partners," said Craig Lapsley, EMV Commissioner. "We look forward to offering our support during this busy time."

The Canadian deployment included three FRNSW officers. Superintendent Lindsay West and A/Superintendent Steve Moran were deployed to the Putzi Lake fire in British Columbia. A/Supt Moran acted as Operations Officer and Supt West as Safety Officer within the IMT.

Superintendent Greg Windeatt was deployed 900 km north of Edmonton about 45km from the town of High Level at base camp 'Meander' for the Larne Complex fire. Supt Windeatt filled the position of Safety Officer within the IMT, and was responsible for safety at both the base camp and at the fireground. Due to the rough inaccessible terrain, all transport of people and equipment in and out had to be by air. As a result, up to 15 helicopters at a time were involved in servicing the base and carrying out fire suppression.

British Columbia's relationship with Australia in sharing firefighting resources has been in place for more than 15 years. This agreement allows for the exchange of personnel, knowledge, skills, equipment,

technology and mutual support in the event of an emergency.

Fire personnel from British Columbia were deployed to Australia in 2007 and 2009 to help respond to busy fire seasons here, given the Australian fire season typically occurs during British Columbia's winter and spring months. Personnel from Australia and New Zealand were likewise deployed to British Columbia to assist with firefighting efforts in 2009 and 2014.

STOP PRESS: As this issue of Fire & Rescue News went to press, the USA had made an urgent request for Australian assistance to manage numerous bushfires in western and mid-western states. Three senior FRNSW officers deployed as part of the Australian contingent. See story next issue. **END**

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ISSUE 2:

FIRE & RESCUE OPERATIONS JOURNAL

EDITOR'S NOTE

Welcome to edition number two of *Fire & Rescue Operations Journal*. Feedback for edition one has been overwhelmingly positive. I'd like to thank everyone who has provided feedback; it is through guidance from our readers that we remain steered on the right path. Also, a lot of behind the scenes work has gone into production of the journal, particularly from very talented people within the Media and Communications Unit including Michelle Bowers, Peter Walker and Andrew Parsons. Your hard work is essential and invaluable. Thank you.

This edition reports on a number of road crash rescues, involving some extremely complex entrapments with equally complex and urgent patient care issues. A feature of all rescues was the very high levels of consultation, communication and cooperation between firefighters conducting the extrication and our colleagues from the Ambulance Service (paramedics and medical retrieval teams) undertaking critical patient care, with all crews working in conjunction with each other to achieve a common goal ... ensuring the best possible outcome was achieved for the patient. In challenging circumstances of extreme difficulty, firefighters and paramedics performed with the highest levels of commitment, diligence and professionalism, bringing enormous skills, expertise and highly specialised resources to rescue scenes, undoubtedly resulting in many lives being saved. The positive outcomes being achieved are only possible due to the high standards of training, continuous drills and disciplined commitment of our crews.

This edition of the journal also looks at another specialised aspect of extreme fire behaviour; wind-impacted fires. Recently I was very fortunate to attend two training courses in the United States. I learnt about the tragic experiences of the Chicago and New York fire departments with this highly destructive fire phenomenon and the significant research which has been conducted by the world's leading fire research authorities (Underwriting Laboratories and the National Institute of Standards and Technology) on this subject. A lot has now been learned about wind-impacted fires and some very effective strategies have been developed for dealing with them.

In the two wind-impacted fire events reported in this edition, firefighters applied textbook fire control techniques, enabling the wind-impacted fire events to be safely and effectively mitigated, and controlled. It is a misconception to believe a wind-impacted fire event can only occur in a highrise building; the fires reported in this edition occurred in one and two level structures. In coming editions, there will be more discussion on this subject.

Lastly, this edition covers the Huntingwood 10th Alarm extreme hailstorm, major structural collapses and fire. If nothing else, firefighters must be adaptable. One big lesson that was confirmed for me at Huntingwood was that no matter how diverse the emergency is, the application of our training and basic operational principles will enable any incident objectives to be achieved safely and effectively.

I hope everyone enjoys this edition and more importantly, I hope you all find something in this edition to help you perform your role more safely and effectively.

Inspector Kernin Lambert
Editor, *Fire & Rescue Operations Journal*



Hazmat Pumper 85 firefighters complete final extinguishment of the rear sunroom. Windows at top right of photograph failed, allowing wind to enter, creating a wind impacted fire

WIND-IMPACTED FIRE AT "ROUTINE" BIRRONG HOUSE FIRE, 19 JULY 2015

Report by Inspector Kernin Lambert

FRNSW crews responded to a seemingly "routine" house fire at Birrong, involving some burning papers on the floor of a rear sunroom. Upon arrival, there was little to indicate there was anything exceptional or unusual about this fire, with minimal signs of fire (only light smoke) present. However, shortly after firefighters made entry to the structure and began to advance hose lines to conduct a standard internal fire attack, window glazing facing the prevailing wind broke, transforming the structure interior into a situation of extreme fire behaviour, as a fully developed wind-impacted fire formed. The sheer professionalism and determination of firefighters and fireground commanders ensured this highly dangerous and destructive situation was rapidly and safely brought under control. This fire serves to highlight the issues associated with the formation of wind-impacted fires at structures, which can rapidly and unexpectedly create extremely dangerous conditions for firefighters with little or no warning.

Incident type: House fire

Time, date and place of call: 1627 hours on Sunday 19 July 2015, Larien Crescent, Birrong

Fire building: Residential house, single level, 20m x 10m, brick clad, timber frame and tile roof. The rear of the house faced west. The house was located on a slight elevation.

A sunroom, 5m x 2m, timber frame and metal sheet clad, was attached to the rear of the house. The roof of the sunroom was formed of iron sheeting and clear fibreglass panels. The sunroom contained books and magazines located on shelves and a two-seat sofa with polyurethane foam and timber frame. Two aluminium frame glass windows 1450mm x 1540mm were located on the western wall of the sunroom, and both were closed. A sliding glass door 1810mm wide x 2100 mm high was located between the sunroom and adjoining lounge room, and was open. A square roof skylight 570mm x 570mm was fitted to the ceiling of the lounge



View from hallway of lounge room. Double glass doors to sunroom are on centre and right of photograph. Damage is from radiant heat, caused by venting superheated exhaust gases, not by fire spread, indicating the destructive nature of the exhaust zone of a wind impacted fire

room, adjoining the sunroom. The windows of the sunroom were above the roof line of houses to the west.

A single level garage, 6m x 12m, containing prestige motor cars, was located 1.2m from the southern side of the rear of the house.

Weather at time of fire: West/north-westerly winds at 30km/h gusting to 52km/h and temperature 13°C (recorded at Bankstown Airport weather station at 1500 hours).

FRNSW response: Rescue Pumper 62 (Bankstown), Hazmat Pumper 85 (Chester Hill), Pumpers 30 (Lidcombe), 64 (Lakemba) and 19 (Silverwater), Aerial Pumper 47 (Revesby), Duty Commander Inner West and Fire Investigation and Research Unit.

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

FRNSW operations: FRNSW received a single 000 call from the occupant of the house reporting smoke coming from the floor within a sunroom at the rear of the house. The occupant had tried unsuccessfully to extinguish the fire (involving a small area on the floor) with a saucepan of water from the kitchen.

The officer in charge of first arriving Rescue Pumper 62, Station Officer Paul Jones, observed minimal quantities of light wispy white and grey smoke coming from the rear of the house. Smoke was beginning to increase in volume. At this time, the front door to the house was open. Two female occupants, aged approximately 50 and 75 years of age, were located on the front veranda of the house, next to the front door. The older of the two ladies had a broken arm and was holding onto a walking frame, experiencing difficulty

moving. Smoke was now beginning to issue from the front door of the house. SO Jones observed the smoke colour darken, changing from grey to black. The smoke was also becoming thicker. SO Jones transmitted a RED message and requested a 2nd Alarm assignment. Senior Firefighter Stephen Wislang went to the assistance of the 75-year-old lady with the walking frame and removed her to a location of safety, outside of the front yard, where the 50-year-old lady was now located.

Senior Firefighters Wislang and Thomas Morris donned SCBA and began to advance a 38mm attack line into the house via the front door. At this time, Hazmat Pumper 85, under the command of SO Luke Jones, was arriving on scene. Visibility within the house was rapidly deteriorating. SFs Wislang and Morris advanced by feeling their way along the hallway wall and were still at least 15 metres from the area of the fire when they encountered significant fire conditions. SF Wislang stated the neutral plane was below 1 metre, visibility was below 1 metre due to thick black smoke and heat was intense, forcing firefighters to floor level. The thermal imaging camera showed intense flames travelling beneath the ceiling of the lounge room, dining room and hallway, towards the front door. The heat registration on the thermal imaging camera indicated fire was located at the eastern end of the lounge room (heat intensity was so severe, the thermal imaging camera was registering an area not alight as being on fire, due to the impact of radiant heat and superheated gases). At this time, the thermal imaging camera 'blacked out' due to intensity of heat being produced by fire and could not be restarted. SF Wislang swept the

ceiling with a long cooling stream spray, set on a 30° spray pattern at 115 litres per minute, which cooled the burning ceiling gases above the area of hallway where firefighters were located. Immediately following application of this cooling stream, there was a significant increase in temperature due to steam impact and complete loss of visibility for the internal attack crew. The fire attack crew remained low and advanced approximately one metre, directing the fire stream towards the direction of the fire. The fire attack crew heard a message over the fireground radio that flames were venting through the roof and began to withdraw.

As the internal attack crew were advancing towards the fire (as already described), SO Paul Jones called for a second attack line to be deployed to the rear of the house. Large volumes of thick black smoke were now venting from the house. Hazmat Pumper 85 firefighters deployed a 38mm attack line to the rear of the house and found the rear sunroom totally involved in fire. Fierce flames were rolling upwards through the roof of the sunroom and the aluminium window frames, and metal cladding and roof sheeting was melting. Rescue Pumper 62 pump operator FF Adam Ryan observed intense flames venting from the roof (it was later identified this was the lounge room skylight) and sent a message over the radio the fire was burning through the roof. FF Ryan later reported that at this time he also observed a strong wind blowing from the rear to the front of the house. The external attack crew directed an attack stream onto the fully involved sunroom and fire conditions began to rapidly diminish.

From within the house, the internal attack crew withdrew several metres, as Hazmat Pumper 85 commenced the external attack. A short time later, conditions improved significantly and the internal attack crew again advanced forwards. Fire knockdown was then rapidly completed. The internal attack crew later reported that immediately following knockdown, a significant volume of wind was observed blowing through the house, rapidly clearing the house of smoke.

Firefighters remained on scene for several more hours, completing salvage, overhaul and ventilation operations. The 75-year-old occupant of the house was treated at the scene by ambulance paramedics and subsequently transported to hospital. The area of fire was confined to the rear sunroom, although the adjoining lounge room had sustained extensive heat damage, due to the severe impact of superheated fire gases and radiant heat from flames burning beneath the ceiling. Heat damage from burning superheated gases was found beneath the ceiling, extending from the fire area almost to the front door.

Notes:

1. When firefighters arrived on scene, a "routine" fire was in progress, involving largely shelving, stacked books and paper materials in a small area. Fire conditions were typical for this type of fire scenario, with light/moderate smoke evident. A short time later, a significant change in fire conditions occurred. Heat from the fire caused the rear glass windows to fail, allowing wind to enter the building and the area of combustion. An air flow path now existed, consisting of the failed sunroom windows (intake point), open door between the sunroom and lounge room, lounge room, hallway and open front door (exit point). With the formation of the air flow path, a wind-impacted fire quickly developed. The presence of the polyurethane foam sofa created a fuel-enriched environment within the area of combustion. Fire conditions were transformed from light wispy grey smoke to large volumes of thick black smoke and heavy rolling flames within seconds. Radiant heat from the venting ceiling level exhaust gases created extensive heat damage within the adjoining lounge room, consistent with a flashover. Heat damage was extensive with metal frames destroyed.
2. The type of wind-impacted fire scenario encountered by firefighters at Birrong is considered particularly dangerous by National Institute of Standards and Technology (NIST) and Underwriting Laboratories (UL) fire research scientists and by the Fire Department of the City of New York (FDNY) wind-impacted fire research team, due to the wind-impacted fire forming after firefighters have entered the structure and commenced firefighting operations. Although it is possible to exercise door control, to minimise creation of an air flow path, failure of glazing within the fire compartment is unpredictable and largely beyond the control of firefighters. Failure of the glazing may be the final link that allows an air flow path to form, creating a wind-impacted fire.
3. At the Birrong fire, the combustion area and fire loads were relatively small, however the degree of fire damage was disproportionately large, due to the impact of heat produced by the wind-impacted fire event. Fire damage within the lounge room (produced from radiant heat caused by venting fire gases at ceiling level) was consistent with fire damage caused by a flashover.
4. Following the identification of wind-impacted fires in the 1990s, many firefighters believed these deadly and destructive fires could only occur in highrise buildings and cities exposed to high winds. However, more and more, firefighters are encountering these fires in single level structures, as well as multi-level buildings, with wind recordings as low as 15km/h. A wind-impacted fire event has the potential to form at any structure fire.
5. The fire within the sunroom rapidly and unexpectedly transitioned into a wind-impacted fire, making the structure interior untenable. The external attack stream from Hazmat Pumper 85, directed on the upwind side of the combustion zone, had an immediate effect on fire conditions, rapidly reducing fire intensity to a level that enabled offensive internal firefighting operations to safely and effectively continue.
6. US safety agency NIOSH (National Institute of Occupational Safety and Health) Firefighter Fatality Investigation and Prevention Program in conjunction with the National Fallen Firefighters Foundation emphasises the importance of the Incident Commander conducting a 360° situational size-up as early as possible during firefighting operations, to identify key conditions that may impact the safety of firefighting operations. Recently introduced FRNSW *Incident Management SOG 1.3* similarly places emphasis on the 360° size-up by the Incident Commander. During the course of the 360° size-up, Incident Commanders may wish to consider the location of the fire within the structure relative to the prevailing wind conditions and evaluate the likelihood of an air flow path forming (which in turn could lead to a wind-impacted fire). The result of this size-up may influence the direction that the fire attack commences from.
7. During size-up, consideration by the Incident Commander of wind direction relative to the location of the fire within the structure can be a critical factor, influencing the safety of firefighters conducting offensive internal operations.
8. The Incident Commander may consider that in circumstances where a wind-impacted fire has already formed or may potentially form, application of an external stream on the upwind side of the fire may result in a significant reduction in fire intensity, allowing internal operations to safely proceed.
9. When conditions are present for a wind-impacted fire (in particular when wind is impacting a closed structure without a window breach occurring), firefighters must be vigilant when making access to the fire that the first stages of an air flow path is not formed via the opening (without closing) of access doors. If a partial air flow path is created on the 'downwind' side of the combustion zone, a structural breach on the upwind side of the combustion zone (most likely due to window glass failure) will complete the air flow path and a wind-impacted fire may rapidly form. Effective door control (closing the door as best as practicable) will restrict the flow of air and limit the opportunity for an air flow path to form.
10. The presence of a polyurethane foam fire load and the influence of this hydrocarbon-based fuel load was again in evidence at this fire, providing a fuel-enriched environment, resulting in significantly increased levels of fire intensity. In conjunction with the effects of the wind-impacted fire, the superheated gases released from this material resulted in extended under ceiling fire gas travel. Firefighters applied aggressive gas cooling techniques and were able to safely control this dangerous and destructive fire phenomenon.
11. It is recommended that this report be read in conjunction with the report 'Firefighters Make Multiple Rescues and Encounter Wind-impacted Fire at Third Alarm Glebe Residential Unit Complex Fire', also located in this edition of *Fire & Rescue Operations Journal*. At the Glebe fire, the air flow path was created and wind-impacted fire formed when an opening was created on the downwind side of the fire.
12. The fire at Birrong commenced as routine, however rapidly, unexpectedly and without warning transitioned into a fire scenario that was dangerous and destructive. Only through the commitment, determination and professionalism of responding firefighters was this situation able to be safely and effectively brought under control.

Special thanks to FDNY Battalion Chiefs Gerald Tracy and George Healy and Captain John Ceriello (FDNY wind-impacted fire research team) and Professor Steve Kerber PhD (Director, UL, Firefighter Safety Research Institute) for their assistance in preparing this report.

END



Following lifting of the steering wheel via the chain pull, paramedics examine the entrapment



The first stage of the roof removal was to cut the tops of the A pillars

CARRAMAR SEVERE SIDE IMPACT MOTOR VEHICLE ENTRAPMENT, 6 JUNE 2015

Report by Inspector Kernin Lambert

FRNSW crews responded to a motor vehicle collision, involving a motor vehicle that had heavily impacted a tree on the driver's side, severely trapping the driver. From the outset, the patient indicated a possible spinal injury, necessitating a very cautious approach to extrication.

Incident type: Motor vehicle accident persons trapped

Call details: 1137 hours, Saturday 6 June 2015, direct line call from Police RCO, MVA persons trapped, Mitchell Street, Carramar

Nature of entrapment/emergency: Motor vehicle crash. Single vehicle (two-door medium-sized sports car) severe impact (driver's side) to tree. One adult female trapped by severe confinement. It was identified the driver was five months pregnant.

FRNSW response: Pumper 73 (Fairfield), Rescue Pumper 57 (Wentworthville), and Duty Commander MW2 (Parramatta) Inspector Craig Easy.

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

Incident operations: On the first Saturday morning of winter, firefighters were taking advantage of the fine sunny day to complete station maintenance duties when a call was received to an MVA persons trapped at Carramar. Pumper 73 arrived on scene and found a vehicle had heavily impacted the trunk of a tree within a suburban street. The female driver remained trapped within the vehicle.

OIC Pumper 73 SO Bernie Howe sent an informative message describing the situation, confirming the need for rescue and the Ambulance Service. Firefighters established fire protection, commenced initial stabilisation of the vehicle and applied first aid and oxygen to the trapped driver utilising the EMT pack.

Rescue Pumper 57, under the command of SO Troy Jackson arrived on scene. Firefighters conducted an assessment of the entrapment, liaised

with the ambulance paramedic supervisor and formed an extrication plan. During the initial patient assessment, the patient reported no feeling down the right hand side of her body, indicative of spinal injury and the need to facilitate enhanced spinal management during release.

Duty Commander MW2 arrived on scene and established a FRNSW Incident Control Point, known as 'Carramar Control'. Duty Commander MW2 liaised with the Rescue Team Leader and commanders of other emergency services in attendance, ensuring all necessary FRNSW resources were in attendance.

The passenger side door back strap was cut by firefighters, enabling the door to be gently pushed forward and secured with a pocket line, improving paramedic access to the patient. The rescue crew then carried out a roof removal, cutting A, B and C pillars with hydraulic shears. The windscreen had partially separated from the roof during impact and was fully separated by firefighters with the windscreen removal tool. Once the



Removal of the roof

roof was removed, patient access for paramedics was improved enormously.

The force of impact had damaged the driver's seat mechanism, preventing the seat from being lowered to facilitate positioning of the rescue board. The steering wheel was located in close proximity to the patient's knees, obstructing safe release of the patient. Firefighters used a chain-pull set to lift the steering column away from the driver's legs, to assist in facilitating release. The chain-pull set was anchored to the front tow point and timber blocks were placed across the bonnet to spread the load as tension was increased. This operation lifted the steering column off the patient's knees. During this process, firefighters proceeded very slowly, as any sudden loading could cause the universal joints securing the steering column to break, resulting in possible impact and injury to the patient and rescue crews. Firefighters then utilised a socket set to undo the steering wheel from the steering column, creating further space around the victim's legs. When the steering wheel was removed, tension on the chain-pull set was released.

Firefighters made further attempts to lower the driver's seat, cutting the back of the seat on the lower left side.

The right side of the driver's seat was jammed tightly against the driver's side B pillar, preventing cutting. Firefighters were unable to access the seat lowering mechanism, which was badly damaged as a result of the crash impact.

Ambulance paramedics fitted an extrication device to the patient known as a Neann Extrication and Immobilisation Jacket (NEIJ), which completely immobilised the patient's spine. Firefighters then conducted the final phase of release of the patient in several short stages, lifting, rotating, lifting again and further rotating of the patient, enabling her to be released from the vehicle and placed onto the ambulance stretcher. The final release was conducted slowly and with great care, due to the patient's condition.

Congratulations to FRNSW and Ambulance crews in attendance for an extremely professional rescue operation.

Notes:

1. Rescue Team Leader SO Jackson emphasised the importance of conducting an assessment of the entrapment, formulating the plan in conjunction with the Ambulance Paramedic Commander, continuously reviewing the plan throughout the

rescue and continuously consulting with the Ambulance Paramedic Commander throughout operations. The State Rescue Policy emphasises the primacy of patient care at all rescues, with paramedics having the authority to call a halt if necessary.

2. Firefighters emphasised that in accordance with medical guidance at the scene, there was no urgency to carry out a fast release, enabling the rescue crew to proceed at a slow and cautious pace in the best interests of patient spinal management and medical condition.
3. The roof removal was performed with ease and within a relatively short time frame. Upon completion, it provided greatly enhanced patient access for paramedics.

END



Heavy Rescue 8 at work on persons trapped in Vehicle A

HIGH SPEED MOTOR VEHICLE HEAD-ON COLLISION AND MULTIPLE ENTRAPMENT AT KEMPS CREEK, 30 MAY 2015

First arriving FRNSW crews were confronted with a challenging scenario at a high speed head-on collision at Kemps Creek, faced with multiple entrapments in separate vehicles, located over 100m apart and initially with only one rescue unit present. This incident was as much about effective scene management as it was about the actual extrication, ensuring the most effective use of resources was made and the best possible outcomes were achieved for all patients.

Incident type: Motor vehicle accident persons trapped

Call details: 1704 hours, Saturday 30 May 2015, Direct line call from Police RCO, MVA persons trapped, Mamre Road, Kemps Creek

Nature of entrapment/emergency: High speed, head-on collision between two motor vehicles (Police estimate closing speed at impact exceeded 200 km/h). Following impact, both vehicles came to rest approximately 100m apart.

Vehicle A, a sedan, located on the roadway, contained two adult male occupants (driver and front passenger), trapped by injuries and severe confinement.

Vehicle B, a hatchback located off the road on the side grass verge, contained an adult female driver, trapped by injuries and severe confinement.

FRNSW response: Rescue Pumper 101 (Bonnyrigg Heights), Heavy Rescue 8 (Liverpool) and Duty Commander MS3 (St Andrews) Inspector Chris Wilson.

Additional services in attendance: Ambulance Service of NSW, NSW Police and NSW Rural Fire Service.

Incident operations: As light was beginning to fade on a late autumn Saturday afternoon, firefighters were called to reports of a serious head-on collision on a semi-rural road in outer western Sydney at Kemps Creek. Due to reports from the scene of entrapments within multiple vehicles, the Police RCO assigned a second rescue unit (Heavy Rescue 8) in addition to Rescue Pumper 101. Rescue Pumper 101, under the command of SO Danny Butler arrived on scene and observed two vehicles that had been involved in a head-on collision located 100m apart. SO Butler conducted a rapid scene assessment, identifying two persons remained trapped in Vehicle A and one person remained trapped in Vehicle B. SO Butler then sent a short situation report by radio, confirming three persons were trapped in two separate vehicles.

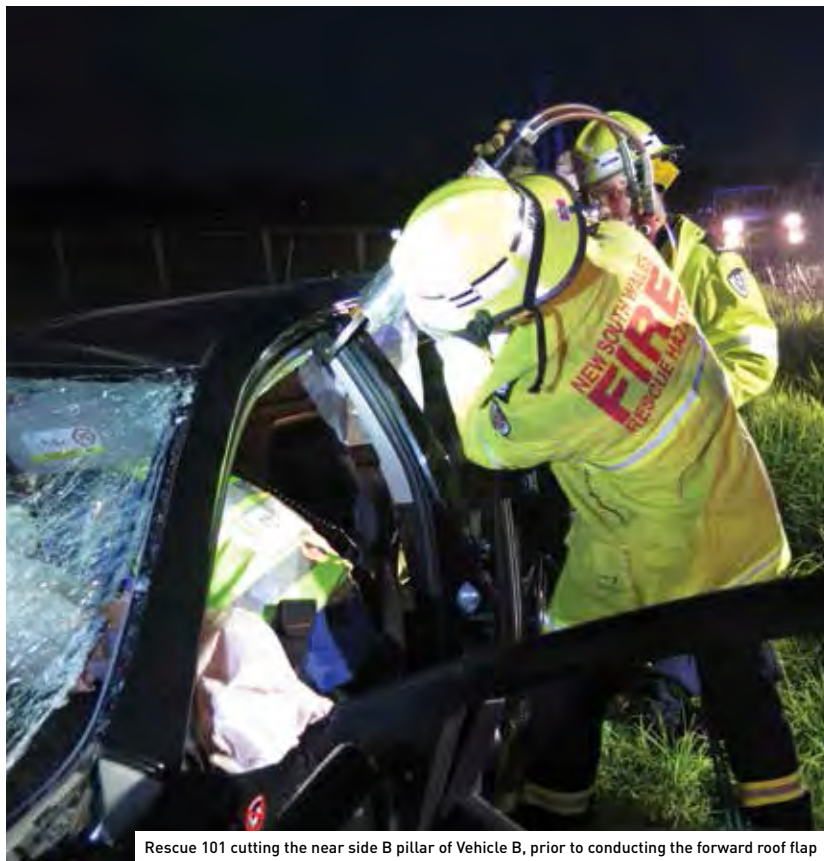
Following the initial size-up report SO Butler then went to both vehicles to conduct a further scene assessment and determine the rescue priority. At that time, the Ambulance Service was not yet on scene. During assessment of Vehicle A, SO Butler observed the two trapped persons to be conscious, breathing, able to communicate and not appearing to be suffering any obvious serious injuries. Neither person was trapped by compression.

SO Butler gained access to Vehicle B via the near-side and conducted an assessment of the driver. The driver informed SO Butler she was unable to move her head. The driver appeared to have sustained serious injuries. Although she was not trapped by compression, her body was firmly in contact with the interior off-side of the vehicle. SO Butler determined the trapped driver of Vehicle B, who was the most seriously injured patient on scene, would be the priority of the rescue crew and directed firefighters to set up rescue equipment to extricate the patient in Vehicle B. While SO Butler was carrying out a size-up, firefighters established scene fire protection, commenced stabilisation of both vehicles and established scene lighting.

SO Butler then consulted with Ambulance paramedics, who had just



Heavy Rescue 8 at work, spreading crash debris away from persons trapped in Vehicle A



Rescue 101 cutting the near side B pillar of Vehicle B, prior to conducting the forward roof flap

arrived on scene. Paramedics agreed the driver of Vehicle B was the initial extrication priority. Following further consultation with paramedics, firefighters formed an extrication plan involving a forward roof flap.

At about this time Heavy Rescue 8, crewed by SF Robert Duncombe and QFF Trent Duffey, arrived on scene and were directed to Vehicle A. Firefighters consulted with paramedics concerning the priority of patient removal and extrication method. While paramedics treated the more seriously injured driver, firefighters performed a side removal of the near-side, removing the near-side doors and B pillar utilising hydraulic shears and spreaders, providing greatly improved access for paramedics. Following patient stabilisation by paramedics, the front passenger was removed via rescue board and placed on an Ambulance stretcher.

Duty Commander MS3 arrived on scene. A FRNSW Incident Command Point was established and Duty Commander MS3 liaised with the Rescue Team Leader as well as commanders from all services present.

Heavy Rescue 8 firefighters then worked on the off-side of Vehicle A. This procedure was made difficult by the severe collision impact, which had crushed the front off-side guard into the off-side of the vehicle. Firefighters were unable to cut the door hinges and were forced to use hydraulic spreaders to spread the door off the A pillar. Hydraulic shears were used to remove the B pillars. Following removal of the off-side, sharps protection was placed over the extremely jagged and sharp metal.

The driver was then released from the vehicle via a rescue board and placed on an ambulance stretcher.

While the crew of Heavy Rescue 8 were extricating patients from Vehicle A, firefighters from Rescue Pumper 101 were working to release the trapped driver of Vehicle B. At this time, NSW Rural Fire Service crews from Kemp's Creek arrived on scene and took over fire protection duties for both vehicles. Prior to commencing cutting, patient protection was placed in position to protect the driver. Firefighters constantly reassured and spoke to the patient throughout extrication, explaining what they were doing as they proceeded. Cuts were made to the A, B and C pillars on both sides of the vehicle. The off-side B pillar was cut at the very top, because the patient was leaning on this pillar. Prior to cutting the off-side B pillar, firefighters ensured a cervical collar had been fitted to the patient and paramedics were ready for this pillar to be cut. Firefighters then covered the patient, as the roof was flapped forward. NSWRF's volunteers assisted the rescue crew to fold the roof forward. Following the forward roof flap, patient access for paramedics was significantly improved.

At about this time, the extrications from Vehicle A were complete and Heavy Rescue 8 was repositioned near the Vehicle B extrication site, to provide enhanced lighting utilising the stem lights fitted to the heavy rescue unit. Firefighters removed the off-side B pillar, cutting at the base of the pillar with the large hydraulic shears from Heavy Rescue 8 (which had a longer reach), to facilitate positioning of the

rescue board. This cut was carried out very slowly because the patient was leaning against this pillar. SO Butler placed his hand between the patient and the B pillar to feel the space in this location and held the patient protection shield between the patient and the B pillar as the cut was made. Following removal of the B pillar, firefighters lowered the driver's seat, positioned the rescue board onto the seat, placed the patient onto the rescue board and removed the patient from the vehicle.

Notes:

1. The scene was complex due to the involvement of multiple entrapments, in vehicles located over 100m apart. An initial assessment by the first arriving FRNSW officer identified the order of priority of patient release, ensuring extrication commenced on the most critical patient and the most effective use of limited resources was made in a situation of competing urgent priorities.
2. After the roof of Vehicle B was flapped forward, access for paramedics was greatly enhanced. Paramedics reported that the roof removal greatly assisted their ability to provide patient care to the critically injured patient.
3. The high level of consultation between the rescue crew and Ambulance paramedics ensured critical priorities associated with patient care were identified at various stages throughout the rescue, ensuring the extrication plan was amended accordingly and the best possible outcomes were achieved for all patients. **END**

FAIRFIELD HEIGHTS 2ND ALARM BUILDING FIRE HIGHLIGHTS ISSUES WITH MOBILE PHONE BASE STATION EQUIPMENT LOCATED ON BUILDING ROOFS, 24 MAY 2015

Report by Inspector Kernin Lambert

Recently FRNSW crews responded to a shop fire at Fairfield Heights that was controlled with a 2nd Alarm response. Operations were conducted in a routine manner and no issues were encountered. The involved building was fitted with roof-mounted mobile phone base station equipment, identified by a roof report from the aerial appliance. This fire serves to highlight the potential issues that firefighters can face when conducting firefighting operations at buildings fitted with roof-mounted mobile phone base stations. These are an ever increasing sight on building skylines, containing their own unique hazards and requiring additional precautions to be undertaken by firefighters to ensure safety is maintained during operations.

Incident type: Building fire

Time, date and place of call: 0109 hours, Sunday 24 May 2015 at The Boulevard, Fairfield Heights

Fire building: Health and beauty salon, located on the second level of a two-level shop (pharmacy on ground level), 25m x 15m, brick construction and fitted metal Klip-lock roof. The fire building was located within a row of 10 two-level shops. A mobile phone base station was located at the fire building. Antennae were fitted to the roof and the base station was located in a rear courtyard. Conduit extended from the base station to the roof antennae via the building exterior.

FRNSW response: Pumpers 73 (Fairfield), 41 (Smithfield), 49 (Cabramatta), 55 (Guildford) and 72 (Merrylands), Ladder Platform 27 (Parramatta) Duty Commander MW2 (Parramatta) Inspector Craig Easy and Fire Investigation and Research Unit.

Additional services in attendance: Ambulance Service of NSW, NSW Police, electricity authority and mobile phone carrier representative.

FRNSW operations: Due to the number of 000 emergency calls being received, FRNSW Fire Communications responded three pumpers on the initial alarm assignment. Pumper 41 under the command of SO Ian Robinson was the first appliance to arrive on scene and found smoke and flames issuing from a second level occupancy of a two-level shop, within a row of shops located on The Boulevard,

Fairfield Heights. SO Robinson sent a RED message, requesting the response be increased to a 2nd Alarm.

From Sector Alpha located on The Boulevard, an SCBA fire attack crew from Pumper 41 advanced the first fire attack line into the building, reaching the second level via a stairway and commencing fire attack. At the same time, Pumper 73 under the command of SO Bernie Howe deployed a second 38mm fire attack SCBA crew into the fire building from Sector Charlie. Within the fire building, crews on level two advanced in towards the fire, encountering conditions of moderate heat and smoke.

Duty Commander Parramatta arrived on scene and following a transfer of command established a Command Point in Sector Alpha, known as 'Fairfield Heights Command'. Ladder Platform 27 was set up in Sector Alpha and a short time after being placed into operation, firefighters provided a roof report to the Incident Commander, which included the presence of mobile telephone transmission antennae located on the roof of the fire building. After being provided with this information, the Incident Commander contacted FRNSW Fire Communications and requested the attendance of a representative of the mobile phone carrier at the fireground, due to the presence of the roof-mounted mobile phone equipment. Prior to the roof report from the aerial crew, the mobile phone antennae were largely obscured by smoke and not visible to firefighters.

Within the fire building, firefighters completed control of a relatively straightforward fire that was confined to two rooms on the second level. Primary and secondary searches were completed and all clear. Firefighters moved from fire attack into salvage, overhaul and ventilation modes, remaining on scene for several more hours, before handing the site over to police.

A representative of the mobile phone carrier subsequently attended the scene and conducted an inspection of all mobile phone base station equipment, ensuring there were no hazards at the fireground due to the impact of fire on the mobile phone base station.



The fire building from Sector Alpha. The mobile phone towers are completely obscured by smoke



As smoke begins to clear, some of the towers are visible in Charlie Sector



The roof of the fire building the next day. Note the large amount of mobile phone base station equipment located on the roof, the side wall and the rear yard



Considerations when operating at structures fitted with roof-mounted mobile phone base station equipment:

Cellular mobile phone networks are constantly expanding. Key elements of these networks are mobile phone base stations and their associated equipment (used to connect the radio signal to the fixed line network). Mobile phone base stations are often found on building roof tops. As networks continue to expand, it is likely this equipment will be encountered more and more by firefighters and may potentially impact operations. Firefighters should have an awareness of this equipment, associated hazards and appropriate precautions, which will assist in enhancing firefighter safety when operating within buildings or in proximity to buildings fitted with roof-mounted mobile phone base station equipment.

It is also important to consider that firefighting operations that could be affected by roof-mounted mobile phone base station equipment may not necessarily involve the building that is on fire. An exposure building or a structure in close proximity to the fire building could be fitted with this equipment, which in turn could impact firefighting operations and may need to be taken into consideration by the Incident Commander.

Mobile phone base station equipment:

There are two types of mobile phone base stations in existence; tower mounted equipment, which in many instances is remote from firefighting operations and will seldom be an issue for firefighters; and building roof-mounted equipment, which is more likely to be encountered by firefighters and could potentially impact firefighting operations.

The most obvious sign that a mobile phone base station is located on the roof of a building is the presence of the commonly seen rectangular-shaped panel antennas above the building roof line (NB at night time or in conditions of smoke, these antennae may not be immediately obvious to firefighters). These antennas are designed to project a largely flat horizontal beam from the front of the panel in an outwards direction only (beams are not projected from the side or rear of the antenna). The antennae are located in groups of three (two for receiving and one for transmission). Occasionally, 'Omni' directional antennae (appearing as long vertical cylindrical rods) may also be present. These antennas project a 360° beam in all directions from the antenna (and consequently cannot be safely approached from any direction). The radio signal generated by the antennae is a form of radio frequency electromagnetic energy (RF EME) and produces radiation. Exposure to the beam is hazardous,

presenting a risk of acute radiation exposure. According to the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), the area 1.2m in front of the antenna is considered harmful and should not be entered. The area beyond 1.2m is considered less harmful, however should only be entered for short periods of time, for essential work only.

Equipment on the roof includes the radio wave sending and receiving antennae, formed of lightweight metal and fibreglass. PVC insulated power cables for the primary and secondary supplies are installed along the building exterior inside metal (light aluminium) conduit. Coaxial foam radio frequency cable is used to supply DC power from the base station computer to the roof antennae. On the surface of the roof, these cables are located in light metal cable trays. Along the roof sides and parapets, these cables are exposed and unprotected. Steel grated walkways are located on the roof for access by service technicians.

The enclosed site base station service hut contains an array of electrical equipment. Base station huts can be located on the building roof, within the building or at ground level (usually in court yards). Exterior base stations usually consist of a small hut type structure. Base station huts can weigh between 500kg and 10 tonnes and represent additional dead load if located on the roof. Roof top base stations can be located on steel I-beams, connected (via steel plates) into the exterior loadbearing walls of the building (usually the parapet wall). Each base station is allocated a unique identification number, which is required by regulation to be clearly located on the door to the base station. Base stations contain highly dangerous electrical equipment and should not be entered by firefighters, except when in the presence of the communications carrier's technician.

Primary electrical power for a mobile phone base station is provided by a dedicated AC supply that is usually separate from the building's main electrical supply. This AC supply is connected to the base station, where it is then converted (by a rectifier) to DC. Power (40-50 watts) from the base station to the transmission antennae is high amperage direct current. All base stations are fitted with a secondary (back-up) power supply, provided by 24 volt lead acid batteries, in the event of primary supply failure. Up to 20 batteries can be located on racks within the base station service hut, with an output ranging from 150 to 250 amps. There is no switch located at the site to isolate the battery supply.

Additional electrical equipment located within the base station service hut includes the rectifiers which convert AC to DC power, operate the base station computers and continually recharge the back-up battery supply, the site computer system and the air conditioning unit.

Each site is operated by one of three mobile phone carriers (Telstra, Optus or Vodafone). Sometimes, multiple carriers share one site. Sites are controlled by the relevant carriers Network Operations Centre (NOC). Each NOC is staffed 24 hours a day and can be contacted in an emergency by telephone. There is seldom signage at a base station to identify which carrier the site is controlled by.

In the event the primary electricity supply is interrupted, the secondary supply will continue to supply power to the site for up to eight hours. Secondary power supplies are generally inaccessible to firefighters and can only be disconnected by the mobile phone carrier's technician. The NOC can remotely switch off DC power from the base station to the transmission antennae, powering down the site (thus removing the radiation hazard). The AC primary power supply will continue to power the base station until switched off and disconnected by a representative of the responsible electricity authority. Although a site can be powered down, the DC supply within the base station will remain live, until switched off and isolated by a technician from the communications carrier.

It is important to note the difference between powering down the site and isolating power to the site. Complete isolation requires the attendance of an electricity company representative to remove primary supply and the attendance of a representative of the mobile phone carrier company to switch off and disconnect the secondary supply, before power to the site can be considered isolated.

Every site is required to be equipped with a Radio Communications Site Management Book (RCSMB) which provides important safety information for anyone who has to work near mobile phone base station transmitters. This information includes site contact details, information on radiation hazard drawings, site access control, equipment installed at the site and safe working procedures. A copy of this book is required to be held by the property owner/manager where the site is located. If the RCSMB cannot be obtained from the property owner/manager, information from the RCSMB can be obtained via the NOC for the relevant mobile phone carrier.

Hazardous conditions: In the event of a fire involving the base station equipment, a building fitted with mobile phone base station equipment or a building in proximity to a building fitted with a mobile phone base station,

firefighters should be aware of the following hazards.

Electrocution: From primary and secondary power supplies, there may be energised equipment and electrical wiring. If the conduit becomes damaged (due to fire heat or other impact) during firefighting operations, there is a possibility all conductors in contact with the live circuit may become energised. The batteries and transmission circuits contain high-amperage direct current. Although the electrocution hazard may be obvious at the base station, less obvious are the risks associated with exposed circuits at locations remote from the base station. Rectifiers are particularly dangerous pieces of equipment and may continue to supply current, even after power has been disconnected.

Hazardous materials: Sulphuric acid within lead batteries.

Products of combustion: In particular, hydrogen sulphide and hydrogen chloride from burning PVC.

Radiation hazard: Radio frequency electromagnetic energy, contained within the beams from transmission antennae.

Explosion: Hydrogen gas emitted from batteries coming into contact with an ignition source.

Trip/fall hazard: Roof-mounted conduits, cable trays and pipes, particularly at night time or in conditions of smoke.

Structural failure/collapse: Increased roof load, due to added weight of equipment on the roof, could result in the base station collapsing downwards into the floor below particularly if the building roof has been weakened by the fire. The impact of fire or heat from a building involved in fire could cause the metal I-beams supporting a base station to expand, pushing sections of upper wall outwards presenting a collapse risk onto the ground below. If the I beam is fastened to a parapet wall, the risk of collapse is significant. Fastening equipment securing external antennae could be damaged, causing antennae to fall.

Considerations for controlling hazards:

If the Incident Commander believes an installation will have an impact on the safety of FRNSW operations, the following may be operational considerations to enhance firefighter safety.

Sometimes it may not be obvious that firefighters are operating at a building or in proximity to a building where a mobile phone base station is located. A roof report from an aerial appliance may assist in confirming the presence of a mobile phone base station. If possible, in addition to confirming the presence of antennas, the roof report should include the presence of a roof-mounted service hut (if installed on the roof).

In the first instance, firefighters should attempt to shut down primary and secondary power supplies at the site. Firefighters should request the attendance of the local electricity authority to isolate the primary power supply to the site. Note: primary power isolation will not remove the risk of electrocution or the radiation hazard from the site.

Firefighters should obtain the site number for the base station and provide this number to FRNSW Fire Communications, with a request that the mobile phone carrier network operations centre (NOC) be contacted and the site be powered down remotely. This will enable the transmission antennae to be de-energised, removing the radiation hazard. Note: it is possible that more than one carrier may have equipment installed on the site. If this is the case, each carrier must be contacted individually.

Additionally, the attendance of a representative of the communications carrier to the site should be requested, to switch off and isolate the back-up power supplies and to provide expert advice about the site. At the time of requesting attendance, it is important to state a representative is required to attend the site to 'Switch OFF and Isolate' the base station equipment (to ensure an appropriately qualified technician attends the site). If more than one carrier has equipment installed at the site, a representative from each carrier should be requested to attend. Only when the secondary supply has been switched off and isolated can the electricity hazard to the site be considered to have been removed.

Firefighters must take into consideration the extra roof loading and the effects a fire and possible collapse potential this will have (particularly if the area of fire is directly below the base station). Firefighters should consider the establishment of collapse zones at ground level around the building, particularly if the top floor is heavily involved in fire, the roof-mounted equipment is being impacted by fire or the roof-mounted equipment is supported by metal I-beams connected to parapet walls.

Aerial crews should continually monitor the stability of the parapet wall and provide stability reports to the Incident Commander, particularly if the site is supported by metal I-beams that are being impacted by heat or fire.

Protection of the metal I beams (supporting a roof-mounted base station) from heat and fire impact will assist in preventing expansion of I-beams and potentially pushing out the parapet walls. If metal I-beams supporting a roof-mounted site are being impacted by heat or fire, firefighters should consider an evacuation of the building and move to a defensive firefighting strategy as a collapse of the upper walls is possible.

Firefighters should inform the Incident Commander if any sign of fire or heat impact to the metal I beam supports is detected.

SCBA should always be worn during operations, due to the presence of toxic gases, particularly if burning PVC is involved. If operations on a roof containing base station equipment are necessary, firefighters should restrict the use of water and metal tools in proximity to energised equipment. Firefighters must avoid contact with the conduit, which may be live. Aerial operators must be careful not to operate within the danger zone of the radio transmission antenna beam.

During firefighting operations on a rooftop containing mobile phone base stations, access to the site should be restricted. The minimum number of personnel working under maximum supervision should be deployed to the affected area. If extensive roof operations are necessary, the Incident Commander may wish to special call an additional Duty Commander to supervise roof sector operations.

Notes:

1. As always, FRNSW crews performed with professionalism at the Fairfield Heights fireground, rapidly and effectively bringing the fire under control and preventing fire extension to numerous other exposures in proximity.
2. The subject fire demonstrated a significant benefit of aerial roof reports, providing the Incident Commander with key information resulting in enhanced fireground safety.
3. Many of the issues likely to be encountered at a mobile phone base station fire scenario can be most effectively resolved during pre-incident planning. FRNSW stations are encouraged to identify the rooftop-mounted mobile phone base stations in their area and become familiar with the relevant features at the site. The additional knowledge gained about how these sites can impact firefighting operations will help to enhance firefighter safety in the event FRNSW is called to a fire that could impact this equipment.

NB: Special thanks to Assistant Chief Ronald R. Spadafora (Chief of Safety) and Captain Thomas H. Roche (Bronx Borough Training Coordinator) New York City Fire Department and Mr Tony Paul (Senior Telecommunications Engineer and Compliance Program Manager for RF Safety, Australian MCF) for their invaluable assistance in providing information for this report. **END**



Receiving and transmission antennae located on the roof of the fire building, the most obvious sign a structure could be fitted with roof mounted mobile phone base station equipment



Power going to the roof mounted equipment is via DC supply and can only be isolated by the telecommunications carrier



It was only when Ladder Platform 27 provided a roof report that the presence of a roof mounted mobile phone base station was identified at this fire

M4 MOTORWAY HIGH SPEED MOTOR VEHICLE IMPACT, HEAVY VEHICLE COLLISION AND ENTRAPMENT, 19 MAY 2015

Report by Inspector Kernin Lambert

FRNSW crews responded to a high speed collision on the M4 motorway, involving the high speed frontal impact of a passenger vehicle into a steel off-ramp dividing barrier and further collision with a heavy vehicle, severely trapping the driver. Throughout the extrication, the release plan was modified several times, due to changing incident circumstances.

Incident type: Motor vehicle accident persons trapped

Call details: 1124 hours, Tuesday 19 May 2015, direct line call from Police RCO, MVA persons trapped, M4 Motorway, James Ruse Drive off ramp, Rosehill

Nature of entrapment/emergency: Motor vehicle (medium size four door sedan) and heavy vehicle collision. Offset (off-side) head on collision of sedan into a steel and hardened rubber off-ramp dividing barrier at high speed, causing vehicle to rotate 90 degrees (clockwise).

The sedan was then impacted on the off-side (side impact collision) by a heavy vehicle (cement mixer). An elderly woman was trapped by injury and severe confinement within the sedan.

FRNSW response: Pumper 19 (Silverwater), Heavy Rescue 15 (Burwood), Rescue Pumper 59 (Eastwood) and Duty Commander MW2 (Parramatta).

Additional services in attendance: Ambulance Service of NSW, NSW Police and NSW Roads and Maritime Services.

Incident operations: Pumper 19, under the command of SO Ian Dupen, arrived on scene and found a vehicle located on the off ramp of the M4 motorway, following a high speed impact with the off-ramp dividing barrier and side impact with a cement mixer truck. The elderly female driver remained trapped within the vehicle.

Pumper 19 firefighters established fire protection and commenced initial stabilisation of the vehicle with timber wedges and blocks. A short time later Duty Commander MW2 arrived at the scene, established an Incident Control Point (known as Rose Hill Control) and sent a situation report to Fire Communications, including the best access for incoming Heavy Rescue 59.

Heavy Rescue 59 arrived on scene and conducted an assessment of the entrapment. The off-side of the vehicle had been pushed in due to impact with the heavy vehicle. The driver was in contact with the off-side of the vehicle, making release via the off-side a least preferred option. Rescue 59 liaised with the Ambulance Paramedic Commander and an initial extrication plan was formed for release via the near-side of the vehicle. Due to the severity of impact and likelihood of a protracted rescue,



Firefighters work to create an opening on the vehicle off side



Rescue 15 cutting the B pillar to facilitate a side removal of the near side

Duty Commander Parramatta requested the attendance of a Rescue Pumper for the provision of additional rescue personnel. Rescue 59 crew made initial patient access for paramedics, opening near-side doors with hydraulic tools and removing the near-side rear door. Glass management was carried out during this process. After paramedics gained access to the patient and further assessed the patient's condition, they advised firefighters the preferred method of patient extrication was to release directly to the rear over the back seat, to facilitate spinal management.

Firefighters then commenced to perform a forward roof flap. Rescue Pumper 15 arrived on scene and assisted Rescue 59 to undertake the forward roof flap. Firefighters made several relief cuts in the roof at the rear of the A pillars, then cut through the tops of the B pillars and bottom of the C pillars with hydraulic shears. During this process, patient protection was put in place to protect the patient and paramedics from debris and sharp materials. After the necessary

cuts had been made and paramedics consulted, the roof was flapped forward, greatly improving patient access for paramedics.

To facilitate the rear of vehicle extrication, firefighters decided to remove the off-side of the vehicle to provide access to the seat lowering mechanism, enabling the driver's seat to be lowered. Crews utilised hydraulic spreaders and shears to remove the off-side of the vehicle. At this point, paramedics advised the patient's condition had significantly deteriorated and an immediate release was now required. Firefighters then placed the patient onto a rescue board and release followed a short time later, via the off-side of the vehicle. The patient was then transported by road ambulance to hospital.

Throughout the rescue operation, the scene (located adjacent to the busy M4 motorway) was protected initially by police and subsequently by Roads and Maritime Services traffic patrol crews.

Notes:

1. The rescue crews followed a process that included assessment of the entrapment, consultation with paramedics, formation of a rescue plan, systematic/partial extrication and review of plan. This process enabled operations to be smoothly carried out, particularly when changing circumstances required the proposed avenue of release to be amended. At this incident, the extrication plan changed several times, in accordance with changing incident circumstances, largely governed by the patient's condition.
2. Firefighters reported removing the roof is a significantly under-utilised operation that can be performed in a relatively short timeframe, however this greatly enhances patient access and ease of treatment by paramedics.
3. All crews performed with a high degree of professionalism at this incident, under changing and dynamic circumstances, working closely with Ambulance paramedics, ensuring the best possible outcome was achieved for the patient. **END**



Rescue 59 cutting the C pillar in preparation for the forward roof flap



Firefighters cut debris away from the dash area, attempting to locate the patient's lower limbs

CECIL HILLS EXTREME MOTOR VEHICLE ENTRAPMENT, 13 MAY 2015

FRNSW crews responded to a vehicle that impacted a tree with such force, the subsequent destruction of the vehicle caused the lower limbs of the driver to be completely encased in steel components of the vehicle and were not visible to rescue or medical teams. Firefighters carried out an extremely complex extrication of the trapped driver (who was in a highly critical condition), working very closely with the medical team, to bring about a successful release of the driver. This was a textbook example of an extreme extrication.

Incident type: Motor vehicle accident persons trapped

Call details: 1435 hours, Saturday 13 May 2015, direct line call from Police RCO, MVA persons trapped, Frederick Road, Cecil Hills

Nature of entrapment/emergency: High speed, single vehicle (light passenger four-door hatchback), side impact (off-side) into a tree, resulting in severe entrapment by compression of one adult male driver approximately 18 years old.

FRNSW response: Rescue Pumper 101 (Bonnyrigg Heights), Heavy Rescue 8 (Liverpool), CAFS Pumper 31 (Busby) and Duty Commander MS3 (St Andrews) Inspector Andrew Erlik.

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

Incident operations: On a clear winter Saturday afternoon, firefighters were midway through the afternoon drill period when Rescue Pumper 101 and CAFS Pumper 31 were called to reports of an MVA persons trapped incident at Cecil Hills. Initial reports from the scene were so serious, an aero medical retrieval team were immediately dispatched by the Ambulance Service to the crash site.

Rescue Pumper 101, under the command of SO Danny Butler, was the first emergency vehicle to arrive on scene. Upon arrival, firefighters observed a large group of bystanders in proximity to a motor vehicle that had impacted a tree. Firefighters noted there was no sense of urgency displayed by the bystanders. SO Butler performed an initial assessment of the crash scene, confirming a single

vehicle had heavily impacted a tree, resulting in the off-side of the vehicle being compressed almost into contact with the near-side of the vehicle. The driver of the vehicle was located in the rear of the vehicle and a female person (a senior registered nurse) was holding the driver's head, attempting to immobilise the spine and manage the airway. The lower body (from the waist down) of the driver was not visible, due to severe entrapment within crash debris. The driver was unconscious. The vehicle had "wrapped" around the tree.

Following initial scene size-up, SO Butler sent a **RED** message to Fire Communications at 1440 hours, providing a brief description of the incident and requesting the attendance of Police, Ambulance and a heavy rescue unit, resulting in the response of Heavy Rescue 8. As SO Butler was sending the above message, firefighters commenced stabilisation of the vehicle with timber blocks and wedges. Firefighters then used hydraulic shears and spreaders to remove the rear tailgate of the vehicle to improve access for arriving Ambulance paramedic crews.



The scene shortly after firefighters commenced extrication; the off-side A pillar is visible (through the open door), wrapped around the tree

Heavy Rescue 8 arrived on scene. Firefighters then removed the full near-side of the vehicle, (front and rear doors and B pillar), further improving access for paramedics. CAFS Pumper 31 arrived on scene and established fire protection. CAFS Pumper 31 firefighters played a critical role assisting the rescue crew, ferrying rescue tools and equipment to the gear staging area and providing assistance at the scene as required.

Patient access remained critical for ambulance paramedics. Firefighters performed a full roof removal, utilising hydraulic shears. The vehicle roof was greatly distorted due to the enormous severity of impact, causing difficulty with the roof removal. The off-side A pillar was located wrapped around the tree on the near side of the vehicle in a location that was not immediately obvious. Once the roof was removed, greater access was then available for paramedics and the medical team to undertake patient care, and for the rescue crew to carry out extrication. Rescue Team Leader SO Butler liaised with the Ambulance Paramedic Commander. SO Butler advised paramedics the rescue team was unable to locate the patient's legs and feet, and a plan was formed to slowly pull the car apart.

SO Butler directed crews to set up and prepare the Tirfor winch for operation (at this time, as a precautionary measure only), in the event that it became necessary to pull the car off the tree. Firefighters from 31 Station set up the Tirfor winch, using CAFS Pumper 31 as an anchor. At this time, the steel wire rope was not connected to the crash vehicle and no tension was taken on the winch. At the same time, firefighters commenced to cautiously remove sections of the vehicle, in an attempt to locate the patient's lower limbs.

On the off-side of the vehicle, Senior Firefighter Mark Swayne was attempting to access the driver's feet, using the small hydraulic shears and hydraulic spreaders to remove the driver's door, cutting through the Nader bolt securing the door to the B pillar, spreading the door and B pillar apart and removing the B pillar. It was then determined the patient's lower limbs could not be accessed from the off-side.

From the front of the vehicle, firefighters initially set up for a dash lift, in an attempt to expose the driver's lower limbs. In preparation for the dash lift, firefighters removed off-side and near-side guards and made relief cuts with the large hydraulic shears in the off-side and near-side wheel arches. Senior Firefighter Robert Duncombe

used the small hydraulic shears to begin to cut the dash away. Firefighters completely dismantled and removed all components of the dash, as they worked their way down to the vehicle floor. Firefighters were feeling by hand as they went, trying to locate the driver's legs and feet as they were removing vehicle components and debris. Firefighters cut small material away with shears and used spreaders to move larger vehicle components into a position where they could then be cut away with the shears. The steering wheel was cut away with shears. While firefighters were cutting near the windscreen, all personnel (firefighters and the medical team) located in proximity to the vehicle wore P2 dust particle masks and eye protection to protect against small particles of glass, until a salvage sheet was placed over the folded windscreen to protect against the glass particle hazard. As firefighters worked their way downwards, they came across the steel brace bar, which had been torn from its mounting brackets and bent into a U-shape. After removing this bar, the rescue crew located the position of the driver's feet. It was at this time that firefighters then discovered the patient's lower limbs were severely encased in metal from the foot-well and driver's door that had been crushed down by the

force of impact onto the floor-pan, against the transmission tunnel (which had also folded around the patient's lower limbs). This entrapment extended completely from the patient's ankles to the patient's waist, in a semi-circular manner around the tree trunk.

Duty Commander MS3 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, for the entirety of the incident.

In consultation with the Ambulance Paramedic Commander, a plan was formed to slowly remove the vehicle from around the victim's lower limbs. The top of the vehicle was being held firmly in place by the tree, preventing the vehicle from being pushed up from the patient. This situation necessitated that firefighters push the floor of the vehicle downwards, to move it away from the patient. Paramedics advised this operation needed to be undertaken very slowly and cautiously due to crush injury concerns. Firefighters operating spreaders began opening the metal that had folded on the

near-side of the vehicle, pushing the floor downwards. Prior to commencing to push the floor pan down, the timber step blocks were removed from under the near side of the vehicle, enabling the floor to be then displaced downwards.

Firefighters commenced a process of pushing the floor-pan downwards with hydraulic spreaders, unfolding metal encasing the driver's lower limbs. To prevent the metal re-folding after the spreaders were removed, a small hydraulic ram was positioned to act as a packing mechanism. This operation consisted of spreading a small section of the folded metal with the spreaders, re-setting the ram in conjunction with the spreader, removing and then repositioning the spreaders (with the ram holding the unfolded metal open to stop it closing back in on the patient after the spreader was removed) and then spreading the next section of folded metal. This spreading and ramming operation was performed 15 times as firefighters worked their way along the length of the patient's lower limbs, slowly opening sections of folded steel from around the patient's lower limbs,

eventually enabling the patient's left leg to be freed. The spreaders were temporarily removed from the vehicle, enabling the patient's left leg to be released by paramedics. Firefighters cut the driver's seat and handbrake away, enabling paramedics to place a tourniquet onto the left leg of the patient. The spreaders were then placed back in position, operated by SF Swayne who began to displace the floor and sill away from the patient's right leg. This operation was successful in releasing the patient's right leg, however the crushed off-side door was compressing the patient's hip and the floor could not be displaced downwards any further with spreaders.

In consultation with the Ambulance Paramedic Commander, a decision was made to operate the Tirfor winch, to pull the car away from the tree (releasing the driver's door from the patient's hip). The Tirfor winch had already been set up, was in position and it was now simply a matter of connecting the steel wire rope to the vehicle and commencing to take up tension with the winch. When all was in readiness, SO Butler communicated with the Ambulance Paramedic Commander,



The floor-pan was pushed downwards with hydraulic spreaders, unfolding metal encasing the driver's lower limbs. A small hydraulic ram was then positioned to prevent the metal re-folding onto the patient. This process was repeated until the patient's lower limbs were completely removed from entrapment



Rescue 8 SF Duncombe commences to cut away sections of the off-side A pillar

advising firefighters were ready to start winching the car off the tree and seeking confirmation paramedics were ready for this operation (winching the vehicle would have a significant impact on the medical team operations). Paramedics advised they were ready. SO Butler again confirmed winching was about to start and sought final confirmation that paramedics were ready. When paramedics confirmed they were ready for the winch to start, the command was given by SO Butler and the winch commenced, slowly and smoothly pulling the car away from the tree. The vehicle only needed approximately 2–5cm of movement, enabling the driver's door to be pulled away from the patient's hip, releasing the driver from compression entrapment and the winch was then stopped. The patient was then placed onto a rescue board and removed from the vehicle and placed onto an ambulance stretcher, for conveyance to hospital by road ambulance.

Notes:

1. An initial temptation at this type of entrapment is to immediately winch the vehicle off the tree (or impact

object). On this occasion, this was resisted, as medical issues needed to be carefully taken into consideration before undertaking this operation. When the winch was performed, it was undertaken in close consultation with Ambulance paramedics. At this incident, the act of simply winching the vehicle off the tree in the first instance would not have released the patient from entrapment and would most likely have worsened the patient's injuries.

2. First arriving SO took the time to conduct an initial scene size-up, enabling resource requirements to be identified and ensuring appropriate resources were responded to the scene for an effective extrication to be undertaken.
3. Removing the roof was a vital operation, providing the medical team with critical space to perform the complex medical procedures necessary at this incident.
4. This was an extremely complex entrapment with equally complex patient care issues for the medical team. An extremely high level of consultation occurred between the

Rescue Team Leader and Ambulance Paramedic Commander, 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.

5. The decision by SO Butler to proactively set up the Tirfor winch at the beginning of the extrication saved valuable time later in the rescue, when it became necessary to winch the vehicle from the tree.
6. Congratulations to all FRNSW crews, who performed with the highest levels of commitment, diligence and professionalism at this extremely complex and difficult scene. Similarly, the medical team worked tirelessly to save the life of the trapped driver as the extrication was proceeding. This was a magnificent example of multi-agency cooperation between the services; undoubtedly their actions saved the life of a person who otherwise would have perished.

END



Firefighters remove the roof of the vehicle, greatly improving patient access for paramedics and the medical team



The hydraulic ram is positioned on the off side in preparation for the dash push

HEAVY VEHICLE OFFSET HEAD-ON COLLISION WITH MOTOR CAR AND SEVERE ENTRAPMENT AT SILVERDALE, 11 MAY 2015

FRNSW crews responded to an offset head-on collision between a heavy vehicle and a car, resulting in severe entrapment by compression of the driver of the car. Firefighters provided initial patient care to the critically injured trapped driver and carried out a complex extrication, involving a side rip and a double ram push.

Incident type: motor vehicle accident persons trapped

Call details: 1414 hours on Monday 11 May 2015, direct line call from Police RCO to a report of an MVA persons trapped at Silverdale Road, Silverdale

Nature of entrapment/emergency:

Offset head-on collision between a medium sized passenger sedan and a three-axle rigid 17-tonne tip truck. As a result of the collision, the driver of the sedan, an elderly man, was severely trapped by compression to the lower limbs.

FRNSW response: Pumper 489 (Warragamba), Tanker 489, Rescue Pumper 102 (Regentville), Heavy Rescue 102, Heavy Hazmat 77 (St Marys) and Duty Commanders MW1 (Huntingwood) and MS3 (St Andrews).

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

Incident operations: Pumper 489 arrived at the incident and observed the driver of the motor car severely trapped by compression within the vehicle. An adult female occupant located in the front passenger seat had self released prior to FRNSW arrival. The second vehicle in the collision (tip truck) was located approximately 25 metres away and the driver also self released. Firefighters conducted a scene assessment, performed a size-up and sent a situation report to Fire Communications, reporting severe entrapment by compression of the driver and confirming attendance of rescue.

Firefighters established fire protection, provided initial stabilisation of the vehicle with timber blocks and commenced to set up an equipment staging area. Retained Firefighter Jeremy Footit (an off duty ambulance paramedic) conducted a rapid assessment of the released passenger and the trapped driver, and assessed the driver was the most serious of the two patients. RFF Footit placed the driver of the vehicle on oxygen (using the FRNSW EMT pack), gained access to the vehicle and commenced spinal management, via spinal immobilisation. RFF Footit remained within the vehicle, providing spinal immobilisation for the entire

period the driver was trapped within the vehicle. Throughout the entire extrication that followed, secondary rescue station 489 Warragamba firefighters operated rescue equipment in conjunction with 102 Regentville firefighters.

Rescue Pumper 102 and Heavy Rescue 102 arrived on scene. Firefighters conducted an assessment of the entrapment, determining the driver was trapped by compression to the lower limbs due to the dash and compression to the abdomen from the steering wheel. The off-side A pillar was pressing into the driver's hip. The driver was also suffering a broken right arm. At this time Ambulance paramedics had arrived on scene and were carrying out patient stabilisation. The aero-medical retrieval team had landed nearby and were assisting Ambulance paramedics.

Paramedics needed access to be provided as quickly as possible to the driver, whose condition was critical and deteriorating. The off-side door had been substantially crushed inwards by the force of the collision. Following consultation with paramedics, the rescue crew decided the quickest and most effective way to provide rapid access for paramedics was to perform a side removal of the off-side using a technique known as the 'side rip'. Prior to commencing cutting operations,



Double ram push, viewed from the near side

firefighters initially undertook glass management of the windscreen and side windows of the vehicle. Firefighters then cut the top of the B pillar with hydraulic shears. A small cut was then made in the base of the B pillar. The tips of the spreaders were placed within the cut on the B pillar and at the position of the bottom gusset. As the spreaders were opening, the hinge began to push into the patient. Firefighters then removed the hinge with the shears. Firefighters continued the operation of the spreaders, causing the B pillar to tear away, spreading both off-side doors and the B pillar clear of the vehicle. Firefighters then used a combination of spreaders and shears to break the hinges securing the front door, enabling the off-side doors and the B pillar to be completely removed from the vehicle, providing greatly improved access for the medical team.

Duty Commander West arrived on scene and established a FRNSW Command Point, liaising with commanders from Police and Ambulance services, and ensuring FRNSW crews had all of the resources they needed for this incident. The extrication plan then involved a double ram dash push to lift the collapsed dash and steering wheel off the driver. To assist the dash push, firefighters operated spreaders to remove the front near-side door. On the off-side, firefighters closed the super-spreaders onto the sill, forming a base from which to ram. The crosshead of the 2005 medium sized ram was placed against the closed spreader tips. The opposite end of the ram was located on the middle

of the A pillar. On the near-side, a 2005 medium sized ram was placed at the base of the B pillar and on the A pillar at dash level. Both rams were adjusted to a light tension. Firefighters then made relief cuts in the A pillar gussets and A pillars on both sides of the vehicle. The rams were then operated, lifting the dash and steering wheel off the patient and releasing the driver from compression.

Firefighters then removed crash debris away from around the patient's feet within the foot well. Once the patient's feet were clear of debris, the Ambulance Paramedic Commander requested the patient be released as soon as possible. In preparation for final release, firefighters laid the seat down and slid the seat back as far as it would go. The patient was then placed onto a rescue board, released from the vehicle and placed onto an ambulance stretcher. The patient was subsequently conveyed to hospital aboard an Ambulance Service medical retrieval helicopter.

Tragically, the trapped driver later passed away after being transported to hospital.

Despite this tragic ending, FRNSW crews and the Ambulance paramedics and medical retrieval team who responded to this incident gave the patient the best possible chance of survival, through their diligence, professionalism and commitment.

Notes:

1. Very significant work was performed by 489 Station retained firefighters, prior to the arrival of the primary rescue unit. This laid a solid

foundation for the extrication that followed. RFF Jeremy Footit remained within the vehicle for the entire extrication, supporting the head of the trapped driver, constantly reassessing the patient's condition, assisting paramedics and providing spinal immobilisation and management.

2. The side rip was an extremely effective technique that provided rapid and effective access for paramedics to the trapped patient, significantly enhancing patient care. Prior to the side removal being completed, patient access for paramedics and the medical retrieval team was extremely limited, due to the heavy impact damage sustained in the collision.
3. The double ram push was a very effective technique, enabling the driver to be released from compression due to the dash and steering wheel.
4. Although this incident ended in tragedy, the efforts of firefighters from 102 and 489 stations, in conjunction with ambulance paramedics at the scene enabled the severely trapped and critically injured patient to be released and transported to hospital where the best possible care could be provided, giving the patient the greatest possible chance of survival. All crews performed with the highest levels of commitment and determination at this incident.

■ END



Rescue Pumper 57 firefighters, following establishment of the collapse zones at 36 Huntingwood Drive



First arriving firefighters direct attack streams onto the fire burning under collapsed steel sheeting from outside the collapse zone

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EXTREME HUNTINGWOOD HAILSTORM, MULTIPLE MAJOR STRUCTURAL COLLAPSES AND DISTRIBUTION WAREHOUSE FIRE 10TH ALARM RESPONSE, 25 APRIL 2015

Report by Inspector Kernin Lambert

Incident summary: FRNSW crews responded to several automatic fire alarm activations within the Huntingwood area, during a large hailstorm. Shortly after arriving on scene, the first arriving crews were in the process of making entry to several large storage and distribution warehouses, when major structural collapses occurred. A short time later, a fire (fuelled by a bank of LPG cylinders) was discovered in a partially collapsed warehouse containing large quantities of LPG propelled aerosol stock. Numerous other large structures (most exceeding 10,000 m² in size) were located in close proximity to the fire building, which was now without installed fire protection due to destruction of the sprinkler system. As firefighters commenced firefighting operations amid heavy hail, lightning strikes, large quantities of ice on the ground and a severe thunderstorm, incoming appliances began reporting numerous other very large warehouses were in similar states of collapse. It was known to firefighters that on most Saturdays, many of the collapsed buildings were usually occupied. A 10th Alarm was responded to conduct initial structural collapse operations within the collapsed buildings and to contain and control the fire burning within the large distribution warehouse. As usual, all FRNSW crews performed with distinction at this highly dangerous and unique emergency, rapidly mitigating the emergency phase of the operation.

Incident type: Major structural collapses of multiple large industrial premises due to extreme hailstorm and structure fire within storage and distribution warehouse.

Time, date and place of call: 1537 hours on Saturday 25 April 2015 to automatic fire alarm activation at storage and distribution warehouse, Huntingwood Drive, Huntingwood.

FRNSW response: Pumpers 72 (Merrylands), 27 (Parramatta), 65 (Rydalmere), 96 (Schofields), 19 (Silverwater), 43 (Seven Hills), 55 (Guildford), 73 (Fairfield), 30 (Lidcombe), 94 (Kellyville), 41 (Smithfield), 14 (Ashfield), 52 (Campsie), 66 (Rhodes), 42 (Ryde) and 301 (Glenbrook), Rescue Pumpers 63 (Blacktown), 57 (Wentworthville), 102 (Regentville), 101 (Bonnyrigg Heights), 59 (Eastwood), Aerial Pumpers 86 (Penrith), 97 (Huntingwood) and 47 (Revesby), Hazmat Pumpers 13 (Alexandria) and 85 (Chester Hill), Heavy Rescues 8 (Liverpool), 63 and 102, Heavy

Hazmats 13 and 85, Ladder Platforms 18 (Glebe), 27 (Parramatta), 50 (Hornsby) and 92 (St Andrews), Incident Control Vehicle Alpha, Logistics Support Vehicle 1, USAR-1 and Rehabilitation Pod 1.

Duty Commanders MW1 (Huntingwood), MW2 (Parramatta), MS2 (Kogarah), MS3 (St Andrews), ME1 (City of Sydney) and ME3 (Ashfield), Zone Commanders MW1 (Huntingwood) and MS1 (Illawarra), Director Regional Operations Assistant Commissioner Rob McNeil, Commissioner Greg Mullins, Assistant Director Media and Communications Unit Andrew Parsons, Fleet Operations Officer, Assistant Director Operational Communications Chief Superintendent Greg Wild, Capability Manager Hazmat Superintendent Paul Johnstone, Capability Manager Rescue Superintendent Kim Reeson, Team Leader Rescue SO Clayton Abel, Operational Safety Coordinator Senior Firefighter James Davies, Operational Research Officer SO Glen Mole and Operational Communications Support Officer SO Graham Tait.

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

Additional agencies/services in attendance: Police, Ambulance, gas authority, electricity authority, local council, telecommunications authority, Regional Emergency Management Officer (REMO) and transport authority.

Incident site description:

The incident site was located in an area approximately 3.5km long and 2.0km wide, consisting of sections of Arndell Park, Huntingwood and Eastern Creek industrial area. Numerous national distribution warehouses, factories and other industrial premises are located within this area. Within this area, the following structures were subject to major collapse:

- 647 Great Western Highway, Huntingwood, national retail storage and distribution warehouse for Hitachi Transport, 120m x 100m, steel frame, concrete tilt slab walls and metal sheet roof.
- 5 William Dean Street, Huntingwood, national retail storage and distribution warehouse for Linfox, 140m x 120m, steel frame, metal sheet wall cladding and roof.

- 35 Huntingwood Drive, Huntingwood, national storage and distribution warehouse for Costco, 250m x 110m, steel frame, concrete tilt slab walls and metal sheet roof.
- 36 Huntingwood Drive, Huntingwood, aerosol product storage and distribution warehouse for Beiersdorf, 120m x 140m, steel frame, concrete tilt slab walls and metal sheet roof.
- 77 Peter Brock Drive, Eastern Creek, national retail storage and distribution warehouse for Hyundai Mobis (containing motor vehicle spare parts), 320m x 110m, steel frame, concrete tilt slab walls and metal sheet roof.

Numerous other structures within the affected area were subject to partial collapse/structural failure, damage and/or significant flooding. These included the premises of Metcash, a 480m x 170m national storage and distribution warehouse, containing several sections of collapse.

Fire building:

36 Huntingwood Drive, Huntingwood, national storage and distribution warehouse, 120m x 140m (16,800 m²), steel frame, pre-cast concrete panel tilt slab walls and metal sheet roof. The roof was formed of lightweight 'long span' open web steel truss frame construction.

The building contained a very high fuel load, consisting of merchandise stock associated with the hair care and beauty industry, including aerosol sprays and product in plastic containers. All goods were stored in cardboard packaging, wrapped in shrinkwrap plastic, located on timber pallets and stored on metal high rack storage 12m high. Numerous stored goods displayed hazardous placards including flammable gas. An 80m x 20m loading dock and attached steel frame and metal sheet awning were located on the east side of the structure. A bank of forklift LPG cylinders was located on the loading dock.

The building was protected by an early suppression fast response (ESFR) sprinkler system. The building was also serviced by a 150mm diameter hydrant main, fitted with twin headed pillar hydrants and an AS 2419.1 brigade booster fitting located near the front gate, connected to a 375mm reticulated town's main water supply. Due to the high level of sprinkler protection, the building was of open plan construction, containing no internal separation. Structural steel frame work was unprotected.

Weather conditions immediately prior to fire call:

The morning of Saturday 25 April 2015 was a fine and sunny day. In the afternoon, the Bureau of Meteorology automatic weather station at nearby Prospect Dam recorded a maximum temperature of 25°C. In the afternoon, cloud cover began to form over western Sydney and at about 1510 hours, a severe thunder storm struck a number of outer western Sydney suburbs, producing heavy hail. A significant hail storm impacted the industrial areas of Arndell Park, Huntingwood and Eastern Creek. Numerous lightning strikes accompanied the severe hail storm, which lasted for approximately one hour. The storm was so severe that 40 AFAs activated in the affected area during the first 30 minutes of the storm. As the storm crossed Sydney, 175 AFAs activated between 1530 and 1930 hours.

Initial call and response:

At 1537 hours, Aerial Pumper 97, under the command of SO Rick Cousins, responded to an automatic fire alarm (AFA) activation at a storage and distribution warehouse at 36 Huntingwood Drive, Huntingwood. At time of call, the severe hailstorm was continuing to impact the area and appeared to be increasing in severity. Surrounding roads were covered with an approximate 10cm (author's estimate only) cover of ice. At about the same time as the subject AFA activation, numerous other AFAs also activated in the immediate area, including an AFA at 35 Huntingwood Drive, a large storage and distribution warehouse almost directly opposite the site at 36 Huntingwood Drive, to which Rescue Pumper 63, under the command of SO Jeff Sheather, was assigned. Due to the extremely hazardous and unusual conditions at the time, Duty Commander West accompanied Aerial Pumper 97 to the fire call.

Firefighters arrive on scene:

Aerial Pumper 97 proceeded slowly and cautiously along the ice-covered roads and falling hail to the fire call at 36 Huntingwood Drive. Upon arriving on scene, firefighters commenced making entry through the premises gates, as Rescue Pumper 63 arrived at 35 Huntingwood Drive. At this time, visibility was significantly reduced, due to the falling hail.

Firefighters encounter major structural collapses and fire:

Upon arriving on scene, the crew of Rescue Pumper 63 were advised by FireComms that Aerial Pumper 97 had the keys with them for the address Rescue Pumper 63 had been called to (35 Huntingwood Drive). Rescue Pumper 63 then drove into 36 Huntingwood Drive, to meet up with Aerial Pumper 97. Aerial Pumper 97 firefighters were in the process of gaining access into the front office of 36 Huntingwood Drive to

investigate the AFA and were looking across Huntingwood Drive towards 35 Huntingwood Drive, when they saw the entire roof of this structure move up and down in a wave like motion, before the roof completely collapsed. At the same time, Rescue Pumper 63 had driven to the rear of 36 Huntingwood Drive (not visible from the front of the site) to perform a U-turn. As Rescue Pumper 63 entered the rear of the site, they found the eastern side of the warehouse in a state of significant collapse. Firefighters also found a fire burning beneath the collapsed pre-cast concrete tilt slab wall panels, fuelled by a bank of forklift LPG gas cylinders which were also involved in fire. Fire had already begun to spread, involving stock, cardboard packaging and other materials stored on pallets beneath a large 80m x 30m section of collapsed metal sheeting.

Several pre-cast concrete tilt slab wall panels had completely collapsed. Some slabs had broken in half during the collapse and were standing precariously. Other slabs stood without support and in danger of further collapse. All internal steel truss roof cross spans were severely buckled and several were completely sheered apart (and therefore unable to bear any load). Almost all pre-cast slabs were displaced. The entire roof was displaced and now resting on internal metal racking. Large sections of metal roof sheeting had collapsed to ground level. The fire was located beneath the collapse debris and was spreading inwards toward the standing warehouse.

5th Alarm called:

Aerial Pumper 97 relayed details of the collapse at 35 Huntingwood Drive (not involved in fire) to Duty Commander West, who sent a **RED** message, reporting the total collapse of the 250m x 110m structure and requesting the response of a 3rd Alarm. As this message was being transmitted, Rescue Pumper 63 reported to Duty Commander West the collapse at the rear of 36 Huntingwood Drive and fire involving gas cylinders and other materials within the collapse. Upon making investigations and observing fire beginning to spread beneath the collapsed structure, Duty Commander West sent a further **RED** message requesting a 5th Alarm, with a split alarm assignment of a 2nd Alarm to respond to the (non-fire) collapse at 35 Huntingwood Drive and the 3rd Alarm to respond to the collapse and building fire at 36 Huntingwood Drive. The Incident Commander requested the second arriving Duty Commander (Duty Commander MW2, Inspector Martin Hofstadler) to go directly to 35 Huntingwood Drive to control operations at the site of the major structural collapse.

Initial size-up by Incident Commander:

One of the first objectives of the Incident Commander was to ascertain the cause of the structural collapses, in the event that further collapses or other harmful events could occur, that could potentially place firefighters in danger. In hindsight, the cause of the collapses would appear obvious, however given such catastrophic structural failure, it was important to take nothing for granted until the cause had been sufficiently established (particularly on a day of heightened security alert). Early investigations identified large amounts of ice on the ground and it was believed that the quantity of hail that had just fallen had most likely built up on the roofs of structures, causing catastrophic structural failure and collapse. This became the starting point for future operations and would become the basis for the incident safety strategy.

During the process of conducting initial investigations and size-up, Duty Commander West observed major components of the ESFR sprinkler system, including large 200mm pipework, had been destroyed and was now totally inoperable. The high performance installed fire suppression system designed to control and extinguish any fire within this very high fuel load occupancy was now completely out of service.

Even before any FRNSW operations commenced, it was identified that the area of collapse was highly unstable, extremely hazardous and therefore a prohibited access zone. The presence of collapse zones was broadcast via radio on the strategic and tactical radio channels.

Similarly, the remainder of the standing structure was deemed to be structurally compromised and in danger of further collapse, necessitating establishment of structural collapse zones in proximity to the structure, pending further investigations.

Initial incident priorities:

Initially, several separate closely linked events were identified by the Incident Commander, each requiring its own objectives;

1. Major structural collapse of building at 136 Huntingwood Drive.
2. Fire involving building at 136 Huntingwood Drive.
3. Major structural collapse of building at 135 Huntingwood Drive.

From a historical perspective, in situations of major structural collapse, control of fire has been the first tactical priority of firefighters, to enable any subsequent operations associated with the collapse (ie search and rescue) to be safely and effectively conducted. This objective drove the strategies adopted by firefighters at this incident.

Fire building objectives:

At this time, the strategy of firefighters was to remain in defensive mode because of the significant hazards associated



Aerial Pumper 97, responding to an automatic fire alarm, gains access to 36 Huntingwood Drive



Aerial Pumper 97, responding to an automatic fire alarm, gains access to 36 Huntingwood Drive



Rescue Pumper 63, responding to an automatic fire alarm, gains access to 35 Huntingwood Drive

with the likelihood of further structural collapse and limit fire spread. At the fire building, the initial incident objectives were to:

1. Ensure the safety of firefighters, emergency responders and the public during operations.
2. Confirm the occupancy status of the structure to determine if persons were trapped and if a life risk existed.
3. Attempt to control and extinguish the fire burning beneath the collapsed section of structure. This would protect any persons who could be trapped and any rescue crews who may be required to extricate them.
4. Contain the fire and stop it entering the standing section of structure.

Incident control point established:

An initial Incident Control Point was established on site at 36 Huntingwood Drive, in Delta Sector (the most active sector), known as 'Huntingwood Control'. At this time, safely controlling the fire was the first objective of firefighters. This incident site was also the location of most danger, due to the deteriorating condition of the structure from the impact of escalating fire. The situation was constantly changing and it was vital to have a strong visual awareness of the active sector, in the event any change in incident conditions required a rapid review and change in incident tactics or safety strategy.

Fire building considerations:

During size-up, in developing the above objectives, the following was taken into consideration:

1. The structure was in a state of significant collapse and was highly unstable. Further collapses were possible, necessitating defensive firefighting operations, from outside collapse zones.
2. Numerous non-structural hazardous conditions (known and unknown) existed at the site including electricity, gas, sewer lines, broken water pipes/ flooding, flammable/toxic gas within stored products in warehouse.
3. Access for firefighting streams to the fire was limited and difficult, due to the large amount of collapse material (large metal sheeting and pre-cast concrete panels) beneath which the fire was burning.
4. If the fire reached the standing section of the warehouse, very significant fire activity would follow, due to the very high, volatile (in particular LPG propellant material) and unprotected fuel load in that area.
5. Installed fire protection systems were destroyed, therefore in the event that any fire spread into the standing section of the warehouse occurred, fire travel would be rapid, extensive and uncontrollable, most likely resulting in the total involvement of the warehouse and associated extensive fire activity.



The Commissioner, Zone Commander MW1 Superintendent Alex Scott and members of the Incident Management Team confer at the Huntingwood Command Point



Ladder Platform 27 was able to access the fire from above, stopping fire spreading into the warehouse



Multiple streams were deployed to control fire burning beneath collapsed steel sheeting and concrete slabs

6. The storage section of the warehouse contained flammable gas aerosol products. If these products were involved in fire, they would become flaming projectiles, capable of travelling significant distances. A number of other large distribution warehouses in close proximity had suffered similar structural collapses, creating large roof and wall breaches, making these structures vulnerable to impact from airborne burning projectiles. It is possible other nearby large storage and distribution warehouses could also become involved in fire (the closest exposure was a 25,000m² distillery located 20m to the west of the subject building).
7. The construction of the building (unprotected interior steel, large unseparated/open plan interior and storage on high-bay racking) was designed and built in accordance with the high levels of installed fire protection systems (in particular the early suppression fast response sprinklers). As these systems were not available, the resulting fire activity within the standing structure would almost certainly result in catastrophic structural failure (due to the lightweight unprotected steel) and total collapse of the structure, including major pre-cast concrete slab collapses.
8. The site contained an installed hydrant system, suitable for supporting sustained firefighting operations.
9. Heavy hail was continuing to fall and lightning strikes were occurring in proximity to the fireground, preventing operation of aerial appliances.
10. Large quantities of stock within cardboard boxes were stacked to high levels within the building. Water flooding into the building from breaches in the roof and broken sprinkler pipes was being absorbed into this stock, increasing stock weight and causing stock expansion, potentially leading to further displacement of structural elements in an already severely weakened building, increasing the risk of further collapse (the roof was now resting on the vertical stacking) and creating an even further hazardous environment.

Fire building tactics:

The following tactics were employed to achieve fireground objectives;

1. Designation of a rescue station to investigate the site as safely as possible, to determine signs of occupancy and potential life risk.
2. Designation of a rescue station to investigate and identify structural stability issues and provide report to the Incident Commander, with recommendations for collapse zones and safe operating zones.

3. Designation of a rescue station to investigate and identify status of utilities, fire protection systems, presence of any flammable/explosive atmospheres/toxic gases and/or other hazardous conditions and provide report to the Incident Commander.
4. Handline SCBA crews to conduct external direct fire attack, attempting control and extinguishment. Due to slippery conditions associated with ice on the ground and the need to direct hose streams through narrow openings in collapse material, it was deemed the lighter and more manoeuvrable 38mm lines were the most appropriate lines to use at this fire.
5. Aerial appliance to conduct aerial reconnaissance of structure to determine extent of fire spread and conduct aerial fire attack to areas of fire not accessible by handlines (upon cessation of thunderstorm and lightning activity in the area).
6. Water supply to be secured from installed hydrant system and brigade booster fitting placed into operation to improve firefighting water supplies. In fortunate circumstances, a large number of FRNSW appliances were either already in close proximity to the Huntingwood area or were already responding to Huntingwood, due to the numerous AFAs that had activated. A significant weight of attack was able to be rapidly mounted during the early stages of this escalating fire, in the hope of bringing the fire under control while it was still containable.

Initial firefighting operations:

Fuelled by a number of LPG cylinders that had ignited during the structural collapse, fire was now spreading beneath a 30m x 80m section of collapsed metal sheeting, towards the standing section of the warehouse (an area 120m x 140m). An area approximately 20m x 30m was alight. A large quantity of collapsed material, including metal sheeting, steel beams and pre-cast concrete slab panels were preventing direct access to the fire. Numerous large sections of structure remained standing in states of partial collapse and in danger of further collapse, necessitating establishment of a collapse exclusion zone.

Firefighters from Aerial Pumper 97 wearing SCBA began to attack the fire with a 38mm hand-line stream. Rescue Pumper 63 firefighters placed a second 38mm attack into operation from Aerial Pumper 97 and also commenced fire attack. Pumper 43 arrived on scene and firefighters placed a third 38mm fire attack line into operation, directing the attack stream onto the fire. Aerial Pumper 97 and Pumper 43 were obtaining water supply from ring main hydrants. Firefighting operations were taking place on the eastern side of the fire building, which became known as Delta Sector.

These firefighting operations were being undertaken by firefighters in atrocious conditions, including a heavy hailstorm with numerous lightning strikes occurring in close proximity and large quantities of ice on the ground.

Rescue crew tasked:

Rescue Pumper 57, under the command of SO Wayne Keevers was tasked with determining the occupancy status of the structure. Rescue Pumper 57 was also given the important task of conducting a site hazard assessment relevant to firefighting operations (i.e. further structural collapse, status of utilities, identification of any other hazards) and making the fireground as safe as possible for firefighters.

SO Keevers conducted a structural size-up of the building and deemed the southern end of the building (away from the area of major collapse) was safe for a limited internal inspection. Rescue Pumper 57 firefighters assisted by Heavy Rescue 63 utilised a power saw to cut into the building through a fire escape door at the furthest point from the collapse on the Alpha/Bravo corner and remained in close proximity to building corners, the strongest part of the structure. This investigation was conducted by a minimal number of personnel. From this inspection, SO Keevers was able to determine the following information:

1. There was no evidence of occupancy/life risk within the structure.
2. Electricity was still on.
3. Diesel fire pumps were running at maximum capacity.
4. Large volumes of water were flooding from the broken 200mm ESFR pipes (at a rate of 26,000 litres per minute, supplied by two 200,000 litre water storage tanks), creating a further risk of structural collapse due to flooding, additional loading, electrical hazards and undermining of footings.
5. A strong odour of gas was present.
6. No fire separation walls were present within the structure.
7. Displacement was detected around door frames, render had come off pre-cast concrete panels and movement, cracking and significant displacement of concrete slabs was observed, indicating the entire structure had been impacted by the initial collapse and was at risk of further failure.
8. Determination that fire had not spread into the standing section of the structure.

This information was relayed to the Incident Command and the strategy confirmed to remain in defensive mode.

Rescue Pumper 57 firefighters were able to carry out the following tasks:

1. Isolation of electricity at the main electrical distribution board.
2. Isolation of water supply to the ESFR sprinkler system.
3. Determination that no gas mains were connected to the site.

4. Widening of structural collapse exclusion zone, secured with barrier tape.

Brigade booster fitting placed in operation:

Two pumpers were now obtaining water supplies from the installed hydrant system and the system was beginning to reach capacity. It was anticipated further appliances (in particular a Ladder Platform aerial appliance) would be required to draw water from the ring-main. To improve water supplies and to support an anticipated increased attack, the next incoming appliance was directed to go to the brigade booster fitting and place the booster into operation. Next arriving pumping appliance, Hazmat Pumper 77, went to the brigade booster fitting, connected lines to the booster and commenced to pump water through the hydrant system. This caused a significant improvement in water supply through the installed hydrant system, allowing firefighters to continue to mount a sustained attack. It also ensured firefighters could operate hose streams at maximum reach, away from the building.

Placing the booster in operation meant that in the event a complete withdrawal of the site became necessary and an escalating fire condition existed, master stream operations via remotely placed ground monitors could still be operated from the hydrant system.

Response increased to 10th Alarm:

As firefighting operations were progressing, Incident Command received information from arriving crews that they had passed fully collapsed major structures in close proximity to the incident site. At the same time, incoming appliances in close proximity to the fireground were reporting by radio further collapsed structures. This information indicated that some sort of catastrophic event (most likely due to the heavy hailstorm that had just passed) had occurred, resulting in the collapse of an unknown number of major structures. It was known to firefighters that a large number of these structures (national storage and distribution warehouses) operated 24 hours a day, seven days a week, and were known to be usually operating on Saturday afternoons.

The concern of firefighters at this time was that an unknown number of people could be trapped within collapsed structures and further fires could have broken out at other collapsed buildings, similar to the situation at 36 Huntingwood Drive. Adequate resources would be required to control any fires that may have ignited, conduct preliminary investigations of collapsed structures, conduct external searches of collapsed structures for signs of occupancy/life hazard and stabilise any life threatening situations. This would involve (only if safe to do so) isolation of electricity, isolation of gas, shut down of broken water mains, conducting atmospheric monitoring and securing

of hazardous zones with barrier tape. Adequate crews would also be required to provide an initial treatment and triage capability for any casualties who may be found. A number of major hazard facilities were located within the area of storm impact and it was anticipated hazardous material releases could have occurred.

Based on the available information, a RED message was sent at 1618 hours, increasing the response to a 10th Alarm.

Staging area established:

Following transmission of this message, a further message was sent, directing all incoming resources responding to the 10th Alarm to report to the staging area, located on Huntingwood Drive, at the intersection of the Great Western Highway. Advantages of the designated staging area included the following.

1. A ready pool of resources was available for response in close proximity, to meet the needs of any escalating situations.
2. The staging area was located far enough away from the working fire and collapse sites, that the arrival of additional resources would not cause congestion at these locations. This also ensured unobstructed access was provided in the event resources were urgently needed at a fire or collapse site.
3. The remote staging area ensured resources were not in any danger of accidentally locating in a collapse zone.

Revised incident objectives:

Life risk was now the main priority of firefighters. Following further size-up of the available information, the following incident objectives were determined.

1. Conduct investigations of known collapsed structures to identify signs of occupancy and possible entrapment within the collapsed structures.
2. Investigate the collapsed structures for signs of fire.
3. If safe to do so, isolate services to the site that may be damaged and/or compromised, such as gas, electricity and operating fire systems (diesel pumps running, flooding water from broken sprinkler mains).
4. Provide an initial assessment of the collapse status of the structure.
5. Identify the involvement of any hazardous materials.
6. Identify any other critical issues.

Revised incident tactics:

Following further incident size-up and in consideration of revised incident objectives, the following tactics were implemented.

1. Firefighting operations to continue at 36 Huntingwood Drive, with the 3rd Alarm assignment, under the command of Duty Commander West.
2. Investigation of major building collapse at 35 Huntingwood Drive, with the 2nd Alarm assignment, under

the command of Duty Commander Parramatta.

3. Deployment from the staging area of two pumping appliances to each reported site of major structural collapse, to conduct initial investigations, per the objectives above.

Continuation of firefighting operations at the fire building:

The fire attack was making significant progress, with a noticeable diminishing of fire activity, although firefighters continued to experience difficulty completely accessing the full body of fire, due to the collapsed material it was burning beneath. Due to the hazardous nature of the fire building, firefighters were prevented from entering the fire area to investigate and access hidden fire. Upon the passing of the thunderstorm and cessation of lightning activity, Ladder Platform 27 was positioned in Delta Sector and placed into operation. Hand-lines from Pumper 43 were shut down and supply lines redirected into the aerial. A significant advantage of the aerial appliance was the ability for the aerial cage to be extended over a wide area above the collapse field, enabling the aerial operator to identify exactly where the fire was burning. Aerial operator Senior Firefighter Damien Cartwright utilised a thermal imaging camera to search for and identify areas of hidden fire, which were identified burning beneath large collapsed concrete slabs and metal sheeting. The aerial operator identified approximately six forklifts, numerous LPG cylinders, machinery, stock on collapsed racking, material on pallets and bundles of cardboard alight. Senior Firefighter Cartwright utilised a 38mm handline from the cage to extinguish fires not accessible to ground crews, stopping the fire from entering the standing warehouse. This information was relayed to the Incident Commander, enabling incident size-up to be continually reviewed.

Deployment of appliances to further collapsed structures:

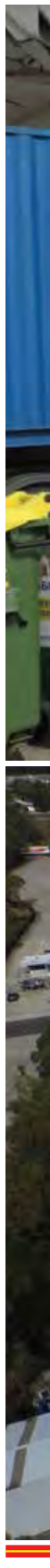
As reports were received of additional structural collapses, appliances were dispatched from the staging area to conduct initial investigations of these reported collapses. The third arriving Duty Commander and two pumpers were initially detailed to conduct a reconnaissance survey of the Huntingwood area, in an attempt to establish if further buildings had collapsed.

From 35 Huntingwood Drive, a 2nd Alarm assignment under the command of Duty Commander Parramatta, consisting of Pumpers 27, 55 and 65, Rescue Pumper 101 and Heavy Rescue 63, investigated the collapsed 250m x 110m storage and distribution structure. Firefighters conducted a perimeter inspection, calling into the building to any people present and observed no signs

of occupancy. A security guard attended the site and said it was usual for a staff of at least 20 persons to be on duty at the building on a Saturday afternoon, however due to the ANZAC Day public holiday, the building was closed for the day. Although the building was in a condition of shutdown, the guard did not know if any out of hours maintenance had been scheduled during the closure. Major flooding was occurring due to broken sprinkler pipes, necessitating the shutdown and isolation of the sprinkler system by firefighters. The electricity distribution board was located by firefighters and power isolated from the board to the remainder of the building. The fire alarm system was extensively damaged, necessitating the panel being placed in isolation by firefighters. As the Incident Control System was expanded, this site became a sector.

En route to the structure fire, Pumper 96 under the command of SO Damien Newsom had come across a completely collapsed storage and distribution warehouse at 647 Great Western Highway. Pumper 96 sent a message, reporting the collapse to Fire Comms. Firefighters conducted a rapid search and located six occupants of the building who had escaped from the structure, just seconds before collapse. Police and Ambulance arrived at the scene and the persons were placed in the care of the Ambulance Service. Pumper 96 continued to the Incident Control Point a short distance away and after liaising with the Incident Commander, returned to this location to conduct further investigations. A 2nd Alarm response, consisting of Pumpers 94 and 30, Rescue Pumper 102, Heavy Rescue 102, Aerial Pumper 86 and Duty Commander ME3 Inspector Phil Tucker were in attendance at this collapsed building. Firefighters conducted a further external perimeter search, calling out and looking for signs of additional life, however no further people were found. Pipework within the ESFR sprinkler system was completely destroyed, causing large volumes of water to flood into the factory, increasing risks of further destabilisation. Firefighters shut down and isolated the sprinkler system, isolated electricity at the distribution board and isolated the fire alarm panel. Firefighters also undertook investigations with gas detection equipment.

Immediately opposite the above collapsed structure, firefighters from Pumper 30 found the Linfox distribution warehouse in a state of collapse. Firefighters gained entry to the site and conducted an external search, calling out to any persons who might be inside. A number of semi-trailers were located on site, with trailers crushed beneath the collapsed steel loading dock awning. Firefighters from Pumper 94 utilised thermal imaging cameras to examine truck engines to determine if they were warm (a possible indicator of the trucks being recently operated and possible





Many of the hazards at this incident can be seen in this picture, showing fallen concrete slabs, damaged electricity mains and broken sprinkler pipes



Post incident aerial view of 36 and 35 Huntingwood Drive. Photograph courtesy Dean Asher (UAV pilot)

presence of drivers at the site). Thermal imaging registrations indicated the truck engines were cold. Searches did not find any people present at the site. A representative of management arrived to advise the building was closed due to the public holiday, although normally there would be a minimum of 20 people on site. With advice provided by a site engineer who arrived at the building, firefighters from Pumper 30 donned SCBA and entered the sprinkler pump room, shutting down the diesel sprinkler pumps that were running at full capacity. Broken sprinkler pipes were flooding the building. Firefighters closed supply valves to the sprinkler system, enabling the sprinkler system to be shut down; isolated electricity at the electrical distribution board; and isolated the damaged fire alarm system.

Rescue Pumper 15 came across a 320m x 110m motor vehicle spare parts national storage and distribution warehouse at 70 Peter Brock Drive, Eastern Creek in a state of significant collapse. Rescue Pumper 78 and the Ambulance Service were also in attendance at this location. Firefighters carried out an external search, calling out into the collapsed building. A representative of the building owner arrived on scene, to advise that the site was closed for the day due to the public holiday, however normally up to 100 people would be on site. Firefighters conducted a number of searches of flooded nearby buildings, where internal ceilings had collapsed.

Pumper 19, under the command of SO Jason Strong, went to an automatic fire alarm activation at a large distillery at Distillers Place, Huntingwood. Firefighters discovered that due to a lightning strike, high expansion foam from within a 32,000 litre concentrate bulk storage tank was being released into a 130m x 60m storeroom and was at least 150cm deep with foam pouring out of the building. With the assistance of Pumper 73, Hazmat 85 and HART (Hazmat Advisory Response Team), firefighters switched off the diesel fire pumps (stopping the flow of foam), isolated the foam system, established containment and placed booms in run-off pathways.

Structure fire brought under control:

Firefighters at 36 Huntingwood Drive continued to attack the fire burning beneath collapse materials with hand-lines and the elevated stream from Ladder Platform 27. After approximately one hour of firefighting, the operator of Ladder Platform 27 reported no further signs of fire were visible or could be detected with the thermal imaging camera. The fire had been contained to an area approximately 40m x 30m (post-fire examination identified the fire had come to within 1.5m of contents stored on racking within the standing warehouse).

Incident control transferred:

At 1654 hours, Zone Commander Illawarra Superintendent Garry Tye arrived on scene. Command was transferred to Superintendent Tye and Duty Commander West was appointed as Operations Officer. The Incident Commander established Sectors at the locations of the various structural collapse sites and appointed Sector Commanders at these sites. Due to the scale of collapsed structures and the possibility of people being trapped, USAR-1 and a USAR Rapid Damage Assessment Task Force (which was returning from the major flood emergency at Dungog) were responded to Huntingwood.

Commissioner attends the fireground:

Commissioner Greg Mullins attended the fireground and held a briefing with members of the command team at the Incident Control Point, which at that time was still located at the 36 Huntingwood Drive fireground.

Control point relocated:

The control point was then relocated to a temporary emergency operations centre (EOC) at Huntingwood Fire Station and Zone Office, where a FRNSW Incident Management Team formed and members of numerous other agencies and services gathered. Commissioner Mullins together with Acting Deputy Commissioner Mark Brown and Assistant Commissioner Rob McNeil attended the EOC, providing coordination, support and guidance for the operation.

FRNSW incident management team:

A FRNSW Incident Management Team was formed, under the command of Chief Superintendent Greg Wild. The Incident Management Team was structured as follows:

Incident Controller: Chief Superintendent Greg Wild

Operations Officer: Superintendent Garry Tye

Safety Officer: Operational Safety Coordinator Senior Firefighter James Davies

Planning Officer: Superintendent Alex Scott

Logistics Officer: Superintendent Kim Reeson

Rapid Damage Assessment Officer: Station Officer Clayton Abel

Communications Support Officer: Station Officer Graham Tait

Logistics Support Officer: Station Officer Glen Mole.

The incident was sectorised into five geographical locations, for the purposes of assigning rapid damage assessment teams. Duty Commanders were placed in Sectors as Sector Commanders. FRNSW Operational Safety Coordinator Senior Firefighter James Davies attended the EOC and provided safety briefings to all rapid damage assessment teams, prior to deployment. Assistant Director Media and Communications Unit Andrew Parsons and Capability Manager Hazmat

Superintendent Paul Johnstone (On-Call Media Coordinator) undertook the critical role of gathering incident information and communicating the situation to the media.

Rapid damage assessment:

Members of the Urban Search and Rescue Rapid Damage Assessment Team attended the Huntingwood EOC and worked with Sector Commanders to conduct rapid damage assessments within the established sectors. Pumper crews accompanied the rapid damage assessment teams. Initial rapid damage assessments were conducted on the evening of the collapse across the affected areas with real time data provided online via tablets enabling all agencies to see structural assessments and photographs from all sectors.

Hazmat incident at major hazard facility:

Significant flooding occurred within the Toll Logistics storage and distribution warehouse at Arndell Park. Late in the evening, a security guard reported a strong odour of gas from within the main warehouse. Duty Commanders MW2 and MW1 and Pumper 19, Rescue Pumpers 63 and 101, Hazmat Pumper 77 and Heavy Hazmat 77 attended this location, rendering the scene safe after several hours of attendance, conducting internal atmospheric monitoring and liaising with site management. Operations were conducted in cold weather, driving rain and while large amounts of ice remained on the ground.

Damage assessment Task Forces:

On Sunday 26 April, the day after the hailstorm hit, two Task Forces consisting of 10 appliances each (including aerials and rescues), attended the Huntingwood EOC and were subsequently tasked to conduct further damage assessments within the storm-impacted areas of Huntingwood, Eastern Creek and Arndell Park. These operations were conducted under the command of Superintendents Selwyn Mathias and Darryl Dunbar and lasted until mid-afternoon. Team Leader Rescue, Station Officer Clayton Abel conducted a flyover of the storm-impacted areas in the NSW Police Force helicopter Polair 1, carrying out an aerial survey and assessment.

During the course of the day, fire was reported burning beneath the collapsed concrete slabs at 36 Huntingwood Drive. CAFS Pumper 31 supplied class A foam to Aerial Pumper 97, extinguishing the fire.

Incident conclusion:

By the middle of the afternoon on the day after the storm impact, FRNSW crews had concluded rapid damage assessments of storm-affected areas. Damage assessment information was provided to the other agencies and services involved in the incident. Firefighters rendered sites as safe as possible, in most cases handing over to owners.



Briefings are provided to Sector Commanders, prior to rapid damage assessments being conducted on the evening immediately following the storm



Huntingwood Zone Office training room was converted into a temporary Emergency Operations Centre



Operational Safety Coordinator SF James Davies provides detailed safety briefings to the rapid damage assessment teams

A total of five major storage and distributional warehouses had been extensively damaged, requiring total demolition of the structures. Approximately 40 other major structures had sustained significant damage and extensive flooding, but were able to remain in limited operation. Hazardous materials incidents were rendered safe at two major hazard facilities. One partially collapsed structure was involved in fire. Fire was contained to an area 30m x 40m.

Incident postscript:

One of the buildings severely damaged by the hailstorm, resulting in a condition of significant collapse was a motor car parts national storage and distribution warehouse located at Peter Brock Drive, Eastern Creek. Following the storm, this 35,200 m² building was undergoing demolition and removal of stock when on 30 July 2015, a major fire broke out, requiring a 10th Alarm assignment and resulting in the total destruction of the structure and remaining stock (to be subject of a report within a further edition of Fire & Rescue Operations Journal).

Notes:

1. Once again it was proven, that when the bells go off, sometimes you just never know what you are responding to. It also proves that when responding to an automatic fire alarm, anything is possible.
2. This incident has proven that even when responding to highly unusual or extreme types of events, all of the standard FRNSW operating practices and safety procedures still apply, enabling any incident to be resolved in a safe and expedient manner.
3. Although this was a very unusual incident, FRNSW operational objectives remained unchanged; i.e. to establish firefighter safety, to save lives in danger and to protect property. Through the process of continuous and on-going size-up, the strategies and tactics to achieve these objectives were modified and amended due to the changing nature of the incident, enabling operations to be conducted safely and effectively.
4. At a catastrophic event, control of fire must be the first priority of firefighters. If a fire is allowed to grow and expand, the incident will rapidly escalate and become more unmanageable, increasing hazards and problems exponentially. To save any lives that may be in jeopardy and to ensure protection of property, all fires must be controlled as a matter of priority.
5. This incident demonstrates that no matter how well protected against fire some occupancies may be (via installed fire protection systems), these installed systems can be rendered inoperable by unforeseen or catastrophic events, requiring conventional firefighting operations to control fires.



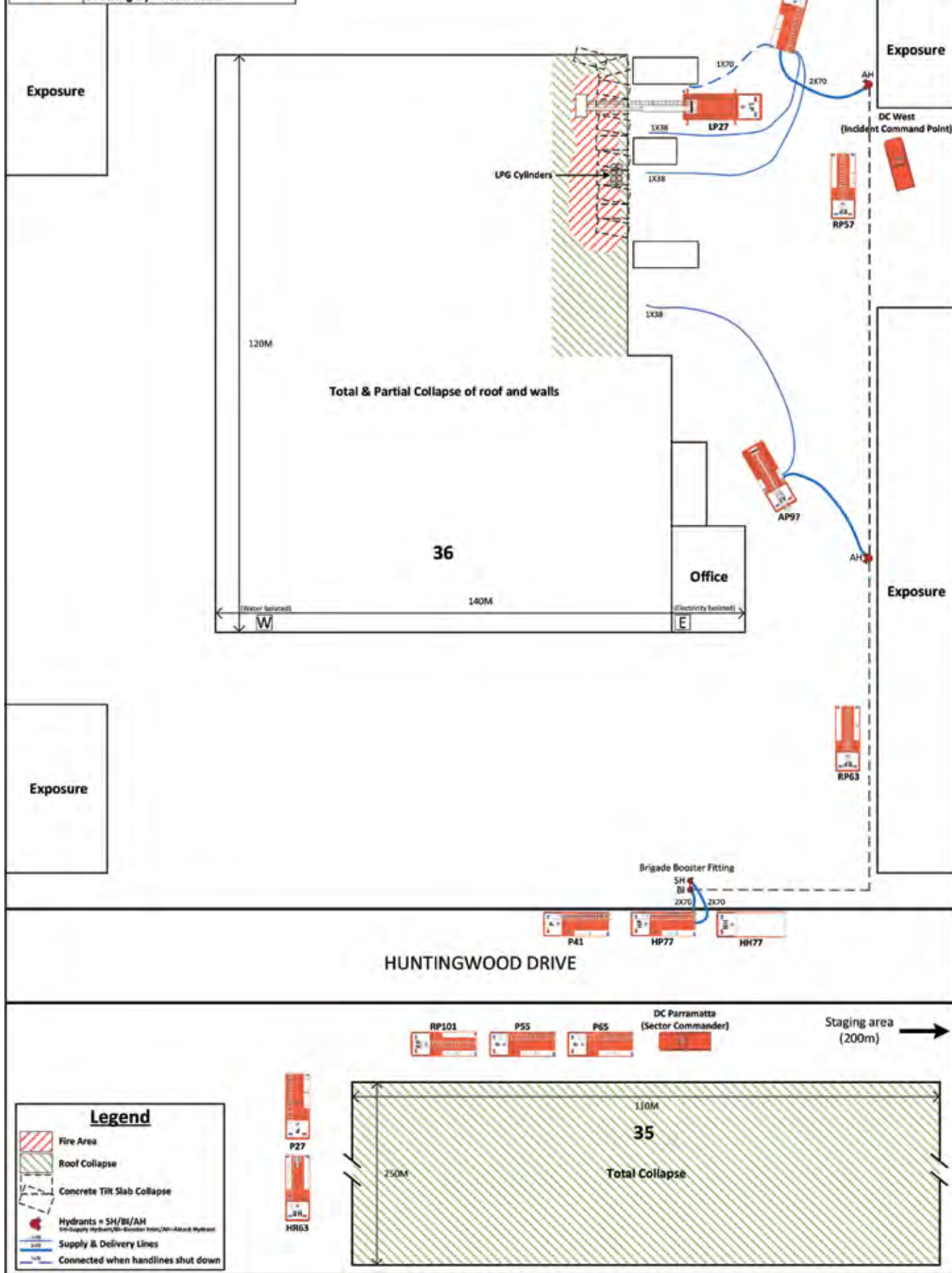
Huntingwood Zone Office training room was converted into a temporary Emergency Operations Centre



Fire at 36 Huntingwood Drive was started following collapse of concrete slab wall panels onto a bank of LPG forklift cylinders, resulting in a leak of gas and ignition

Structural Collapse/Fire
 Huntingwood Drive, Huntingwood
 25th April, 2015
 Design by: Inspector Kermin Lambert
 Drawing by: Glenn Miller

Extreme Hailstorm, Multiple Major Structure Collapses and Fire



6. First responding pumper crews play a significant and critical role at major structural collapses, laying a solid foundation for the substantial operations that will most likely follow. Key roles performed by the first arriving pumper crews at major structural collapses include the following (almost all of the following considerations were adopted by responding FRNSW pumper crews, ensuring operations were undertaken safely and effectively and all objectives achieved).
 - a. Ensuring first arriving appliances are positioned away from the front of the collapsed structure, to provide room for later responding aerial and specialist structural collapse rescue appliances and equipment.
 - b. Early establishment of a FRNSW Incident Control Point, within the immediate vicinity of the collapse site, although outside of the collapse zone.
 - c. Establishment of an incident command structure as soon as possible, commencing with immediate designation of the Incident Commander, facilitating effective command, management and safety of the incident. The command structure can then be 'built out' as the incident progresses. Establishment of sectors, sector commanders and a robust command structure will provide a manageable span of control, more efficient use of resources, enhanced safety of operations and more complete situational awareness for the IC. An effective command structure commences with the arrival of the first FRNSW appliance.
 - d. Establishment of a secure perimeter (restricted access zone) of the scene, designated with barrier tape. If available securing of the outer perimeter of the scene by Police. All members of the public should be removed from the site out of danger.
 - e. Access to the scene should be restricted to essential personnel only, to minimise exposure of firefighters to the numerous hazards present. Access should be limited to a minimal number of personnel working under the maximum level of supervision. An accountability system should be put in place as soon as possible, with the locations of all operating units known to the IC and with regular PAR reports.
 - f. Establishment of an initial collapse zone, secured with barrier tape. Identification of locations of potential secondary collapse and expansion of collapse zones where necessary. It is possible nearby buildings could be within collapse zones and may need to be evacuated.
 - g. Establishment of a staging area. Transmit this information to FireComms, ensuring all incoming appliances report to the staging area.
 - h. Isolation of utility services to site, in particular electricity, gas and water. The IC should request representatives of utility services attend the incident and report to the ICP. Utility service representatives are a significant resource, providing expert assessment and advice on mitigation of hazards associated with utility services (which will most likely have been affected by the collapse). Impacted and damaged utilities may create numerous hazardous conditions, including the following.
 - i. Flooding water from broken pipes (both town main and fire hydrant/sprinkler systems) can undermine structural footings and building contents, destabilising the structure.
 - ii. Release of gas from broken gas mains or breached/damaged pressure vessels may create flammable and explosive atmospheres.
 - iii. Damaged electrical mains and circuits present an electrocution risk as well as an ignition source for any flammable atmospheres present.
 - i. Firefighters should conduct rapid reconnaissance of the site via a perimeter survey (360° size up) and a surface search. Objectives should include a search for victims, identification of hazardous conditions present and assessment of structural stability/potential for further collapse. Utilisation of thermal imaging cameras will assist in location of surface victims and identification of any incipient fires that may have ignited.
 - j. The IC should commence a continuous size-up process for the incident as soon as possible, with an emphasis on firefighter safety, applying a continuous risk versus benefit analysis of all operations being undertaken at the site, in particular taking into consideration the potential of further secondary collapse and risks this may present to firefighters operating at the site. In situations where it is identified there is no likelihood of saveable survivors within the collapse, it may be necessary to remove all firefighters from the site and expand the collapse zone. During continued size-up, the IC may wish to consider the need for specialist resources to support major structural collapse rescue operations.
 - k. Atmospheric monitoring should be established as soon as possible, due to the possible presence of flammable and explosive gases resulting from gas leaks and other hazardous atmospheres that may exist from release of hazardous materials. The IC may wish to consider the attendance of hazmat, to enable Area Rae detectors to be positioned remotely around the site.
 - l. Establishment of fire protection hose lines to cover the entire site. Deployment of ground monitors will enable firefighting to be safely undertaken in the event further structural collapses/instability occurs, necessitating a complete withdrawal of firefighters from the site. All crews need to identify emergency evacuation routes and withdraw if none are available.
 - m. As soon as possible, make contact with a responsible person for the site (preferably site management or site security) and attempt to ascertain if there are any persons missing or believed to be trapped within the collapse.
 - n. Firefighters should attempt to gather as much information about the site as possible, from persons including site management, staff and security. Firefighters should attempt to obtain site plans if available and identify any hazardous materials or hazardous conditions that may be present at the site. This information will be critical during continued size-up and later planning and tasking operations.
 - o. At the earliest opportunity, the IC should attempt to identify and assess the numerous hazards that will most likely exist across the site, to enable effective control strategies to be implemented. Some of the more common hazards associated with a structural collapse may include, gas, electricity, water, dust, asbestos, release of hazardous materials and structural instability of the collapsed structure and adjoining structures.
 - p. All firefighters entering the site should be provided with a full briefing of the identified hazards that exist at the site and control measures being implemented to mitigate the hazards.
 - q. The determination, tenacity and professionalism of all responding crews to the Huntingwood storm emergency was outstanding and should be commended. At times, firefighters were undertaking operations in extreme conditions, including heavy hail, ice, lightning storms and driving rain. It is the view of the initial IC that if the fire within the fire building could not have been contained, the resulting fire expansion would have almost certainly resulted in fire spread to numerous very large occupancies located in close proximity. Such an event would have resulted in a conflagration over a large area with significant economic losses. The diligent efforts of FRNSW firefighters on this day prevented such a catastrophic event from occurring.

END



SO Rod Tabone operates an air powered angle grinder, fitted with a metal cutting disc, to cut through the bath tub. Firefighter Kamarah Pooley operates a garden hose, cooling the metal bath as it was being cut



The patient and surroundings were protected against significant spark and flame production during cutting

FIREFIGHTERS RELEASE BOY'S FINGERS FROM BATH PLUG HOLE FOLLOWING FIVE HOUR RESCUE, 23 APRIL 2015

Report by Inspector Kernin Lambert

FRNSW crews responded to a rescue incident involving a boy with his fingers stuck in a bathtub drain hole. Due to the age and construction of the bathtub, all efforts to remove the boy's stuck fingers with passive and 'conventional' techniques were not successful. The extrication was extremely complex, with numerous difficulties confronting firefighters throughout the five-hour period prior to release. This incident was a great example of ingenuity, perseverance and sheer hard work by firefighters resulting in a positive outcome. It also showed that in addition to the technical side of a rescue, the human factor is just as important.

Incident type: Rescue incident, child with fingers stuck in drain hole

Call details: 1630 hours on Thursday 23 April 2015, direct line call from Police RCO to a child with his fingers stuck in the drain holes of a bathtub at a house in the outer north western Sydney town of Riverstone.

Nature of entrapment/emergency: A nine-year-old boy had three fingers from his right hand stuck in the brass drain holes of a cast iron bathtub. The boy was unable to remove his fingers from the drain holes. Prior to contacting emergency services, the boy's parents had

attempted removal themselves without success for about 15 minutes.

Note: The bathtub was formed of cast iron construction and was approximately 50 years old. The plug waste and plug nut were formed of brass construction. Due to the passage of time, these components had rusted on and were stuck solidly together.

FRNSW response: Rescue Pumper 63 (Blacktown), Heavy Rescue 63, Pumper 83 (Riverstone), Pumper 96 (Schofields) and Duty Commander MW1.

Additional services in attendance: Ambulance Service of NSW.

Incident operations: Pumper 83 with a crew of retained firefighters was the first appliance to arrive on scene. Firefighters reported the boy was highly distressed at this time. Deputy Captain David Richards climbed into the bathtub and sat down with the boy, reassuring and calming him. This had an immediate effect on the boy and his mood became positive, relaxed and cheerful. DC Richards remained in the bathtub with the boy for the entire rescue. (It should be noted that firefighters also remained in constant communication with the boy's parents, explaining each step as the extrication proceeded).

Firefighters then made the boy comfortable, while attempting some gentle hand manipulation, in an attempt to free the boy's fingers. These initial attempts were unsuccessful. Firefighters continued to reassure the boy (and his parents) not to worry and that he would soon have his fingers freed.

A short time later, Rescue Pumper 63 under the command of SO Rod Tabone arrived on scene. SO Tabone assumed the role of Rescue Team Leader. Firefighters made further attempts to release the boy's fingers with gentle hand manipulation, again without success.

Attempted removal from beneath the bath

Firefighters formed a plan to gain access to the boy's fingers from under the bath, in the hope this might assist release. To gain access to the bottom of the bath, firefighters had to remove several ceramic tiles. Firefighters utilised an air-operated dye grinder to carefully cut through grout, enabling the tiles to be removed (on the bath side), minimising damage and enabling the tiles to be put back on afterwards. An air file-saw was used to cut through the backing board, behind the tiles, exposing plumbing beneath the bathtub. The PVC waste pipe was cut away with the air operated file-saw, exposing the boy's fingers.

Firefighters applied lubricant to the boy's exposed fingers and attempted further manipulation, without success.

Following further assessment of the entrapment, SO Tabone formed an extrication plan involving removing the bath nut from the plug waste, enabling the plug waste to be lifted directly out containing the boy's caught fingers.

A stillson wrench was then applied to the bath nut. Extreme difficulty was experienced turning the nut, due to a lack of space beneath the bath restricting movement. The nut was also stuck firmly to the plug waste. When the stillson was able to turn the nut, the attached plug waste (containing the boys fingers) also moved (this movement was quite small). It was decided a second stillson would be necessary to try to hold the plug waste in position, while the first stillson turned the nut. The bathtub was at least 50 years old and rusted and the plug waste and nut were heavily set in place thus requiring considerable force to separate. A second opening was made beneath the bath (at the bath end). Extreme difficulty due to lack of space hampered the operation of the second stillson. Firefighters utilised an air operated chisel to remove concrete under the bath, in an attempt to create more space, enabling greater leverage for the stillsons. Difficulty was also encountered fitting a stillson onto the nut and a second stillson onto the plug waste at the same time, due to the width of the stillsons (the thickness of the two stillsons was too great to fit onto the bath nut and plug waste at the same time). A risk existed that to fit the two stillsons

on at the same time, the bottom stillson would need to be positioned quite low and could slip off, possibly injuring the boy. Problems continued to be experienced with a lack of leverage, due to the confined space. After numerous futile attempts to separate the plug waste from the nut, it was decided this method wasn't going to work.

Removal of drain hole from bathtub

At this time, SO Tabone believed the next course of action was to cut out a section of the bath, holding the drain hole, which would involve utilising air-operated cutting equipment (air angle grinder). Prior to going to this next step, SO Tabone called all firefighters together at the front of the house to hold a brainstorming session and to see whether any alternatives could be suggested that avoided the use of power tools in proximity to the patient. At one point, the suggestion was contemplated that a firefighter drive to the local Bunnings Warehouse to try to purchase a large spanner (that might have a better fit), to assist with removal of the plug nut. Following discussion, it was agreed the only option that now existed was to cut a section of the bottom of the bath out.

The extrication plan now involved using an air-powered angle grinder, fitted with a metal cutting disc, to cut through the cast iron bathtub. Prior to this occurring, numerous precautions and preparations were taken, including removing all combustible materials from the vicinity of the cutting, marking the cutting path on the bath surface with a marking pen and placing significant

protection on the patient, including goggles (eye protection), ear muffs (hearing protection), wet face washers and a structural firefighting jacket (fire protection). A debris sheet was rigged and held in place by DC Richards, to provide further protection for the patient (shielding his eyes from bright sparks) and creating a barrier between the patient and the cutting operation. Prior to commencing cutting, firefighters tried to make the patient as comfortable as possible and continued to check on him throughout cutting.

NB: Firefighters used an ingenious method of reassuring and calming the boy, prior to commencing cutting. Prior to cutting starting, firefighters operated the air grinder, to familiarise the patient with the noise it would make. At this point, the boy excitedly told firefighters the noise sounded just like a Formula One racing car. Firefighters discovered the boy was a big Formula One motor racing fan. They used this information to advantage, encouraging the boy that he could be like a racing car driver, resulting in the boy enthusiastically putting on all of the protective clothing to be like his hero Formula One driver Michael Schumacher. This had a huge impact and instilled confidence in the patient for the duration of the incident.

A garden hose was passed through the bathroom window, with water set at a trickle, to provide cooling of the bath metal during cutting. A retained firefighter from 83 station remained at the tap, turning water on and off as required on numerous occasions through



The patient's fingers stuck in the plug hole



Senior Firefighter Shane Park, operating an air powered angle grinder with a metal disc to cut through and remove the section of the remaining bath tub from the drain plug. Cutting was delicate and precise at this time

the rescue. Firefighter Kamarah Pooley operated the garden hose, cooling the metal bath as it was being cut. SO Tabone operated the air-powered grinder, with a metal cutting disc fitted. The cast iron tub was extremely difficult to cut through. SO Tabone proceeded extremely slowly and cautiously, stopping regularly to check on the welfare of the patient. During the times cutting was stopped, firefighters changed the cutting blades and cylinders supplying air to the grinder.

During the process of cutting, numerous SCBA cylinders were used (in addition to those that had already been used to cut through the tile grout and cement). Realising cylinders were beginning to run low, Duty Commander MW1 sent a request to FireComs for the attendance of an additional pumper, for the provision of further air cylinders, resulting in the attendance of Pumper 96. Similarly, the extended operation of the air-grinder was causing the grinder to begin to freeze. Duty Commander MW1 requested the response of Heavy Rescue 63, with information provided to the crew their attendance was needed for provision of the air-operated grinding equipment.

Plug cut from drain

After approximately one hour of careful cutting, a small section of the bathtub was removed, enabling the young boy to step out of the bath and be seated in a more comfortable location, where cutting operations could continue to release the brass plug hole from his fingers.

Fingers released from drain holes
The patient was seated comfortably in a chair and his hand rested on a timber half spine board. A small vice was attached to the board and the plug hole containing the patient's fingers was secured within the vice.

Senior Firefighter Shane Park used an air-powered angle grinder with a metal disc (consisting of thinner metal blade) to cut through and remove the section of the remaining bathtub from the drain plug, enabling the drain plug to be undone from the collar. SF Park then cut through the drain plug, leaving the patient's fingers within the drain holes. These were carefully cut away from between the patient's fingers by SF Park with a pair of aviation tin snips, completely freeing the patient from entrapment, at about 2130 hours. During all cutting, the patient's fingers were protected with pieces of X-ray film and venetian blind.

Following release, the patient was examined by paramedics and was found to be suffering only minor abrasions and cuts to his fingers. He was transported to hospital by ambulance for precautionary examination only.

Throughout the entire rescue operation, the young boy's parents were present. Firefighters constantly communicated with both parents, advising them of the progress of the rescue. Ambulance paramedics were on scene for the entire rescue, constantly checking and assessing the welfare of the young boy.

Note: At the beginning of rescue operations, both parents of the trapped child gave their consent to the FRNSW Duty Commander to take photographs of the rescue operation.

Notes:

1. This was a very protracted and complex extrication, requiring significant ongoing assessment, planning and evaluation. Rescue crews were confronted with numerous obstacles and difficulties. Success was achieved, due to the ability of the crews to find practical (and at times imaginative) solutions to each issue as they arose.
2. An important consideration that cannot be underestimated was the ability of firefighters to reassure the patient, who was highly distressed when firefighters arrived, however remained relaxed and calm throughout the incident. Under the circumstances, patient reassurance and keeping the patient calm was just as important as the actual extrication itself.
3. At this incident, firefighters worked under extremely difficult conditions, firstly within the tight confines under the bath and secondly within the confined area of the bath during cutting. The incident was protracted, with numerous issues arising as the incident progressed. All crews should be congratulated on a very professional operation. **END**



View of the patient's fingers from beneath the bath. Attempts to separate the plug with stillsons from under the bath was unsuccessful



The cutting path on the tub was marked prior to commencing cutting

FIREFIGHTERS MAKE MULTIPLE RESCUES AND ENCOUNTER WIND-IMPACTED FIRE AT 3RD ALARM GLEBE RESIDENTIAL UNIT COMPLEX FIRE, 21 FEBRUARY 2015

Report by Inspector Kernin Lambert

FRNSW crews responded to a two level residential unit complex, containing numerous trapped persons and fire heavily involving one unit, spreading to other units and travelling rapidly through the roof space. A highly destructive fire phenomenon occurred involving the development of a wind-impacted fire scenario and formation of an air flow path, creating difficult and highly dangerous conditions for firefighters. As usual, firefighters responded with complete professionalism to this extremely challenging situation.

Incident type: Multiple level residential unit complex fire

Time, date and place of call: 1821 hours on Saturday 21 February 2015, Catherine Street, Glebe

Fire building: Residential apartment building containing six units, two levels, 50m x 15m, brick construction, timber frame and iron sheet roof. Four units were located on the ground level and two units were located on level two. Second level units (units 52 and 54) were accessed via an internal central stairwell. A common hallway extended from the stairwell to second level unit entrances. Balconies were attached to the front of the level two units. An internal dividing wall existed within the roof space, although separation did not extend fully to the line of the roof.

The fire unit of origin (unit 52) contained a lounge room at the northern end. A polyurethane foam mattress bed was located in the lounge room. A short distance away (2.2m), timber frame floor-to-ceiling glass double doors separated the lounge room from the balcony. These were in the open position at the time of the fire. A polyurethane foam double lounge chair was located on the balcony.

All apartments were fitted with residential smoke alarms. The building was not fitted with any other installed fire protection.

Weather at time of fire: East to north-easterly wind at 25km/h

FRNSW response: Pumpers 18 (Glebe), 5 (Newtown), 10 (Redfern), 22 (Leichhardt), Flyer 1 (City of Sydney) and Runner 1, Rescue Pumper 1, Heavy Rescue 1, Turntable Ladder 18, Logistics Support Vehicle 1, Duty Commander Inner West, Duty Commander City of Sydney, Manager Community Engagement Unit, Assistant Director Media and Communications Unit, and Fire Investigation and Research Unit.

Additional services in attendance: Ambulance Service of NSW, Police, electricity authority and Housing NSW.

Fire situation prior to FRNSW arriving on scene: The fire originated within unit 52 on level two on the southern side of the complex. The fire ignited on a bed within the main lounge room of the unit.

At this time the occupant, a 65-year-old male, was located within the unit, unable to escape due to medical impairment. Shortly after fire ignition, a residential smoke alarm activated within the unit, alerting other residents. A neighbour from level one (unit 50) observed light smoke issuing from the fire unit and went to investigate. The neighbour made entry via the door to the unit, where he discovered the occupant laying on the bed in the lounge room in a semi-conscious state. Shortly after opening the front door to the unit, the neighbour said the smoke changed colour, going from light grey to black. He also said the flames within the unit began to spread rapidly. The neighbour dragged the occupant from the unit, where he was joined by a second neighbour (unit 56) and together they carried the occupant down the stairwell to the street, to await further assistance.

During the process of carrying out the rescue, the neighbours were not able to close the door to the fire unit. Wind was blowing from the east-northeast, pushing fire back into the unit of fire origin. The open doorway of the fire unit created a fire flow path and a wind-impacted fire ensued, creating untenable conditions within the level two common hallway as fierce flames, superheated fire gases and thick smoke vented into the internal hallway. Fuelled by the polyurethane foam mattress, the lounge room quickly reached flashover. Passers-by with mobile phone cameras videotaped intense flames being drawn back into the unit, rather than venting outwards as is expected in conventional fire situations (NB this phenomenon is discussed further below within the notes content of this report).

The kitchen was heavily involved in fire, and fire was progressing with intensity down the hallway to rooms at the southern end of the unit. The floor-to-ceiling balcony windows at the front of the unit had failed due to heat, allowing large quantities of oxygen to enter the fire unit and feed the fire, increasing fire intensity. The fire was of such intensity, glazing at the southern end of the unit failed due to heat from fire gases alone (i.e. there was no fire/flame at this location). Fire had also breached the ceiling and entered the roof space above the unit.

Radiant heat from the fully involved lounge room caused the polyurethane foam lounge on the balcony to ignite and become heavily involved in fire, producing

a running flammable liquid fuel fire from the melting polyurethane foam. Flaming material ran over the edge of the balcony, dropping onto the courtyard of a level one unit, where external furniture ignited and became rapidly involved in fire, producing large quantities of radiant heat, threatening unit 50.

An iron sheet peaked roof was located above the complex. Although an internal roof space dividing wall existed, separation did not extend fully to the top of the roof. This enabled smoke, flames and hot gases to bypass the roof division at the peak, entering the roof space above units at the northern end of the complex.

The male occupant of unit 54 was unable to escape, due to the untenable conditions within the hallway. A passer-by had earlier gone to this person's assistance; however both were now trapped within unit 54. Fire was breaching the roof separation and beginning to impact the roof space above unit 54. The two people within unit 54 were now located on the balcony of unit 54, awaiting rescue. Flames, thick smoke and intense heat from unit 52 were venting around the front of the building and being pushed back in towards unit 54 where the two trapped people were both located. Unit 54 was rapidly filling with smoke. Both men were in a situation of extreme peril, with escape via the stairwell cut off and the unit they were in being impacted by fire via the roof space, common exit hallway and front of the building. Fire was spreading in all directions. An unknown number of people remained within the building. The entire second level of the building was enveloped in smoke. This was the situation when firefighters arrived on scene.

FRNSW operations: FRNSW received the first of numerous 000 calls reporting a building fire at 1821 hours. Due to the number of calls being received, the response was upgraded to a 2nd Alarm while crews were still enroute.

Pumper 18, under the command of SO Peter Farquarson was the first appliance to arrive on scene. Upon arrival, firefighters found heavy fire venting from the second level unit and large volumes of black smoke issuing from the roof of the apartment complex. Firefighters observed venting flames 'wrapping' around the front of the building and venting towards occupants trapped on a level two balcony. Wind was heavily impacting the fire, the unit was well alight and fire had entered the roof space. SO 18 immediately sent a RED message, reporting persons trapped, stating the unit was well alight and confirming response of the 2nd Alarm.



Three 38mm fire attack lines were deployed from Pumper 18



Search and Rescue crews prepare to enter the building

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fire.nsw.gov.au/frnews

OR

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Mobile phone footage taken by a passer-by and supplied to Nine News shows flame being drawn into the building and not venting outwards, a strong indication of a wind impacted fire event



Turntable Ladder 18 prepares to open the roof to stop lateral fire spread within the roof space



The initial defensive attack successfully reduced fire intensity, enabling internal crews to enter the fire area. Coordination is necessary between internal and external operations

Defensive fire attack and rescues made

The heavy involvement of the fire unit prevented firefighters from conducting an offensive internal attack (at this time, the internal access stairwell was untenable and impassable). Firefighter Gavin Pratt deployed the first 38mm fire attack line which was utilised to direct a defensive stream into the fully involved unit from street level, in an attempt to reduce fire intensity. Firefighter Marcus Jones deployed a second 38mm attack line from street level, directing a protective stream between the venting flames and the trapped occupants located on the balcony. SO Farquarson and Firefighter Brad Jory deployed a ground ladder from Pumper 18 to the balcony on the northern side of the complex. SO Farquarson footed the ladder while FF Jory ascended the ladder, climbing onto the balcony to assist the trapped people. As additional firefighters arrived on scene, SO Farquarson ascended the ladder, to assist the rescue. FF Jory helped the trapped occupants onto the ladder, where they were then assisted and guided to the ground and safety by SO Farquarson.

Heavy smoke was now enveloping the roof space over the complex. Fearing the building was fitted with a common roof, SO 38 sent a further RED message, requesting the response be upgraded to a 3rd Alarm. Ladder 18 was positioned in Sector A and prepared to go into operation as a water tower if required. Pumper 5 arrived on scene and SCBA crews immediately went to the assistance of Pumper 18's crew attacking the fire. Firefighters quickly extinguished the fire involving furniture burning within the level one courtyard.

Duty Commander Inner West arrived at the incident and Incident Control was transferred. SO 18 was appointed Sector A Commander. A Control Point known as Glebe Control was established. Duty Commander City arrived at the incident and was appointed Operations Officer.

Internal fire attack

Pumper 22 under the command of SO Craig Hehir arrived on scene and deployed a 38mm fire attack line from Pumper 18 into the fire unit via the internal stairwell. The initial defensive attack from Pumper 18 had reduced fire intensity to a level that an internal attack was now possible. At this point, a number of key tactical objectives had been achieved, including rescue of trapped persons on the balcony, securing the stairwell, securing the hallway and securing the door to the fire compartment.

It was absolutely critical these objectives be achieved if the fire was to be safely controlled. Safe access and egress could now be made into the main fire compartment. Operations switched from a defensive to an offensive attack as the Pumper 18 SCBA crew advanced the 38mm fire attack line into the fire unit. Simultaneously the external attack line was shut down. SO 18 was appointed Internal Fire Attack Group Commander. The internal fire attack crew encountered conditions of intense heat and limited visibility as the attack line was advanced into the fire unit.

Firefighters reported the neutral plane had lowered to approximately 1 metre from the floor. Firefighters were able to quickly press home an effective attack on the main body of the fire, within the lounge room and kitchen and it was at this point things began to improve dramatically.

The driver/pump operator of Pumper 22 located a fire victim from the fire unit of origin (unit 52) on the front footpath, suffering burns to his lower limbs and severe smoke inhalation. QFF Cleary conducted a quick assessment of the victim and commenced initial patient care with the EMT pack, consisting of oxygen therapy. QFF Cleary informed his officer of the situation and requested the urgent attendance of an ambulance. QFF Cleary assisted the patient with breathing and continued to assess and provide treatment to him, until patient care was handed over to ambulance paramedics.

Ladder 18 placed into operation

Due to concerns fire could be progressing via a common roof void across the top of the complex, Ladder 18 was placed into operation as a safe platform for firefighters to work from to open the roof, enabling fire to vent outwards, thus cutting off lateral spread. Simultaneously, crews working on level two were directed to pull the ceilings (under the vent point), and conduct fire attack within the roof space. This was a systematic operation requiring careful and deliberate coordination.

The external attack line utilised to protect persons located on the second level balcony (unit to the north of the fire unit) was shut down and re-deployed via ladder to the second level, where firefighters carried out a primary search of the unit which proved negative. At this time, access to the unit via the internal stairwell was not possible due to a heavily fortified steel security grille door. The SCBA crew searched for fire spread and utilised ceiling hooks and a thermal imaging camera to search for possible fire spread within the roof space above this unit. Although there was extensive smoke spread into this unit, no fire spread occurred.

Primary and secondary searches

Flyer 1 firefighters under the command of SO Chad Kennis (Level 2 Search and Rescue Group Commander) were deployed to the fire unit to conduct search and rescue operations. The primary search was negative. Flyer 1 firefighters utilised the 38mm fire attack line to check for fire spread within the fire unit and to control fire spread within the roof space above. Rescue Pumper 1 firefighters under the command of SO Anthony Waller (Level 1 Search and Rescue Group Commander) were deployed with forcible entry tools to level one and tasked with making entry to all level one units and conducting primary searches. These searches were negative. Runner 1 crew under the command of SO Graeme Turnbull (RIT Commander) were deployed as the Rapid Intervention Team.

Salvage, overhaul and ventilation

Firefighters remained at the scene for several more hours while salvage, overhaul and cause and origin determinations were

carried out. After firefighting operations ceased, two persons were transported to hospital suffering smoke inhalation and burns. A further two people rescued by firefighters were assessed by Ambulance paramedics and released at the scene. A further eight people self evacuated prior to FRNSW arriving on scene. Firefighters also rescued a cat from a level one unit, in an unharmed state which was reunited with an extremely happy owner. The unit of origin was severely damaged by fire. Despite entering the roof space, no additional fire spread to further units occurred. The level one unit subject to fire drop-down was fully protected.

Notes:

1. The crew of the first arriving pumper was confronted with numerous urgent competing priorities. The officer in charge of the first arriving appliance conducted a rapid initial size-up, identifying key incident critical factors, enabling priorities to be identified and tactical tasks assigned. In a time-critical situation, this laid the foundation for the successful operations that followed.
2. As always, our first priority at this fire was the preservation of life. This was achieved by the coordinated deployment of hose lines, enabling fire intensity to be controlled and the trapped people protected during the rescue. Again this fire proved that by getting an effective fire attack stream in place as early as possible, the greatest possible chance of saving lives is achieved.
3. Witnesses reported that smoke colour was initially light grey, however it changed to black accompanied by a significant increase in fire intensity shortly after the front door to the unit was opened. At the time the fire occurred, wind was blowing into the involved unit through open balcony doors, however fire conditions remained relatively stable. When the door to the unit was opened, an area of negative pressure formed within the hallway outside the unit, on the downwind side of the fire. The incoming air that had previously remained static within the unit was now able to flow into the area of negative pressure, creating an air flow path within the area of combustion. The area of negative pressure on the downwind side of the fire facilitated large quantities of oxygen being drawn into the unit, via the open balcony doors (air intake point), through the area of combustion, exiting through the front door (air exhaust point). The flow of oxygen into the combustion area resulted in a significant increase in fire activity. A wind-impacted fire now existed.
4. It is important to note that wind blowing into a fire building does not necessarily result in a wind-impacted fire. For a wind-impacted fire to develop, an air flow path must exist (see 3 above). Air flow paths are most commonly created by firefighters or building occupants opening doors on the downwind side of the fire. Doors located at the entrance to the fire compartment, internal stairwells and hallways are most commonly responsible for the formation of air flow paths. Whenever wind is blowing into a fire building, firefighters must be extremely alert to the unintended creation of an air flow path, via the opening of doors. This is best managed by ensuring adequate door control strategies are in place. Whenever a door is opened to facilitate firefighter access or egress, it should be closed if possible following use. Although doors cannot be completely closed when hose lines are being advanced, closing the door as much as possible will restrict airflow and limit the potential for an air flow path to form. In circumstances of high wind (particularly if wind is blowing the fire back into the building), the Incident Commander may wish to consider the deployment of firefighters for door control duty at critical doors within the structure (particularly the entrance door to the fire compartment).
5. At the subject fire, firefighters directed an external defensive hose stream (straight jet) into the fire compartment, resulting in cooling of the area of combustion and a significant reduction in fire intensity, enabling effective internal operations to then proceed. Wind-impacted fires have been extensively researched in the United States by NIST (National Institute of Standards and technology), UL (Underwriters Laboratories) and FDNY (Fire Department of the City of New York). The research identifies that fire attack on a wind-impacted fire on the downwind side of the fire is highly dangerous and largely ineffective (streams are unable to advance beyond the exhaust gases to reach the area of fire combustion), however an external attack is highly effective, producing rapid knockdown and a significant diminishing of extreme fire conditions (associated with a wind-impacted fire), enabling a conventional offensive internal attack to proceed. The most effective knockdown was achieved when an external straight stream jet was directed onto the ceiling of the fire compartment, allowing the stream to break up, facilitating water droplets falling onto the area of combustion. The coordinated firefighting operations undertaken at the fire were a textbook example of what the latest research recommends at this extremely destructive type of fire.
6. A wind-impacted fire is an extremely destructive and highly dangerous fire phenomenon. Wind-impacted fires can form in seconds. Areas normally deemed safe for advancing firefighters (hallways external to the fire compartment and remote from the fire area) located on the downwind side of the fire can be transformed from ambient temperature to temperatures exceeding 1,000°C, as exhausting 'blow torch' fire gases form horizontal fire tornadoes in a

rotating/churning motion, transferring superheated ceiling gases to floor level (normally considered the coolest and safest area in a fire situation).

7. An external defensive straight stream jet directed onto the ceiling immediately above the 'upwind' area of fire is an effective tactic for controlling wind-impacted fires and reducing fire intensity to a level that enables internal offensive attack crews to advance and conduct conventional firefighting operations.
8. During initial size-up, the Incident Commander should consider factors including wind direction, the possibility of air flow paths forming within the building, the possibility of a wind-impacted fire developing and the appropriate precautions to safely manage these conditions. Indications of wind, smoke or flames blowing back into the fire compartment are a definite warning sign that should not be ignored.
9. Once again, the highly destructive influence of the involvement of polyurethane foam was demonstrated at this fire. Many modern furnishings (in particular bed mattresses and furniture cushions) are formed of polyurethane foam material that release large quantities of highly volatile hydrocarbon gases when heated, forming fuel enriched fires, resulting in extreme fire behaviour including rapid progression to flashover. It is critical that firefighters utilise aggressive gas cooling techniques when conducting fire attack on occupancies containing these materials.
10. It is recommended that this report be read in conjunction with the report 'Firefighters encounter wind-impacted fire at 'routine' Birrong house fire', also located in this edition of Fire & Rescue Operations Journal. At the Birrong fire, the air flow path was created and wind-impacted fire formed when a glass window on the upwind side of the fire failed.
11. Congratulations are in order to all firefighters who responded to this difficult and dangerous fire at Glebe. Numerous complex operations were carried out, resulting in this aggressive fire being rapidly and safely brought under control and multiple lives saved.

NB: The report author has had the benefit of attending two training courses on firefighting operations at wind-impacted fires, at the fire training academy of the City of New York Fire Department, Randall's Island, presented by members of FDNY, NIST and UL.

Special thanks to FDNY Battalion Chiefs Gerald Tracy and George Healy and Captain John Ceriello (FDNY wind-impacted fire research team) and Professor Steve Kerber PhD (Director, Underwriting Laboratories, Firefighter Safety Research Institute) for their assistance in preparing this report.

END



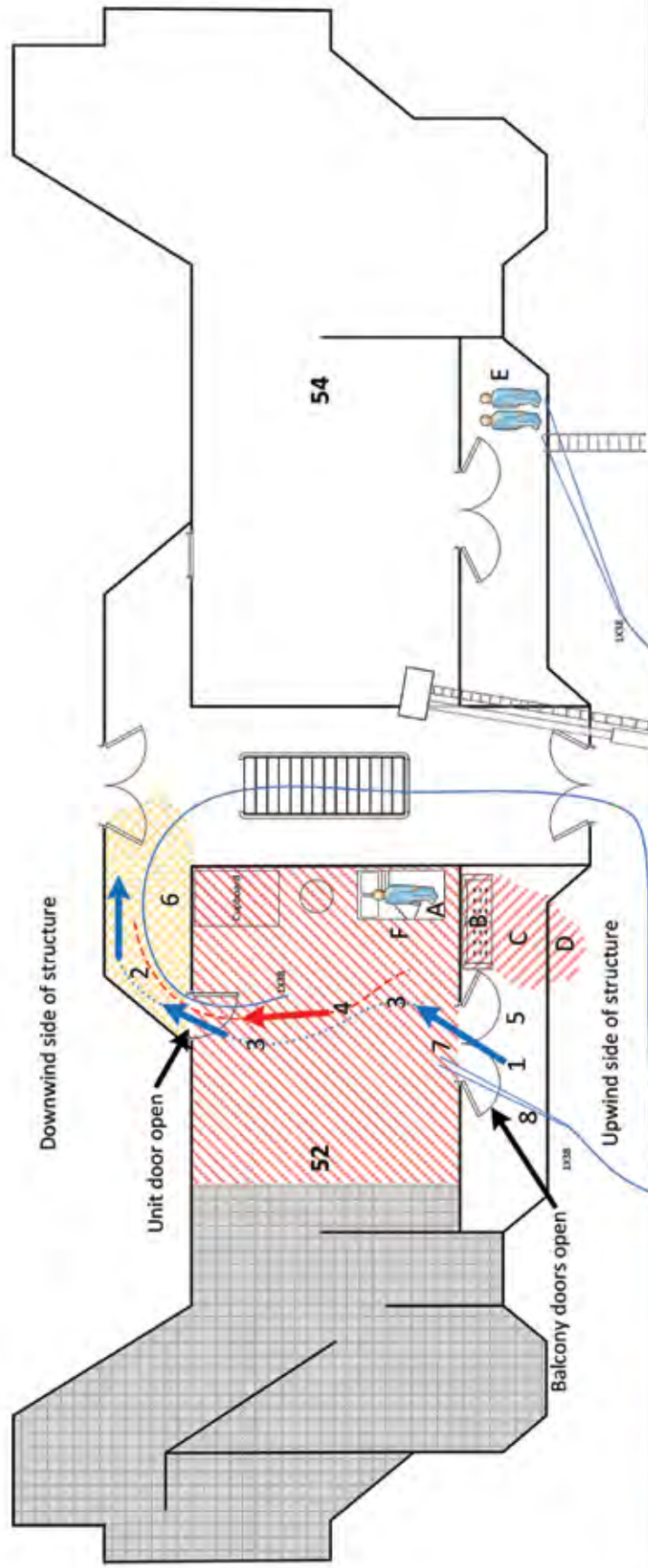
The initial defensive attack successfully reduced fire intensity, enabling internal crews to enter the fire area. Coordination is necessary between internal and external operations



Drawing not to scale

Wind Impacted Fire

Unit Fire
Catherine Street, Glebe
21st February, 2015
Design by: Inspector Kermin Lambert
Drawing by: Glenn Miller



Legend

	Fire Area
	Superheated Gaseous Exhaust
	Severe Heat/Smoke
	Running Fuel Fire
	Stairs
	Doors
	Hi-Hydrant (Street)
	Air Flow-Path
	Fire Flow-Path
	Supply & Delivery Lines



CATHERINE STREET

RIT Staging

- A - Area of fire origin - Mattress.
- B - Polyurethane lounge alight.
- C - Running fuel fire.
- B - Fire ignited in ground level courtyard.
- E - 2 x Occupants rescued by FRNSW ladder crew.
- F - Rescued occupant.

- 1 - Air Flow-Path entry point.
- 2 - Air Flow-Path exit point.
- 3 - Fire Flow-Path.
- 4 - Fire Flow-Path.
- 5 - Area of high pressure.
- 6 - Area of low pressure.
- 7 - Fire being drawn into unit.
- 8 - Straight jet directed onto combustion zone.

Staging area/
Command point

Wind direction

Meeting the public in Martin Place, Sydney



**PREVENTION
ACTIVITIES
RUN HOT
DURING
OPERATION
COLD SNAP**


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In mid-July, FRNSW launched a special two-week fire safety campaign called Operation Cold Snap running from Friday 17 July until Sunday 2 August.

This initiative arose in response to the spate of home fires and incidents that FRNSW was attending, largely resulting from increased misuse of heaters and electric blankets, and improper use of unsafe heating methods.

In announcing this campaign, Acting Commissioner Jim Smith said, "This proactive measure can go a long way to reducing the risks that many people unknowingly expose their families and themselves to. This initiative can have significant benefits to the safety and welfare of our community through face to face engagement and education."

Both permanent and retained stations right across the State responded promptly to this urgent safety initiative, which was supported by the Fire Brigade Employees' Union. Crews promoted key winter fire safety messages to their local communities through visits to shopping centres, sporting venues, transport hubs, schools and clubs. Crews also used a range of tools, including station Facebook sites, community noticeboards and local media to further reinforce these messages.

According to CARS data, over the two weeks firefighters carried out around 660 community activities and dedicated more than 2,800 hours to Operation Cold Snap activities. **END**

84 Macquarie Fields attended a local bingo session



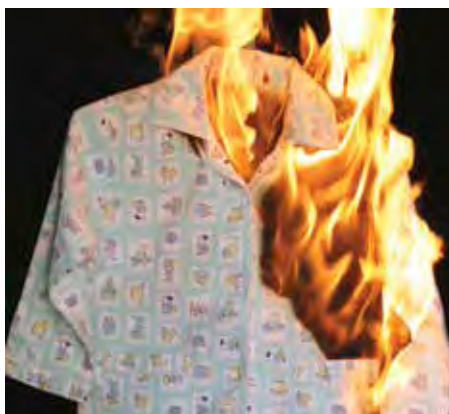
PARENTS WARNED OF BURNS DANGERS TO CHILDREN

Story by: The Children's Hospital at Westmead

Experts at Westmead Children's Hospital recently issued a warning to parents and caregivers to be extra vigilant around hot surfaces to prevent scald and contact burns in children.



Dr John Harvey



Every year, the Burns Unit in The Children's Hospital at Westmead treats hundreds of children with new burns from hot food, drink or surfaces and the incidence of these burns is continuing to increase. In the last year, 743 children were treated at the hospital for scald or contact burns.

Statistics from the NSW Agency for Clinical Innovation Statewide Burn Injury Service revealed that 30% of initial first aid was inadequate.

Head of the Burns Unit, Dr John Harvey says these accidents can happen in a second and applying the correct first aid as soon as possible is vital.

"Burns are some of the most common childhood accidents, particularly in toddlers, and the first aid approach can have a big impact of the progression of burn depth as well as the time a burn will take to heal," Dr Harvey said.

"Toddlers are the group most at risk simply because they are inquisitive and they often have easy access to hot surfaces, however most of these accidents are preventable."

The most common types of burns are caused from children touching heaters, ovens and irons or spilling hot water, tea, coffee, oil and foods such as noodles, soups and pasta. These injuries can potentially be very serious, especially if not treated correctly.

Dr Harvey said the only proven effective first aid for burns is 20 minutes of cold running water, adding that care should be taken to cool the burn and not the whole child (which can lead to hypothermia).

"Alternative measures such as ice, toothpaste and butter should not be used under any circumstances – they are not effective and in some cases, can in fact, cause more damage," he said.

It is important to prevent injury by:

- restricting children's access to the kitchen, BBQs and hot ashes/coins while cooking
- placing a guard around heaters and fireplaces
- using an appropriate oven door guard to reduce the heat to a safer temperature
- not leaving irons or hair straighteners unattended or within the reach of children.

If a child is burnt:

- remove their clothes and jewellery immediately (be careful not to remove clothing that is stuck to the burn)
- cool the burnt area under running tap water for a minimum of 20 minutes while keeping the child warm
- avoid using ice, iced water or any creams or lotions on the burn – these can make it more severe
- seek medical advice if the burn involves the face or neck, for any burn bigger than a 20c piece in size or with blisters.

END

ANNUAL RADIOTHON

The annual Radiothon, one of the hospital's major fundraising events, will be held this year on Friday 6 November. A host of media, fun and activities will run on the day.

COMSAFE DELIVERS FIRE SAFETY TRAINING AT NSW GOVERNMENT HOUSE

On 25 May, ComSafe provided vital fire safety training at one of the State's most iconic buildings, the heritage-listed NSW Government House, located in Sydney's Botanic Gardens.



Senior Training Officer SF Andrew Fraser conducted First Attack Firefighting training for the NSW Governor, the Honourable General David Hurley and his wife Mrs Linda Hurley, and all the staff who work at Government House.

The training provided was both comprehensive and well received. It included preparing for site-specific fires, reporting a fire, evacuating from endangered areas, fire characteristics and fire behaviour, effects of smoke on people, classes of fire and first attack firefighting equipment. Staff were also shown several videos demonstrating the speed at which fires can take hold in residential premises.

As part of the training, SF Fraser took the Governor, his wife and their staff throughout the building pointing out various firefighting equipment and systems. The course concluded with a practical familiarisation exercise where Government House staff used fire extinguishers and fire blankets to practise extinguishing or smothering a small fire.

END



OPEN DAY A HUGE SUCCESS AROUND THE STATE

On Saturday 30 May, FRNSW stations all over the State opened their doors for the 2015 Open Day, the biggest annual station-based prevention activity.

Attendance was up across the board – estimated at around 120,000 visitors in total – thanks to a massive effort from crews who worked hard to get the message out in their local communities. A total of 335 stations participated this year, with some stations combining their efforts with neighbouring stations. This year Open Day followed the launch of the 2015 Winter Fire Safety Campaign on 25 May. The launch included a live burn of a kitchen at the CSIRO testing facility at North Ryde. The winter fire safety messages were promoted at Open Day.

For the first time, FRNSW partnered with NSW Kids in Need to collect donations at 41 metro and regional fire stations for six children's charities. The fire stations were part of NSW Kids in Need's Biggest Open House event. A total of \$20,210 was raised on the day by participating stations.

Preparing for Fire Station Open Day requires considerable effort behind the scenes at stations, with support from

Community Engagement Unit (CEU) and Media and Communications Unit (MCU).

CEU provided stations with new home fire safety brochures for the adults and an updated Brigade Kids activity book with pencils for the children. Feedback from the stations indicated that this approach was well received and resources lasted longer. All Zones were also given two new pull-up banners and a hanging banner for use at Open Day and future engagement activities. These banners highlighted the winter campaign message of 'keep looking when cooking'.

Manager Community Engagement, A/Superintendent Mick Ollerenshaw said Open Day is a huge commitment but the rewards make it all worthwhile.

"We know it takes crews a lot of time and energy to plan and run Open Day, but the increasing popularity of the event shows it is incredibly valuable for FRNSW. You only have to look at the excited faces of the children and adults who can't wait to get inside their local station and meet the firefighters.

"Thank you to everyone who played a part in this year's event. Well done on making it bigger and better than ever."

END

KEY RESULTS FROM THE INTERNAL SURVEY INCLUDED THE FOLLOWING.

- Most stations welcomed between 200 and 500 visitors
- Stations with their own Facebook pages saw a large increase in visitors
- Sitting in the fire truck, meeting firefighters and watching demonstrations interested visitors the most
- The Open Day toolkit was widely used, particularly the four-week checklist, media release and activity sheets
- 95% of fire crews felt their station's Open Day was successful.



102 Regentville



36 Crows Nest



39 Randwick



459 Terrigal



441 Sawtell



422 Warrawang



465 Trangie



503 Wollongong



59 Eastwood



68 Narrabeen



State Training College Alexandria

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FIREFIGHTER RECIPES AND RSL CLUBS HELP SPREAD THE SAFETY MESSAGE



Winter Fire Safety Week launch at Penrith RSL

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

OR

SCAN CODE TO WATCH NOW

With a focus on kitchen fires, FRNSW’s 2015 Winter Fire Safety Campaign put the message ‘keep looking when cooking’ top of mind in households across the State.

The campaign was supported with a strong social media campaign, putting the safe cooking message in front of targeted Facebook users at key times of day. In addition, a range of tasty winter recipes submitted by firefighters were used to promote the message and encourage ‘shares’ (see breakout for details).

With firefighters responding to a high number of incidents caused by unsafe heating practices as well as unattended cooking fires, key messages about the dangers of carbon monoxide poisoning were also featured in numerous print and broadcast media items.

Fire stations supported the campaign with kitchen fat fire demonstrations, noticeboard messages and by attending their local RSL Club to talk fire safety at bingo and other club meetings.

Capitalising on the community partnership with FRNSW, the RSL & Services Clubs Association of NSW promoted its own Winter Fire Safety Week in July. The special week was launched at Penrith RSL on 7 July with 86 Penrith A Platoon conducting a kitchen fat fire simulation.

RSL & Services Clubs Association CEO Garrie Gibson said the safety and security of club members are paramount concerns for all their clubs.

“Clubs are the heart of every local community in NSW and we work hard to

ensure that we engage with key services such as FRNSW whenever they need our help,” he said.

Winter Fire Safety Campaign results will be published in the next issue of Fire & Rescue News. **END**

WINTER WARMER WINNERS

During the Winter Fire Safety Campaign, firefighters were encouraged to share a favourite winter recipe for a chance to win a framed 2015 NSW State of Origin jersey. Mess room chefs from across the State submitted a range of mouthwatering recipes including baked Caprese chicken thighs, slow-cooked beef burritos and beef madras.

Entries were posted on FRNSW’s Facebook page on selected days of the week to tap into the spike in Facebook visits during the evening commute and stimulate conversations about cooking safely. The recipes in July attracted 1,741 likes, 233 comments and 326 shares. The winner will be selected by former ‘hatted’ chef turned City of Sydney Firefighter Kurt Fegebank and published in the next issue of Fire & Rescue News.

BIGGEST LOSER CONTESTANTS LEARN WINNING EDGE WITH FRNSW

The Biggest Loser is one of the most popular and well established TV series on Australian free-to-air TV. Its essence is motivational, aiming to transform people's lives through fitness and lifestyle changes. So when *The Biggest Loser* looked for inspiration, motivation and role models for their contestants, to whom did they turn? Why, Fire & Rescue NSW, naturally!



Biggest Loser host Fiona Falkiner with FRNSW at the State Training College, Alexandria



What developed was a mutually beneficial relationship. FRNSW hosted an episode of the series, helping to design and deliver a participants challenge, and *The Biggest Loser* profiled FRNSW in a very positive light, showcasing a career in firefighting as something to aspire to, "a dream job". Seeing firefighters represented on-screen as fit, professional and proactive men and women, and as great role models for anyone trying to improve themselves, was an opportunity not to be missed.

The episode was filmed around the same time that the 2015 recruitment drive was beginning to bring results. FRNSW's involvement was designed to achieve its long term goals of continuing to attract fit, culturally diverse, and highly motivated applicants.

Qualified Firefighter Sam Rouen came to the film shoot to impart some hard-earned wisdom. He knows both sides of this story only too well, having won *The Biggest Loser* himself after

losing 72 kilos. He then studied fitness to qualify as a personal trainer, and in 2013 he succeeded in achieving his childhood dream of becoming a firefighter with FRNSW. You couldn't find a more positive person or someone better placed to give the contestants the heads up of how to dig deep in their journey, they hung on his every word. As always, the strength of FRNSW is in its people.

Many would not realise the amount of behind-the-scenes work that goes into coordinating a production as big as *The Biggest Loser* on a shared site with as many competing priorities as Alexandria, or the number of FRNSW sections involved in delivering a filming event of this nature. This was no small production with over 50 production crew members plus contestants. From FRNSW's side, it was facilitated by support from management and delivered through the superb efforts of BA Hazmat, Rescue, Health & Safety, Initial Skills, Driver Training, the Equity and Access Team and the crew from 18 Glebe.

There were two reconnaissance days leading up to the event that involved developing and testing challenge ideas that could safely be delivered to contestants. *The Biggest Loser's* production company, Shine, were extremely impressed with the professionalism they saw on the ground that day. The level of preparedness, cooperation and safety delivered by each of FRNSW's specialist unit was fantastic.

After the shoot, Shine's executive producer said his crew had talked about it for days, and absolutely loved what they saw and were able to capture on film. Some of the production crew even enquired about how they could apply on the day of filming! The broadcast episode will further increase public interest and awareness about what it takes to be a firefighter with the aim of attracting more fit and proactive people to apply in future. **END**



THE COMMISSIONER ON DIVERSITY

When I joined the NSW Fire Brigades more than 37 years ago, the only real diversity was in different boot sizes and eye colour.

By Commissioner Greg Mullins

It was an all-male environment, was very “blokey”, and it was generally accepted that there was no way that women could ever do the job of a man – a throwback to attitudes that the rest of society were leaving behind. I was astounded by this, as I had been a bushfire brigade volunteer for six years prior to joining, and throughout that time had fought fires side by side with women and with people of different colours and creeds.

In the early 1980s, back when I was an elected union official, the Board of Fire Commissioners changed the Fire Brigades Act removing the legislative barriers to women becoming firefighters written way back in 1909. The union embraced this change, and helped to educate the workforce on the benefits of diversity.

Not everyone in the workforce was happy. There were many who resented the imposition on their “blokey”

environment and the rough and tumble culture of the time. Alpha males and seniority prevailed. The easiest way for detractors to challenge diversity was to invoke the (long disproven) myth that women cannot undertake the sometimes very physical tasks of a firefighter. The first women joined 30 years ago in 1985. 30 years on, we have 411 women in the front line as permanent and retained firefighters. Just like men, they represent a diverse range of attributes and skills, and they have most certainly enriched the organisation. There is no longer any question that fit, strong, smart women can do exactly the same job as fit, strong, smart men. However, we have a long way to go before we look even remotely like the communities we protect. More than 90% of our operational workforce is male, and there is very little racial diversity.

Other organisations, such as the police and military that faced similar situations, found that changing the workforce mix was the easy part – the

hardest part was building inclusion. Inclusion relates to our most important core organisational value – RESPECT. It is about respecting others for who they are and what they contribute, and celebrating differences in the workforce rather than being frightened of them.

... the women who blazed the trail back in 1985 did it tough.

I say frightened because research suggests that often the most vehement opponents of diversity are actually people who suffer from personal self-doubt and insecurities. Perhaps they prefer the idealised Hollywood version of a firefighter to who they see when they look in the mirror. Therefore, anybody who might compromise that ideal can be seen

as a threat. In my view truly strong men welcome the benefits of a more diverse workforce and find different viewpoints interesting, rather than threatening. They are truly courageous as they will not tolerate their workmates and colleagues being put down or criticised (usually by cowards behind their backs). They instead stick up for them.

It's not rocket science. Diversity is good for everybody, and those who don't realise it need to understand that it is here to stay.

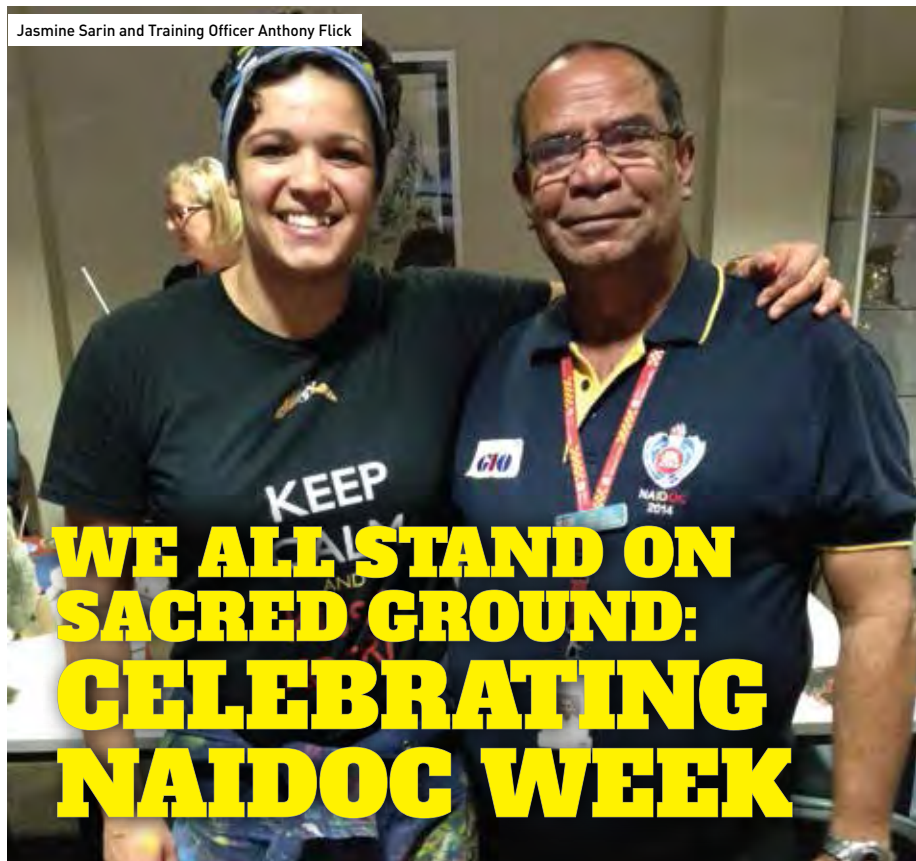
We have come a long way. Make no mistake – the women who blazed the trail back in 1985 did it tough. Every move they made was scrutinised so the knockers could criticise them and reinforce their contention that women could not be firefighters. Unfortunately for the knockers, their scrutiny was fruitless. Women in Fire & Rescue NSW today tell me many things have changed, and it is much better. However some still experience difficulties in the workplace including a lack of inclusion.

I often talk about how we are a big family. We look after the public in times of crisis, and we look after each other. Most of the time. The revelations back in 2009 and 2010 about incidents in our past should never be forgotten. Independent investigations found that many incidents of bullying, harassment and assaults occurred in fire stations in the 1960s, 70s and 80s as "initiations". Many people were hurt by this. Something changed for the better in the mid 1980s, and fire stations seemed to become safer, better and more welcoming places to work. What was it? Women arrived!

It's not rocket science. Diversity is good for everybody, and those who don't realise it need to understand that it is here to stay. If they themselves wish to stay, they must learn to embrace diversity while discarding their personal prejudices. Bad behaviour will not be tolerated in any of our workplaces. I know that the vast majority of you support me 100% in this both philosophically, and by acting when you need to. Thank you! Together we are building a better Service.

END

Jasmine Sarin and Training Officer Anthony Flick



Hands-on didgeridoo workshops, art, flag raising and delicious bush tucker brought staff, firefighters and the community together during NAIDOC Week.

Held each year during the first full week in July, NAIDOC Week provides an opportunity for Indigenous and non-Indigenous Australians to join together and recognise the valuable and continuing contribution that Aboriginal and Torres Strait Islander Australians make to this country.

This year's theme 'We all Stand on Sacred Ground: Learn, Respect and Celebrate' highlighted Aboriginal and Torres Strait Islander peoples' strong spiritual and cultural connection to land and sea.

Acting Commissioner Jim Smith said FRNSW remained committed to working in partnership with Aboriginal communities.

"We will continue to progress initiatives identified through the FRNSW Reconciliation Action Plan and the FRNSW Aboriginal Employment and Development Action Plan. FRNSW supported this year's theme by delivering cultural awareness training throughout the agency and giving staff a better understanding of Australia's unique Aboriginal culture."

At City of Sydney Fire Station, activities included a stirring didgeridoo demonstration by Recruit Firefighter Peter Jensen and an interactive art workshop led by artist Jasmine Sarin. During the workshop, staff joined together in creating a large Aboriginal mural before sampling a selection of traditional foods, including

kangaroo, crocodile, calamari and bush salads.

At Greenacre, staff celebrated NAIDOC Week with a presentation by NSW Aboriginal Lands Council Policy and Community Coordinator, Phil Duncan. Mr. Duncan spoke about the importance and significance of NAIDOC and the ongoing need to work in partnership with agencies such as FRNSW to reduce the risk to Aboriginal communities in fire-related incidents.

Elsewhere, 373 East Maitland held a flag raising and fire prevention display, 88 Campbelltown, 8 Liverpool and 93 Narellan contributed to Campbelltown Council's NAIDOC festival and 62 Bankstown attended NAIDOC celebrations at Bankstown Art Centre. 405 Nowra attended a memorial service recognising and remembering servicemen and women of Aboriginal descent. They also networked with elders and members of the local communities, and distributed copies of fire safety brochures titled 'Protect your Mob'. **END**

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fire.nsw.gov.au/frnews

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MAKING THE CASE FOR CHANGE PERSONAL

Elizabeth Broderick was appointed as Sex Discrimination Commissioner in September 2007. Since then she has strived to improve gender equality in Australia, including a recent high profile review of the Australian Defence Force (ADF).




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

SCAN CODE TO WATCH NOW

With many lessons from her *Report on the Review into the Treatment of Women in the Australian Defence Force* (2011) relevant for organisations like FRNSW, Ms Broderick was invited to speak at City of Sydney Fire Station on Monday 15 June.

After Deputy Chief Executive Rosemary Milkins opened the session, Ms Broderick began by talking about her experiences as Sex Discrimination Commissioner and the opportunity to “work with women and men who are committed to change”.

In describing the traditional culture of the ADF as “hyper-masculine”, Ms Broderick said her review was ultimately about transforming the “warrior culture” into a more inclusive culture which didn’t lose its essence, but allowed both men and women to serve as equal partners.

“50.8% of the talent in this nation resides in women,” Ms Broderick said. “To exclude that bulk of people from your organisation just doesn’t make good business sense. The fact is, the most capable and high performing organisations have both men and women at the top.”

Following the review, the Army has recruited more women in the last year than in the last two decades. In addition, this year for the first time, 25% of new commanding officers in the Army are female.

Ms Broderick said that these changes inevitably lead to myths that incompetent women are leapfrogging more meritorious and competent men.

“The reality is, as the chiefs of the ADF say: ‘Do you seriously think we’d allow incompetent women not only to be in charge of people’s lives but also in charge of the billions of dollars of investment?’ It’s not about lowering the standards, the standards remain.”

Focussing on FRNSW, Ms Broderick highlighted that as at 30 June 2014; only 8.5% of all FRNSW staff were female.

For organisations to tackle the issue head on, Ms Broderick said there are five principles of success: diversity of leadership, strength of leadership, increasing opportunities, flexible work and eradicating gender-based harassment.

She summed up by recounting a case study from the ADF which, she said, moved the case for change from the Chief of Army’s head to his heart. “Even the most traditional, conservative organisations change when we make the case personal.” **END**

RECRUITS GRADUATE ALONG WITH K9 OPAL

After weeks of intensive training, the latest class of 24 recruit firefighters graduated on 30 July and included the largest number of Indigenous firefighters in a single class.



IFARES graduates



FRNSW K9 Unit demonstrates its skills

The Hon. Natasha MacLaren-Jones MLC joined Commissioner Greg Mullins at the graduation ceremony to welcome the new firefighters into the ranks. Also graduating was accelerant detection dog, Opal, a 2½-year-old black Labrador, who with her canine handler SF Joel Walton, will be helping to investigate the cause of fires.

The eight Indigenous firefighters were successful participants in a pilot training program designed to encourage and help more people of Aboriginal and Torres Strait Islander descent to prepare themselves for the FRNSW recruiting process. The eight successfully completed all aspects of the Indigenous FRNSW Employment Strategy (IFARES) program and exceeded the benchmarks required to join FRNSW as full-time firefighters.

The graduates have taken up positions at fire stations throughout the Sydney greater metropolitan area. **END**



RESEARCH INTO INCREASING DIVERSITY IN FIRE SERVICES

Station Officer Bronnie Mackintosh has successfully applied for a Churchill Fellowship to study ways of promoting and increasing numbers of women and ethnically diverse people in Australian fire agencies.

FRNSW is strongly committed to the principles of Equal Employment Opportunity and workplace diversity. In line with this commitment, FRNSW is working hard to improve the employment opportunities which it offers so that it becomes more inclusive as an organisation, and its workforce better reflects the diversity of the community it serves.

Increasing diversity leads to better service delivery and better workplaces. UK fire, police and ambulance services found that more diversity led to improved service delivery outcomes and a more inclusive, accepting and welcoming workplace culture. (The full report, *Diversity and Positive Action Programs In the UK Fire, Police and Ambulance Services* can be downloaded from <http://bit.ly/1IXQ91Q>)

When the 2015 Permanent Firefighter Recruitment Campaign was launched in April, Commissioner Greg Mullins emphasised that women, as well as men, should consider a career in firefighting.

"This year we are particularly reaching out to women, because research shows that many have probably never considered FRNSW as a career choice," said Commissioner Mullins.

A number of teams across FRNSW, including Recruitment, the Media and Communications Unit and the Access and Equity Team worked together to execute a marketing campaign and internal communications plan to educate, inform and inspire current and future firefighters.

Applications were open for a two-week period in May with a total of 7,329 people applying. Of these, 19.9% of applicants were female, an increase of 7.7% on 2014.

With less than 100 Recruit Firefighter positions on offer, all applicants were put through a rigorous three-month assessment process, including online

testing, the Physical Assessment Test (PAT), interviews and medicals. Everybody goes through the same tests and must meet FRNSW's rigorous standards to become a firefighter. By August, 24 successful candidates had been identified, with 8 women and 16 men offered places in the first recruit class which commenced on 11 August at the State Training College.

END

RECRUITMENT BY NUMBERS

- 7,329 people applied in 2015, with one in five (19.9%) of these being women. This was 1,228 candidates less than in 2014, but an increase of 7.7% in female applicants.
- FRNSW Facebook recruitment campaign posts reached 490,792 people and were shared or commented on 7,056 times.
- The recruitment campaign achieved 37 items of media coverage in national and regional outlets, including 17 pieces of broadcast coverage.

The recruitment landing page on FRNSW's internet website recorded 111,502 page views, and the two intranet stories recorded 2,025 page views.



SO Mackintosh entered a highly competitive field of applicants from across the country seeking funding for overseas research projects that would benefit the Australian community.

SO Mackintosh commences her studies in June 2016 and will travel to Japan, India, UK, France, Sweden, Canada and the USA to undertake research. She attended Government House late July where the NSW Governor, The Honourable General David Hurley, presented her with her Fellowship documentation and credentials. **END**

LITHGOW FIRE STATION CELEBRATES 100 YEARS

On Saturday 23 May, FRNSW Commissioner Greg Mullins, Member for Bathurst Paul Toole, Legislative Council Member Scott Farlow (representing NSW Emergency Services Minister David Elliott) and Lithgow Mayor Maree Statham joined local firefighters past and present to celebrate the centenary of 363 Lithgow Fire Station.



The event, which was MC'd by Lithgow Station Officer Noel Ford, was also attended by Lithgow Primary School students and many other community members.

Commissioner Mullins said the centenary celebrations represented an important milestone for the Lithgow community.

"It is an opportunity to thank all of the firefighters, past and present, who have served the Lithgow community with such commitment and integrity over the years," Commissioner Mullins said.

Minister Toole acknowledged the dedication of the firefighters over the last century and commented that it was not just a matter of brigade members turning up at any hour of the day or night to attend fires or other emergencies. "They also give up countless hours of their personal time for training," he said.

Mayor Statham said the station had been, and still is, staffed 'by wonderful people'. "The residents of Lithgow know they are in good hands," she said.

Fire protection in Lithgow was first delivered by a group of volunteers operating late last century from a shed in Mort Street with a hand-drawn pump cart. In 1898, the first fire station was built in Railway Parade and a brigade formed. As Lithgow's population expanded, it was decided that new premises were required, and so land was purchased at the present day Cook Street site and a new station built there.

The local fire brigade have operated from this site since 1915, attending numerous incidents including major bushfires in the Blue Mountains, the 1970 Braceys department store fire and the 1999 Workmen's Club Fire. In 2013/14, Lithgow firefighters responded to around 270 fire and emergency calls and conducted more than 130 community education and engagement activities.

END

CONTRACT SIGNED FOR NEW FRNSW HEADQUARTERS

A contract for construction of a new FRNSW headquarters in Greenacre has been awarded to ADCO Constructions following a tender process.



This is part of a NSW Government plan to relocate and consolidate more than 3,000 public servants to new offices in Western Sydney, boosting the region's economy and supporting local jobs and investment.

FRNSW has also refurbished the upper storeys of its Pyrmont Fire station to provide temporary desks for staff whose work brings them to the CBD.

The construction tender is to demolish an existing building located at Amarina Avenue in Greenacre and build in its place a new two-storey state-of-the-art facility. It will combine FRNSW's administrative and specialist functions along with the fire prevention and logistics team that currently occupies a separate building on the site.

"This purpose-built building is a great investment in a booming Sydney region and will result in a brand new facility for hardworking FRNSW staff," said Minister for Emergency Services David Elliott.

The new headquarters adds to the huge spend on 16 new fire stations already underway in communities across NSW, including Ballina, Marsden Park, Mount Druitt, Ropes Crossing, Rutherford, South Windsor, Yennora and Oran Park.

Construction on the FRNSW head office starts late 2015 and is due to be completed by 2017. The tender is the next step in the project after the design and consultation phase.

Staff consultation is continuing through the New Ways of Working (WoW) groups based in the Sydney CBD head office and at Greenacre. These groups are helping to develop strategies and plans for changing FRNSW's work environment. Any questions, concerns or feedback can be emailed to 1Amarina@fire.nsw.gov.au or raised through WoW group representatives. END

KEY FEATURES OF THE NEW HEADQUARTERS DESIGN INCLUDE:

- a north-facing wall made from glass to allow natural light
- large atrium spaces at either end of the building and in the centre to create an open and spacious atmosphere
- landscaping around the entire building with alfresco areas
- extensive undercover car parking
- innovative building design allowing flexible use of work spaces.



On Tuesday 28 July, ComSafe ran the Firefighter for a Day program for 40 first grade and squad players from South Sydney District Rugby League Football Club, assisted by Training College personnel.

The training was a unique opportunity for the Rabbitohs players to participate in physically challenging exercises, and to further strengthen their teamwork, leadership, communication and decision-making skills.

After a safety briefing and being fitted out with PPC, the Rabbitohs players were divided into teams in order to perform timed team challenges across three main activities:

- hose, fire and rescue challenge, which involved rolling out and connecting hose, putting out a car fire, and then rescuing casualties from the car
- tower challenge, which involved recovering different items of heavy equipment from different levels of the tower, while the team was tethered together demonstrating their problem-solving and teamwork
- search and rescue challenge, which involved searching for two casualties in a smoke-filled two-level building containing obstacles, and reduced visibility (teams had to negotiate these areas to bring them out safely).

In the spirit of the competition, the program concluded with awards for the winning team. Coach Michael Maguire advised that he was extremely happy with the unique training session and what the players took out of the day, particularly the teamwork and communication skills gained through the experience.

In addition to the training opportunity, Assistant Commissioner Mark Whybro, ComSafe Management and MCU staff met with Rabbitohs CEO John Lee, Coach Michael Maguire and Souths' media staff to explore possibilities for joint Community Safety Directorate and Souths Cares educational programs mutually benefiting both organisations and the community.

For FRNSW, this could include opportunities to promote fire safety messages and increase awareness of FRNSW in South Sydney's territory which includes a significant indigenous population.

The joint venture with ComSafe and the Rabbitohs is part of ComSafe's relaunch and they are using the program to promote its range of training services to other clubs and organisations.

■ END

EMERGENCY SERVICES HONoured AT STATE OF ORIGIN

Around 250 FRNSW firefighters and staff attended State of Origin Game 1 at Homebush on Wednesday 27 May. They joined many other emergency services workers as guests of the NSW Government to thank them for their tireless work in the floods and large rain event that occurred in NSW during late April.

A lot of the devastation during that time occurred in the Newcastle and Maitland regions. FRNSW crews from Newcastle and surrounding areas, including 282 Dungog, were acknowledged by the 80,000-strong crowd as they took part in a lap of honour with their emergency service counterparts. ■ END

FIRE STATIONS RAISE \$20,000 FOR NSW KIDS IN NEED



On Saturday 30 May, FRNSW crews around the State welcomed tens of thousands of people for the 2015 Open Day.

For the first time, FRNSW partnered with new fundraising charity NSW Kids in Need to collect donations at around 40 fire stations for six children's charities. The fire stations were part of Kids in Need's Biggest Open House event which also included Richmond Air Base and HMAS Toowoomba.

The charity was created to support fundraising for Bear Cottage Children's Hospice, Central Coast Kids in Need, Duke of Edinburgh Award - Australia, Muscular Dystrophy NSW, SHINE For Kids and the Westmead Children's Hospital Burns Unit.

NSW Kids in Need Chairman Peter Debnam said each charity would equally receive many thousands of dollars from the fundraiser. On the day FRNSW raised \$20,210 across 41 metro and regional fire stations with six stations raising well over a thousand dollars each.

Volunteers from Rotary, Scouts and the Kids in Need charities gave their time to take donations at venues.

"We're very grateful to our volunteers, our charities and our partners, like Fire & Rescue NSW, the Australian Navy and Air Force," said Mr Debnam. "It's been a monumental first effort." **END**

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

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MOBILE USAR PROP WINS AT GOOD DESIGN AWARDS



On 29 May, FRNSW's new USAR transportable structural collapse training prop was announced as a winner at the 2015 Good Design Awards.

Ingleburn Operational Capability staff entered the prop in the 'Product Design - Commercial and Industrial' category, up against 21 other nominees including multinationals such as Qantas, Pepsi, Honeywell, OPAL and Ryobi. The USAR prop won the prestigious Patron's Prize which recognises and celebrates the best Australian-designed project, and is awarded to "entries that have the potential to shape the future economic, social, cultural and environmental aspects of our world".

The idea for the training prop arose from attending overseas training exercises. Based on the dimensions of an ISO shipping container, the prop, which is totally transportable and resettable, simulates a structural collapse for locating and rescuing trapped victims. The prop has been used in skills maintenance sessions and in exercises such as the major Sydney CBD exercise described earlier in this issue. FRNSW shared the design and specifications with ACT Fire & Rescue who have now bought two props of their own. A second transportable prop commissioned by FRNSW was completed in June, and includes a trench collapse and progressive pancake collapse.

END



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

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NSW GOVERNOR PRESENTS AUSTRALIA DAY HONOURS

On 30 April, an investiture ceremony was held at Government House where the NSW Governor, the Honourable General David Hurley, presented Australia Day Honours which were announced in January. Three FRNSW officers – Station Officers Phillip Etienne and Clayton Allison and Bellingen Captain Andre Van Hoeck – were presented with the Australian Fire Service Medal (AFSM) at this ceremony.

Chief Superintendents Malcolm Connellan and Craig Brierley, who were awarded AFSMs in 2014 but weren't available at previous investitures, also attended to receive their awards.

■ END

WOOLGOOLGA CAPTAIN RAY WEBB RECEIVES COMMUNITY SERVICE AWARD

Retired Captain Ray Webb from 507 Woolgoolga was recently recognised with a NSW Government Community Service Award. Member for Coffs Harbour Andrew Fraser MP presented the award to Mr Webb in recognition of his decades of serving the community through his role in emergency services. Ray joined the NSWFB in 1984 and was appointed captain at Woolgoolga Fire Station in 2002. He retired recently from FRNSW after more than 30 years of service.

■ END



QUEEN'S BIRTHDAY HONOURS ANNOUNCED



Five FRNSW officers were awarded the Australian Fire Service Medal in the 2015 Queen's Birthday Honours. This year's FRNSW AFSM recipients were Chief Superintendent Paul McGuiggan, Manilla Captain Edward Taylor, Narrabri Captain Shane Bradford, Superintendent Kim Reeson

and Station Officer Mark Black. All five recipients of this prestigious medal have demonstrated an exceptional level of service and commitment to FRNSW and the community over many years, and this award is a timely recognition of their outstanding efforts throughout their firefighting career. ■ END

MOSMAN FIREFIGHTERS RECEIVE ROYAL HUMANE SOCIETY AWARD



On 26 June, two FRNSW firefighters were among 26 members of the community presented with Royal Humane Society awards by the NSW Governor, The Honourable General David Hurley. The awards recognise the bravery and self-sacrifice of members of the community who have responded to help people whose lives were in immediate danger. Senior Firefighters Lloyd Mulder and George Cheeke and local residents Mr Andrew Cochrane and Ms Maria Tosone all received medals for their brave actions at a petrol tanker fire in Mona Vale in October 2013. Mr Cochrane, who entered a crashed vehicle to remove occupants immediately following the petrol tanker crash at Mona Vale, received the Stanhope Gold Medal, the highest Royal Humane Society bravery decoration in the Commonwealth.

■ END

INAUGURAL ROTARY EMERGENCY SERVICES COMMUNITY AWARDS



On 28 August winners in the inaugural Rotary Emergency Services Community Awards were announced at a special ceremony in Sydney's Darling Harbour. The awards recognise emergency services personnel for community service above and beyond the call of normal duty.

More than 120 nominations were submitted for award consideration across six emergency service organisations. Of these, FRNSW's four finalists were Station Officer Brendan Hurley from Liverpool, Superintendent David Lewis from Batemans Bay, Senior Firefighter Michael Nguyen from Cabramatta and Senior Firefighter Sam Wall from Dee Why. Senior Firefighter Shannon Crofton was also selected as a finalist, representing NSW SES.

On the night, each finalist was presented with a plaque with one winner announced from each of the six emergency services. The evening culminated with the announcement of two overall winners with SF Shannon Crofton taking the volunteer honour and NSW Ambulance's Carol Bond awarded the paid title. **END**

2015 ROTARY EMERGENCY SERVICES COMMUNITY AWARDS WINNERS

FRNSW..... SO Brendan Hurley
 NSW Ambulance Carol Bond
 NSW RFS..... Jeffrey Luke
 NSW SES..... Shannon Crofton
 NSW Volunteer Rescue Association Rodney Coombes
 Marine Rescue NSW Eryl Thomas

Overall winner (paid)
 Carol Bond, NSW Ambulance
Overall winner (volunteer)
 Shannon Crofton, NSW SES

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TAMWORTH BREAKFAST CLUB SAYS THANKS



For the last four years, 452 Stn Tamworth has been helping to serve breakfast to the students at West Tamworth Primary School. In the last three years Station Officer Phil Cox and the crew of 452 F Platoon, were there every fortnight, helping in the canteen and mingling with the children to pass on fire safety messages. On 3 July 2015, Station Officer Phil Cox retired and in appreciation of his efforts at Breakfast Club, the staff and children sent a signed thank you card.

END



THANKS FROM THE COMMUNITY

4 June 2015

At the most recent meeting of Muswellbrook Shire Council, it was resolved to write to you commending the work of the officers of NSW Fire and Rescue on their extraordinary efforts during the recent natural disaster that devastated such a large number of communities in the Hunter Region.

Whilst a disaster of the scale experienced in April tested the strength of the emergency services and the communities they serve, it again demonstrated the personal determination and commitment to service of the officers of Fire and Rescue.

Council commends your efforts and appreciates the unwavering commitment of NSW Fire and Rescue to the communities of the Hunter region during such trying times.

Yours faithfully,
Steve McDonald, General Manager, Muswellbrook Shire Council



Oproperty

June 11 at 9:15am

At Rooty Hill Road South, a car rammmed into a tattoo parlour and caught on fire, affecting a number of adjoining businesses including Oproperty, real estate agents. Oproperty thanked FRNSW and others online for their quick response to the incident, stating:

"Thank you to all the local businesses and our clients for all the support we have received since the fire Tuesday morning. We would also like to thank the Police and NSW Fire & Rescue personnel that attended. Most importantly everyone concerned is safe and no one was injured in the incident."

Like • Comment • Share

Be the first to like this.

Most Relevant ▾

Friday 15th May

To all the firies who assisted on Friday 15th May in extinguishing the fire very quickly in Our Lady of the Nativity Church Lawson, a HUGE THANK YOU from the parish community.

We would have been at a very great loss without your swift action.

Thank you all and may God bless each one of you for doing what you do best.

In sincere gratitude and much appreciation from Paula Currie (Parish Secretary).



Colleen Finch

21 June 2015

"The Benevolent Society at Ingleburn took a group of children to the Minto station house today. The children loved the engines and the ladders and the firemen were wonderful to the children. They took great care of them and engaged with the children beautifully. The highlight of the day was knocking over witches hats with the fire hose, and climbing in and out of the engines. We pass on our thanks to Fire men, and we will come back and see you another day."

Like • Comment • Share

Be the first to like this.

Most Relevant ▾



Jodi Heath

17 July 2015

"Today we just happened to be walking past the Neutral Bay Fire Station with our 2 and 4 year old boys. The kids stopped to look at the fire truck parked in the street, the fire fighters were sooooo amazing they put the kids in the truck, let them put their helmets on then backed the truck into the station with the lights etc going and then gave them balloons and colouring in books. I want to thank them all for being so kind and welcoming and for making our little boys day. You are absolute legends for doing everything that you do for the community from fighting fires, rescuing and being such amazing role models for our kids. THANKS SO MUCH"

Like • Comment • Share

Be the first to like this.

Most Relevant ▾

PM VISITS STORM-RAVAGED DUNGOG



On Wednesday 1 July, former Prime Minister Tony Abbott visited the town of Dungog which was hit hard in the damaging 21 April storm.

On arrival, he was briefed by Federal Member for Upper Hunter Bob Baldwin and Brigadier Darren Naumann, who was appointed to the role of regional recovery coordinator for the Hunter and Central coast floods. Following this briefing, Mr Abbott met with emergency service personnel including FRNSW Dungog firefighters, as well as local residents affected by the storm.

"When the storm hit you were front and centre of our thoughts," he said. "I was in Turkey for the ANZAC centenary but I know there were good people back home helping as much as they could.

"I am very proud how the local people rallied to the cause and helped those who suffered in the first instance and are now helping to get things back to some normalcy."

Following the former Prime Minister's visit, the NSW Governor David Hurley and Mrs Hurley visited Stroud on Saturday 4 July to see firsthand the devastation caused by the April storm. They also met with community leaders, agency representatives and local residents.

END

FAREWELL AND THANKS TO THOSE RETIRING

Retirements

Name	Fire station/business unit	Date retired
SO S Apps	Fire Investigation & Research Unit	10/04/2015
RetF P Green	Dubbo	13/04/2015
SF B Ebbeck	Newcastle	24/04/2015
SO S Bilborough	Fire Safety Assessment	24/04/2015
SF T Tranter	Command Newcastle	1/05/2015
RetF R Honson	Broken Hill	1/05/2015
RetF P Jasper	Saratoga	7/05/2015
Capt R Moran-Webb	Woolgoolga	8/05/2015
SF P Matthews	Holmesville	24/05/2015
Supt C Holmes	RS3 Zone Office Wagga Wagga	29/05/2015
DCapt G Portbury	Jerilderie	18/06/2015
RetF D Walker	June	19/06/2015
RetF R English	Bowraville	19/06/2015
RetF D Bennett	Mudgee	19/06/2015
QF J Bugelli	Schofields	1/07/2015
SF M McMullen	Dubbo	2/07/2015
SF G Tester	Lismore	2/07/2015
SF H Lambert	Drummoyne	2/07/2015
Capt P Mitchell	Kiama	2/07/2015
SO G Murphy	Huntingwood	3/07/2015
SF M Langdon	ComSafe Training	3/07/2015
SO P Cox	Tamworth	3/07/2015
SO M Carruthers	Concord	3/07/2015
SF S Mills	Liverpool	3/07/2015
SO I Reich	Cranebrook	5/07/2015
SF K Green	Mona Vale	6/07/2015
SO G Jeffery	Leichhardt	7/07/2015
Capt B Griffin	Lambton	9/07/2015
SO P Welsh	Castle Hill	9/07/2015
SO F Lampe	Albion Park	9/07/2015
SO M Rose	Coffs Harbour	9/07/2015
SO D Herbert	Albury Central	9/07/2015
Supt G O'Connor	ME3 Zone Office Ashfield	9/07/2015
SF J Savage	Horningsea Park	9/07/2015
SF P Turnbull	Newcastle Communications	9/07/2015
Insp R Packham AFSM	Sydney Comms – Alexandria	10/07/2015
SO C Williamson	Darlinghurst	10/07/2015
SO W Foley	Revesby	10/07/2015
Capt A Playford	New Lambton	10/07/2015
SO S Gleeson	Hamilton	16/07/2015
QF J Brigden	Shoalhaven	17/07/2015
SF M Wilson	State Training College	19/07/2015
RetF B Reeves	Kyogle	21/07/2015
SO A Leak	Cranebrook	21/07/2015
SO D Grant	Blacktown	23/07/2015
SF P Doesburg	Bulli	24/07/2015
SO R Bennett	Matraville	31/07/2015
SO M Maher	Tweed Heads	31/07/2015
SF G Sykes	St Andrews	10/08/2015
SF K Aitken	Sydney Comms, Alexandria	10/08/2015

FAREWELL AC MARK BROWN - NEW ACT CHIEF OFFICER



In June, Assistant Commissioner Mark Brown AFSM left FRNSW in order to take up a new role as Chief Officer of ACT Fire & Rescue. Mark is experienced, dedicated and highly qualified, and made an enormous contribution since joining the NSWFB in 1981. His major achievements included the following.

- Working in Operations Research in the late 1990s and playing a key role in developing service delivery planning methodologies which were

a key factor in obtaining Government funding support for new fire stations in Sydney, Newcastle, the Illawarra and Central Coast.

- Being the main architect of the 2006 executive restructure that saw establishment of the seven Area Commands, and Metropolitan and Regional Operations Directorates.

- Completing the Executive Fire Officer program at the USA National Fire Academy, with two of his applied research projects judged the best of all submitted in those years – a first for an Australian.

- Participating in a 12-month secondment to the WA Fire & Emergency Services Authority.

- Revamping the Community Fire Unit Program.

- Overseeing, together with IT, implementation of the new computer-aided dispatch system and satellite tracking of appliances.

- Overseeing construction of the new state-of-the-art USAR prop at Ingleburn.

- Playing a 'behind the scenes' role at the Major Incident Coordination Centre at every major emergency in recent years.

END

VALE: WITH GRATITUDE FOR SERVICE TO NSW

Deaths

Name	Date deceased
Retired DCapt Harry Flint	23/04/2015
Retired RetF John Fifield	24/04/2015
Retired FF Gary Somers	5/05/2015
Retired SO Robert Milne	16/05/2015
Retired Capt Donald Hope	2/06/2015
Retired Capt Reginald Cooper AFSM	2/06/2015
Retired Capt Edwin Andrews	3/06/2015
Retired RetF William Bramley	9/06/2015
Retired Mrs Rona Bailey	06/2015
Retired SF Maurie Parker	18/06/2015
Retired FF Ronald Moore	21/06/2015
Retired RetF Thomas Hollis	20/06/2015
Retired SO Robert Natoli	1/07/2015
Retired Capt Colin Maslen AFSM	5/07/2015
Retired Barry Lewis OAM, former Member of the Board of Fire Commissioners	8/07/2015
Retired FF Robert Hill	25/07/2015
Retired Capt Col Jones	8/08/2015
Firefighter Drew Cullen	11/08/2015
Retired Supt Victor Crum QFSM	13/08/2015

VALE: CENTENARIAN VICTOR CRUM



Retired Superintendent Victor Crum QFSM, who recently celebrated his 104th birthday, sadly passed away in August. Many serving and retired members attended Mr Crum's funeral to provide a guard of honour, and Commissioner Greg Mullins delivered a brigade eulogy paying tribute to Mr Crum's contribution to the service and the people of NSW.

Mr Crum's firefighting career commenced in 1933 and he progressed through the ranks spending the majority of his time at Stanmore Fire Station. He retired as Superintendent (equivalent to today's rank of Assistant Commissioner) in 1971, at the age of 60. He was awarded the Queen's Fire Service Medal on 12 June 1971.

During his career he responded to many incidents, however he will always be remembered for the Buckingham's fire in Sydney on Anzac Day, 1968. Mr Crum was the Metropolitan Superintendent when he responded to the call. In an interview in 2011, he recalled: "The attitude I took was, it's no good saving this building – they are going to pull it down. So I concentrated on all the surroundings (exposures). We did pretty well. We had a constant line on the hotel on the opposite corner. The damage was limited to some plate glass windows." When asked about the collapse of a wall, Mr Crum said, "I was expecting it to come down ... it did exactly what we wanted it to do." An iconic photograph showing the wall starting to collapse features Supt Crum, in a red helmet, directing firefighting operations. **END**

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T: (02) 9265 2907

E: internalcomms@fire.nsw.gov.au

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Send any high-resolution photos (larger than 1,000KB) to: frnews@fire.nsw.gov.au

CONTRIBUTORS

Editors

Peter Walker
Michelle Bowers

Fire & Rescue Operations Journal Editor

Insp Kernin Lambert

Art Director

DesignDavey

Production, photography and editorial

Andrew Parsons
Becky Gollings
Heather Pillans
Malissa Milligean
Bronwyn Hilton
Jan Crombie-Brown
Supt Ian Krimmer
Kerry Blackett

Online and digital

James Hanney

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FF Hugh Lloyd, pictured with Corporate Communications Manager Peter Walker and Station Officer Peter Dryburgh, receives a framed copy of his winning image, used on the cover of the June 2015 issue of *Fire & Rescue News*



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