

Germany 2010

ESF Scholarship Report



Information of Emergency Service Rescue Vehicles, Clothing and equipment

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15.09.2011

Time Table

4 x days at Interschutz Emergency Service Expo – Leipzig

2 x days at Rosenbauer Emergency Service truck and equipment builders – Austria

1 x day at Weber hydraulic rescue equipment manufacturer - Austria

1 x day at Holmatro hydraulic rescue equipment manufacturer – Raamsdonksveer

Half day opportunity to visit the local fire rescue service in Raamsdonksveer

1hr meeting with Local Fire Officer while at Rosenbauer, Discussion around their volunteers.

Opening Thoughts

Interschutz – This was indeed an expo like I have never seen before. The size of the site and the amount of equipment on show was hard to believe. Over 1100 exhibitors in five massive indoor locations and continuous live demonstrations of equipment and scenarios in two large external static displays.. The amount of vehicles on display and the diverse range was just astounding. Throughout the halls was the constant sound of demonstrations taking place. The amount of people both on stands and walking around was incredible, the cost to run this type of event and the total cost of equipment would be staggering. It would have to be in the tens of millions.

Rosenbauer - **Upon** arrival at the factory I was amazed at the size of this site, just the number of appliances lined up either waiting collection or shipping to other countries was astounding. The factory had numerous levels which I would explore later just to confirm the size of this operation. I knew this was going to be something special as I was greeted by the CEO of the company then taken to the restaurant which was the best part of five stars, here I was to meet with other Company Officers and the Australian agent.

Holmatro - As we travelled along an auto barn at 140 kph the time flew quickly. We arrived at the factory to meet up with our guide and mentor for the day and we then proceeded to enter the factory. First impressions were how clean it was and how it would put most four star hotels to shame. The cleanliness was amazing as we travelled throughout the factory looking at a range of equipment and new innovations. We then went upstairs to meet with the factory's senior training instructor where I then had an opportunity to partake in some of the different entry and extrication techniques that they use over there. This was very interesting and enlightening and gave me ideas that I would be able to use back home.

Weber – The trip to the Weber factory through the mountains was breath taking, again we were meet by the CEO and treated like royalty. The factory was as clean as the Holmatro factory that we had visited earlier and we were treated to a visit of their research centre, something that we were not allowed to see at Holmatro. As we toured the factory the size of the windows and the views that could be seen through them stuck in my mind, what a truly magnificent place to work in. It was interesting to see that they manufacture a large amount of hydraulic rams.

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Interschutz

Section1 Rescue Helmets - A new range of rescue and fire helmets have been released by Rosenbauer into the market. The number of different types was impressive with a basic style was worth further investigation. The fit of the helmet was very good, being lightweight and well balanced. The helmet adjusted from the back on the outside and has a number of attachments for lights etc. The main frame system of the helmet made it very comfortable on your head. Other features included the drop down visor from inside the helmet, then a drop down protective shield over the top of the visor. Other options available are a variety of colours for both the glasses and lenses. This helmet is worthy of investigation by all services, but also has the other benefit in that orange is a standard colour which makes this ideal for VICSES.

Section 2 Water Pumps and Water Movement - Options of water pumps for the movement of water. Wildfire was one company that I came across and was informed that they have an Australian representative who currently called on our service. They have petrol powered pumps quite small in size and very compact. It appears however that most services over here use the submersible style pumps. The exception is fire fighting where they use this style of pump to supply water to the main fire fighting appliances. Again Rosenbauer seems to be one of the largest suppliers of this equipment. There is a large range of these pumps available and a variety of flow rates to match. The obvious benefits of the submersible pumps are: small in size, one person deployment, auto shut off when no water supply is available, operates in very minimal water depths, does not leave any poisonous fumes behind, easily stowed on vehicles and can be lowered down holes and wells without the need for personnel to go down with it. This makes it a great option for consideration by the service as well as a safer option for the operators.

Section 3 Glass Management - Another item of interest was PACKEXE SMASH. This item is used for glass management on automotive windows when rescue is required. The ease of installation was simple and straightforward. The product can be placed over wet or dry glass and comes with a dispenser with a number of other items in the kit to assist this. I was able to have a practical demonstration and also given the opportunity to have hands on experience with this product. What I found was a much better process than the old packaging tape method or the squares of contact that we currently use. The Pack exe method was very simple and fast, offering the benefit of holding the glass in one piece for removal. This also assisted when cutting the main front window for a full roof removal as it reduced the amount of glass dust. I was informed that this company would soon come to Australia to promote the product and locate an Australia wholesaler.

Section 4 Crash Recover System - The Crash Recovery System by Moditech Rescue Solutions is worthy of follow up but not sure who the wholesaler of this product is in Australia at this point in time. From what I saw of the demonstration it has some great potential to make road rescue much safer for our crews by identifying airbag, Battery, fuel tank and a number of other key items within automotive vehicles. I could see the benefits when undertaking dangerous rescue due to the ever increasing technology used in the production of motor vehicles and I would envisage that if

available, this would be a great time saver for the crews in the field and would identify many hidden dangers.

Section 5

Rescue Vehicle Displays

This brings me to the main reason for the trip to Germany to look at rescue vehicle design. There is no doubt that this was the place to see all the key manufactures and appliances that they build. The whole site was alive with people and suppliers demonstrating their equipment. I counted 45 aerial appliances with the tallest coming in at 112 metres - just incredible!

After getting my head around all this, I started to look for the items that would be best suited to our service. The first thing that drew my attention was the large amount of vehicles built by a company called Rosenbauer.

I tracked down a sales representative who found then someone who spoke English. They informed me that the Australian Company that were their agents were also at Interschutz. so he suggested that we find them to speak to me. After a short wait I was introduced to Scott and Rob McEwen from SASGAR. They gave me a tour of the different sites that Rosenbauer had at the show. It was a very impressive display and the company seemed to make a wide variety of vehicles from the large Panther airport tenders to smaller fire appliances. They seemed to have it all. I was also informed that the Company made a lot of its own small equipment and we looked at a couple of the smaller appliances that could be suited for VICSES. The most impressive thing that stood out was the finishing detail and how well the equipment was laid out within the appliances.



I was shown how they designed the equipment layout in the vehicles by the use of a three dimensional CAD programme. This arranged the equipment and also told the operator about the over axle weight's. All very impressive to see done in real time as we spoke. You could open and shut lockers with tools in place and swing open storage shelves to give you a true look at how the vehicle would be laid out. After numerous hours looking at equipment, vehicles, designs and gathering

information I was asked if I would be interested in visiting the factory in Austria. This would give me a much better appreciation of how they operated and what they manufactured. It was a simple and fast “YES”. With this in mind I thanked them for their time and moved onto another site at the show, keeping in mind that I would later be visiting the factory and would be able to source more information then.



The next item to follow up was Communications vehicles. Most of these vehicles were built on either Ford or Mercedes Benz. They are only small vehicles but were laid out very well and the space was extremely well utilized. The front two seats rotate around when the vehicle is stationary towards the console which is located behind the seats with all the radios, phones and communications equipment. The main area in the back was used for meetings. Within this area are photocopiers and whiteboards and also the main frame for the communications and functional items. Upon further investigation in the rear was located the silent generator, communications mast, light mast, along with shelving and a variety of other items. Most had rollout awnings of some shape or size.

Other vehicles had the Communications section in the rear with a divided section for command and control. These vehicles were again well laid out inside utilizing the room to the utmost. These simple ideas would be of great benefit to other emergency services along with our organisation wishing to build communications vehicles.



The next vehicle that I came across was the new proto type 6x6 Mercedes Benz Sprinter. The appliances looked fantastic and were obviously well engineered. A single cab with the back module encompassing the extra crew section that seated an extra 6 to 8 members. While it was predominately for fire fighting it also had road rescue equipment carried on board and it seemed that most services over here perform all the key fire and rescue incidents. In speaking to the representative on site they advised me that it was simple to change the equipment over to whatever the need of the service was by utilising their CAD system. Everything about this appliance was fantastic, the finish was superb and the way all the equipment was installed throughout the vehicle was impressive. The idea of how the equipment was accessed and stored on board with heavy items such as pumps on slide trays with air operated rams to lift and lower them to a useable height was excellent. I could seriously see the service looking at these types of vehicles in the future. They also had a 4x4 similar in design on display as well.



Section 6

Frank-car

The next Company was called Frank-car. Their rescue and fire fighting vehicles were all made on Ford vehicles (both dual and single cab) and some were fitted with winches. The pods on the back were well blended into the cab chassis and looked like they were part of the vehicle, not an add on. Again they were mostly fire fighting vehicles but it would be simple to have the internal tanks and pumps removed to suit the SES or any other services needs or requirement. There was plenty of space inside of the vehicle with standard roller type doors. Inside the lockers was well illuminated, the shelves were adjustable and all the modules were made from light weight alloy and finished off neatly.

The body was constructed of stainless steel and the outer section of aluminium alloy plate with the overall length of the body is 2250mm. The roller lockers are 2 x 1000mm wide. The back roller locker is 800mm wide. The light mast was built internally and was fitted with 2x 500 watt lights. There is also an AWD version available if required.



Section 7

Holmatro Stand

New equipment

- 1/ The Extendo ram is a 3 stage ram where the first stage is a ratchet type similar in design to Air shore technology that service current uses. This enables the ram a much faster extension rate and quicker deployment time.
- 2/ A new ram support with teeth to stop slippage and also to hold the rams for better alignment.
- 3/ New range of petrol pumps for operating the equipment but these were pretty straight forward.
- 4/ New hand operated power wedge for those hard to get at areas for starting a gap to allow larger equipment into the void.
- 5/ The Concrete Crushers were very interesting to look at but would require further inspection and assessment.
- 6/ RFID Radio Frequently Identification technology. All new equipment being made has this attached now and all previous equipment can be installed with a new microchip. The software is free and this would be an excellent way for the service to keep track of all our rescue gear. The

software has numerous advantages as it can control the service times for equipment on the software as well as the location of tool types and much more. As a service we should seriously look at this for servicing and tracking of our equipment.

I meet with Antoon Burgers in charge of the Australia sales and one of the senior people at Holmatro. We spoke about the weight of the gear and in particular the spreaders that SES currently uses. The main concern was the current weight and he informed me that he did recommend the next size down to the service when they were looking to purchase them. He recommended that we would be better off with the SP4240c. SES currently uses the SP4260c model so this means a difference of about 6 kilograms less in weight and only 6 tonne difference in spreading force.

The other interesting item was the use of live hoses reels. I wonder if the service has done its homework fully in relation to this as I had previously been advised when involved with building a new heavy rescue vehicle that the cost of having these reels installed was too costly. After we give back the 2 x manual hoses reels and replaced them with 2 x electric hoses reels the cost difference was only about \$3,000.00. I am sure that the Unit would have gone down this path if they had known the small cost difference at the time. Certainly this is something for the service to look into for the new heavy rescue vehicles as it would make for much better storage and quicker retrieval for hose lines.

Section 8

Rosenbauer Factory Visit

I travelled to Linz in Austria to where the Rosenbauer factory is located.

The first day I was greeted by Scott McEwen from SASGAR who had also travelled to the factory and upon arrival I could see this was going to be something special as the factory site was enormous and the building was multi storey. Here we caught up with other emergency service personnel from Australia. We all gathered in the meeting room for a briefing about the Company and its beginning then we were divided into two groups and travelled down into the factory. Our guide was a wealth of knowledge and information about the company, the equipment that it manufactured and the community.

The first section of the factory that we visited was the assembly line for fire fighting pumps. Here all the workers work as a team and rotate around helping each other to complete their tasks. It was interesting to see that the company built not only the pumps but manufacture a lot of the components required for them as well.

Next we travelled to the start of the laser cutting section and the tool making section. It was interesting to see how they cut and form the various panels as most of the panels are aluminium with a stainless main frame. We then moved to the assembly line to see that they do not weld any of the modules as it is all cut, bent, then glued and bolted together. This makes for a very neat and tidy assembly of the pods. The pods are built first then attached to the cab chassis and again this is all done in small teams. Once the pod is attached to the vehicle it is then placed in a special bay for the final fit out of trays, shelves and equipment.



All the wiring looms for the vehicles are integrated into the vehicle as part of the main loom which allows for a full data printout of the vehicle. Any faults in any of the electronics are easy to find due to this innovation. Also each locker has an individual data module which helps identify what the fault is.

They build a variety of different vehicles on different cab chassis but most seem to be single cabin vehicles as part of the main module the cabin for the additional personnel is built into this. This vehicle is then able to carry a crew of up to 12 personnel. The safety of the crew is paramount and as such the design of the vehicle has to be rigid enough to stop body sway. This helps to avoid accidents or close calls. As part of the module design, the crew exiting the vehicle does not step onto the ground but as the door is opened a set of steps come out with the door. The side of the module also opens down below the roller doors which turns into a walkway for the crew. The mudguard over the rear wheel also folds down to do the same. The crew members then walk along the side of the vehicle and select the equipment that they require without having to step on the ground. In this format you can also walk into the vehicle to access a range of other equipment. In doing this they are able to make the appliances higher and stow equipment in a range of locations throughout the



The lighting towers on the vehicles are driven from the appliances 24 volt system and they are controlled by a remote that enables 360 degrees rotation vertical or horizontal movement and the lights can be set to spot or narrowed into very fine beam which allows for long distance penetration.

Each light can be turned on or off by remote control as well. The lights are a LED style and are very effective and have a long life capacity. The vehicle can be supplied fully equipped or just cab chassis with pod. The company can also design all the stowage as require from a list of equipment that the service provides or the specifications that they are given.

Once the appliance is built they then conduct a range of tests and check all of the equipment to make sure it meets the specifications as per the agency requirements. Any fire fighting pumps are retested and signed off. The next step in the process is to have the vehicle decaled and they do a variety of different styles and colours to meet any customer's requirements. This was very interesting as the quality of this product was excellent and it just looked like it was painted on. From here the vehicles moved onto the finishing and detailing area where everything was cleaned then re cleaned, even the ladders and tools.

Finally if everything passed the final check the vehicles were delivered to the specification section. This looked like a 8 bay fire station from the outside but once inside each bay had a desk and chairs and this was where the customer comes to take delivery of their new appliance. They sit down with a representative from Rosenbauer and go through each item as per the specifications to make sure that everything is correct as per the order. The Vehicle and any new item are demonstrated only once the customer is happy with everything. It is then signed of and the customer drives away. I have never seen such a fanatical approach to perfection as this.



Some interesting discussion took place around vehicle designs. Apart from fire fighting pumps nothing else is driven via PTO as all lighting and power is via silent powered generators. Even some of the rescue equipment is driven via electric pumps and any extra lighting is via generator. The reason they informed me is that if the generators fail the replacement is quick and a simple process. They do not lose the use of the appliance and also the noise levels are substantially lower and offer a range of benefits. You can therefore have a standard conversation beside the truck without shouting while all the equipment was being used.

In October 2010 SASGAR in conjunction with Rosenbauer are bringing to Australia a demonstration model called an AT pumper rescue that will tour Australia. Once it has completed this tour of all the services, it will then be sent back to Austria where they intend to dismantle the whole truck, check each part and download all relevant data from its on-board computers. They will check to make sure that all components withstand Australia's harsh environment and make any changes that are required.

Also SASGAR are building a new factory in Queensland to service the current panther airport tenders that have sold in Australia. They are planning to also build the new trucks in Australia by 2011. As the pods have no welding in them they will be flat packed to Australia and assembled at the new factory in Queensland. This will give the service an ideal opportunity to view the quality of this vehicle builder and what they have on offer.

Section 9

Hydraulic Rescue Factory Tours

Hydraulic rescue equipment – it was interesting to see that most of Germany ~~utilies~~utilises very little Holmatro rescue equipment. Most services seemed to use the Weber brand and nearly all of the vehicles at Interschutz had Weber rescue equipment in them. After talking to the Weber sales representatives on their stand they offered to give me a tour of their factory if I wished to travel there. I took up the offer and gained some valuable information from the visit to both Weber and Holmatro.

Weber Factory Tour – I was collected by Franz Linner Area sales Manager (better known as the demolition man), I would later find out why they called him this. We then travelled to Losenstein (about 1 hrs. drive) to where the factory is located in the mountains. A very scenic location where out every window was a mountain view, no wonder that everyone that is employed at the factory was so happy. I was given access to the whole factory even the restricted R & D section. Here I was shown the latest on their development which they seem to think will revolutionise the industry in regards to how pumps work using a very simple design pump for hydraulic fluid. We then started the tour of the factory and I have to admit that this was the cleanest factory that I have ever seen. They also manufacture a large range of hydraulic rams as well. Half the factory was for building and assembly of hydraulic rams and the other half for rescue gear. It was also interesting to see the apprentice section where they spend the first 2 years learning all about the machines the company uses and make a variety of equipment by hand before they go into the main factory. The way they manufactured the equipment was very impressive and if any item was not up to the required standard it was rejected and not used. These items were later dismantled and the faulty part was then tested to see why it was not correct. All other parts from the same batch were then also retested to make sure they were not outside of the specifications. Overall a very well laid out factory producing quality equipment.

Holmatro Factory Tour – We were collected from our hotel and taken to Holmatro in Raamsdonksveer. From the outset it was obvious that we were in for a treat, the approach to the

factory was immaculate as we walked into the reception area and our service and names were up in lights on the large foyer monitor welcoming us to their factory. We were then meet by Antoon Burgers in charge of Australia who lead us into a meeting room and gave us the briefing for the day.

Off we ventured on a tour of the factory, once again extremely clean and neat. They have only recently built a new section onto the factory so had lots of spare space. Unlike Weber we were not allowed into the R&D section or permitted to take any pictures inside of the main factory. Again the way they manufacture and build the rescue gear was very impressive. It was also good to see that they can still supply parts for equipment up to 30 years old. Currently they still have some organizations that are using the old twin line style equipment.

Back up to the board room where we met up with Remco Niks Technical Rescue Consultant. We had a conversation about the different process that we use in Australia for rescue and we then travelled down to the demonstration area in the factory for some new ideas. We spent a couple of hours doing some scenarios for rescue and using other equipment that we don't normally use in Australia. We had demonstrated to us a different way of roof removal. This was to save cutting the window on the front of the vehicle using the standard equipment we are issued with and the reasons why. Also utilising the air shore equipment a different way to stabilise a vehicle was shown. Time well spent. Another interesting discussion around the usage of hydraulic rams to push the car back into shape rather than cut the vehicle apart as we do in Australia.

Section 10

Visit to Volunteer Fire Service – Losenstein

Upon arrival at their fire station we were confronted by a building with four truck bays and a three storey tower. I could see through the windows of the truck bays that they had been resourced with quality equipment. Our host used his finger print to access the building and isolate the alarm system.

Leading us into the appliance bay the first vehicle was the new pumper rescue truck valued at 800K Euro fully equipped with new gear. Next to this was the 4wd Mercedes Benz medium pump rescue, then the Mercedes Benz Protective equipment, a communications van and last the command vehicle. Out of the truck bay we moved into the communications room which had every piece of technical equipment possible. We then visited the meeting room which was surprising average size and then down the stairs to the hose washing facility which also housed the hose drying tower. We then travelled down the passage way to the junior's room where they have their own lockers with full PPE the same as the senior members. The next room we came to was the dive room that was full of equipment and tank filling stations. Then up the stairs and out the back to the boat shed to one of the largest river rescue boats I had seen, which can carry up to 12 persons on board at any time with all the gear for diving etc.

I asked him about the junior members and what they do. He replied that they start at 8 years old and are trained in all aspects of the brigade so when they reach 16 years they transfer into the senior ranks and become operational. By this stage they have all the skills that they require for them to respond to incidents. Some of them go on to become Officers at the age of 21 like his son. He also spoke about the amount of time they spend with junior members mentoring them as they are the

future of their service. I think we can learn a lot from this. We then spoke about the brigade itself and was amazed by the following;

Equipment cost approximately 2.2 million Euros not including the building

Population of town – approximately 1000

Number of calls per year – 30-40

Number of members – seniors 40 juniors 15

Area covered – approximately 10 minutes in all directions from town

When they have a call out how many other brigades support them – standard call out response is up to 12 others respond if in tunnels and a few less if river rescue.

This was a very different response from what I was familiar to but after discussion with him I understood the reasons behind this. I found that as a service we have a long way to go not only in regards to how we recruit members but how the emergency services are funded in Australia.



Section 11

Meeting with Fire Officer in charge Linz

His day job was at the Rosenbauer factory. The brigade is made up of volunteers and he advised me that they are an active brigade and like other brigades spend a lot of time with their junior members

training them up for the future. They take juniors to many events and expose them to real work to keep them interested and keen. ~~It~~the brigade is more than just an emergency service, it's a meeting place on weekends and lots of families meet there at the station before heading to other events within the community or carry out maintenance and family activities at the station. They always have a waiting list of families wishing to join. Like the Losenstien brigade I asked about their equipment and responses.

Equipment – they have 12 appliances

Members – 130 active members and 30 juniors

Responses – about 1100 per year

Numbers of members responding each call – about 30-40

Coverage of brigade – mainly Linz

It was interesting that a lot of buildings in the town were 2 storey and larger thus the reason for the large amount of equipment as building fires are usually quite large and can easily spread to other buildings. Some of the older churches within the city are very large and extremely high, thus the reason for the two aerial appliances and the four pumpers. Again it was interesting to hear how the local community supported it's emergency service workers allowing them to come and go whenever they were required. I was offered a tour of the station but unfortunately I had to decline due to time restraints. I am sure from the conversation, I would have been impressed with the size and the equipment they had on station, maybe next time. He also informed me that in Austria most of the brigades are volunteers.

Section 12

General information

There were numerous other interesting things to look at while at the Expo, but a lot was not applicable to the VICSES. I could have spent days looking at all sorts of equipment, tools and vehicles. You really do need the whole week to get around the site and the other interesting thing was the live demonstrations of fire fighting equipment and techniques from various companies. I spent an hour or two watching these. After seeing the way they drive their emergency vehicles over there, Australia can hold its head up high. I have never until now seen an aerial appliance go sideways or a fire tender doing circle work, they definitely do things differently over here. Overall the information that I have been able to gather and the ideas that I will take back to Australia for not only our service but all ESO's in relation to the trip will be extremely worthwhile. Overall the trip was a great success. I am sure this information will find its way into our services as we grow and improve our equipment and appliances. The contacts that I have made while overseas will also allow for future information and a possibility to revisit in years to come.

Section 13

Recommendations for the future

1/ That our service and other emergency services need to send someone to the Interschutz expo every 5 years as the amount of equipment, information and ideas that are available were just too vast and important to miss out on for the future of the service. We need to continually look for new and better options to build our fleet of vehicles and equipment.

2/ After speaking to other members of emergency services from Australia, they were also using similar style task forces to be make decisions for the future of their services. So we are on the right track.

3/ As a service we need to look more closely at how and what we allocate to units in regards to the number and types of call outs they attend. This will better justify the money that government allocates to the service, making sure that the units that require specialist's appliances and equipment receive it. Examples of this are units that only respond to minimal calls per year being given heavy rescue vehicles and full sets of large hydraulic rescue equipment. Smaller trucks and small sets of rescue gear may be a better option and they then can be supported by an neighbouring unit with more specialist equipment.

4/ We need to look at the way we lay out our vehicles to better utilize the space available and possibly make our appliances smaller in size. In Australia we leave a lot of empty space in our vehicles that could be much better utilised.

5/ Look at vehicles design in regards to PTO driven generators against silent pack generators to deal with the noise. This would make our appliances more robust and quiet. This will also allow for longer running times for hydraulic rescue equipment and would make the accident scene a much quieter place to work.

6/ Lastly but by no means the least important, the future of our service in regards to members. We as a service with our large number of Volunteers needs to take a note of the brigades that I visited. We must look to start similar programmes for juniors to join the service from a younger age. Without this, the future of our service and also other services is in jeopardy. This is a long term strategy that needs to be put into place so we can train and mentor them. This will then allow for the service to grow and continue into the 21st century.

Section 14

Attachments

Hydraulics –	Weber, Holmatro & Holmatro new Innovations
Light vehicles –	Rosenbauer, Frank-car, Schmidt, Volkswagon, Mercedes Benz
Pumps –	Wildfire, Rosenbauer, SHG

PPC & PPE – MSA, Trexsa, Heimann

Shelves & Modules – Baggio & DeSordi, Amdor

Rescue Equipment – Packexe Smash, Moditech, Donges catalogue

Section 15

Conclusion

The information that I was able to gather while in Germany and the visits to the factories and volunteer stations will be invaluable to our service. It will allow us to implement new ideas and innovations, to build better vehicles with the funding that we receive from Government and be able to supply better services to the community that we serve.

In closing I would like to thank the Emergency Services Foundation for making the scholarship available in conjunction with the Government. A special thanks to Region Manager Stephen Warren whose help in preparing the application was enormously helpful, his knowledge of overseas travel was excellent and helped in arranging all the required to make this trip possible. To the VICSES management team for their support and backing of my application, thank you. I look forward to passing onto my service and any other emergency service all the information and knowledge that I have learnt in my short overseas stay, I hope that we can all benefit from this to make the Australian Emergency Services the best they can be as we go forward into the future.