



City of Glass

Gwyn Winfield spends a day with the Singapore Civil Defence Force to gain an insight into their world

SINGAPORE is a city of surprises, which is perhaps why I return to it in the pages of the magazine so frequently. I am often asked by people, “Is Singapore actually that good?” and while the proof of that pudding is always in the eating, I do have to say “Yes”. There is a degree of thought and effort that has been put into their capability that is rare throughout the world. In no way trying to denigrate this, it is true to say that Singapore is an affluent, well-behaved state that has a small geographic spread and political support for the process of defence. It is perhaps the last point that is the most important; there are other countries that have the former three – Switzerland for example – but very few that manage to combine all four.

Perhaps the best example of this is the work that the Singapore Civil Defence Force (SCDF) does on their public awareness and training. Singapore does a lot of exercises, both large and small, which are open to both public and press scrutiny, which raises both awareness and confidence in the general public. They are not alone in this, however; where I feel they have an international lead is in the public training. This provides Singapore with a cadre of lightly trained civilians able to deal with a range of emergencies. Some of these courses are taught in the regional fire stations, while others are trained at the Civil Defence Academy (CDA). Major Anbalagan, of the CDA explained the range, "As well as internal training, for SCDF officers, we also conduct external courses for members of the public and employees working in the industries. These include fire safety awareness (one day), first safety manager (eight weeks part time), chemical safety awareness (one day), a Hazmat incident management course (one day), confined space entry and rescue course (four days)

The SCDF's goal is to have at least one member of each household trained in a civil defence skill, all households trained to a base-line level and receiving 'certification' when they complete the course. Bearing in mind that Singapore has national service, and therefore a pool of ex-SCDF (for example) personnel, plus a special corp of "part-time" personnel under the Civil Defence Auxiliary Unit (launched in April 2006 and performing front line operations along side normal firefighters, rescuers etc.) this is not for them, but for those who have no such skills. There are two levels – the Civil Defence Volunteers and the trained residents. While the Volunteers might have some ex-SCDF personnel who want to keep their hand in, they and the residents are very much the 'general public'. The volunteers act as a conduit for information and policy to be generated to the residents and, as recipients of a higher level of training, offer basic skills to the residents (firefighting and the correct use of extinguishers, for example). The Volunteer role allows a full maximisation of the golden hour; by the time first responders have arrived, the Volunteers could have been involved in initial rescue operations, evacuation or preparing to support responder tasks like

cordons. This is not just classroom theory; these volunteers, who are managed by the Civil Defence Executive Committees (a grassroots committee that is set-up in every constituency), are encouraged to devise and run their own exercises, heavily supported by SCDF, so they can practise their fire-fighting or Hazmat lessons. The schemes and courses offered are legion, from fire safety management programmes to community safety and security programmes.

The courses are regular (weekly, if not daily) occurrences and taken up with alacrity by all sections of the population. This is not a casual Powerpoint boast; having attended (as a bystander) the In-Place Protection (IPP) drill and seen ages ranging from 18 to 65. Singapore operates an In-Place Protection scheme, also known as "shelter in place", where residents are advised to seal all doors and windows to stop the ingress of CBR agents. This is not just a classroom lesson; the culmination of the day is to take the students into two rooms that are double sealed. The alarm is then sounded and they have five minutes to do their IPP, after which smoke is released into the outer seal to see whether they have left any cracks.

I have to admit not being a fan of IPP, fearing that it could cause greater casualties through carbon dioxide poisoning than the original agent. Yet, if it is going to be done, this would be the way to do it – residents receive their safety briefing on the fact that this is only for four hours (or until the all clear) after which they might become a casualty. The fact that this is dealt with in the open in the midst of this training does suggest that they are less likely to become a

casualty than those who have read or 'heard somewhere' that they need to seal all windows and doors.

The most important result of this programme is an increased sense of community, a heightened awareness and an appreciation of what a serious problem looks like. In terms of the golden hour this is a major head start for the responders, but it comes at a high cost. None of these basic courses costs the residents anything; the state picks up the tab for all of it, which includes providing each trainee a set of course notes that comes in an impressively binded folder.

React and rescue

The CBRN spearpoint of the SCDF are the Special Rescue Battalions, as Major Montel, the Commander of A-Company explained. "The Special Rescue Battalion performs snatch-rescue, medical support, evacuation and decontamination," he said. "We also provide manpower support to our Disaster Assistance and Rescue Team (DART) at the scene and assists paramedics. The sort of assistance provided to DART includes USAR, tunnelling, shoring and lifting and removing debris.

"There are eight platoons on immediate readiness during office hours while outside office hours there is one on immediate activation with the other seven on half-hour readiness to move. A chemical attack or Hazmat incident would see us respond with six sections within the platoon: two decon; three rescue and evacuation and one medic. A normal incident – but mass-casualty – would involve two medics and four rescue. The major asset of the SRBs is the Personnel



SCDF are often pushing the technology envelope

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Decon Vehicle (PDV) and the Special Decon Vehicle (SDV). The former is the workhorse of the force, being able to be modified as necessary into mass personnel decon vehicle, mass-casualty ambulance for evacuation, troop carrier and rescue equipment carrier. To all intents and purposes the vehicle looks like a bus, but has been modified to allow awnings to be dropped automatically to act as shower curtains for the decon lanes. The SDV is a little more special, as Singapore also aims to provide interior, exterior and material decontamination." The latter is unusual as many countries don't attempt to decontaminate personal belongings at the scene – leaving people without house keys and wallets! According to the Major, SCDF can decontaminate such belongings through an Infrared Vacuum Oven. Owners may expect to claim their belongings two to three hours after the decontamination process. The actual decontamination process for the items takes about half-hour.

The SCDF was designated in 1997 as the Incident Manager (IM) for any civil emergency (a major incident with the potential to escalate and requiring multi-agency response) and the Commissioner of the SCDF would be the Incident Manager. With the responsibility also came the Operations Civil Emergency Plan which outlines which personnel all the agencies will contribute to the occasion, and the specific roles they would carry out. Within one hour of the decision that this is a civil emergency, the Incident Manager will be joined by his Joint Planning Staff (JPS). The JPS is composed of individuals from 24 agencies.

Major Subramaniam went into detail. "During a civil emergency, the plan is to forward-deploy with the tactical HQ to as far forward as possible," he said. "This will be in one of the five command vehicles, all of which are set up with the necessary technical and communications systems. These vehicles range from Command to briefing and media relations, each with their own comms package. While many of the systems work wirelessly, if there has been a serious attack that has disrupted telecommunications the IM will be able to use satellite links."

Deploying as close to the scene as possible does give command-and-



As well as conventional tenders the SCDF have specialist CBRN vehicles

control benefits, but could make an attractive secondary target for terrorists. Major Subramaniam agreed. "The first 15-20 minutes will see us run recce and security checks for the C2 bus," he said.

In B3, the command level of HQ, the IM is able to track the incident. Again, Singapore has been careful to ensure that it is as joined-up as can be. "We can run plume modelling and determine downwind hazard from here. This in turn is linked to the shelter-in-place system so we can make sure the right areas are alerted or evacuated. We have the ability to preview a situation and we can access all assets from other agencies – such as the National Weather Centre, which has eight meteorological stations that can link information into the system. The plume model also takes information from detectors that can feed it wirelessly back. This means the plume can be updated every three minutes," said Major Subramaniam.

But there is still one area which requires work. While the IM can see the location and electronically interrogate all the SCDF assets, he will not yet have the ability to see other agencies assets. While he has the JPS to provide him this information, the ability to see it all real time moving assets in and out of the scene accordingly would be a great boon to

incident management and it is a little disappointing that the system stops where it does. This, however, will hopefully be rectified in July this year with the start of their PRISMS – Personnel, Resources and Ideas management System – project.

Responders first

Many organisations like the SCDF are firemen first and foremost while Hazmat and other operations fit into the cracks in that job. SCDF is a civil defence organisation first and foremost and that is where a great deal of their strength and success comes from, the fact that they are the professionals to deal with the incident, but at the same time putting in the effort to ensure that there incident doesn't escalate to the extent that professionals are needed. Often this latter part is forgotten, or becomes part of a community scheme that sees firefighters turn up at school one day a year or have a tender at a local celebration. This outreach into the community has achieved far more than fire awareness or the 'Get in, Stay in, Tune in' school of civil CBRN defence. Speaking to the instructors at the In-place protection I asked them how they could ensure people would come out of their safe room when the alarm was sounded:

"Do you mean if they couldn't hear the alarm? We give them a free wind-up radio [!] so they can tune in."

"No, I mean what if they hear the alarm, but don't feel safe and stay in and are poisoned?"

"Why would they not come out?"

"Perhaps because they don't trust the government and are scared."

"Well if they didn't come out they would be noticed by the volunteers who would knock on the doors checking everyone is ok."

In that exchange is perhaps the greatest example of what Singapore is trying to do: to inculcate faith in the government, to raise awareness of the problem, to have a grass-roots organisation that looks after the community and, most importantly to fund it. Those countries that are keen to do the first three should not ignore that last – Singapore is where it is not only because of the high standard of its officers, but because it has paid for it.



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