

Canadian Dreaming (on such a snowy day)

As commented on in News (see p4), 2009 is a year for big changes in the world of CBRN procurement, with both North American CBRN procurement officials, MG Steve Reeves and Colonel Rick Barker leaving for pastures new. This isn't unusual, but both of them have been double-termed in the post, and this has given them a far longer perspective and appreciation of what is possible than many other officials who have been there for half the time. Rick's first interview with me was in late 2003 (*NBC International* Spring 2004) and a lot has changed since then, but the future ahead promises even greater variety.

Canada has always had a vibrant CBRN defence scene since it's troops were gassed in 1915, and through the Memorandum of Understanding (with Australia, the UK and US) and DRDC (Defence Research and Development Canada) facilities it is able to ensure it

Colonel Rick Barker, Director of CBRN Defence Development for the Canadian Department of National Defence, tells Gwyn Winfield about the future of Canadian procurement

remains at the spearpoint of CBRN science and capability. Recently Canada has decided to create an over-arching project – CBRN Defence Omnibus – which encapsulates twenty projects, including: Sensor Integration and Decision Support, Vital Point Bio Detection, Chemical Agent Sensors, NBC Recce System, Bio Warning System, Area Radiological Detection and Identification, Transportable Colpro, General Service Respirator, NBC Decon System, Casualty Protection System, and Biological Diagnostics. Omnibus is about a broad capability improvement for the near term, and alongside this are other projects aimed at future

development, such as broad spectrum respiratory filter, next generation CBRN detectors, universal decon solution, recce replacement, universal personal detector and CB+ clothing.

The last list will no doubt have people wondering if the list is grounded in reality, but this should be no surprise; many of these are “holy grail” solutions. Colonel Barker laughed off any attempt at going into detail. “You are seeing this in the wrong light,” he said. “I try to dream and come up with ideas and give them to my R&D staff as things to work towards. So when they go back to their team and say, ‘We have so much money, what do you propose?’,

The fog of war dispelled by the clear vision of procurement? ©DND



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they are supposed to look at my dream list and see if they can solve something or provide a stepping stone to solving it. They laugh at me, and say 'Ah, that's one of Barker's ideas and have a good chuckle! I told them I wanted them to reduce the half life of isotopes, and asked if they could do it in the next 25 years? Probably not, but it gives them something to strive for. There is no point preparing for the future by confining your efforts to the realm of the possible. This is not how technology progresses.

"We as a department are doing a strategic capability roadmap which led into a new investment plan out to the next 15 years. Last year we had to identify projects that we wanted to have funded sometime in the future, and these are outlets for these technologies – if they develop. One of the things we have been working on with the scientists is a combined CBRN detector the size of a Blackberry. If anyone wants to laugh then just try to conceive of a Blackberry, or anything we have today, 15 years ago. Tom Cousins [of DRDC, see CBRNe World Winter 2006] started working on this; he talked to the chem and bio guys in DRDC Suffield to see what they could do. Both the biological and radiological standoff technologies use luminescence, so are there some common aspects that we can take advantage of? So when I say I want a CBRN detector that small, am I expecting that to come to fulfilment in 2023? No, I am not that confident, but if we can solve some of the practicalities then great; if not then we are at least moving in that direction. You are seeing the end point, we have only named it – it is not yet a project."

The fact that other people are collaboratively chasing the same dream – especially the US – is one of the strengths of the CBRN Memorandum of Understanding (MOU). The MOU was established in 1980, and updated in 2000. It initially incorporated Canada, the UK and US (CANUKUS) and added Australia in 2007, and addresses critical issues on requirements and doctrine, but also allows co-operative development and acquisition of materiel. This is in addition to The Technical Co-operation Program

(TTCP), which was established in 1948 for CBRN defence research and adds New Zealand to the previous countries (AUSCANUKUS). There is also the work that Nato does, and while it is a bit 'clubby' it does work, gets results and holds the greatest promise for big leaps in detection. "The reason that AUSCANUKUS and the Airspace Interoperability Council have been so successful at driving standards over the years is that you get four or five nations speaking the same language, sharing the same security requirements and interests," said Colonel Barker. "We get things done a lot more quickly than something like Nato, although Nato gets to take advantage of these when things becomes more mature. I have been in and out of this CBRN and Nato game since 1985 and it is the best way of going about things. The scientists are linked to the CBR MOU, which tends to be development oriented with a research slant. The TTCP which tends to be pure research, and has the same organisation. We start developing our own research projects based on what they think they can achieve under the normal terms of programmes – usually three to five-year developments. We are close to the other three nations (US, UK, AUS) – although there is less going on in NZ – so I am fairly confident the relationship will continue to develop. A good example is biological stand-off detection and the interplay between CAN, UK and US for the last five years in choosing three streams and then coming together regularly, sharing development and deciding which no longer needs development and which needs co-operative development, etc. This will be the model, and I think we are going to move ahead arm in arm on this sort of thing rather than in stovepipes."

One of the projects Canada is working to improve is their hazard prediction and warning and reporting systems; this is a good example of the MOU in action – saving Canada a significant investment in time and money. "We have successfully negotiated with the US, via the CBR MOU, to get Joint Effects Model (JEM) and the Joint Warning and Reporting

(JWARN) so we will take all they have to offer while adhering to ATP-45 and AEP-45, as has the UK."

Yet this is where divergence starts to show. Canadian and US forces do not operate exactly the same equipment, and the JWARN packages are tailored to mesh with US equipment. So does this mean Canada will have to rely more on human input rather than sensor? Colonel Barker thought not. "Inputs will come from our own sensors, unless we are in a coalition when they might come from allies as well," he said. "There will still be a need for human input; we still have to allow for it, but like most nations we will want to make sure devices like the Vital Point Biological Detection System (VPBDS) can provide data that they can be fed into the W&R system. It is the same with or chemical sensors, and we want to retrofit our radiological sensors to make sure they can do the same thing."

The MOU is all about interoperability, and having the same warning and reporting software will increase that by an order of magnitude. But is this going to be a direct read across from the US, or will there be bits missing or added nationally? "Anytime you buy something from another country you always wonder whether their export laws require them to supply you with a less-than-fully developed system," said Colonel Barker. "But from being involved in the CBR MOU I know we are going to get the whole thing. We will compare it with what we could get from other companies, such as Bruhn Newtech, and once we have it we can look at what else we might need and who we can work with. We are looking forward to having it, but we are not going to put all our eggs in that basket; we will have to see what we need for our system. It does need to be interoperable with the Americans and the British." Yet it is not just the Americans and the British that Canadian military forces have to operate with, but also forces on the ground – both federal and provincial. Driving this local interoperability nationally is the looming spectre of the 2010 Winter Olympics which Canada is hosting. The ability to get all responding agencies

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reading off the same situational awareness sheet will be crucial. Colonel Barker agreed it has focused minds. "The Winter Olympics in February 2010 has heightened interest in CBRN defence," he said. "We are making progress, in that we have crafted a mature draft of our consequence management plan for the Olympics, and we are sending our plan up to our Chief of the Defence Staff (CDS). In the meantime, our IT folks have a programme called the Joint Information and Intel Fusion Centre. The point of that is to have a centre which we can use and deploy into domestic operations to bring together all the assistance from the other government departments, at whatever level, and combine it with what we can do. It's like Colpro; most municipalities have some form of CBRN defence, but not necessarily a mature command and control system, so once this available it will be resident on the software system.

"The Olympics generally don't really affect the work of my directorate either positively or negatively, but they generate operational interest," he continued. "As we go through preparations for the Olympics, a lot of what we are doing will evolve into a similar plan with a different name, which will be ongoing support to specialist events – these could be Olympics, a G7 meeting, Barrack Obama's visit, etc. There are quite a number of these things happening in the coming years, so we need to have this ability in place. Operational commands need to know what they have to prepare for and we are moving in that direction to be ready, from our Privy Council down. That will help refine short course generators for the three services and what they need to do in terms of equipment to support operations, which is our primary activity, but also to support these kinds of events." Clearly one of the ways that further interoperability with civilian forces for these events could be achieved would be through joint procurement; it also has the benefit of lowering unit cost. Is this the future? "It is an excellent idea," said Colonel Barker. "But my experience with joint procurements is that they are very difficult to achieve.



'Loaded for Bear:' Canadian forces will have key roles in the preparation for the Winter Olympics ©DND

You need the stars of schedule, requirements and funds to align, and that is as rare as a Vulcan eclipse. This is something we can, and do, strive for but success is rare."

There is a wide variety of other projects underway within the Canadian Department of National Defence, such as a new recce capability (involving a UGV), a new respirator and also improvement in diagnostics (perhaps the best way to

gauge Canada's growing capability is through the CRTI website which details the R&D projects in support of first responders). Despite Colonel Barker leaving in the summer, there is no doubt his dreams will remain through the R&D system, coming to fruition in the distant future. With widespread change in North American procurement, it will be interesting to see which other dreams are added as new incumbents take over.

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