

New York state of mind

Some cities have a certain seniority; often they are capital cities like Paris, London or Singapore, but occasionally this seniority is accrued over time and events. One of these is undoubtedly New York City (NYC). This status was increased by the events of 11 September 2001, and this extends to New York's first responder community as well – how many other cities' police departments have become a brand name? Yet 2001 was a long time ago, and the bloom has gone off the CBRN lily in many cities – as they struggle with the day-to-day they leave the more esoteric threats behind. So what is the status of NYC?

"We take the [CBRNe] threat very seriously," said the New York Police Department's Deputy Commissioner (DC) for Counterterrorism, Richard A. Falkenrath. "We are one of the most at-threat cities in the US – if not the world – and looking out over a long time period, a CBRNe attack is something that we need to take seriously. We are fortunate we have the scale to build substantial expertise; in fact, the scale of the NYPD is in line with many small militaries. We have substantial expertise in the Counterterrorism Bureau and in the Special Operations Division, which includes the highly specialized Emergency Services Unit (ESU)."

Scale is something New York has always taken seriously, and DC Falkenrath's claim that they have a capability on par with many small militaries is not a boast. It is just the New York Police Department (NYPD) that

has a lot of assets – such is the threat to New York that once you add fire, emergency medical services (EMS), the Coast Guard and state and Federal assets – FBI and National Guard – the amount of equipment and training is at the same level as many medium-sized militaries. But all this capability costs, and it is not so much the initial capital purchases but the maintenance and the training burden where the financial bleeding really happens. A process of gradual decline might have taken years in best-case scenarios, but the global economic recession has accelerated this mechanism almost overnight.

Perhaps as a symptom of this, many first responders across the world are seeing a re-evaluation of the CBRNe threat, with either a slow-down in procurement or a reappraisal of who needs to be doing what. To a certain extent – again scale is everything – this is also happening in New York, as the Fire Department is continually re-evaluating their Hazmat and CBRN capabilities for improvement. Chief Robert Ingram, WMD Branch Chief within the New York Fire Department (FDNY), stated that, "We have looked at the CBRN versus all-hazard

approach from the beginning. The preparedness pendulum had been swung too far towards CBRN. Nationally and internationally there was a reaction to the terrorist attacks and we looked at what the large risk potential was for CBRN. The Federal funding streams and resources were geared towards CBRN prevention and preparedness. Emergency Responders in the Hazmat field recognised that CBRN materials were Hazmat, just more concentrated and with criminal intent.

"We determined that you need the Hazmat foundation of response plans, equipment and training to be better prepared for CBRN incidents. The pendulum is swinging back as people are realising that with a dwindling supply of funding you have to find a way to manage all your responsibilities effectively. We can do that by getting the balance back."

Chief Joseph Pfeifer, Commanding Officer of the FDNY's Centre for Terrorism and Advanced Preparedness, agreed. "The other component is that, when you put agencies under the stress of a terrorist attack, what is important is that they fall back to their core competencies. Their core competency is their all-hazards approach, which they have been doing on a daily basis. If you train for the most extreme event, preparedness is merely an exercise instead of a process of doing things on a small level and then being able to scale up for the catastrophic events."

As you might expect in a city as vibrant as New York there is a lot of inter-agency co-operation, engendered through the many day-to-day occurrences, as well as the major events. Much as London's strength is the London Emergency Services Liaison Panel (LESLLP – see CBRNe World Spring 2007) New York has worked hard to get its entire first responder organisation on the same sheet, and as such operates via the Citywide Incident Management System (CIMS). DC Falkenrath explained, "New York City's Citywide Incident Management System,



FDNY have their own hotzone EMS as well as their traditional hazmat units.
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which guides the emergency response to an event, defines a unified command as two or more agencies with shared decision-making responsibility," he said. "A CBRN incident in New York City does not initially involve a unified command. Rather, the NYPD is the lead agency until it rules out criminality or terrorism. As the lead agency, the NYPD determines what other assets are needed for the response. CIMS pre-determines core competencies for each City agency so that they are prepared, if needed, to fulfil their specific obligations. Of course, life safety is a responsibility of all agencies, and any agency capable of performing life safety does so. After a criminal or terrorist act is ruled out, decision-making becomes the responsibility of a unified command."

Chief Pfeifer stressed the interoperability started long before people turn up on the scene, and that it is a major tenet of FDNY philosophy. "A C2 concept belongs to the military; we address not only to command and control but C5 also," he said. "There are three prerequisites before you can do command and control, which we term connecting, collaborating and co-ordinating. The first thing we need to do at the scene of the incident is to connect with the first responders – police, fire and health – while simultaneously operations centres connect to each other, so fire connects to police and the Office of Emergency Management (OEM) and the state, all the way down to DC. There is situational awareness on and off the scene – they need to see each other. Without having the information it is very hard to effectively mobilise resources. Once we have the connections in a network, the next component is a unified command where the collaboration – what I can bring to the table, what other agencies can bring – and finally there are co-ordinated resources and finally command and control. We expanded C2 to C5 to use the connecting, collaborating and co-ordination as something important."

Previously there has always seemed to be a split in US CBRN responder policy between terrorist incidents, which fall under the FBI's purview, criminal under police, and environmental under the Environmental Protection Agency (EPA). This seems to suggest that there needs to be a change of command as the incident unfolds and the nature of the incident

becomes clear. DC Falkenrath stated that this was not the case: "There is not a split between criminal and terrorism," he said. "The FBI investigates criminal and terrorist acts and so does the NYPD; we do a lot of it together. The immediate responders, who will be local police, fire and some others, will manage the initial hours. The FBI might get a person or two on-scene in the first hour or so, but they are not a first responder body; they are an investigative body. If the act is deemed to be terrorism, or within the jurisdiction of the Federal government and the FBI, then the investigation will transition at some point to the Joint Terrorism Task Force (JTTF), which is led by the FBI but with deep participation by the NYPD and other agencies as appropriate. We have over one hundred NYPD officers assigned to the New York JTTF, so we would be involved in a terrorist incident in New York City not just as first responders but as investigators as well."

Perhaps some of New York's CBRN gravitas comes from it being one of the few – and most vocal – users of a citywide biological detection system, BioWatch. BioWatch has been lambasted previously by the Government Accountability Office (GAO), but iteration after iteration – currently third-generation equipment is eagerly expected – it becomes better and offers the vision of effective, although not cheap, biological detection and early warning. Yet it seems a little odd that the police, rather than health, hold the responsibility for biological detection, especially when you realise that despite all the assets the force does not have any field biological detection – not even assays. How, and why, did NYPD become involved in BioWatch? "Under CIMS, the Police Department has responsibility for CBRN assessment, and since we don't have a category for early warning – which is what BioWatch would fall into – the closest thing we have is assessment," said DC Falkenrath. "There are multiple agencies involved, and it just so happens that we are best positioned to be the quarterback among the different agencies and also to interact with the program's Federal funders, the Department of Homeland Security (DHS). The most important technical function is performed at the Public Health Lab that is part of the Department of Health and Mental Hygiene, who are one of the single most

important partners in BioWatch. But, their natural counterpart at the Federal level is the Department of Health and Human Services whereas the current Federal bureaucracy responsibility for BioWatch resides with DHS, with whom we have extensive dealings. One of the problems that the GAO highlighted with BioWatch was the rough handling of samples. Having the samples handled by seasoned evidence handlers, as found within police forces, is an obvious advantage. But what does the NYPD get out of nannying this system? "We are not seeking any kind of departmental advantage," said DC Falkenrath. "We just want a system that provides early warning of a biological attack, and we do our best with many other agencies to ensure that we have the best system that we can have. We are frankly unhappy with the technology and level of resources currently committed by the Federal government, but there is not a whole lot we can do about that."

One obvious advantage would seem to be what comes next, when the NYPD makes the decision to deploy bio-detectors down to the front line, they will have had a world of experience about what bio-detectors can and can't do and be able to find one to fit their purpose. Or that would be the plan if they had any desire for bio detectors, as DC Falkenrath explained. "I don't think we are going to have our own bio-detectors," he said. "The decision to declare an act of bio-terrorism is such a significant decision that we are not interested in doing that unilaterally; we want to do it in concert with Federal government and the Health Department."

One possible benefit of a Federally-funded biological detection programme is that it has allowed a greater focus on chemical and radiological detection – the latter has also been heavily Federally funded. "Generally we don't conduct much biological detection, mainly chemical and radiological," said Chief Pfeifer. "The Police Department is doing more bio assessment in coordination with the Department of Environmental Protection. FDNY responds to incidents of possible releases of hazardous materials deploying detection teams for chemical and radiological materials including explosive precursors. In terms of our detection capability, the aim has been to get as much identification in the field as

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possible. If we can't identify the material, we can't identify the hazardous characteristics of it – you don't know the route of exposure and can't pick the best ensemble to protect the route of exposure. The procurement process of detection has been to get the latest equipment that will clearly identify the material with as much confidence as possible rather than narrowing it down to a hazard class. That will give us the best information in terms of personal protective equipment (PPE), medical intervention, decontamination method and the ability to mitigate the material and hazard."

DC Falkenrath outlined the police approach. "The NYPD Counterterrorism Bureau (CTB) focuses on early warning and detection through programmes managed and operated in conjunction with other city agencies, regional partners and stakeholders," he said. "Our partners in the Federal government include the Department of Homeland Security's (DHS) Domestic Nuclear Detection Office (DNDO), Office of Health Affairs (OHA) and Science and Technology Office (S&T); the Environmental Measurements Lab (EML); and the National Labs. These Federal partners along with our partners in the city – particularly the Department of Health and Mental Hygiene (DOHMH), their Public Health Lab (PHL), and the Department of Environmental Protection (DEP) – provide scientific expertise with equipment evaluation, validation, maintenance, testing and data interpretation.

"Within the CTB, Securing the Cities and BioWatch are two programmes that benefit from these relationships. In terms of what the CTB is looking to acquire, we are currently in the process of procuring several thousand units of radiation detection equipment through the Securing the Cities programme for the NYPD and our regional partners. We are awaiting selection and testing of third-generation biological detection equipment before procurement and deployment and, though the technology for chemical detection is not as advanced, we are currently in a testing phase with at least one chemical detector. With regard to personnel, the NYPD has developed significant CBRN expertise within two units: the Counterterrorism Bureau, which includes a medical director and two physicists; and the Emergency Services Unit (ESU) in the

Special Operations Division, which trains all of its officers to the technician level and beyond in Hazmat."

The radiological detection piece is a major part of New York's CBRN defence, with both the Fire Service and the Police having significant assets. Perhaps the brightest star in the FDNY CBRN constellation will be their new maritime assets. "Our fleet of marine units – the firefighting boats – have been enhanced, and we are expecting delivery of two new fire boats that are launch vessel-sized in the coming months," said Chief Pfeifer. "They have a lot of CBRN capability built in, in terms of filtration for vessel personnel and operating equipment. It also has built-in decontamination capability for responders or civilians that might be on the vessels, and it carries a large supply of firefighting foams that can be used on a variety of fires and also on various materials – mostly flammable and combustible, but also other materials to suppress vapours. As part of the Securing the Cities project we are working with the police department and other law enforcement areas, where our marine boats will be participating in activities on the waterways to support the law enforcement chokepoint capability on highways so we can try to prevent materials coming into the city and keep them out where they are safer to deal with."

It is difficult to just pick one NYPD project that is of equivalent value to the above, but perhaps it is the work that the police have been doing citywide. "The NYPD's fleet of helicopters conducts radiation detection operations regularly, particularly before special events," said DC Falkenrath. "In addition, since the mobile radiation detection platforms are equipped for use on air, land and sea, the CTB conducts radiation detection operations daily with trucks, boats and backpacks. In addition to detection, our radiation equipment is used for background mapping. In 2005, we undertook a project with the Department of Energy (DOE) to map radiation for the entire city using their airborne assets. This serves as a foundation for our current radiation background mapping operations and allows us to detect anomalies.

"Going forward, we are interested in networking [our radiological detectors] together," Falkenrath continued. "But in order to do that, we need something that

is automated and on our network. This is a complex project principally funded through grants from the Federal government that we work very hard to acquire. For the radiological threat, there has been the special Securing the Cities grant which we have been receiving since 2007. Recently, the Obama administration proposed to zero the grant out in 2010, which would effectively kill any networking of our radiological sensors. We have made this argument to the House and Senate, and we are hopeful they will restore some level of funding in the final DHS Appropriations Bill, but that still remains to be seen. From the Federal level, we have seen a reduced commitment and interest in networking radiological and nuclear sensors."

While there is more of a 50/50 (chem./rad detection) split in the FDNY – a testament to their Hazmat background – the NYPD is heavily stacked in favour of radiological detection. While they apparently have a chemical standoff detector, and have another chemical detector procurement undergoing, it is dwarfed by their radiological capability. Yet this poses its own problems – while radiological sources are by their nature easier to detect than chemical agents (until released) or biological agents, once they are shielded they can become near-invisible to the multimillion capability that the NYPD has built up. "What we are trying to do is raise the bar and make it more difficult for terrorists to act in New York City with CBRN," said DC Falkenrath. "We have no illusions that we will make it impossible for them to do so – we have systems that are looking for gamma and neutron radiation, but if they shield the source, then there is the potential we will not see it. But shielding is an additional degree of difficulty for these organisations that we are happy to impose on them. Dirty bombs by their nature are very hot substances, so if a terrorist has chosen a highly radioactive substance, then it is already more difficult to shield than if the terrorist is dealing with fissile material, such as highly enriched uranium (HEU) or Plutonium, where the lower radioactivity of those substances requires less shielding."

While it is not particularly CBRN-related, one of the quirks about the FDNY is the fact that they have their own EMS capability. Not only does this deal with

general medical assistance, but it also does a great deal of the highly specialised CBRN hot zone medic work of the Chemical/Biological Incident Response Force (CBIRF) variety. "That is one of the focusses we have," explained Chief Ingram. "We have identified a significant portion of personnel from the Fire Department Emergency Medical Command and trained them in Hazmat capabilities including protective ensembles and respiratory protection at all levels. We have developed medical intervention procedures and trained these medical personnel to use that knowledge and equipment in the hot zones. Some materials require medical intervention right away. These trained members make a coordinated entry into those zones and work with the reconnaissance teams. They identify which victims have viable and provide medical intervention as quickly as possible in a safe manner. In addition we have ten FDNY rescue paramedic units distributed throughout the five boroughs that have rescue technician skills. They are trained to work alongside our Rescue Company personnel to stabilize patients trapped in building collapse situations where they can safely extract trapped patients."

As you might expect there is no shortage of assets when it comes to decontamination, the traditional CBRN fire role, either. "We have trained and prepared for that with various levels of capabilities," said Chief Ingram. "Our FDNY Tiered Response includes 3,500 fire personnel trained to NFPA 472 Hazardous Material Response competencies above the Operations level. All of our ambulance units receive basic training in simple decontamination for individual events, and our engine companies that are trained in medical response including simple decontamination. At larger events we have developed mass decontamination capability, using fire apparatus, hose streams and ladder apparatus to quickly provide decontamination measures for people that have been exposed to materials that cause immediate symptoms in order to minimise that reaction. Within our geographically-based fire apparatus around the city, we have an average response time of five minutes. At other significant events where we have a large population that might be exposed and contaminated we have designated task forces that have been trained to provide



The NYPD ESU have a range of specialist skills for criminal and terrorist activities ©NYPD

screening capability with monitoring instruments, decontamination capability for either gross or technical decontamination, medical units for medical intervention if needed during the process, and other rescue units that can work with removal of clothing, collection (LE evidence) and decontamination of that either through dry or wet decontamination."

Yet it is not just the Fire Department that does decontamination. The NYPD also has its own decontamination capability. DC Falkenrath described the capability: "The NYPD decontamination trucks, which are operated by the Emergency Services Unit (ESU), are an important tool for first responders. Under CIMS in New York City, the NYPD is responsible for decontamination of emergency response personnel and small numbers of victims, and the FDNY is responsible for mass decontamination. The level of decontamination necessary depends on the specific incident. ESU responds, somewhat regularly, to what the NYPD calls 'white powder jobs', meaning a letter or package containing white powder is opened and reported. The individual or individuals exposed to the

white powder are decontaminated by the ESU team, which typically involves the removal of potentially contaminated clothing and a shower. The decontamination trucks are equipped with showers if needed. In almost all cases, the white powder is deemed harmless. While ESU is primarily responsible for decontamination within the NYPD, our Task Force units and the Disorder Control Unit are also trained in decontamination." The problem with having agencies that are all kitted up to a high level is the inevitable turf war that happens should there be an incident, where everyone needs to justify their previous budgets. I get the impression that, although that might have been the case in the past, that time has now passed and there is a more robust appreciation of response – and it would seem that CIMS is the catalyst behind that change, with the current economic conditions acting as an accelerant. There is little doubt NYC is well prepared for any attack – the scale of the NYPD (35,000 officers, the largest police force in the US) and FDNY (14,000 officers, 200 engines and 350 ambulance units – the world's largest and twice the size of London, the world's third biggest fire brigade) is daunting in itself. What that means is that many Federal and state assets, which would be getting an immediate call in many cities, can be held in reserve. "I don't think we are banking on them [CBIRF or other Federal assets] coming up here that quickly," said Chief Ingram. "Since they [CBIRF] are only one unit they may hold them in reserve before they send them to make sure that there isn't a secondary attack. Federal agencies have a lot of resources but the primary and initial response is going to be local. We are building our capability to address incident needs first and then develop into that process how to integrate the Federal resources when they arrive." It seems that the cities that have learned to consequence manage the hard way – through terrorist atrocities – all share a robust incident management top table approach, with clear understanding of their roles and responsibilities. Behind all the assets it is this seemingly simple understanding that provides the strength of the New York first responders – and for those cities that cannot match the pocket of New York, that should be the priority lesson learned.