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Editor's Notes

By James D. Hessman, Editor in Chief

There are two necessarily intertwined themes in this month's DPJ. The first reflects the fact that homeland-security policies, programs, technologies, and equipment needs have become much more international in nature. This is good. The second theme – the growing need, in almost all nations throughout the world, of much-improved mass-evacuation capabilities – is not quite so good. But it has become an absolute necessity.

A Spanish doctor, Alvaro Pemartin, and an English journalist, Andy Oppenheimer, lead off with enlightening reports: (a) By Dr. Pemartin, on how Spanish authorities in general (and in Andalusia in particular) have evolved their policies, programs, and philosophies to develop and improve Spain's ability to deal with mass-casualty situations, particularly those involving CBRN (chemical, biological, radiological, nuclear) incidents. (b) By Mr. Oppenheimer, who provides a detailed behind-the-scenes report on the "7/7" London Underground bombing, various U.K. weather disasters, and – alarmingly to some extent, but inevitable as well – the preparations already underway to protect London's citizens, and millions of visitors from all over the world before, during, and after the 2012 Olympics.

Joseph Cahill follows up with a more upbeat report – on how the ancient and benevolent Order of Saint John is providing much-needed medical care to an estimated 17 of the most impoverished nations throughout the world and, when and where possible, upgrading the currently below-average medical capabilities of those same nations. Dr. Neil Livingstone provides an exceptionally well-informed commentary/report on the professionally inept Russian "sleeper" spies recently sent back to Moscow. Neil also warns, though, that a number of other spy rings, much more capable than the New Jersey amateurs, may well be resident in many other cities throughout the United States.

THE LATEST and in many respects most important DP40 SURVEY, prepared by John Contestabile and summarized by John Morton, is next on the list and is hereby strongly recommended as required reading. It also focuses on mass evacuations, and is relevant to every city, town, and village in every state throughout the country.

Three outstanding distaff authors – Diana Hopkins, Kay Goss, and Latoya Browne-Barbee – continue the international focus, and each provides a different perspective. Diana discusses the somewhat differing (but almost always compatible) ways in how individual nations and international agencies develop, review, revise, and promulgate their operational standards. Kay points out how the U.S. and global emergency-management communities have merged and melded their professional capabilities in so many ways in recent years. And Ms. Browne-Barbee adds an important "lessons learned" report on the international response to the earthquake that shattered Haiti in January of this year.

Dr. David Cullin and Adam McLaughlin close out this month's printable issue with: (a) Cullin's analysis of the need for, and complex problems related to, the protection of industrial facilities, clinics and hospitals, government buildings, and other critical infrastructure before, during, and after CBRN and/or other mass-casualty incidents; and (b) Adam's monthly report of recent preparedness upgrades and milestones throughout the country (this month, in the great states of Arizona, California, Iowa, and New Hampshire).

About the Cover: Creative Director Susan Collins flags our attention with a banner headline demonstrating not only the global threat posed by international terrorism, and/or mass-casualty weather events, but also the recognition, by a growing number of nations throughout the world, that the most effective responses must also be international in nature. ("World Flags Sphere" by iStock photo.)

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Report from Spain – The Andalusian Approach

By Dr. Alvaro Pemartin EPES Andalucia, Emergency Management

Emergency management and response guidelines vary somewhat among Spain's 17 regions and two autonomic towns – i.e., Ceuta and Melilla in Northern Africa. In Andalusia, for example, civil protection and emergency management are the responsibility of the Andalusia Internal Affairs Ministry (*Consejería de Gobernación*). Because of the variations mentioned above, a coordination center has been established in each province to receive all calls placed to the European Emergency phone number (112). Although this approach can be used to activate the emergency fire and medical services, those services also have their own emergency numbers – fire departments and emergency medical services (EMS) agencies, for example, can be reached through the numbers 085 and 061, respectively.

The Public Company for Health Emergencies of Andalusia (EPES in Spanish) was created in 1994 by the Andalusian Government's Regional Health Ministry (*Consejería de Salud*). The ministry's goal was to deliver emergency healthcare assistance to communities throughout the entire region of Andalusia, primarily by using the 061 emergency services number. The Andalusian EPES is headquartered at the Andalusian Technology Park in Malaga and now operates eight services in the capital cities of Andalusia.

EPES's mission is to provide effective and efficient Accident & Emergency (A&E) healthcare services to address citizens' demands and expectations. To do so, it implements plans and programs with community participation in a combined effort to tackle Andalusia's top-priority health problems.

There are neither paramedics nor emergency medical technicians (EMTs) in Andalusia – nor, probably, in the rest of Spain. However, EPES can deploy several types of resources. Most of those resources are allocated to mobile Intensive Care Units (ICUs), each of which is staffed with a TES (Spanish for Health Emergency Technician, loosely similar to an EMT-Basic) who is in charge of driving the ambulance and transporting a patient, a nurse, and a doctor.

Some Andalusian cities, such as Malaga and Seville, have adopted the use of ECAs (Spanish for Advanced Coordination Teams) – which are, basically, ambulances staffed with both a nurse and a TES. After a victim's/patient's vital signs, electrocardiograms (EKGs), and nurse's assessments have been sent to the coordination center, a doctor decides what course of action should be taken. In mild-injury cases in which patients must be transported to a hospital or health center, BLS (Basic Life Support) ambulances staffed by two TESs can be very useful.

Mass-Casualty Incidents And CBRN Capabilities

Responses to mass-casualty incidents also come under the EPES's jurisdiction. For that reason, EPES has a Logistic Support Vehicle available, in each province, stocked with not only the medical equipment needed but also an inflatable tent that can be used as an advance medical post.

EPES also is in charge of the decontamination of patients at the scene of a HazMat (Hazardous Materials) or CBRN (chemical, biological, radiological, or nuclear) incident. To prepare for these types of incidents, decontamination stations have been deployed in four of Andalusia's eight provinces: Huelva, where one of the biggest chemical factories in Europe is located; Seville, which has the largest number of HazMat transport vehicles in Spain; Granada, which covers eastern Andalusia; and Cadiz (which has not only an important petrochemical factory in its southern area but also three major naval/military facilities: the U.S. Naval Station in Rota; a United Kingdom base in Gibraltar; and a Spanish Navy base – also in Rota). An additional station in Seville houses the EPES headquarters, and also is used for training and exhibition purposes.

Each of the four decontamination stations is equipped with an inflatable, semi-rigid, fire-resistant tent that is supported by five polyester pneumatic arches. Each tent also is fitted with two doors and eight windows – four on each side – and is built to resist both heavy snow and strong winds. To create a more comfortable atmosphere for the injured, each tent: (a) Is equipped with a heater and air conditioner as well as a water heater; and (b) Contains a waste cistern that can hold a large quantity of contaminated water.

Three Lines, Many Providers, and No Time Lost

Operationally, each tent can sustain three different decontamination lines: one for ambulatory females; a second one for ambulatory males; and a third one (in the middle) for non-ambulatory patients. In the two "walking" lines, EPES providers guide the contaminated patients through the decontamination process. After undressing (or being undressed), the patients go through two different showers, followed by a cleaning stage, and are then dried and dressed.

In the non-walking line, a large pantographic tray is used to move both the stretchers and the patients while two providers shower and clean them. At the end of the tray – i.e., in the so-called cold zone – two providers take the decontaminated patient and his/her stretcher either to an ambulance or to the advanced medical post.

Because all of these resources are managed by the Medical Services rather than the police or fire departments, as is customary elsewhere, the EPES can provide a medical approach throughout the entire decontamination, prehospital care, and transport processes. Here it should be noted that, although the decontamination procedures are still under development, the primary objective is still to deploy the available resources in three zones.

In the hot area, one or two medical providers – wearing totally encapsulating chemical-resistant (Level A) protective suits fitted with self-contained breathing apparatus (SCBA) – perform a medical assessment, CBRN, and trauma triage, and administer basic support measures such as airway management and the administration of medical antidotes. Inside the station, other providers – wearing hooded chemical-resistant (Level B) protective suits with SCBA – take care of the patients during the decontamination process. Finally, yet other providers – wearing similar hooded chemical-resistant (Level C) protective suits with filtered masks (rather than SCBA) – dress the patients.

When the decontamination process has been completed, the patients are directed to the medical post. Because doctors and nurses are usually by that time deployed in the field, they can begin advanced life support, stabilize patients prior to transport, and even, if possible, discharge patients (both to reduce hospital surge and to allow hospital personnel to focus greater attention on the patients most critically injured).

Not incidentally, it also should be noted that EPES is now developing a "best practices" guide that could be used for a global response to CBRN/HazMat incidents. The capabilities mentioned above provide excellent opportunities for the best possible on-site care, but such care also requires optimal coordination, intensive planning, and continuous training.

Alvaro Pemartin works for EPES – the Public Company for Health Emergencies of Andalusia (www.epes.es) – both as a prehospital emergency doctor in a Mobile ICU and as a helicopter and medical coordinator in the Health Emergency Coordination Centre. In EPES, he is a member of both the Disaster Support Unit and the Mass Casualties Response Group. He also serves as one of the coordinators of the recently established HazMat/CBRN Response team. Dr. Pemartin is a member of both the International Association of Emergency Managers (IAEM) and the international advisory board of the ERGO project of the Aston CRISIS Centre in Birmingham, United Kingdom.

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Evacuation in the United Kingdom: Reshaping Policy

By Andy Oppenheimer, Viewpoint

In December 2009, more than 2,000 people were evacuated from four Eurostar trains that, after breaking down during Britain's worst winter in over 30 years, were trapped in the Channel Tunnel between England and France. Some passengers were evacuated to shuttle trains that were carrying vehicles, but others were trapped inside overnight without food, water, light, air conditioning, or electricity. Others chose to open the emergency doors and risk walking through the tunnels to find refuge on another train.

An independent study published two months later demanded an "urgent review" of evacuation procedures. It also criticized the "insufficient" contingency plans, the lack of replacement buses, and unsatisfactory attempts to inform passengers of the disruption.

The incident highlighted shortcomings in a private U.K. transportation company's evacuation procedures in what was a relatively self-limiting situation. Over the years, there have been a number of incidents that were far more serious, requiring sudden and mass evacuations directed both by local authorities and by the national government. For example, the "7/7" (7 July 2005) bombings on the London transit system claimed 52 lives, injured over 700 others, and brought the capital to a standstill. Although enormous acts of bravery were performed by first responders, underground staff, and the public, much of the passenger evacuation from the tube network was haphazard.

Probably the most valid criticism, though, was that most if not quite all government agencies were ill prepared for the nature of the incident – London's first ever suicide bombings; the lack of preparation was caused principally, it seems, by the poor to non-existent communications between emergency service personnel at the affected stations.

Acts of Government vs. Acts of Nature

Although London remains the United Kingdom's prime terrorist target, other British cities have had far-reaching experiences with terrorism. In addition, some areas of Britain are more prone than others to industrial and/or nuclear disasters, and/or to weather-related events that necessitate improved response planning. However, the increased terrorist threat did lead to the passing of the Civil Contingencies Act in 2004 (*before* the 2005 bombings, it is worth pointing out). That Act remains the major legislative plank establishing a framework for multi-agency planning at the local and regional levels to prepare emergency services for flooding and other natural disasters, terrorism, and major transport and power failures.

The 2004 Civil Contingencies Act requires Category 1 responders to maintain and practice plans – usually if not always through tabletop exercises – while taking into account the many organizations that would be involved in an incident. For example, the limited radiological release caused by the poisoning of Alexander Litvinenko in London in late 2006 brought in three government departments, one local council, the Metropolitan Police, the Heathrow Airport Authority, the Health Protection Agency, and the Government Decontamination Service, as well as representatives from overseas authorities. No evacuation was needed, but the operation served as an unintentional "dry run" for responding to an explosive radiological attack in the heart of London.

By 2006, non-statutory government guidance allowed local services to develop their own response plans – and to use more flexible evacuation and shelter measures, based primarily on local needs and the nature and potential spread of an incident – rather than planning for the largest conceivable number of evacuees. The public may be advised, under the revised guidance, to stay put and seek shelter in the nearest suitable building, for example, particularly in the case of a chemical, biological, or radiological (CBR) release.

Large-Scale Evacuations; Varying Lengths of Time

A risk-based approach provides emergency evacuation plans as well as shelter plans for people remaining in their homes or workplaces during an incident. The police decide whether to evacuate civilians but, together with the Fire and Rescue Service (FRS), they receive advice from other emergency services, government departments, and agencies through a "Joint Health Advisory Cell" at the GOLD level, or through Health Advisory Teams (HATs) via central-government crisis-management arrangements.

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One of the biggest peacetime evacuations in Britain occurred after the tidal floods of 1953, which displaced over 32,000 from the nation's east coast. More recently – in November 2009, the wettest on record – hundreds of villagers in Cumbria in northern England were evacuated. Because of the unpredictability of floods, citizens usually are advised to stay indoors – on upper floors when and where possible – rather than risk being caught in fast-moving waters. For planning purposes it is generally agreed that, for evacuation warnings to be effective, U.K. authorities need up to one hour for a breach in flood defenses, up to eight hours when a surge is forecast, and up to 48 hours for river flooding. Inundation maps from flood models have been used to create flood-specific evacuation plans for certain urban areas, primarily because of the highly complex patterns of rising waters blocking normal evacuation routes.

Over the years, there have been a number of incidents requiring sudden and mass evacuations directed both by local authorities and by the national government – for example, the "7/7" bombings on the London transit system [that] claimed 52 lives, injured over 700 others, and brought the capital to a standstill

Multiple terrorist attacks or industrial disasters might well necessitate moving thousands of citizens from a relatively large unsafe area. In London and other major cities, a high dependency on public transport requires that temporary shelters and/or alternative means of transport be available for stranded citizens. The planner's nightmare is a major traffic gridlock on Britain's narrow roads and/or the simultaneous stranding of motorists during severe weather conditions. The planners' aim is to stagger the movement of people over longer time frames to help prevent both gridlock and accidents.

Local authorities are tasked with overseeing response, cleanup, and shelter provisions involving schools and other "special-purpose" facilities. Under the Civil Contingencies Act, the authorities also must provide information to businesses on how to secure and protect their assets if their factories and other working premises have to be evacuated. The same authorities, and organizations such as City Security and Resilience Networks (CSARNs), advise on business-continuity plans, and join forces to help train businesses and voluntary organizations involved in response and recovery operations.

For industrial accidents, each site must have a specific plan. Where there has been an accidental or deliberate release of hazardous materials (HazMat), those in the area would be dissuaded from spontaneously evacuating – thereby possibly spreading contamination to other people and locations, especially transit systems. In a radiation event, those in the immediate vicinity are advised to stay inside, with their doors and windows closed, until the threat has passed or they are ordered to evacuate. In the United Kingdom, an accident would be most likely to occur around the world's biggest reprocessing plant at Sellafield, in Cumbria. No matter where the location, though, those needing decontamination prior to evacuation, especially those with additional welfare needs, would require support to obviate their immediate panic and distress. To prevent evacuations prior to decontamination, the police may have to stop people from breaking through cordons.

Training and Exercises In a 24/7 Milieu

The U.K. government program aims to test every aspect of operations from the coordinated central response: (a) through the range of "Lead Government Department" responsibilities; and (b) the involvement of the Devolved Administrations in Scotland and Wales; to (c) the regional tier and local responders. The Civil Contingencies Act also requires Category 1 responders to conduct exercises and enhance the training of staff and incident commanders in emergency plans, procedures, and the correct use of equipment. Emergency services agencies develop their own exercise programs to test their own capabilities.

In June 2004, exercise "Triton" tested the evacuation for large-scale flooding in England and Wales. Triton – which was jointly sponsored by the Department for the Environment, Food and Rural Affairs (Defra), and the Welsh Assembly Government (WAG), and involved more than 60 national, local, and regional organizations – was credited with exposing a number of capability shortcomings.

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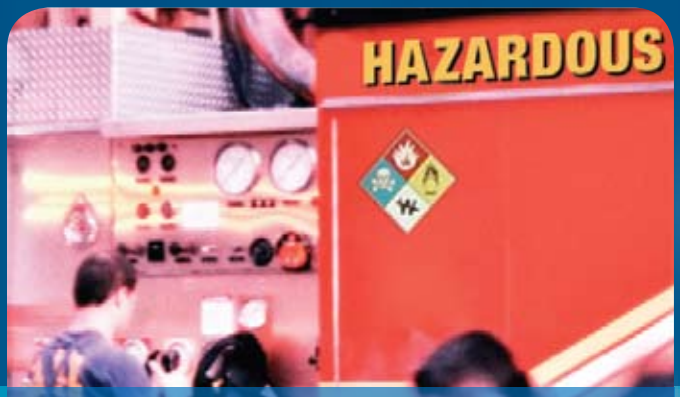

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Exercises also must not only test coordination between organizations but also their ability to ensure business continuity as far as possible – with information provided to the public both quickly and without panic. This is a tall order in an era of 24-hour television news broadcasting and the immediacy of the Internet. In addition, though, a report indicating progress of recommendation implementation must be produced within 12 months of the post-exercise report.

Improving Communications: A 24/7 Approach Is Mandatory

Even in a digital era – possibly even more so – communications are often the Achilles' heel of response during and after incidents. Communicating the implications of a combined response to the public poses huge challenges. Some citizens would be offered *in situ* sheltering in areas where contamination is likely, while others would be evacuated from areas when there is sufficient time to get them out before the most harmful effects – flooding, for example – of the incident kick in.

A Category 1 responder has specific responsibility for warning and informing the public about evacuations. Local authorities already are implementing systems – e.g., text messaging, email, and the Internet – to alert businesses and the public to incidents. However, because no one system suits all evacuation situations, planners must develop a flexible range of methods to communicate during evacuations – at different times of the day or night, as well as from a broad spectrum of locations: homes or offices, industrial complexes, shopping malls, ports, and airports.

Of vital importance is the effective use of the media – but many news outlets unfortunately tend to provide knee-jerk reactions during the early stages of an incident. An appointed representative of the police or other appropriate responder service, or press office, would almost always, though, feed information to the media constantly. In addition, public-address announcements, through systems such as Sky Shout, would be used as well as face-to-face contact and Tannoy announcements in public areas such as railway stations.

Managing the movement of people would be aided through the use of urban CCTV (closed circuit television) traffic management and control systems, especially in city centers, and would be all-important in providing real-time information on traffic and people flows. Many local U.K. authorities, working in conjunction with local police, have already adopted the priority "Alert" telephonic system to send emergency messages to registered citizens and businesses via SMS text messaging to mobile phones, emails, or pagers.

Two political/technological milestones will help considerably in this area: (1) Approximately £12 million will be spent by Eurostar on a new communications system inside the Channel tunnel. (2) To address the shortcomings exposed during the 7/7 attacks, a new £100 million "Airwave" Tetra-based radio system, overseen by the National Policing Improvement Agency, became fully operational in early 2009 for use both above and below ground. The biggest test for the new system, and for London's preparedness across the board, will arguably come during the London Olympics in 2012, which is confidently expected to be the United Kingdom's most costly and extensive security operation in the nation's history.

Andy Oppenheimer is an independent UK-based CBRNE (chemical, biological, radiological, nuclear, explosives) consultant and former editor of Jane's Nuclear, Biological and Chemical Defence. His book (IRA: The Bombs and the Bullets – A History of Deadly Ingenuity) was published in November 2008 by Irish Academic Press.

The Order of Saint John: Chivalry Is Not Dead

By Joseph Cahill, EMS

Emergency Medical Services (EMS) agencies are a microcosm of medicine throughout the world. Although there is some variation in the details, EMS units in all industrialized countries are much the same as in the United States. The main variation is the nature of the staff providing care – i.e., some systems provide advanced care using responders such as paramedics, while others have physicians who respond to the scene of an accident or incident.

All of these systems more or less work, but are still the outgrowth of the social and political environment from which they were developed. None are perfect and all have room for improvement. However, the level of service provided and the model used to provide it mesh with the needs, resources, and political will of the community.

EMS in what used to be called "The Third World" – underdeveloped nations, in other words – is another matter entirely. Many third-world nations can afford little in the way of EMS resources and some have almost none. In order to be effective in those nations, EMS units must fulfill a variety of functions for the community, and are therefore often interwoven with units or agencies providing other significant needs. Largely for that reason, the solutions must also be similarly interconnected, requiring support by other political and/or economic structures both inside and outside the community. Among the functions of a viable EMS agency are training the public, recruiting and developing staff, and maintaining a viable funding base.

OSJ: A Proper and Orderly Sense of Priorities

There are a number of international EMS agencies; one of the most remarkable and best known of them is supported by the Order of Saint John (OSJ), an outgrowth of a chivalric order of *Knights Hospitaller* that has been operating ambulance services in emergency situations for over 120 years. Today, OSJ is actively providing EMS care in 17 countries, both industrialized and non-industrialized.

OSJ is a nonprofit organization. One of the order's criteria for expansion into a new area is that the organization in that area must be self-sustaining. As with many other nonprofit NGOs (nongovernmental organizations), the OSJ receives part of its funding and other support needed through private donations and the use of volunteer staff.

The OSJ provides a variety of training programs available to the public. Among them are those traditionally associated with EMS such as first aid, CPR (cardiopulmonary resuscitation), and AED (automated external defibrillation). Other programs reflect more recent health problems, medical advances, and personalized approaches: the prevention of acquired immune deficiency syndrome (AIDS), for example; caring for the sick at home; an emphasis on personal and group hygiene; and anti-drug abuse programs.

The OSJ also offers an active youth training program through which the organization recruits volunteer members and develops them into effective EMS providers. Such programs vary from country to country, of course, but all (or almost all) focus on training young people in first aid as well as preparing them both for service within the OSJ and for life as an adult.

One of the several ways OSJ works in the communities where medical care is unavailable is to provide first-aid posts and clinics as well as other facilities that provide primary care directly to the community. In a number of countries, the OSJ also maintains and operates mobile clinical vehicles both for general medical purposes as well as for more specialized services.

To briefly summarize: The OSJ is a remarkable, and remarkably charitable, medical organization that provides primary care, EMS, preventive care, and other community-based health programs as an integrated whole, based on the needs of the communities the organization is serving. The OSJ's model is based on building a self-sustaining organization both financially and by recruiting young members within the community.

Joseph Cahill, a medicolegal investigator for the Massachusetts Office of the Chief Medical Examiner, previously served as exercise and training coordinator for the Massachusetts Department of Public Health, and prior to that was an emergency planner in the Westchester County (N.Y.) Office of Emergency Management. He also served for five years as the citywide advanced life support (ALS) coordinator for the FDNY - Bureau of EMS, and prior to that was the department's Division 6 ALS coordinator, covering the South Bronx and Harlem.

Just When Americans Thought the Cold War Was Over

By Neil C. Livingstone, Viewpoint

So Americans thought the Cold War was over, along with the competition between the U.S. and Soviet intelligence services that provided the inspiration for so many novels and films: the hunt for moles; wiretaps and secret tunnels; Kim Philby; James Jesus Angleton; Yuri Nosenko and Anatoliy Golitsyn; "Fedora"; Colonel Oleg Penkovsky; the Walker family and Robert Hanssen; tiny Minox cameras; clandestine meetings in Vienna; and spies exchanged on foggy nights in Berlin just beyond Checkpoint Charlie, while officials viewed the transaction from the Cafe Adler.

It was known as the "Great Game" while it lasted – and old spies, on both sides, occasionally expressed nostalgia for what they remember as the most exciting and meaningful days of their lives. "We had rules," says one old spy. "And reciprocity. Not like today where the enemy is a shadowy religious extremist who knows no boundaries. If the Soviets broke one of our guy's arms, we'd grab one of their guys and break his leg."

Thus, it came as a great shock to many Americans that 11 Russian "sleeper" agents, or so-called "illegals," were recently arrested – and that 10 of them were quickly exchanged in a deal with Moscow for four persons alleged to be U.S. spies. The 11th Russian spy, Christopher Metsos, believed to be the "paymaster" of the group, skipped bail while he was in Cyprus, where he had been apprehended. There is speculation that local court officials had been bribed by Moscow.

Sleeper Agents, Deep Cover, and Plausible Legends

Sleepers are intelligence agents, either recruited in or infiltrated into a target country, who remain "quiet" until they are activated at some later time. According to the criminal complaint filed by the U.S. Justice Department, "The targets of the FBI's investigation include covert SVR [Russia's Foreign Intelligence Service] agents who assume false identities, and who are living in the United States on long-term, 'deep cover' assignments." These Russian secret agents "work to hide all connections between themselves and Russia, even as they act at the direction and under the control of the SVR" (*USA v. Anna Chapman and Mikhail Semenko, 2010*).

The sleepers "do all in their power to blend into the social, political, and economic background of their chosen environment," observed one writer, Mark Floyd. "Most hold secure and respectable, though far from outstanding, jobs, enabling them to live relatively comfortably within their means. They do nothing to break the law or draw themselves to the attention of the security services until activated." In fact, the members of the Russian spy ring that was rolled up last month were reportedly told by their handlers not to seek high-level jobs because their "legends," or invented backgrounds, were not robust enough to withstand serious scrutiny, especially if a security clearance might be involved.

According to a *Washington Post* article by Walter Pincus, "The Russians have used 'illegals' in their espionage activities since the October 1917 revolution. As the FBI put it in the June 27 complaint, 'illegals' are provided false identities and documents, obtain citizenship or legal resident permits of target countries, and pursue degrees at target-country universities, obtain employment, and join relevant professional organizations." They do this secretly, of course, and not only seek positions of influence and/or access to key targets and sensitive information, but often are used to identify citizens of the target country who could potentially be recruited as spies.

Ever since the terrorist attacks of 11 September 2001, the FBI and other U.S. law enforcement and intelligence agencies have largely focused on uncovering Al Qaeda and other Muslim sleeper cells in this country. Some believe that this focus, along with manpower and budget limitations, meant that too little time and energy was being devoted to ferreting out sleepers and other foreign spies working on behalf of traditional adversaries of the United States. According to knowledgeable sources, there may be as many as 60 countries, including some of the closest U.S. allies, engaged in economic espionage in the United States – and perhaps as many as a dozen involved in political and/or military espionage as well.

The Russian Spy Ring: Insensitive, and Maybe Inept

Given the facts presently available, the Russian spy ring does not seem to have been that competent or formidable. There is no real evidence that any of the spies had access to classified information or any other kind of sensitive material. According to the criminal complaint charged against them, they also were not particularly successful at cultivating ties to policymakers or in identifying possible college graduates who might be recruited by the CIA. They were charged simply with being unlawful and unregistered agents of a foreign power.

Eight of them also were charged with money laundering, but not one of them either with actual espionage or with providing Moscow with restricted information. One meeting mentioned in the complaint, however, states that in 2004 one of the spies, Donald Howard Heathfield, met with "an employee of the United States Government with regard to nuclear weapons research." Nevertheless, there is no evidence to suggest that the government employee had actual access to sensitive information about nuclear weapons and/or that he or she cooperated in any way with Heathfield.

It turns out that the spies were often distracted by trivial matters related to their children, cars, homes, mortgages, bank accounts, and compensation by Moscow Center. In one representative message, according to the complaint, "(D)uring the summer of 2009, the New Jersey Conspirators argued with the SVR in a series of encrypted messages about the status of the Montclair House, into which the New Jersey Conspirators had recently moved. The New Jersey Conspirators contended that they should be permitted to own the Montclair House; Moscow Center responded that the Director of the SVR had personally determined that Center would own the Montclair House, but would permit the New Jersey Conspirators to live in it."

The tradecraft used by the spies was not particularly sophisticated, and not only did they fail to adequately protect their personal computers – more than one of them left his/her passwords out in the open – but they did not even take time to confirm with their handlers the bona fides of another purported Russian spy who turned out to be an FBI agent. In fact, Anna Chapman, one of the spies, actually asked him if he could help fix her laptop computer, which was experiencing technical problems. Judging from the complaint itself, the spies seem to have had constant communications and computer problems.

They did, though, apparently use secret communication methods such as radiograms and steganography, which is the process of "secreting data in an image." In this case, the spies either embedded secret data in the images appearing on publicly available websites or extracted data from images posted by others on those sites. The use of steganography involves a sophisticated software package and some fairly intensive training.

The Russian spy case is, if nothing else, a needed reminder that the United States still has enemies other than Islamic extremists, including traditional adversaries like those the United States confronted during the Cold War. Local law enforcement needs to be aware of these threats, especially the fact that not all of the spies lived in big cities like New York and Washington, D.C., but also – some of them – in much smaller communities such as Montclair, New Jersey. Moreover, it would be too easy to simply discount these spies as amateurs and an embarrassment to the memory of the KGB (the national security agency of the former Soviet Union), which was one of the two most powerful and sophisticated intelligence organizations that competed for supremacy during the Cold War – the other being the U.S. Central Intelligence Agency (CIA).

The Russian spy network that was dismantled last month by the FBI may not have been ready for prime time, but there are likely to be other similar spy networks already in place with better training and more resources, more experienced officers and more plausible legends, and stronger tradecraft. If so, they represent a real threat to U.S. national security, and everything possible must be done to stop them.

For additional information about:
The Mark Lloyd book, see *The Guinness Book of Espionage* (Da Capo Press, 1994);

The Walter Pincus article, see "Don't expect Russian 'illegals' to go away" (*The Washington Post*, 13 July 2010);

The Justice Department's "Sealed Complaint" (announced on 28 June 2010), see *USA v. Anna Chapman and Mikhail Semenko*, Southern District of New York.

Dr. Neil C. Livingstone, chairman and CEO of Executive Action LLC and an internationally respected expert in terrorism and counterterrorism, homeland defense, foreign policy, and national security, has written nine books and more than 200 articles in those fields. A gifted speaker as well as writer, he has made more than 1300 television appearances, delivered over 500 speeches both in the United States and overseas, and testified before Congress on numerous occasions. He holds three Masters Degrees as well as a Ph.D. from the Fletcher School of Law and Diplomacy. He was the founder and, prior to assuming his present post, CEO of GlobalOptions Inc., which went public in 2005 and currently has sales of more than $80 million.

DomPrep Survey

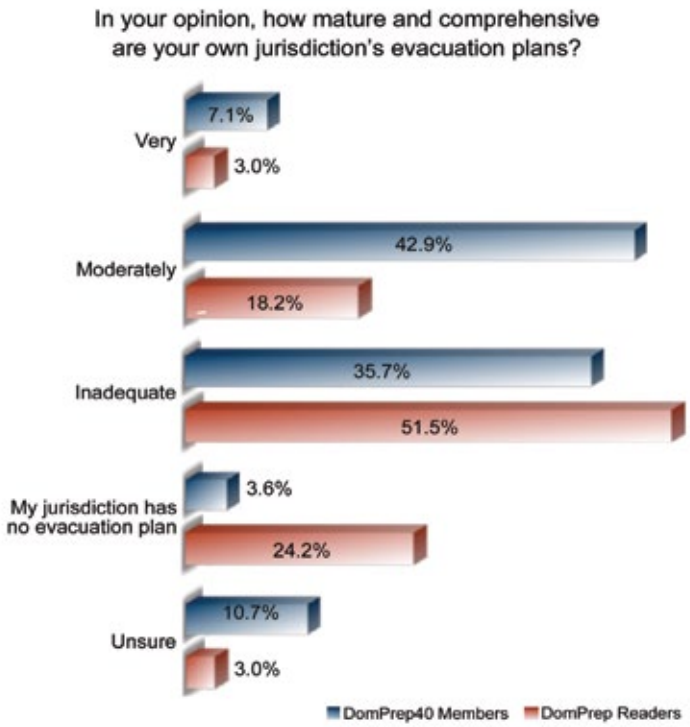
Evacuation Planning

Prepared by John Contestabile, Former Engineering & Emergency Services, Maryland Department of Transportation; Summarized by John F. Morton, DP40

DomPrep has surveyed the DomPrep40 and DomPrep Journal readers for their opinions on the nationwide progress of evacuation planning. In 2006, when the U.S. Department of Transportation (DOT) and U.S. Department of Homeland Security (DHS) evaluated and reviewed the Gulf Coast states' catastrophic-hurricane evacuation plans, they found a number of areas in need of improvement – in the multi-jurisdictional identification of weaknesses in specific plan elements, for example. We wondered: Is that still the case?

DomPrep40 member John Contestabile (pictured), the assistant program manager for homeland protection at the Johns Hopkins University's Applied Physics Lab, has been among those who want to find out and drafted this survey. As the former director for engineering and emergency services at the Maryland Department of Transportation, he has for many years had a vital professional as well as personal interest in getting the evacuation details right.

"Evacuation plans are an essential component of almost every major disaster," Contestabile pointed out as he prepared our survey. But "inevitably," he continued, citing numerous after-action reviews, "they seem to go badly." At all levels of response, and responsibility, the federal, state, and local jurisdictions of government are required to develop effective evacuation plans and to have those plans in place before, not after, disaster strikes. This is not an easy task, he acknowledged. A major evacuation "is a multi-jurisdictional/multi-agency drill." Also, because more grant funding has been allocated in recent years to interoperable communications "and to the acquisition of other 'gear' – not in itself a bad thing, to be sure – one wonders … how many jurisdictions are where they need to be on comprehensive evacuation planning."



Because so many hurricanes hit various areas of Florida each and every year, that state is one that seems to be reasonably proficient in planning for, and carrying out, major evacuations. "But," Contestabile has asked, "could this be more the result of practice than planning? And how many

The DomPrep40

The DomPrep40 is an interactive advisory board of insider practitioners and opinion leaders who have been asked to offer advice and recommendations on pertinent issues of the day. Focusing primarily on all-hazard preparedness as well as response and recovery operations, they will be challenged to provide quantifiable feedback that will be shared with the DomPrep audience.

DomPrep40 Members

John Morton
Strategic Advisor

James Augustine
Chair, EMS & Emergency Department Physician

William Austin
Chief, West Hartford Fire Department (West Hartford, CT)

Ann Beauchesne
Vice President, National Security & Emergency Preparedness Department, U.S. Chamber of Commerce

Joseph Becker
Senior Vice President, Disaster Services, American Red Cross

Robert Blitzer
Former Chief Domestic Terrorism/Counterterrorism Planning Section, National Security Division, FBI

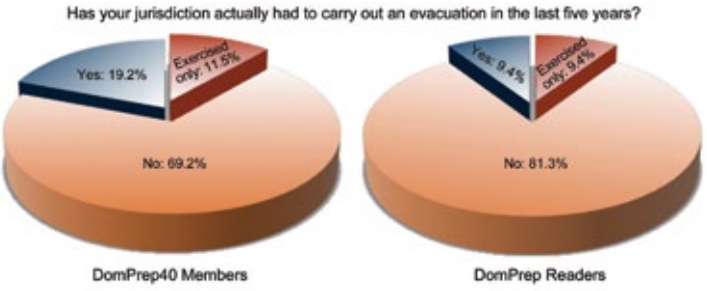
Bruce Clements
Public Health Preparedness Director, Texas Department of State Health Services

John Contestabile
Former Director, Engineering & Emergency Services, Maryland Department of Transportation

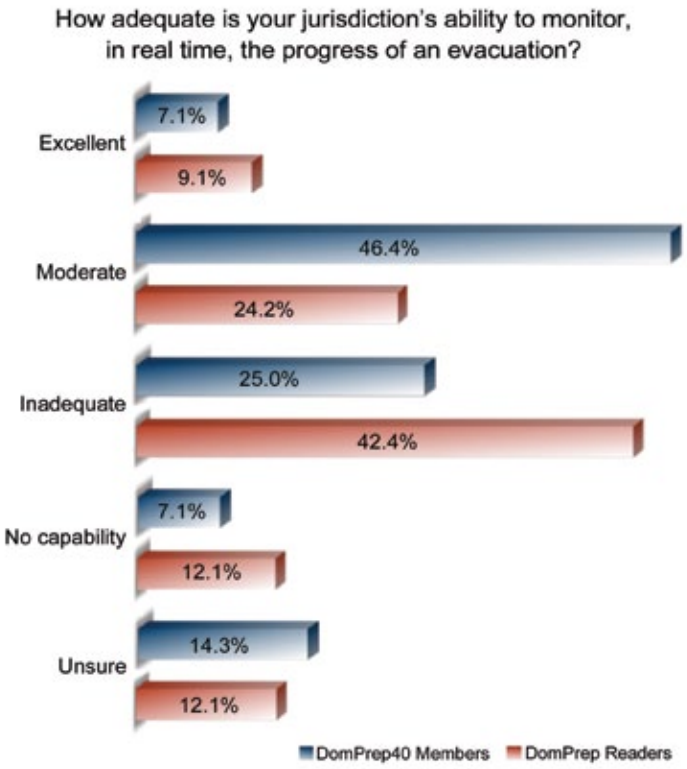
Craig DeAtley
Director for Institute for Public Health Emergency Readiness

Nancy Dragani
Former President, National Emergency Management Agency (NEMA), Executive Director, Ohio Emergency Management Agency

other jurisdictions [throughout the country] can say they have that same level of experience needed to do evacuation planning properly?"

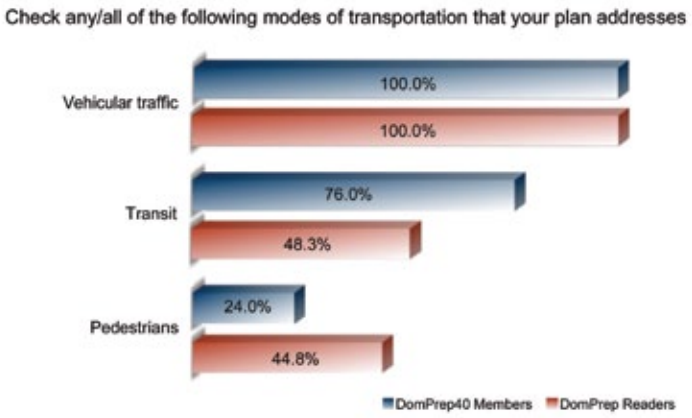


Key Findings: In general, DPJ readers were more skeptical of the progress of evacuation planning than were the DP40. Evacuation planning may be progressing in many states, but still seems oriented to vehicular paradigms. Nonetheless, it is somewhat surprising that transportation agencies are not more widely represented as lead agencies in the development of evacuation plans. Moreover, at least some state plans may need to "mature" by, among other things, expanding the "special categories" of likely evacuees that should be included in the plans – the state's (or community's) transit-dependent and prison populations, for example.



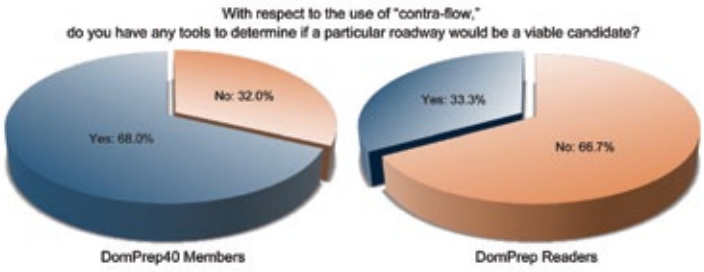
Following are the complete survey results:

About half of the DP40 said that their jurisdictions have "very" or "moderately" mature and comprehensive plans, but over 35 percent say that those plans are "inadequate."



However, over half of DomPrep readers responding said their jurisdictions' plans were inadequate, and another quarter said their jurisdictions had no plans. The results between the two groups are significantly divergent, with readers harboring a greater skepticism.

Just under 70 percent of the DP40 said their jurisdictions have not conducted an evacuation in the last five years. Yet over 80 percent of DPJ readers replied in the negative, validating our initial assessment based on the DP40 results that actual evacuation experience is widely lacking.

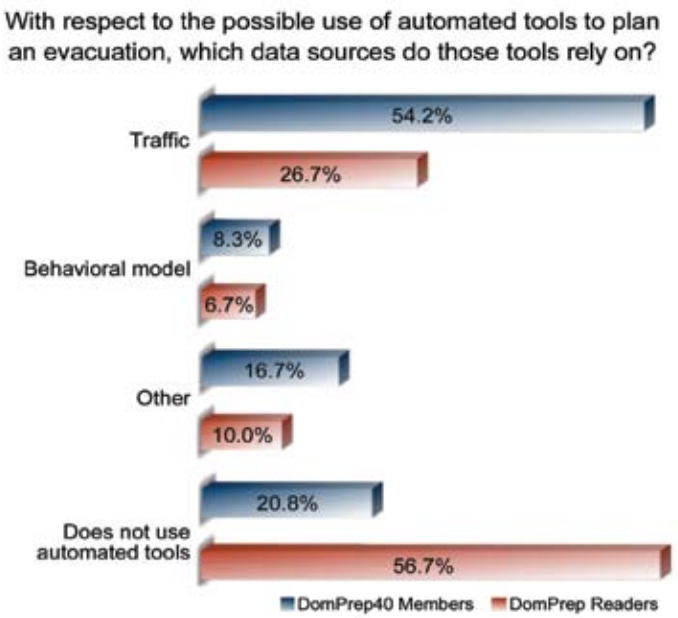


About half of the DP40 said their jurisdictions have an excellent or moderate real-time ability to monitor an evacuation. But over half of DomPrep readers said their jurisdiction's monitoring ability is inadequate or non-existent. Again, the assessment from the field is more downbeat.

Perhaps not surprisingly, both groups felt plans addressed vehicular traffic well. They were less confident of plans for transit and pedestrians, although on this question readers were more positive than their colleagues in the DP40.

The DP40 and readers agreed on contra-flow. In both sets, just over two-thirds said their plans have the tools needed for determining candidate contra-flow roadways. This result validates our initial assessment that those jurisdictions whose contra-flow considerations should be updated and expanded can look to other jurisdictions to find working examples of the tools needed.

While four out of five DP40 members indicated their belief that their jurisdictions used automated tools to plan evacuations, more than half of DomPrep readers said their jurisdictions do not use such tools. They differed also on the weight placed on traffic data sources. Only one in four readers said that was the case. For the DP40, it was over half. As for behavioral models, the low response in both groups seems to indicate that they might have been written off or simply not considered.



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Jeff Runge
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Richard Schoeberl
Former Executive, Federal Bureau of Investigation & the National Counterterrorism Center

Dennis Schrader
Former Deputy Administrator, National Preparedness Directorate (NPD), FEMA

Robert Stephan
Former Assistant Secretary of Homeland Security for Infrastructure Protection

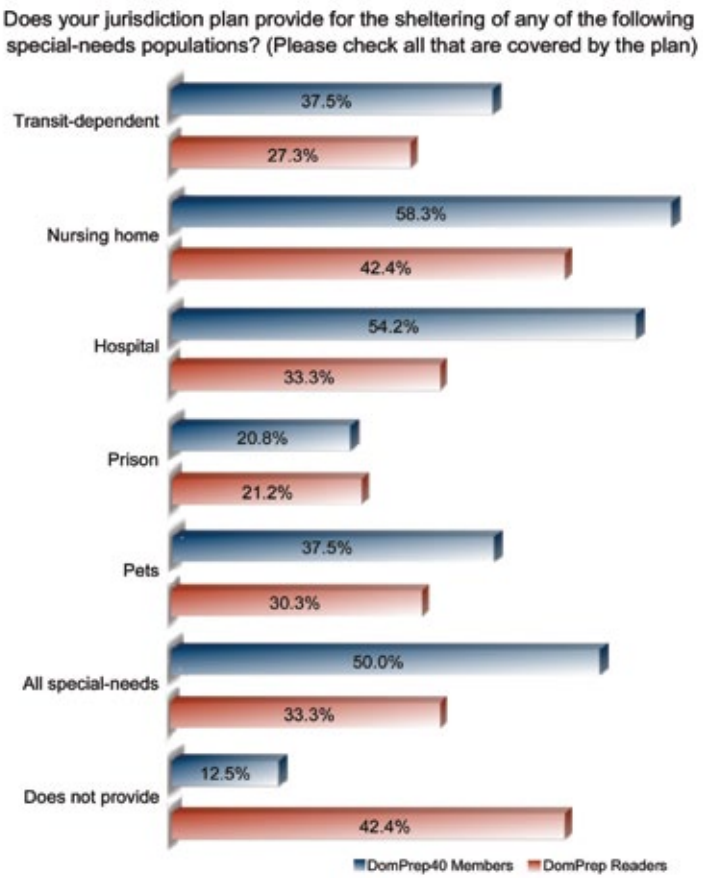
Joseph Trindal
Former Director, National Capital Region, Federal Protective Service, Immigration & Customs Enforcement (ICE)

Theodore Tully
Director, Trauma & Emergency Services, Westchester Medical Center (Westchester County NY)

Craig Vanderwagen
Former Assistant Secretary for Preparedness & Response, U.S. Department of Health & Human Services

The DP40 said Emergency Management and Transportation Agencies have the evacuation lead, with 48 percent saying that their jurisdictions have made their emergency management agencies responsible for evacuation plans; 44 percent said that emergency management shared the responsibility with transportation. Readers, on the other hand, at over 60 percent, said it was an EMA responsibility. Another significant divergence of opinion.

On sheltering for special-needs populations, here again, readers responded more negatively. Just over 42 percent of DomPrep readers said their plans do not provide for special-needs populations. Only 12 percent of DP40 members said their plans failed to provide for such populations. As for all categories of special-needs populations, only a third of readers said they are covered, whereas for the DP40 it was fifty percent. For both groups, transit-dependent and pet populations came up a little short, though – and prison populations were largely ignored, with just over 20 percent of readers and DP40 members saying that prison populations are included in their jurisdictions' evacuation plans.



International vs. National Standards Development – Sister Processes

By Diana Hopkins, Standards

International voluntary consensus standards and national voluntary consensus standards share a common history in terms of how they are developed, but the goals of each differ in a number of ways. A usual common aspect of international as well as national standards, though, is the effort made to ensure the integrity and relevance of the final standards issued. That effort includes an emphasis on fair and balanced selection and the informed participation of volunteer stakeholders – usually achieved through open communications, voting by consensus, and transparency in all standards development processes, as well as an appeals system. Without those processes in place, the integrity and relevance of a specific standard could be justifiably questioned.

International consensus standards – more specifically, ISO (International Standardization Organization) standards – are developed based on their international relevance. In other words, the ISO goal is to produce standards that are agreeable and important to many countries, give no preference to specific countries, and result in no adverse effects on fair competition – e.g., standards for transportation security. The specific standard must also be performance-based and adaptable to a broad range of regulatory, scientific, and technological situations.

Stakeholders – i.e., individuals and/or groups with an interest in the standard (because they are directly affected by it) – are selected, and consensus is pursued. Typically, the stakeholders selected include representatives of national delegations of industry and trade associations, science and academia, consumers, governments, and regulators, all of whom: (a) are appointed by the member bodies of ISO; or (b) participate through liaison organizations.

Typically, the stakeholders selected include representatives of national delegations of industry and trade associations, science and academia, consumers, governments, and regulators, all of whom: (a) are appointed by the member bodies of ISO; or (b) participate through liaison organizations

The redrafting of a proposed international standard occurs – several times, if necessary – until consensus is reached on the technical content of the standard in its final form. The ISO member bodies then have a five-month deadline for voting and comments. The last version, if approved by the technical committee (TC), then becomes a Final Draft International Standard.

If the Final Draft is not approved it is returned to the TC for further revision, then re-circulated by the ISO Secretariat for voting and, if necessary, additional comments. The Secretariat circulates the approved Final Draft International Standard to all ISO member bodies – this time with a two-month deadline. After final approval, the new standard is published (but later reviewed periodically).

National Standards Development: A More Tightly Focused Goal

National consensus standards, on the other hand, are developed by individual countries with that nation's needs as the driving force, and giving no preference to a particular sector of stakeholders. For example, following the terrorist attacks of 11 September 2001, it was immediately apparent that the United States needed to develop new and more stringent standards for building infrastructure in order to prevent collapses similar to those of the Twin Towers in New York City.

Administration and review documentation and practices differ in several ways between and among national standards development organizations (SDOs), which are usually private-sector associations, organizations, or technical societies involved in the development of voluntary consensus standards – as described in the

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National Technology Transfer and Advancement Act (NTTAA). All SDOs use the same agreed-upon procedures, employing and adhering to such important procedural attributes as openness, balance of interest, due process, an appeals process, and consensus voting.

Proposed new standards are then developed by the voluntary team. Ideally, half of the voluntary team consists of members from federal, state, county, and city governments, with the other half coming from industry. The team also works with other experts as needed to ensure a satisfactory technical product.

The selection of appropriate stakeholders is determined through a transparent, fair, and balanced process, and all stakeholders are included in the distribution and review of the draft standard. If the voluntary team does not approve the draft standard, the team and stakeholders continue to rework the proposed standard until they reach consensus on a draft that can and will be approved. After the draft standard is approved, edited, and published, it is scheduled for further periodic review by the voluntary team. Here it is important to note that national consensus standards can also be adopted by the ISO if they are found to be internationally relevant as well.

The accompanying table compares the current international and national processes used for standards development.

Diana Hopkins' consulting firm, "Solutions for Standards," (www.solutionsforstandards.com), focuses on helping businesses navigate the complex standards development process. Hopkins is a 12-year veteran of AOAC INTERNATIONAL and former senior director of AOAC Standards Development. Most of her work since the 11 September 2001 terrorist attacks has focused on standards development in the fields of homeland security and emergency management. In addition to being an advocate of ethics and quality in standards development, Hopkins is also a certified first responder and a recognized expert in both technical administration and governance as well as in process development and improvement.

Step	International Standards Development Process	National Standards Development Process
1	To confirm the need for a particular standard, a proposal must be implemented by international industries and other stakeholders in the international marketplace. After acceptance, a technical committee (TC) is assigned by the International Standardization Organization (ISO) to navigate it through the standards process.	To confirm the need for a standard, a draft is submitted by an individual or group and a national standards development organization's (SDO) voluntary team comes together to sponsor it through the standards development process.
2	TC members revise the standard until it is the best technical solution to the problem being addressed. Stakeholders are selected and, if they determine that testing is required for validation, it would be implemented so those data are included with the technical content.	The voluntary team and experts develop and write up the standard. If testing is required for validation of the proposed standard, it could be determined and implemented as early as this step (or in later steps) so those data are included in the draft.
3	The drafted standard is registered by the ISO Central Secretariat and distributed for comment/voting by members of the TC. After revisions are agreed upon, the document is called a Draft International Standard.	Stakeholders are determined. Comments are collected by the voluntary team, reviewed, and incorporated into the draft. The draft standard is modified and circulated to stakeholders for comment until it is satisfactory for vote.
4	The ISO Central Secretariat circulates the Draft International Standard to all ISO member bodies for voting/comments. If approved, it becomes a Final Draft International Standard. If not, it is returned for further revision. No further technical revisions will be solicited or incorporated after this step.	The voluntary team votes to approve the draft standard and the standard is sent to an executive level committee for final review and vote. If the draft standard does not pass review, the voluntary team and stakeholders continue to work on it for eventual approval.
5	The approved Final Draft International Standard is circulated to all ISO member bodies. If approved by the TC, the standard becomes an International Standard. If not, it goes back to the committee for review and a decision is made on how to proceed.	The executive level committee reviews the draft standard. If approved, it becomes a final standard and is sent to an editor for polishing. If not, the draft is returned to the volunteer committee for appropriate action.
6	After minor editing, the Secretariat publishes the International Standard.	The final standard is published.
7	All International Standards are placed on a 3–5 year review cycle, during which the TC decides if the standard should be revised, confirmed, or withdrawn.	Comments on the published standard are solicited on a scheduled cycle and then submitted to the voluntary team for review and action.

Emergency Management: An International Focus

By Kay C. Goss, Emergency Management

The international outreach and partnership programs in emergency management are dramatically increasing in number and bringing mutual support, understanding, and strength to the profession as well as general good will around the world. In fact, at least some visionaries say that International Search and Rescue Teams may be future candidates for the Nobel Peace Prize. Firefighters and fire chiefs, as well as police and law enforcement agencies, have long been active and organized along international lines. Now, so is emergency management.

The International Association of Emergency Managers (IAEM), which has over 5,000 members in 58 countries, is a nonprofit educational organization dedicated to promoting the twin goals of saving lives and protecting property during emergencies and disasters. Translations of IAEM publications are available in Spanish, French, Italian, and Portuguese as well as English. Membership flyers are provided in Croatian, English, Italian, Spanish, Hungarian, Ukrainian, Persian, Slovakian, and Turkish. Presentations are offered in Arabic, Croatian, Dutch, English, French, German, Spanish, Italian, Portuguese, Slovakian, and Turkish.

Firefighters and fire chiefs, as well as police and law enforcement agencies, have long been active and organized along international lines – now, so is emergency management

The International Affairs Program of the U.S. Federal Emergency Management Agency (FEMA) has been a leader in international outreach efforts for many years. In the early 1990s, there were 400 distinguished international emergency-management visitors to the FEMA each year. By 2001, there were 1,000 or more. The nature of these visits is one of sharing lessons learned and best practices, with special emphasis on publications, joint meetings, and multilateral organizational activities – sponsored by NATO and the European Union, for example, as well as the Organization of American States and the United Nations. These meetings are often held jointly with the Office of Foreign Disaster Assistance at the U.S. Agency for International Development/U.S. Department of State.

Educational Programs, International Conferences, and More

One of the more notable partnership projects that has been hugely successful is the Master's degree program launched by FEMA's Emergency Management Institute (in Emmitsburg, Maryland) in partnership with the Istanbul Technical University (ITU) Center for Excellence in Disaster Management. The ITU founders were Dr. Gulsun Saglamer, ITU's Rector when the program started, and Dr. Derin Ural, then the Director of the Center for Excellence.

This year will be the tenth anniversary of the ITU program, and Dr. Saglamer is now a Distinguished Professor and Dr. Ural is Vice Rector. One of the principal reasons for the program's initial and continuing success is the strong leadership it continues to provide from the top. Another reason is the positive responses from and career records of the graduate students, many of whom have quickly become leaders in various aspects of emergency management throughout Turkey. Also, the Turkish government has supported a broader role for emergency management, as the ITU Program has grown.

Another important factor for improvement in this area is that the global emergency-management community has become increasingly knowledgeable in numerous technological fields that also have upgraded the profession. The steadily increasing use of social media, moreover, has made it possible to become, and remain, intimately informed about the impacts, challenges, responses, and recovery needs of every emerging disaster across the world in a mere matter of minutes – if not seconds. A European emergency manager reports on a daily basis to the members of the IAEM list on disasters around the world.

One particularly relevant example: Like tens of millions of others throughout the world, the scientists and inventors at Lightstep Technologies in Belfast, Northern Ireland, watched the 9/11 terrorist attacks against the United States as they were

actually happening and decided to design and develop an intelligent evacuation system that would reduce the deaths and destruction caused not only by the attacks themselves but also during the evacuation efforts at the World Trade Center Towers. Today, many of those same scientists are testing an oil-spill cleanup system in the Gulf of Mexico. Obviously, emergency needs and solutions are no longer restricted to national boundaries, or existing technologies.

Additional hope is evident by the fact that more international conferences in emergency management are being offered each year, in addition to the hugely successful conferences of the IAEM, scheduled to meet this year in San Antonio in October. Other conferences planned for this year include: (a) Business Resilience in the Supply Chain, 15 September 2010 in Reading, England (supported by IAEM-Europa); and (b) Security & Defense Learning 2010, 1 December 2010 in Berlin, Germany (also supported by IAEM-Europa).

The International Emergency Management Group (IEMG) offers the possibility of mutual assistance in managing an emergency or disaster among participating international jurisdictions. Moreover, through a Memorandum of Understanding – referred to as "The Compact" – and in support of Resolution 23-5 of the Conference of New England Governors and Eastern Canadian Premiers, the IEMG supports the process of planning, mutual cooperation, and emergency-related exercises, testing, and other training activities of mutual benefit to jurisdictions of both nations along the U.S./Canadian border. The organization's Spring Conference this year was held in Saint John's, Newfoundland, and hosted by the Newfoundland Labrador Fire & Emergency Services.

Kay C. Goss, CEM, possesses more than 30 years of experience – as a federal and state administrator and in the private sector – in the fields of emergency management, homeland security, and both public finance and intergovernmental operations. A former associate FEMA director in charge of national preparedness training and exercises, she is a noted lecturer as well as the author of several books and numerous articles and reports in the fields of homeland defense and emergency management.

Lessons Learned from the Haiti Earthquake

By L. Browne-Barbee, Public Health

On 12 January 2010, a 7.0-magnitude earthquake severely damaged Port-au-Prince, Haiti. With over one million people affected (dead, injured, or missing), many nations, including the United States, provided critical life-saving skills, medicine, and equipment – as well as other assistance – to the victims of the earthquake. Haiti is a mountainous region and is considered the poorest nation in the Western Hemisphere. These characteristics can create challenges for responders with regard to communications technologies, health risks, and situational awareness.

The multi-agency relief efforts included not only those of the U.S. Agency for International Development (USAID) and Federal Emergency Management Agency (FEMA), but also the U.S. Customs & Border Protection, Immigrations and Customs Enforcement, the U.S. Coast Guard, the U.S. Transportation Security Administration, and the U.S. Department of Health and Human Services – all of which provided assistance of various types to the Haitian victims of the disaster.

USAID and FEMA ramped up search and rescue operations and support almost immediately, and deployed numerous skilled professionals to Haiti. *The Haiti Earthquake Response Quick Look Report* (which is available only on *Lessons Learned Information Sharing (LLIS.gov)*), details the specific strengths, challenges, and areas for improvement to response planning and operations for catastrophic events. Two lessons learned from the U.S. response to the Haitian earthquake demonstrate the importance of prompt and effective communications during a disaster, which can aid greatly in: (a) the timely activation of task forces; and (b) information sharing among responders.

Two lessons learned from the U.S. response to the Haitian earthquake demonstrate the importance of prompt and effective communications during a disaster, which can aid greatly in: (a) the timely activation of task forces; and (b) information sharing among responders

Needed: Early Planning, Improved Communications & Frequent Meetings

One lesson learned identified the need to establish specifically designated personnel and official sources to provide the primary contact information for alerts, advisories, and activation status. For example, an Urban Search and Rescue (US&R) task force received communications on deployment by multiple methods – including telephone, email, and fax. In one case mentioned in the report, an activation status email had been sent to an incorrect point of contact.

In other cases, task forces did not receive an alert status – that omission could have caused both a delay in deployment and an increase in cost. The lesson learned here was that a pre-designated 24-hour telephone and/or fax number must be quickly established to provide these types of communication.

Another lesson learned addresses the somewhat limited information exchange that took place between different task forces. During the response operations in Haiti, different task forces were stationed both at the Port-au-Prince airport and at the U.S. Embassy. The two task forces never met or communicated with one another during the time frame covered in the report. It was later discovered that the sharing of information among the groups would undoubtedly have been helpful to both groups. To ensure improved information exchange in the future it was recommended that task forces should meet on a regular basis during future deployments to discuss the significant occurrences of the day.

Additional information related to the preliminary findings about the response to the Haitian earthquake, along with the lists of strengths and "areas for improvement," can be found in the Haiti Earthquake Quick Look Report on LLIS.gov. To access that and other earthquake documents, log into LLIS.gov.

Latoya Browne-Barbee has worked as an outreach analyst on Lessons Learned Information Sharing (LLIS.gov), the Department of Homeland Security/Federal Emergency Management Agency's national online network of lessons learned, best-practices, and innovative ideas for the U.S. homeland-security and emergency-response communities. Ms. Browne-Barbee earned a B.S. in Biology from Towson University and is currently working on an M.S. in Biotechnology, with specialization in Bio-security and Bio-defense, from the University of Maryland University College (UMUC).

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Preparedness: Protecting Facilities Against CBRN Threats

By Dr. David Cullin, Senior Vice President, Technology Transition, ICx Technologies Inc., Case Study

Protecting people in public places and ensuring resiliency of the critical U.S. infrastructure against potential terrorist attacks and other serious threats remains an enduring need. Terrorist attacks on commercial and federal facilities have the potential to be socioeconomically devastating. In recent years, terrorists have attacked critical government facilities – the U.S. Embassy in Peshawar, Pakistan, for example – and other sites with the potential to be psychologically debilitating (Times Square in New York City). In response to new terrorist tactics and techniques, security policies and procedures continue to evolve, largely to defeat the most likely terrorist weapon: explosives. While this has certainly been a vital step, similar safeguards must also be implemented to defeat or, at a minimum, mitigate the effects caused by terrorist employment of chemical, biological, radiological, and/or nuclear (CBRN) weapons.

Earlier this year, members of the bi-partisan Commission on the Prevention of WMD (Weapons of Mass Destruction) Proliferation and Terrorism concluded their study and released a report stating that the world can expect a terrorist attack based on nuclear or biological materials by the year 2013 (www.preventwmd.gov). The report also states that the weapon of choice will most likely be biological, and cites direct evidence that terrorists are seeking WMDs. It is doubtful that current procedures and technologies – e.g., checkpoint screening techniques – will be effective in preventing or mitigating the effects of the use of CBRN weapons. The U.S. Department of Homeland Security (DHS) has recognized this vulnerability and listed CBRN security as a high priority for U.S. infrastructure protection.

Current approaches for protecting buildings against CBRN threats are both costly and complex, and lack the flexibility needed to tailor the level of protection for the facility managers. Furthermore, these approaches focus solely on the detection of hazardous threats, often neglecting the necessary response functions after a threat has been detected. The common objective of systems that address the vulnerabilities should be to prevent or reduce the likelihood of a CBRN attack as well as to minimize the requirements for consequence management. Even with this knowledge, the priority levels for CBRN threat mitigation seem inversely proportional to the time elapsed since the most recent event. However, the probability of attack remains the same and thus the need for countermeasures continues.

Although the potential loss of life would be a great tragedy, decision-makers must also consider, in dollar amounts, the value of investing in systems and technologies that decrease the risks or impact of a CBRN attack. The costs associated with both the procurement and total lifecycle operation of CBRN capabilities is a concern. After a catastrophic event, however, there is also a monetary impact in terms of cleanup and lost productivity. When those numbers are summed, the investment in protective systems is modest.

The saying that "an ounce of prevention is worth a pound of cure" is applicable here. In comparison, building codes and insurance regulations to build fire suppression systems in facilities are enforced to mitigate such a hazard. If there is never a fire, there is never a return on these investments. However, if there is a fire and the building is not consumed, it is money well spent. Current concepts for CBRN protection can provide this same type of capability at a manageable cost.

Installing CBRN protection systems is not simply a matter of procuring devices and installing them. Owing to their differing requirements, building protection approaches must offer comprehensive, yet scalable, systems-level solutions for federal and commercial facilities that address all of the detection, protection, and mitigation aspects of CBRN threats. In the event of a CBRN attack, early warning and rapid response can reduce injuries to people, damage to assets, and disruption of operations.

Technical approaches that leverage today's technologies while planning for the future are required for critical infrastructures that employ features deemed necessary or desirable for their defensive posture. Capabilities for application of critical infrastructures would support the rapid detection and networking of sensors for prompt, automated, real-time reporting and notification of CBRN threats. Following detection, notification should be remotely monitored and linked into inherent physical security and facilities management functions. Protection of the facility and its occupants can be accomplished through mechanical controls of ventilation systems, and further mitigated by utilization of decontamination techniques.

Evolving threats and the tools to thwart them have promoted technical advancements with the seemingly simple goal of reducing the size, simplifying the use, and increasing the effectiveness of CBRN detection technologies. Strategically leveraging the breadth of solutions available across the existing vulnerabilities should promote the adoption of layered approaches for protection of critical infrastructures. Capabilities range from simple monitoring systems to low-cost triggers to highly sensitized identification devices. Collectively, these capabilities afford opportunities for federal and commercial stakeholders to re-evaluate CBRN protection of critical infrastructures. Integration of CBRN building protection systems with physical security and facilities management functions will support increased situational awareness via a single command and control system. This data fusion provides the capability for security and response personnel to timely identify the location and nature of the threat(s).

Capitalizing on the industry's capacity for technological innovation, emphasis should continue toward pressing the evolution of operational concepts in which multiple sensors detect multiple threats versus a single, comprehensive device. Layered frameworks should allow facility owners to achieve their goals for protection within desired sustainment costs.

Today, however, no single technology represents the proverbial silver bullet that will solve the problem posed by CBRN threats. Clever solutions are required to address the integration and effective systematic layering of diverse technological approaches. The goal should be to strive for an application that achieves institutionalized CBRN critical infrastructure protection.

Dr. David W. Cullin serves as Senior Vice President of Technology Transition at ICx Technologies Inc. For seven years prior to joining ICx, Dr. Cullin served in the U.S. Department of Defense's Chemical and Biological Defense Program. As the Director of Technology at the Joint Program Executive Office for Chemical and Biological Defense, he focused on new technology that would help the U.S. armed forces counter weapons of mass destruction. Prior to that, he led the technology development of what is now the Department of Defense's Portal Shield. Dr. Cullin joined the department in 1991, as a research chemist with the Naval Surface Warfare Center in Dahlgren, Va.,, and from there went on to direct the DOD Critical Reagents Program.

Iowa, Arizona, California, and New Hampshire

By Adam McLaughlin, State Homeland News

Iowa
Establishes New Center to Expand Flood-Knowledge Database

A new Iowa flood center launched this spring should be able to develop a local body of knowledge and help build a model that provides early warning signs of future floods. Following the 2008 flood that killed one person and caused an estimated $7 billion in damage, the Iowa Legislature passed a law providing $1.3 million for establishment of the Iowa Flood Center both to study flooding within the state and to carry out research that could help reduce the impact of future floods.

The center's research will be published on a public website in the form of flood maps that are available to communities, according to Witold Krajewski, the center's director. "All the information, all the products are then constructed in the form of those maps, and the maps are presented in an easy-to-understand way," he said. "That way, anybody … with a computer and a browser has access to that information."

"All the information, all the products are … constructed in the form of those maps, and the maps are presented in an easy-to-understand way; that way, anybody … with a computer and a browser has access to that information"

One of the driving forces behind establishing the Iowa Flood Center was the realization that valuable knowledge and expertise has been leaving the state even though some communities hired private-sector consultants to advise them about future recovery and mitigation efforts. "Perhaps they [the consultants] help us, but then they leave and they take with them that expertise that they actually developed thinking about our problems," Krajewski said. "But the state and the people and the communities are left not necessarily better prepared for the future."

The center is working with numerous other agencies, including the Iowa Department of Natural Resources, the National Weather Service, the U.S. Army Corps of Engineers, the U.S. Geological Survey, the Iowa Department of Transportation, the Iowa Natural Resources Conservation Service, and the Rebuild Iowa Office. The center also is developing an inexpensive solar-powered acoustic sensor to monitor water levels in streams and rivers around the state by measuring the distance between the sensor and the water. The data collected will be transmitted back to the flood center via cell phones attached to the sensors.

The state's Department of Natural Resources gave the center the funding needed to deploy 50 of the $3,000 prototype sensors, which will be used later this summer in a test designed to provide early warning of potential flood conditions. The department is selecting the deployment sites; Krajewski said that the response to the sensors, which will require minimum local effort, has been strong from communities throughout the state.

Data from the sensors will allow center researchers to begin building a new high-tech flood model – which, Krajewski said, will do most of the work in providing early warnings of potential floods to local emergency managers. The data generated by the sensors should be available online by September or October.

Arizona
To Receive $50 Million in Settlement Funds to Boost Border Security

A new $50 million funding allocation is now available to local law-enforcement agencies in Arizona, and elsewhere along the U.S.–Mexico border, for border-security projects. The money comes from a $94 million settlement that Attorney General Terry Goddard's office reached with Western Union earlier this year to end a seven-year investigation into drug smugglers' use of wire companies to move money across the border.

Goddard's office sent out grant applications in late June to city, county, and state law-enforcement agencies in Arizona, Texas, California, and New Mexico. Each state is guaranteed at least $7 million, according to Goddard. He also said

that the money can be used to deal with such volatile issues as the cross-border smuggling of drugs, people, weapons, and/or money. The drugs and people usually come north into the United States, and the weapons and money go south – in most if not all cases to fuel the operations of Mexico's drug cartels.

Stopping or at least making money-laundering projects more difficult will be a major priority, but grants can be used for numerous other operations related to border security – e.g., new prosecution and investigative plans. The new funding "provides highly flexible support to state and local law enforcement that has not been available before," Goddard said. "This is basically designed to help them with what they think they need help with in terms of fighting border crime."

The U.S. Department of Homeland Security's Operation Stonegarden grant program offers money to local law-enforcement agencies for overtime border security shifts and some equipment, but that money has some restrictions attached – it cannot be used for new hires, for example. However, according to Goddard, the additional $50 million now available can be used to hire people – but the agencies receiving the funds will have to figure out how to fund any new position after the initial grant money has been spent. It is worth noting that eligibility for the new funding is not restricted to U.S. law enforcement agencies. Money cannot be given directly to Mexican police agencies, but U.S. border police agencies can obtain grant money for partnership projects, with their Mexican counterparts, that target cartel members.

Some of the money from the $94 million settlement is being used to fund a border-crime unit devoted to prosecuting crimes committed by the Mexican cartels. The border-crime team will be made up of 10 to 12 prosecutors and investigators, many of them from the federal Intelligence and Operations Coordination Center, who will be working in close cooperation with the U.S. Department of Homeland Security.

California

UCSB Adds Major Notification Warning System

Bike theft is the number one public safety concern on the campus of the University of California at Santa Barbara (UCSB), but that does not stop the school's administration from preparing for the worst, including an "active shooter' situation.

That is why the campus continues to add to its layered approach to security – the latest layer being the addition of five mass notification warning system speakers on the roof of a building in the heart of the campus.

The speakers have a range of 2,400 feet at 70 decibels, and are a significant addition to "The Notifier," a mass notification system installed by Honeywell; emergency alerts and other notifications will be broadcast over the speakers to notify students, faculty members, and others on campus where to go in an emergency

The speakers – one of which was installed in mid July (the remaining four are scheduled to be installed within a year) – have a range of 2,400 feet at 70 decibels, and are a significant addition to "the Notifier," a mass notification system installed by Honeywell. Emergency alerts and other notifications will be broadcast over the speakers to notify students, faculty members, and others on campus where to go in an emergency. The speakers are manufactured by the Whelen Corporation.

"One of the issues we have on campus is we have a notification system that notifies students of a situation via telephone or pager, but we wanted to make sure we had a duplication of that service," said Associate Vice Chancellor Ronald Cortez. "If the service were to fail there [now] will be a backup system."

An active shooter situation would require immediate notification – and that was a major consideration, Cortez said. "If we had a pending fire coming toward the community we would have more time to notify faculty, students, and staff, whereas [the presence of] an active shooter requires almost instant notification, and that's where we would need this system to help us."

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Redundancy in a notification system also is important; another reason that UCSB selected the Notifier system and the speakers was because they fit well with the existing backup generator program and fire alarm system, Cortez said. "[Redundancy] is essential because – during an earthquake or at [other] times where we could lose power – we felt that it would be … [particularly] important to notify the campus of emergencies," he said. "And we wanted to make sure it worked during that time."

The UCSB's layered approach includes use of: (a) the telephone and pager system, which sends messages to students and faculty on campus; (b) a radio system that broadcasts messages over the campus radio; and (c) alerts through Facebook and electronic signs – similar to those used on many highways – located outside the school entrances.

Whatever the message might be, the multi-pronged approach to notification is essential, Cortez said. "Our belief is that the more systems we have [the better]; if one were to fail, people will still get the message."

New Hampshire
Governor Signs Law Creating Emergency Notification System

New Hampshire is taking the next step in getting out messages to warn communities throughout the state about a storm, tornado, flooding, and other emergencies. On 7 July, Governor John Lynch signed a bill that will create a statewide emergency notification system. When it is up and running, the system will allow state officials to send residents automated phone messages, either to specific towns and neighborhoods or statewide.

"Nationally, there was Katrina and 9/11, but locally we had the ice storm, we have had fires and we have had floods. We've had people missing," said Rep. Melanie Levesque (D-Brookline), a telecom consultant who sponsored the bill. "In all of these cases if we had had a system [in place] … we could have saved lives and property."

With the new law, New Hampshire will be joining at least one other New England state, Connecticut, in establishing a state-wide emergency notification system. Connecticut residents started registering on a website last week to receive emergency alerts.

The new law allows New Hampshire to spend up to $600,000 on software and other equipment to set up the service and to work off a 911 database of phone lines. Residents who use cell phones and Internet phone services can opt into or out of the system.

The state still must seek bids, officials said, but Emergency Services Director Bruce Cheney said he believes the system will be operating sometime this fall. Cheney said he had wanted the system to require cell users to "opt out" of participating, and messages to be sent to cell users based on their proximity to cell towers. But that option was rejected in favor of an "opt in" system requiring cell users to sign up if they want to participate.

"In most cases, this is going to be used on a local level," Levesque said. "It may be used on a county level." Every community throughout the state would have access to the service, even though more than a dozen communities already have invested in their own systems.

"In our case, we will probably continue to keep ours," said Jessie W. Levine, New London town administrator. "We would see the state system as a nice redundancy," she added, "because we have done a lot of work developing the database and encouraging citizens to sign up using not only their traditional listed numbers, but also any other numbers they have, cell phone numbers, e-mail." It is helpful in any case, Levine said, "to have redundancy in the emergency communications world, but we do not think it would replace the need for us to keep ours [i.e., the systems already in service]."

Adam McLaughlin currently serves as the Manager of Emergency Readiness, Office of Emergency Management, for the Port Authority of New York and New Jersey. His responsibilities include both the development and coordination of Port Authority interagency all-hazards plans and the design and development of emergency preparedness exercises. A Certified Emergency Manager (CEM), he is a former U.S. Army officer – and a veteran of the war in Afghanistan – and a member of the Faculty of Senior Fellows for the Long Island University's Homeland Security Management Institute.

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