domestic preparedness .com

DomPrep Journal

Monthly Edition

US $100 Annual | Volume II, Issue 13 | October 2006

Responders On Alert

An All Hazards Approach

For more details, visit:
DomesticPreparedness.com
Since 1998, Integrating Professional Communities of Homeland Security

Special Report

Detection + Inspection = Protection

what makes you * special?

IBM's commitment to innovation helps you achieve excellence. IBM is a trusted services provider with experts who specialize in the following areas:

- disaster recovery
- emergency preparedness and response
- critical information management and sharing
- pandemic preparedness including human resources
- border security
- bioterrorism
- biometric security

IBM's commitment to innovation via our experienced IT professionals, industry-leading services, and world-class support helps Federal, State and Local Governments achieve excellence.

ibm.com/services/continuity
ibm.com/services/security

what makes you special?™ Excellence

IBM

Business Office
517 Benfield Road, Suite 303
Severna Park, MD 21146 USA
www.DomesticPreparedness.com
(410) 518-6900

Staff
Martin Masiuk
Publisher
mmasiuk@domprep.com

James D. Hessman
Editor in Chief
JamesD@domprep.com

John Morton
Managing Editor & Interviews
jmorton@domprep.com

Susan Collins
Subscription Mgr. & Layout/Design
subcriber@domprep.com

Sharon Stovall
Web Content Coordinator
sstovall@domprep.com

Advertisers in this Issue:

DomPrep Journal is electronically delivered by the IMR Group, Inc., 517 Benfield Road, Suite 303, Severna Park, MD 21146, USA; phone: 410-518-6900; fax: 410-518-6020; also available at www.DomPrep.com

Articles are written by professional practitioners in homeland security, domestic preparedness, and related fields. Manuscripts are original work, previously unpublished and not simultaneously submitted to another publisher. Text is the opinion of the author; publisher holds no liability for its use or interpretation.

IMR GROUP

EDITOR'S NOTES

By James D. Hessman, Editor in Chief

Two years and three months after Nazi Germany invaded Poland in September 1939, France had already been defeated and England seemed also ready to go under. Then Japan launched its surprise attack against the United States – and Winston Churchill immediately realized that the Allies would eventually win what had suddenly become World War II.

The reason, as he mentioned many times in his memoirs, was that the infusion of American fighting strength – muscularly backed up by the vast armadas of ships and aircraft, and mountains of weapon systems and other supplies and equipment, that would pour forth from the so-called "Arsenal of Democracy" – would soon turn the tide of battle in favor of the major democracies.

During and since the end of World War II America's defense industries – sparked by the U.S. private sector's technological, production, and distribution capabilities – have continued to play a key role in the overall national-defense picture, and today they are also, fortunately, heavily engaged in the U.S.-led Global War on Terrorism as well.

The front-line troops in that war are, of course, the first responders – the policemen, firemen, and EMS technicians who put their lives on the line every day to protect their fellow citizens. Immediately behind them, though, are the private-sector companies that manufacture the protective clothing needed by the first responders; that build better ambulances, police cars, and fire engines; and that develop, test, and produce the broad spectrum of detection systems and devices needed to verify the presence of chemical or biological agents at the scene of a manmade incident of mass destruction.

This printable issue of *DomPrep Journal* features a Special Report on some of the detection systems now in service, or getting close to deployment, and provides a closer look at six companies that develop, test, and build those systems (all of which, it should be noted, have many military uses as well).

A related article by Michael Allswede discusses the development and approval, by Interpol, of the international agency's new *Biological Incident Preplanning and Response Guide*, which is expected to help the 184 nation members of Interpol expand and significantly improve their individual and collective counterterrorism capabilities.

The Allswede article is complemented by two other important articles in the also closely related fields of terrorism, counterterrorism, and homeland defense. The first is a comprehensive review by Jonathan Dodson of the WMD-CST (weapons of mass destruction-civil support teams) units created – under Homeland Security Presidential Directive Five – to use specially trained National Guard units to augment the relatively meager WMD detection/deterrence/response capabilities of individual states and major cities throughout the country. The focus of the second article – *Responding to a Suicide Bomber Incident*, by Robert Stephan – is self-explanatory. But it is extremely important reading for those responders whose duties require them to be the first of the nation's homeland-defense forces to charge into Harm's Way.

Helping to round out the issue are: (a) an article by Joseph Cahill – on the NIMS (National Incident Management System) and ICS (Incident Command System) presidential documents – that focuses on the "everyday practicalities" that state and local jurisdictions must deal with in seeking to comply with the requirements imposed by those strategic directives; and (b) the latest in Adam McLaughlin's continuing and well-received reports on the actions taken by individual states (California, New Jersey, and Montana are among those featured this month) to protect their citizens and improve the nation's overall domestic-preparedness capabilities.

Cover Photo: Army National Guardsmen – assisted by Montgomery County (Md.) police officers, sheriff deputies, and firemen – search for survivors of Hurricane Katrina during rescue operations in New Orleans on 16 September 2005. (Photo provided by Firefighter Michael Damskey of Montgomery County Fire & Rescue, winner of this year's DPJ photo contest.)

Arriving first on the scene means you never know what you're going to encounter.

Today that could include life-threatening chemical nerve agents which may be lethal in seconds.

Immediate evacuation and wearing PPE is essential, as is being equipped with auto-injectors that are designed to administer antidotes in emergency situations such as these. Unlike a syringe which can be cumbersome and time-consuming, auto-injectors provide a quick and portable drug delivery in just two steps.

Hope for the best. Prepare for the worst.

You can't rely solely on antidotes for protection, but you can be better prepared for the worst. **Call today—Meridian can help you prepare.**

MERIDIAN
MEDICAL TECHNOLOGIES™

Protecting Those who Protect Us™

www.meridianmeds.com
800.638.8093

Needed: A National EMS Protocol

By Joseph Cahill, EMS

A protocol is a set of written guidelines for emergency medical services (EMS) staff that determine what treatments should be given to a patient. They are in fact written orders from a physician to the EMS staff. Unlike prescriptions, which are written by a physician for a specific patient, protocols are written to cover all similar patients diagnosed as suffering from the same specific symptoms.

Another difference between protocols and prescriptions is that prescriptions are almost always written by a physician in the presence of, and/or immediately after examining, the individual patient for whom the prescription is written, while protocols not only are written in advance, they also in many cases are written by committees of various stakeholders. These stakeholder committees vary in composition, and name, across the country, but typically include representatives from the EMS services, hospitals, and other interests.

The establishment of a system of national protocols in this field, some experts say, would have a leveling effect by standardizing the medical care provided by EMS agencies nationwide. A paramedic from one state would be able to operate effectively in a disaster area within another state – but of greater importance is the fact that, when that paramedic is paired with a local paramedic on a local ambulance, they both would be operating from the same rule book.

If and When Available

Many states have in fact established statewide EMS protocols. However, a state protocol often is considered to be just the starting point for local protocols. Regional EMS systems and/or local agencies often are allowed to write their own local protocols.

The EMS field is unique among the nation's emergency-responder communities in that a large component of the national EMS vehicle fleet and equipment inventory is owned by private businesses. Moreover, a high percentage of the remainder are the property of state and local agencies, many of which are inadequately funded. Protocols are therefore sometimes tailored to the fiscal needs of the local political jurisdiction, or of the jurisdiction's EMS agencies.

> ***When protocols are written nationally, purchase opportunities can affect sales volume in the medication as well as medical equipment market, and that could invite corruption on an entirely different scale.***

One result of this economic reality is that, to ease the local financial burden, a specific medication or equipment may be listed "as available" or, possibly, not even considered for inclusion in the protocol. At first glance this regrettable situation seems very much to be "money trumping science," but the fact is that, if the fiscal well being of the local agency is *not* taken into account, the agency may be driven out of business and be able to provide no care at all.

Another real-life factor that must be considered is that locally developed protocols may be written in ways that either favor or disadvantage certain agencies. On the other hand, when protocols are written nationally, purchase opportunities climb to a level where they

can affect sales volume in the medication as well as medical equipment market, and that possibility could invite corruption on an entirely different scale.

States' Rights And Practical Examples

There are numerous state-to-state differences – some minor, but others relatively important – in the protocols directing what emergency medical technicians (EMTs) and paramedics may or may not do. These differences arise primarily because different regulatory bodies have written the rules for each individual state. In theory, this problem can be easily resolved simply by requiring the state regulatory bodies to adjust their state regulations to match those required by the national protocols. It should be fully recognized, though – in advance – that such a major change would require a massive training effort to bring all EMTs and paramedics throughout the entire country to the same level of capability.

A potentially major stumbling block in the way of any effort to initiate a national EMS protocol system would be the issue of a state's right to license and regulate medical care. EMS professionals provide such care under a rule called delegated practice – which allows paramedics to practice medicine under a physician's license. The practice of medicine is currently regulated at the state level including the care rendered by EMS professionals; it would require a major change in the regulatory structure to move this regulation to the federal level in the face of this precedent.

There already are many examples in place that could be used as guides for the development of national EMS protocols. The American Heart Association (AHA), for example, has developed several operational guidelines, including cardiopulmonary resuscitation (CPR) and advanced cardiac life support (ALCS). These two guidelines serve as the basis for care given by medical providers, including those in the EMS community in cardiac emergencies. In addition, there are several other national organizations in the medical field that, although they do not write protocols per se, do develop and promulgate position papers that are used to educate and influence the state committees that write and authorize the protocols.

Links for Additional Information:

http://www.nemses.org/National%20EMS%20Core%20Content%20FINAL%20DRAFT%20(2).pdf

http://www.naemsp.org/position.html

http://fermat.nap.edu/books/0309101743/html

http://www.nremt.org/about/article_00034_IoM_Response.asp

http://www.nhtsa.gov/portal/site/nhtsa/menuitem.2a0771e91315babbbf30811060008a0c/

http://www.naemse.org/

*Joseph Cahill has served as a line paramedic for over ten years in The South Bronx and North Philadelphia. He was awarded the distinguished service medal and seven pre-hospital "saves" ribbons from NYC*EMS and FDNY as well as a unit citation from the Philadelphia Fire Department, and has received both the 100-Year Association's award for "Outstanding Service to New York City" as well as the World Trade Center Survivor's Ribbon (two bronze stars).*

Incident Command Management

Forensics and Disaster Recovery: A Delicate Balance

By J. Michael Barrett, Law Enforcement

Except for law-enforcement personnel, the primary mission of most of the nation's emergency first responders traditionally has been to save lives, with a secondary emphasis on minimizing damages and reducing property losses. A third mission, if and when appropriate, is to focus on preservation of the crime scene. However, the national Incident Command System (ICS – mandated by one of several inter-related presidential homeland-security directives) is now being implemented by more and more state and local law-enforcement agencies, and that creates a new opportunity to redress an imbalance in response functions that in the past has caused a number of serious problems.

More specifically, the imbalance has inadvertently caused a large number of crime scenes to fall prey to contamination and disruption caused – unintentionally, it should be emphasized – by various first responders (other than law-enforcement personnel) who also are at the crime scene carrying out their own important duties. The result, all too often, is a chaotic situation that can, and does, easily translate into the loss or destruction of evidence, delays in suspect identification, and, eventually, a reduction in courtroom convictions.

Regardless of who is in charge of the response, there is a clear need in the immediate aftermath of significant catastrophic events to stabilize the threat environment through some combination of firefighting, EOD (explosive ordnance disposal) tasks, and decontamination of the area, as well as the near-simultaneous provision of emergency medical treatment for victims.

Lost Opportunities = Additional Victims

In the performance of these extremely important tasks, though, the gathering and preserving of reliable forensics evidence is frequently an operational afterthought, and the opportunity is lost forever. Unfortunately, when an incident situation involves major offenders – e.g., terrorist groups, arsonists, killers, and rapists – the delayed investigations and lost convictions translate directly into a greatly increased potential for future additional crimes. When that happens, the probable result is that many more innocent people will become victims of the same individual or group.

The mission balance that must be achieved by law-enforcement personnel – who under the ICS rules are most likely to be responsible for incident-management at the scene of a major disaster – falls somewhere between, on the one hand, providing maximum freedom of movement for medical and other response personnel tending to the needs of victims and, on the other hand, the investigative priorities of law-enforcement agencies seeking to apprehend the person or persons responsible for the incident. The initial and often most important of those priorities is to preserve as uncontaminated a crime scene as is possible under what are almost always extremely difficult circumstances.

Throughout the nation's history, and even more so today – when large-scale disasters are more frequent than in the past – the crime-scene calculus usually, and understandably, has been developed almost solely in terms of the immediate needs of the victims of the crime. However, as law-enforcement officers well know, many if not all criminals – as used here, that term includes terrorists and terrorist groups – repeat the same type of crime unless and until they are stopped. For that reason alone, focusing exclusively on the needs of immediate victims and ignoring the equally compelling requirement for a quick and thorough crime-scene investigation overlooks another important priority – namely, the rights of future potential victims.

In other words, in certain situations, first-responder priorities possibly should tip more in favor of crime-scene preservation because the very nature of the crime indicates a probable repeat offender – and, therefore, the likelihood that there may well be many additional victims in the future who will be spared only if the criminal or criminal group is caught.

An Ethical Balancing of Priorities

It would be both unethical and immoral – and, usually, unnecessary – to deny emergency support to victims who are in immediate need of medical care, regardless of the potentially detrimental impact upon evidence. Moreover, an assessment of the specific facts that might later prove critical – e.g., whether certain windows were open or closed, where the trashcan or empty bottle was found, whether a particular door was locked or unlocked – is often not known in advance, but becomes clear only much later, as and when the investigation gathers momentum.

In short, finding the optimum balance between an immediate additional risk to victims' lives and limbs, as opposed to preserving evidence for later forensics analysis, is never easy – but understanding that this is an important issue that should be addressed is probably a good place to start.

In the words of Lieutenant Michael Zimmerman of the New Jersey State Police, "The advent of ICS into law-enforcement matters" requires an open dialogue between law-enforcement personnel and EMS and other medical providers to ensure that the police "can still catch their man." If history is any guide, effective preservation of the crime scene that leads to early apprehension and conviction of a terrorist, arsonist, or serial rapist ultimately will save numerous other potential victims from what are essentially preventable follow-on crimes.

For that reason, and without in any way ignoring immediate medical priorities, it is not only appropriate but mandatory that, as law-enforcement personnel continue to adjust to the new ICS mandate, they discuss with their fellow first responders the critical importance, to achieve the long-term goal of promoting public safety, of taking reasonable care to preserve the initial crime scene.

J. Michael Barrett is a terrorism and homeland security expert with an extensive background in military intelligence and national security. A former Fulbright Scholar in Ankara, Turkey, Barrett is currently the Manhattan Institute's Harbinger/ICx Fellow in Homeland Security and the founder of Counterpoint Assessments, a terrorism preparedness consulting firm.

HazMat Instruction: A Lethal Curriculum

By Robert Stephan, Fire/HazMat

The instruction and training of first responders throughout the country, no matter what their previous level of experience, in how to deal with incidents involving the potential presence of hazardous materials is today several times more challenging than ever before in the nation's history. There are several reasons for this potentially lethal escalation, including the fact that there are now more hazardous materials of all types available in virtually every major community, and an abundance of evidence indicates that hazardous materials have become a clear weapon of choice for international terrorists.

The ability to determine the presence of various biological, chemical, and other hazardous materials is a rare and increasingly valuable skill, therefore, not only for hazmat technicians themselves but also for the firemen, policemen, emergency medical services (EMS) personnel, and other first responders whose duties take them to the scene of a major disaster, natural or manmade, that causes a large number of deaths and/or injuries. The presence, or suspected presence, of hazardous materials dictates a cautious and more time-consuming approach in entering the scene, in retrieving victims, and in treating – possibly decontaminating – those victims.

Time is almost always in very short supply in such situations, though – victims who are not treated immediately might well die, or be crippled for the rest of their lives. For that reason, current hazmat training typically focuses on a step-by-step approach that combines speed with effectiveness – and achieves both through comprehensive and detailed classroom instruction accompanied by repeated drills and exercises across a broad spectrum of disaster scenarios.

Intensive and Repeated Training Mandatory

The keys to the development of a model training curriculum, of course, are the recruitment and use of instructors who are totally knowledgeable in the subject matter with which they are dealing, whose delivery and overall classroom presence make the topic interesting to the trainees, and who – usually because of their own professional experiences – are able to provide and supervise an abundance of meaningful hands-on practical training drills. A thorough knowledge of the dangers inherent in the improper handling of hazardous materials, the ability to impart that knowledge to hazmat trainees, and the time and talent – as well as considerable effort – required to schedule and oversee a challenging series of hands-on practical drills are the hallmarks of the most effective instructors in this field, and their curriculum supervisors.

Cities and counties fortunate enough to have specially trained and designated hazmat units

Your One Source for Radiological Incident Response

In the event of a radiological terror attack or radiation accident, emergency responders need the very best tools.

With the CANBERRA UltraRadiac first responders get fast responding, ultra rugged radiation monitoring. The large display is easy to read — even through masks — and audible, visual and vibrating alarms ensure the first responder always knows the hazard level at his/her own location.

As the situation unfolds, emergency responders need to control and contain contamination. Deploy a MiniSentry Transportable Portal Monitor in less than 10 minutes to begin screening victims, responders, and the public — keeping contaminated material from leaving the scene. Then use ergonomically designed Radiagem survey kits and InSpector 1000 radiation identifiers to quickly locate and identify contamination for removal — minimizing the radiation exposure of both victims and responders.

Best equipment solves only part of the problem. CANBERRA also offers training courses designed specifically for the first responder — free of technical jargon and focused on the practical aspects of first response to incidents and attacks.

Prepare now!
Call CANBERRA today or visit our web site!

www.canberra-hs.com

Canberra Industries, Inc.
800 Research Parkway – Meriden, CT 06450 U.S.A.
Tel: (203) 238-2351 – Toll free: 1-800-243-4422
Fax: (203) 235-1347

CANBERRA

CANBERRA Industries, Inc. is an AREVA company. The AREVA Group, worldwide leader in nuclear power.

that can respond immediately to an incident involving hazardous materials have a distinct advantage in scheduling and carrying out both team and individual training. In addition to being able to cover more, and more complex, topics in their training curricula, they also usually have on their staffs a number of instructors who are experts on such highly specialized subjects as gas and/or chemical detection systems and devices, railroad tank cars, the hazmat incident command system, and similar topics.

The Hazardous Incident Response Team (HIRT) in Montgomery County, Maryland, is not necessarily typical of all or even most current hazmat teams, but it is certainly representative of a large number of such teams throughout the country. Captain Gregory Socks, the team's designated hazmat training officer, is responsible for, among other duties, the development and management of the classroom training and hands-on drills and exercises, and personally carries out much of the classroom instruction. He is assisted by a number of other highly qualified professionals – including, to cite another example, HazMat Technician Thomas Miller, whose knowledge of and experience with numerous detection instruments, ranging from a carbon monoxide detector to a portable gas chromatograph/mass spectrometer, makes him a uniquely valuable member of the instruction team.

The ability to determine the presence of various biological, chemical, and other hazardous materials is a rare and increasingly valuable skill

Two Challenges: Terrorism, and Decontamination

Perhaps the greatest current training challenge in the hazmat field is ensuring that the hazmat team's personnel are adequately prepared to deal with a terrorist-related incident, particularly one that involves an explosion and/or the intentional release of a radiological or super-toxic chemical material. To deal with an incident in which numerous injuries already have occurred not only to civilians at or close to the incident scene but also to the initial first responders arriving at the site, the Montgomery HIRT has developed a detailed "rapid entry" plan – written out as a standard operating guideline – which stipulates that HIRT personnel responding to the incident must enter the area of possible hazmat dispersion armed with appropriate detection and monitoring equipment.

The reason for this approach is to either verify the presence of any hazardous substance – or confirm that such substances have *not* been detected. This process must be carried out quickly – preferably within 15 minutes after hazardous-material assets arrive at the scene – so that injured victims suffering from various injuries do not have to be unnecessarily decontaminated on the scene.

This approach may at first glance seem to be overly cautious, but it is definitely achievable by, among other things, a combination of taking and recording vital signs for the entry and back-up team personnel during shift line-ups, frequent training on the process to develop speed as well as competency, and ensuring that a hoseline is available on-scene that can be used for emergency decontamination before anyone enters the hot zone. Another precautionary step, taken during the initial entry, is the setup by other hazmat personnel

of an on-scene decontamination system. Verifying the absence of toxic substances permits the immediate transport of trauma victims and their subsequent treatment at a fully staffed hospital or medical clinic. Without such verification, those victims would have to be decontaminated before being taken to a medical facility.

Jurisdictional And Other Complications

The need for hazmat training is not limited to the members of hazmat teams, but also should be required for firemen, policemen, EMS and bomb-squad personnel, and other responders, all of whom should be trained to the operations level. The training of these fellow first responders preferably should be carried out by hazmat personnel, teaching from a well designed program, who also are familiar with the Hazardous Materials Awareness- and Operations-level requirements (which are set forth in a number of current regulations and instructions).

These same personnel should also routinely be trained – again, preferably by hazmat team instructors – to ensure that all responders at the scene are fully aware of what each agency's responsibilities will be when a significant hazardous-material incident occurs. These areas of responsibility should be clearly identified in the local jurisdiction's Emergency Operation Plans. In addition, the various levels of operational proficiency required, usually spelled out in those same plans, should be achieved and validated through practical training processes. Experience shows: (a) that this approach is the optimum way to achieve a seamless response by all of the agencies involved in a particular incident; and (b) that such a response is possible only through the mutual training of all responders working and training together.

The combined drills and exercises prescribed above will pay large dividends during and in the aftermath of any significant event requiring a multi-agency response. The time for fostering solid operational relationships between agencies and individuals through essential training is of course before an incident occurs. Here it should be noted that effective inter-agency training may not always be easily accomplished, if only because of potential "territorial" concerns involving what each participating agency believes are its own areas of expertise and responsibility. Mutual training among agencies is the best and sometimes only way to break down these potential jurisdictional barriers.

A Resource And Capabilities Multiplier

Another important consideration, of increasing importance in recent years, is that hazmat personnel responding to CBRNE (chemical, biological, radiation, nuclear, explosives) events must be able to meet the unique challenges inherent in such events and to carry out their difficult tasks without becoming casualties themselves. Training carried out in chemical protective clothing, combined with a thorough operational understanding of the various monitoring and detection devices required at the scene of such incidents, will be of paramount importance in the successful management of a catastrophic hazmat incident.

If all these and other challenges are not sufficient, all hazardous material technicians also must be recertified annually in accordance with the various regulations spelled out in current federal, state, and local rules and regulations manuals. Most fire and rescue-sponsored hazmat teams also ensure that their members conform to the National Fire Protection Association's Hazardous Material Technician Consensus Standards, which cover the competencies that personnel assigned to a hazmat team must not just master but also demonstrate under the supervision of a certified hazmat instructor or his/her designee.

With limited technical resources likely to be available, valid hazardous materials training, repeated often, can and should be a genuine capability multiplier both for the hazmat team itself and for the other first-responder agencies and organizations with which it works.

Battalion Chief Robert Stephan, a member of the Montgomery County (Md.) Fire and Rescue Service for 34 years, has been the leader of the county's Hazardous Incident Response Team since its creation in 1981. He is also a member, and a former chairman (for 14 years), of the HazMat Subcommittee of the Metro Washington Council of Governments for the National Capitol Region. He is cross-trained as a 15-year National Registry Paramedic, a member of the Washington, D.C., National Medical Response Team, and an instructor for the National Center of Biomedical Research and Training.

ARNG/USCG Interoperability – A Joint Ops Success Story

By Joseph DiRenzo III and Christopher Doane

The interoperability concept is always a crucial topic when the nation's military, security, and law-enforcement agencies discuss homeland-security missions and operations. Bringing a wide range of agencies together both tactically and through communications to conduct effective and efficient security operations is one of the most important aspects of the U.S. layered-defense homeland-security strategy – one that uses a best-skills and best-capability approach to address terrorist threats both on land and across the maritime domain.

One major and particularly interesting interoperability success story has been the partnership between the National Guard's 4th WMD-CST (Weapons of Mass Destruction - Civil Support Team) and the U.S. Coast Guard. That National Guard team, one of the first ten WMD-CST units established by the Department of Defense, is under the jurisdiction of the state of Georgia's Directorate of Joint Operations. Since 2002 the 4th WMD-CST has partnered with a number of Coast Guard units, beginning with what was then Coast Guard Maritime Safety Office Savannah and Coast Guard Air Station Savannah.

The 4th WMD-CST and its Coast Guard partners have given Georgia's Atlantic seaboard an added layer of protection from CBRNE (chemical, biological, radiological, nuclear, and explosive) weapons. The unit's commander is Lieutenant Colonel Jeffery Allen, Army National Guard (ARNG), who recently returned from the 2nd annual Nuclear, Biological, and Radiological Conference in Rieti, Italy. During the conference, Allen discussed, with the representatives of several U.S. allies, the unusual and highly successful Coast Guard-ARNG relationship, concluding his summary with his personal assessment that the two organizations "have collectively written the operational concept for the CST mission in a maritime environment."

The 4th CST and the Coast Guard Air Station Savannah have conducted numerous training missions in the past few years, Allen also reported, during which Coast Guard HH-65 helicopter aircrews would deliver a CST Strike Team "onto the deck of moving vessels both large and small." Such "vertical deliveries" use the aircraft's rescue hoist – which received considerable favorable publicity last year because of its extensive use during Hurricane Katrina in New Orleans – "to safely insert/extract CST operators and Coast Guard personnel," Allen said, "onto suspect vessels that require inspection prior to entering the Port of Savannah."

The successful – i.e., undetected – delivery of CBRNE materials into any U.S. port could lead to a maritime disaster of colossal magnitude.

Mission Accomplished in Savannah And During Sea Island Summit

In addition to these and other airborne operations, said Allen, who also serves as national co-chairman for the CST Equipment Technical Working Group (which makes decisions on future equipment for the CSTs), the 4th CST has responded to several requests for assistance from the Coast Guard Maritime Security Office in Savannah to accompany seaborne Coast Guard boarding parties "in searching for and identifying CBRNE materials aboard vessels attempting to enter the Port of Savannah." The successful – i.e., undetected – delivery of such materials into *any* U.S. port, of course, could lead to a maritime disaster of colossal magnitude.

The WMD-CST/USCG partnership has extended to working together during such National Special Security Events as the G-8 Summit held on Sea Island, Georgia, in 2004. During that event, according to Captain Jeff Daigle, ARNG, operations officer for the 4th WMD-CST, the heads of state of eight countries "and countless other dignitaries" were in temporary residence at a relatively unprotected Georgia coastal community. Behind the scenes, though, the 4th CST and Coast Guard were working together, monitoring maritime traffic and interdicting "suspect vessels" as they approached the area where the summit was being held. "This is just one example," Daigle said, of how the local ARNG/Coast Guard partnership "has enhanced our nation's security."

The Sea Island mission also serves as an important example of how the nation's first-response military and law-enforcement security agencies are seeking, finding, and often creating ways to work together both more effectively and more efficiently during an era, and in an environment, characterized by asymmetric threats and limited resources. In that context, working partnerships such as the ongoing relationship between the Coast Guard and the ARNG's 4th WMD-CST represent force multipliers which ensure that the tax-paying public receives the best return on its investment.

Joseph DiRenzo III (pictured) and Christoper Doane are retired Coast Guard Officers who are now employed as civilian port security advisors at Coast Guard Atlantic Area. They also are Visiting Senior Fellows at the Joint Forces Staff College in Norfolk, Va., where they lecture on maritime security. They have written extensively on maritime homeland security issues and have been widely published both in the United States and overseas. Both are frequent contributors to DomPrep Journal.

NIOSH APPROVED

ONCE AGAIN!

MSA RECEIVES THE FIRST NIOSH CBRN APPROVAL – THIS TIME FOR AIR-PURIFYING ESCAPE RESPIRATORS.

This adds to MSA's impressive list of "First Approval Issued" CBRN Products:

1) Millennium® CBRN Gas Mask

2) FireHawk® NFPA 2002 Air Mask

3) Safe Escape™ Respirator

The **Safe Escape™ Respirator** is a one-time use escape device that has numerous features including a high-performance wide vision laminate hood, self-adjusting inside-the-hood cradle head strap and packaged in a Hextreme™ Plastic Hexagon-Shaped Protector.

The Safe Escape Respirator is even sized for a more personal, secure fit. Call MSA Customer Service or visit MSAnet.com for more information about the CBRN NIOSH Approved Safe Escape Respirator from MSA.

For more information, visit
www.msapoliceline.com/domprep.html

MSA
The Safety Company
1.888.MSA.0018 | MSAnet.com

Special Report

Detection + Inspection = Protection

By Martin Masiuk, Publisher, and Staff

Throughout the 20th century and into the 21st, the U.S. national-defense strategy has been to fight enemy forces overseas. Today, the nation's first responders – EMS technicians, firemen, policemen, and other law-enforcement personnel – have joined the members of the armed services on the front lines. But their primary mission is to defend the U.S. homeland, and American citizens, from attacks by terrorists – particularly attacks involving the use of weapons of mass destruction (WMDs).

It is possible that terrorists would gain possession of one or more nuclear weapons and find some way of launching them – against Chicago, perhaps, or New York City, or Washington, D.C. But that scenario is unlikely, according to most defense experts. What is much more probable, as the Sarin gas attack on the Tokyo subway system and, within the United States itself, the destruction of the Murrah federal building in Oklahoma City proved, are attacks involving chemical and/or biological WMDs. It is for that reason that many U.S. companies (and their counterparts overseas) are working to develop, build, test, and produce systems that can be used to detect the presence of CBRNE (chemical, biological, radiation, nuclear, explosive) agents or materials of any type.

MOVERS (Mobile Vehicle-based Emergency Radiation Monitoring System) is a fully integrated system of radiation monitors and software that can be on the road within minutes to provide real-time radiation survey information.

This Special Report on detection systems takes a brief look at six of the companies – Bruker Daltonics, Canberra Industries Inc., Idaho Technology Inc., PROENGIN Inc., RAE Systems, and Smiths Detection – now working on the leading edge of CBRNE detection technology. The report focuses not on the companies' product lines but on the concepts of operation and corporate strategies they have adopted to build systems that are easy to use and easy to deploy, multifunctional but at the same time simple to operate and maintain, and, above all, not only operationally effective but also cost-effective as well.

Here it is worth noting that almost all of the company spokesmen and technical experts interviewed in the preparation of this report emphasized several "guiding principles" that government officials and/or private-sector decision makers should keep in mind when evaluating the capabilities of the numerous types of detection equipment of various types now available or in the test-and-evaluation stage. The first and most important of those principles is that "Quality counts." As one official put it, the most significant factor that will determine how effective a specific system will be is not "how much the detector costs, but the quality of the science behind it."

Among several other guiding principles frequently mentioned are the following: (1) Systems that provide "multiple paths to the answer" and permit the integration of data received from several sources are preferable to simpler and perhaps lower-cost systems that may be less complex but also would be less useful. (2) The best new technology coming into the market allows first-responder agencies, and individual users, to do more with less – and "more" in that context represents significant savings in itself. (3) Companies and agencies alike should not expect to make the best and most cost-effective decisions without input from knowledgeable and experienced professionals who are able to put all of the technical, operational, training, budgetary, and other factors involved into a usable context.

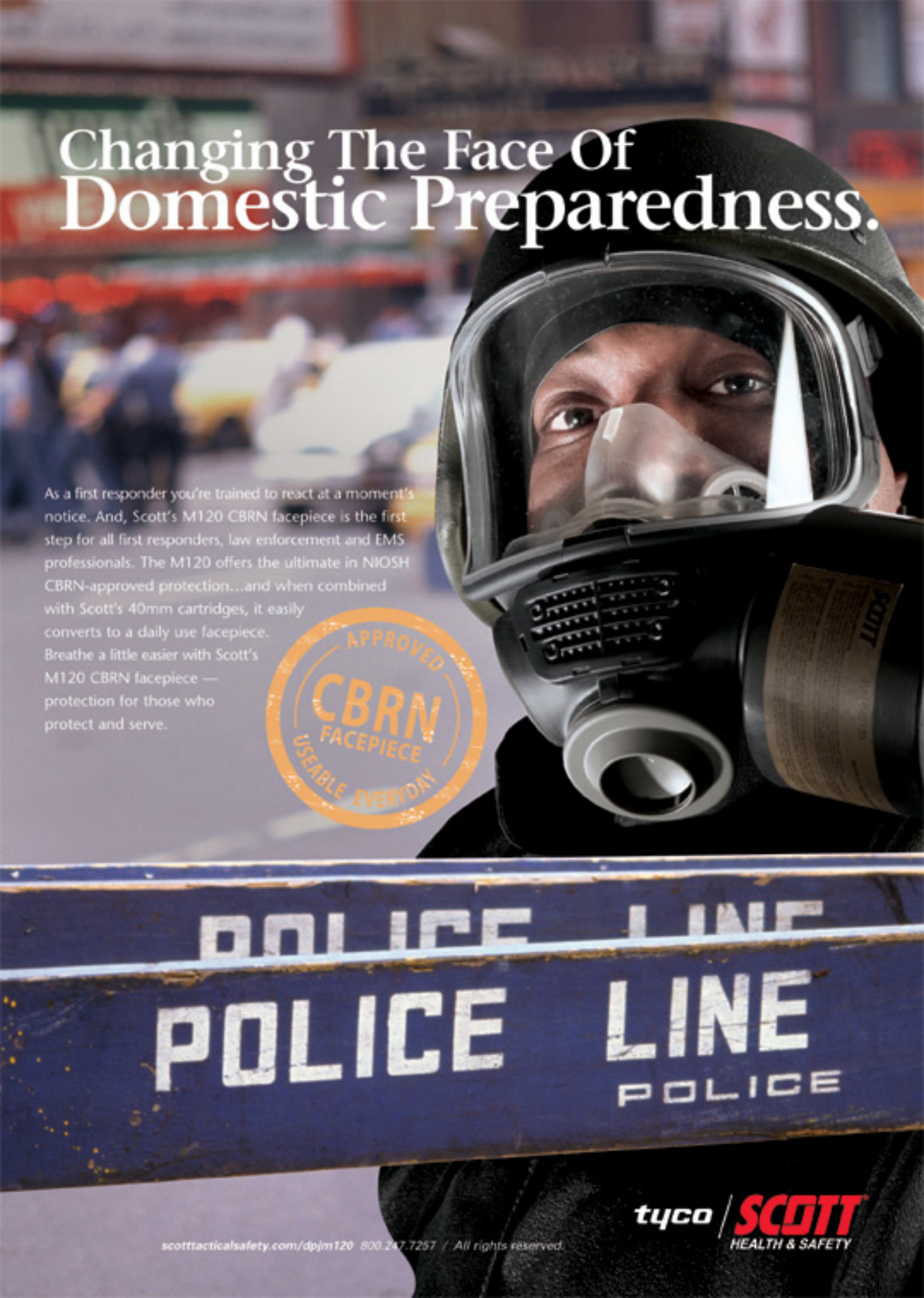
PlumeRAE turn-key solution allows rapid monitoring and assessment of situations involving the release of hazardous substances. First Responders use aggregated data from multiple wireless gas monitors and weather stations to guide crucial decisions.

A Focus on Connectivity, Mobility

Canberra Industries, for example, offers several radiation-detection options for first-responder and facility-monitoring operations. Connectivity has been added to the company's familiar UltraRadiac™ personal-dosimeter system; that change allows the pager-sized device to transmit data – including GPS (Global Positioning System) location information – to a laptop-based RADACS (Radiation Assessment Display and Control System) unit. The same data is displayed on the user's own GIS (Geographic Information System) maps, giving the command post the real-time data on radiation levels needed.

The company also offers a wide range of products, according to Canberra's Bud Sielaff, for follow-up response. Those products include, but are not necessarily limited to, survey kits for surface measurements; rapid-deployment portal monitors for contamination control; and radionuclide

Changing The Face Of Domestic Preparedness.



As a first responder you're trained to react at a moment's notice. And, Scott's M120 CBRN facepiece is the first step for all first responders, law enforcement and EMS professionals. The M120 offers the ultimate in NIOSH CBRN-approved protection...and when combined with Scott's 40mm cartridges, it easily converts to a daily use facepiece. Breathe a little easier with Scott's M120 CBRN facepiece — protection for those who protect and serve.

APPROVED CBRN FACEPIECE USEABLE EVERYDAY

tyco | SCOTT HEALTH & SAFETY

scotttacticalsafety.com/dpjm120 800.247.7257 /

identification devices (which are used to characterize the extent of any contamination that might be detected).

Canberra's MOVERS – the name stands for Mobile Vehicle-based Emergency Radiation System – is a vehicle-mounted radiation detection system that provides not only additional detection capabilities but also, as its name indicates, mobility as well. MOVERS is capable of detecting alpha, beta, gamma, and neutron radiation.

Canberra also builds a line of person- and vehicle-sized portal detectors. "Radiation detection for vehicles and people is not new," as Sielaff notes. "It has been used for years in nuclear and industrial facilities." What *is* new, particularly since 9-11, he points out, "is the use of these devices in border-screening applications – where you have large numbers of measurements, and you *must* clear everyone in some way to facilitate the free movement of commerce and people. In this environment, 'nuisance alarms' caused by innocent industrial or medical materials can create major bottlenecks." Making the screening process more efficient – and, of greater importance, more effective, is one of the company's principal research and development goals.

The HazMatID from Smiths Detection has been assisting First Responders identify unknown chemicals for over 3 years. More than 1600 units are used across the United States by First Responders, the military & government agencies.

Safety and Interoperability Stressed by RAE Systems

At the heart of the RAE Systems line of detectors is interoperability. The new-generation RAELink2 radio-modems not only connect RAE-brand instruments to the AreaRAE laptop base station, providing live data to the command post, but also bring non-RAE detectors into the communications loop. With the addition of the Life Shirt® (built by Viva-metrics), RAELink2 adds the responder's own vital signs to the data stream. "With over 500 AreaRAE base stations on the ground," company spokesman Robert Durstenfeld said, this improvement in connectivity not only makes the AreaRAE station "one to watch," but also provides "the best way to watch it."

RAE's radiation detection system, RAEWatch Defender, "is not just about ports," according to Durstenfeld, "it's about protecting the urban area … creating a tight net that you can weave around any target as well as a point of entry." RAE is proud of the company's track record of providing radiation detection instruments that are intrinsically safe, he points out, because "first responders can't be sure" of what they will find when they arrive at the scene of a major disaster.

The company's PlumeRAE system receives a weather feed directly from an integrated weather station included in the package, and

BRUKER

Detection
is the first step in protection

RAID-M HANDHELD CHEMICAL AGENT DETECTOR

Raid-M beats the competition

- Selected for prestigious National Guard Analytical Laboratory Systems upgrade program.
- The only chemical detector to receive Certification as Approved Product for Homeland Security by the Department of Homeland Security under the Safety Act
- First chemical detector verified by the EPA under their Environmental Technologies Verification Program for First Responders

Superior technology

- Detects:
  - Chemical warfare agents
  - Toxic industrial chemicals
  - Riot control agents
  - Non-traditional agents
- Download events directly to PC

Wi-Fi
communications now available

BRUKER DALTONICS®

Bruker Daltonics NBC Detection Corp.

GSA Advantage!®

ETV

www.bdal.com fnt@bdal.com (978) 663-3660 ext. 1308


Overwatch of critical events using the HAWK standoff chemical detector.

provides helpful guidance to the system's users. However, unlike many other laptop-based plume modeling systems, it "takes topography into account" – in other words, it compensates for the hills and valleys and other topographic features in the area that might affect the readings.

When asked about these various changes and improvements, Durstenfeld commented simply that the company "listened to our customers and looked at the marketplace, and brought what was needed to those customers."

24/7 Availability For PhD-Level Support

Smiths Detection is "about" two things, the orthogonal approach and service to the end user. Smiths' Robert Bohn explains that "the orthogonal approach is bringing complementary technology together to reveal the unknown." In other words, Smiths approach is to determine the identification of an unknown product/agent by attacking it from several directions at the same time "to increase the confidence in the answer and improve accuracy."

One product example is the Smiths Detection infrared mass spectrometer, HazMatID™ - which looks at the problem of identification one way, while the company's RespondeR RCI™ chemical detector is looking at it from another perspective. The HazMatID™ is fitted with a built-in computer with wireless connectivity that receives the RespondeR RCI's™ data and integrates it with its own.

The company's website proclaims that Smiths Detection "provides assistance 24 hours, 7 days a week, with the identification of compounds as well as support on system operation and trouble shooting." However, although Smiths Detection does provide simple computer tech support (e.g., "Where does the green wire plug in?") its reachback is much more comprehensive and offers, for example, what might be called PhD-level support on how to interpret the data received and obtain the most effective results on each response from the technology available.

Bohn sums up the company's philosophy as follows: "We are selling a product that we know people are using to make decisions that affect many lives … so we work to bring a multi-technology package that can do the checks and balances for the operator by allowing the system to do the integration. … This [approach] decreases [the number of] false negatives and false positives."

Portability and Safety-Act Certification

Bruker Daltonics' Frank Thibodeau describes the company's RAID-XP system as "combining the best chemical-detection technology from the RAID-M with our experience in radiation detection into one platform" (which is capable of detecting not only radiation but also hazardous industrial chemicals and chemical weapons agents). A portable device, the RAID-XP adds flexibility by running off either rechargeable lithium ion batteries or wall power. In addition, it is Ethernet-ready and can therefore be used as part of a larger network of devices set up for site monitoring.

The RAID-XP is based on the RAID-M – which, as Thibodeau points out, "is the only chemical detector to be SAFETY Act-certified." The reference here is to the Support Anti-terrorism by Fostering Effective Technologies Act of 2002, which grants certain protections to the manufacturer – but only after a rigorous approval process.

The RAPID, another Bruker-built system, is a breed apart from traditional detection technology because it uses, rather than air sampling, the infrared light from a cloud of chemical vapor or gas to identify the product or agent being analyzed. By networking several RAPIDs together, operators can use triangulation to add a third dimension, depth, to their previous two-dimension (width and height) models. The RAPID system, which detects both hazardous industrial chemicals and chemical-warfare agents up to five kilometers away, can be either tripod- or vehicle-mounted.

Complex Training Scenarios For Real-Life Situations

PROENGIN Inc.'s AP2C detection system uses mass spectrometry to determine the presence of certain key elements of various chemical-warfare agents at the scene of an accident or incident. The company's Mark Reuther explains that nerve agents usually are about 20 percent phosphorus. Through the careful use of that key information, he says, "We will never get a false positive for a nerve agent, since our system relies on detection of high levels of this element."

Another PROENGIN system, the AP4C, uses previously proven technology to combine – in a single device – the detection of chemical-warfare agents and/or hazardous industrial chemicals. This "two-in-one" detection capability doubles effectiveness without increasing the system's weight.

Building and testing system technology is not sufficient in itself, the company realizes. Full effectiveness also requires the safe and careful training of system operators. For that purpose, the company offers a wireless AP2C simulator that allows an instructor to control the displays of as many as eight AP2Cs in real time. That capability means, as Reuther points out, that the individual trainee "doesn't have an instructor standing over his or her shoulder."

In some carefully monitored exercises, trainees are put into a variety of difficult


The New CW & TIMs detector by Proengin Inc. Capable of detecting chemicals in both liquid and vapor form.

BIOLOGICAL AGENT IDENTIFICATION

FIRST RESPONDERS – MILITARY – SECURITY

RESULTS IN 30 MINUTES

Proven Tools, Accurate Results–

Better Decisions.

Suspicious powder calls happen more frequently than we'd like. New technology will now allow you to know for certain what you are dealing with. No more "guess and wait" while potential victims worry. In less than 30 minutes you can know for certain what you are dealing with or more importantly, what your NOT dealing with.

Gain an Edge on Detection with the RAZOR™ Instrument

- Tests for Anthrax, Plague, Tularemia and other agents*
- Technology currently used by National Guard CSTs
- Recently declassified by the U.S. DOD and is now available for Hazmat teams and other emergency response units
- Analyze up to 12 unknown pathogens in less than 30 minutes
- Firefighter-friendly, easy push button use
- Proven accurate and reliable by the U.S. DOD, Australian Defense Ministry and the Royal Canadian Mounted Police (RCMP)

The RAZOR Instrument with rugged case

Contact us for more information and to request a live demo of this cutting-edge technology.

Idaho Technology Inc.

*Check web site for available tests.

390 Wakara Way, Salt Lake City, Utah 84108, USA | 1-800-735-6544 | www.idahotech.com

smiths

your chemical **identification experts**

Whether it is the identification of unknown powders, trace detection of explosives, or the identification of suspicious gases or vapors, our products provide you with fast, accurate answers.

HazMatID
Identify white powders, WMDs, explosives and toxic chemicals

RespondeR RCI
Field-portable Raman spectrometer that can identify samples through plastic and glass

GasID
Identify over 5,500 gases and vapors

APD 2000
Detect CWAs and gamma radiation

SABRE 4000
Detect and identify TICs, CWAs, explosives or narcotics

For more information about Smiths Detection's chemical identification and threat detection products, visit **www.smithsdetection.com**, call **1 203 207 9700** or email **danbury@smithsdetection.com**.

SMITHS DETECTION

for a safer world

www.smithsdetection.com

situations "blind to the scenario." PROENGIN adopted this approach, Reuther said, because, "unlike other chemicals that can be simulated with relatively pleasant materials such as menthol and Dial's Right Guard® deodorant, the only surrogate for G [nerve & blister] agent is malathion … which would not be as welcome when training indoors." Use of the PROENGIN simulator frees the end user both from having to maintain a store of surrogate chemicals and from the necessity of finding (or building and maintaining) a training area that might become contaminated from the chemicals used in the training exercises.

The AP2C simulator is fitted with a two-way radio system and thus can monitor an AP2C in the field during actual use or, during a simulation, through use of a surrogate. In Reuther's words, the company is "always looking for a better way to do something. … We are the guys on the outside of the fence saying 'hey, take a look at our new way of inventing the wheel.'"

Quick and Accurate On-Site Capabilities

Idaho Technology Inc. offers two instruments – designed in cooperation with the Department of Defense – that have been hardened for field use to help in the identification of biological warfare (BW) agents. These instruments make it possible to carry out biological sample testing right at the scene of a disaster incident.

In August of this year, when Idaho Technology's RAZOR® bio-detection system was certified under the SAFETY Act, the certification described the system as "a field-hardened, hand-held, battery-operated, real-time Polymerase Chain Reaction (PCR) device for identifying biological warfare agents."

Another, more user-oriented, description provided by company spokesman Todd Ritter states that "the RAZOR is an innovative system that allows our customers to test for dangerous pathogens at the incident site and do so very accurately and quickly. This certification shows that our company's commitment to our customers is based on cutting-edge science and real-world visibility."

The RAZOR instrument is a hand-portable, identifier designed to move pathogen detection closer to the crisis. Its small, field-hardened design and simple sample preparation makes it the ideal instrument for pathogen detection for military, security & homeland defense personnel.

The R.A.P.I.D.® (Ruggedized Advanced Pathogen Identification Device), the company's first instrument designed for biological agent testing, is also a field-hardened rapid thermocycler, with fluorescence-monitoring capabilities, that automatically analyzes samples to determine and identify biological agents.

These two instruments provide a solid example of the instrumentation now available for pathogen identification. "No longer is laboratory equipment being adapted to the field, but field equipment is being developed using technologies once thought applicable only in the lab setting," Ritter commented. "State-of-the-art technology is now field-applicable. This increases the effectiveness of those first on the scene and of field soldiers in detecting and mitigating the effects of BW agents."

The following website links provide additional information on the several product lines mentioned in the preceding article:

http://www.canberra-hs.com/

http://www.proenginusa.com/

http://www.bdal.com/

http://www.raesystems.com/

http://www.smithsdetection.com/

http://www.idahotech.com/

Other important links:

https://www.safetyact.gov/

http://www.epa.gov/ceppo/cameo/

http://www.vivometrics.com/

http://www.esri.com

Editor in Chief James D. Hessman and two DPJ writers provided valuable input to this Special Report. Their contributions, and those of the company representatives quoted, are much appreciated.

Commentary and Analysis

DHS Funding: How Much Is Enough?

By James D. Hessman

Despite the many controversies that have made 2006 the most bitterly partisan election year in the last decade, the members of the U.S. House and Senate managed to enact several important pieces of legislation just before breaking for the hustings to face an angry and impatient electorate. Arguably the most important – for several reasons – of the bills approved by both houses in the last hours before the election recess was the fiscal year 2007 appropriations bill for the Department of Homeland Security (DHS).

The same bill, which provides $34.8 billion - $2.7 billion more than President Bush had requested – for DHS operations and activities in the fiscal year that started just last week, might well *not* have passed *after* the elections, particularly if, as many political pundits are predicting, the Democratic party gains a majority in either the House or Senate – or both.

What makes the bill particularly significant is not the relatively modest increase in funding provided ($1.3 billion more than was allocated in the FY 2006 DHS appropriations bill) but the specific programs for which the money is to be spent. A total of $1.2 billion, for example, is set aside for "fencing, vehicle barriers, technology, and tactical infrastructure" along the U.S. southern border with Mexico. The House and Senate staked out clear but opposing positions during the past year about how to stop illegal immigration, with the Senate favoring a "comprehensive reform" measure that would increase physical security along the border but also permit the estimated 11 million illegal migrants already resident in the United States to remain and eventually apply for citizenship. Most members of the House, angered by previous reform bills that did not live up to their sponsors' promises, opposed "amnesty" of any type and insisted on the strengthening of physical security along the border as the first priority.

The DHS appropriations bill, which President Bush signed into law last week, also provides funding for an additional 1,500 border patrol agents and 6,700 new "detention beds." The latter allocation is another signal that the former much-criticized "catch and release" policy is now dead and buried. Under catch and release, many illegal immigrants (the total number is impossible to determine) who had been caught by the border patrol or other law-enforcement agencies were almost immediately released under their own cognizance and, not too surprisingly, never returned to face a court hearing and, probably, deportation.

WMDs and Seaport Security

The bill also includes both a $163.6 million funding increase for the Domestic Nuclear Detection Office (to help meet its "critical priority of preventing nuclear and radiological terrorism") and a substantial but unspecified amount for the implementation of various "risk-based" security standards for chemical facilities throughout the country "that present high levels of security risks." Both of these allocations reflect an apparent congressional consensus that the risk of terrorist attacks involving the use of weapons of mass destruction (WMDs) represents a clear and present danger to the U.S. homeland.

Rejecting several proposals to transfer the Federal Emergency Management Agency (FEMA) to another department, or make it an independent agency reporting directly to the president, the House and Senate conferees on the final bill agreed to keep the agency in DHS, as the president had urged, but – through inclusion in the bill of several internal guidelines and performance standards – to make it more responsive in times of major national disasters than it was last year during Hurricane Katrina.

The several funding increases provided to improve the security of the nation's land borders were matched by other add-ons to upgrade security at and through U.S. airports and, of greater significance, U.S. seaports, which previously were a distant third in line in the allocation of border-protection funds. The FY 2007 Homeland-Security appropriations bill allocates $8.4 billion for the U.S. Coast Guard, which is arguably not only the department's most effective agency, but also the *most* cost-effective agency within the entire federal government. Included in the USCG funding account is $1,144 million for the service's high-priority Deepwater program, a long-range effort to upgrade and modernize the Coast Guard's present cutter and aircraft fleets.

Final Grade Pending

Maintaining security within the nation's 361 seaports and along 95,000 miles of coastlines has been the Coast Guard's primary mission since the terrorist attacks of 11 September 2001. But the multimission service is still the world's foremost lifesaving agency, and has numerous other responsibilities as well – the interdiction of illegal drugs, for example, and illegal migrants, throughout six million square miles of ocean considered to be "drug transit zones." Also, the enforcement of U.S. fisheries laws, the protection of the marine environment, the setting and supervision of safety standards for more than 110,000 privately owned commercial fishing vessels, and a host of other duties both at sea and in port. In short, the service will still need considerable additional funding for the foreseeable future, but this year's add-ons represent a big step in the right direction.

In the long term, the overall adequacy of the FY 2007 DHS appropriations bill will probably be determined not by what else happens this year or next, but what does *not* happen – a new terrorist attack, to be more specific. Until then, the combined efforts of Congress and the administration must be graded "incomplete" – but better than was expected earlier in the year.

James D. Hessman is former editor in chief of the Navy League's Sea Power Magazine and the League's annual Almanac of Seapower. Prior to that dual assignment, he was senior editor of Armed Forces Journal International. He received a navy commission following his graduation from Holy Cross College and served on active duty for more than ten years.

The Rationale for a Domestic Constabulary

By John P. Sullivan

On 29 August 2005, Hurricane Katrina made landfall on the Gulf Coast of the United States and quickly became the nation's most expensive natural disaster to date, costing more than $80 billion in estimated damage and causing more than 1,800 deaths. The area impacted covered several southern states – Louisiana, Mississippi, Alabama, and Florida – as well as Cuba and parts of the Bahamas.

Perhaps its most visible victim was New Orleans. The Crescent City was devastated, with 80 percent of the city flooded, highlighting the need for robust emergency-management and public-safety response capabilities during and in the aftermath of catastrophic events affecting a multi-state area of the country. Many capabilities were found lacking, and the importance of maintaining and restoring public order in the aftermath of the storm was demonstrated by the numerous incidents of looting and other opportunistic crimes.

Police and law-enforcement services are key to the management of most if not all state and/or local emergencies and disasters. Law-enforcement agencies not only preserve the peace and maintain law and order when responding to disasters but also carry out search-and-rescue missions, suppress crime, conduct evacuations, and provide security and force protection to fire-service and EMS responders.

A Gap Between Manageable and Overwhelming

Disasters, civil disorders, and major disruptions to the status quo caused by terrorism all demand robust policing capabilities. In many cases local agencies can handle most of the policing tasks assigned – sometimes, though, with assistance derived from mutual-aid agreements with neighboring jurisdictions. However, although mutual-aid agreements between law-enforcement agencies can reduce the impact of "normal" disasters, a truly major catastrophe that destroys or overwhelms local capabilities demands a new and more flexible type of response.

In most such disasters the U.S. military answers the need for surge capacity. The National Guard units of individual states, as well as the nation's armed services, can be and usually are activated to support the impacted area. This military support, generically described as Defense Support to Civil Authorities (DSCA), is vital. However, more complex catastrophes – those involving high-intensity crime, for example – demand a set of special skills outside the normal capabilities of most U.S. military forces.

Under the U.S. Constitution, the United States has no national police service. Policing is for that reason a state and local function that usually is both fragmented and local in nature – relying, therefore, on relatively small police and sheriffs' departments, sometimes augmented by state police. There are a handful of federal law-enforcement agencies – the FBI, for example, and the U.S. Coast Guard – but their missions are few and narrowly defined, and their roles in day-to-day police functions are strictly limited by law.

A Domestic Constabulary, A National Capability

However, in the Age of Terrorism the demand for uniformed police to respond to and restore order in the aftermath of disaster calls for a well organized and sometimes expeditionary type of police capabilities. In many other nations, constabulary or gendarmerie forces fill this need.

The huge volume of mutual-aid capabilities needed to cope with major incidents affecting a multi-state area of the country were provided *ad hoc* in the aftermath of Hurricane Katrina. Law-enforcement agencies from California, Michigan, Nevada, New York, Texas, and other states responded quickly and generously when Katrina hit, and provided massive support to the devastated local police departments and other law-enforcement agencies in the Gulf region.

Their responses were facilitated by agreements among governors in what are called Emergency Management Assistance Compacts (EMACs). While these provide some capacity, it seems evident that additional steps, such as the development of a domestic constabulary, are needed to build an effective national capability.

Rampant Opportunities for Crime

The need for a uniformed police capability to address domestic catastrophes is paralleled by the need to also develop an expeditionary police service to carry out certain missions overseas – e.g., stability and support operations and the provision of humanitarian aid. Such transitional-stability police units would fill the existing gap between military forces and individual police units. They could not only help to restore order and create the conditions necessary to provide aid, but also carry out various reconstruction tasks and suppress high-intensity crime. Not only fragile states – i.e., failed or transitional states – but also fragile *communities* experience an increased demand for police services during an intense period characterized by the combination of rampant opportunities for crime and diminished local police capabilities.

Communities devastated by disaster require the restoration of order both to sustain the rule of law and to maintain social structures. Individual police units – or task forces of several units drawn together as a last-minute contingency – rarely possess the depth of organizational capability and/or the flexibility needed to effectively deal with the tumultuous conflict environment that exists in the aftermath of a major disaster.

Constabulary forces, however, are by their very nature configured from the start to have the resources, capabilities, and mandate required to operate in these austere and conflict-ridden settings. They would be optimally positioned, therefore, to bridge the existing gap between military and police skill sets.

The Limitations of Current Forces

Military forces are effective in large-scale operations, providing a show of force, maintaining fixed-site security, and suppressing actual combat. But, except for military police and special operations units – which are almost always in short supply and may well be deployed elsewhere – they have limited experience in, and are not optimally configured to carry out, sustained policing duties. Individual police and law-enforcement mutual-aid task forces, on the other hand,

rarely possess the common doctrine, training, experience, and logistical-support infrastructure required to operate in adequate strength for an open-ended period of time.

An effective domestic constabulary that could bridge this gap would consist of units operating with a command-and-control structure that stimulates unity of effort, along with the doctrinal foundation and training required as well as the support infrastructure necessary to perform both community policing and high-intensity law-enforcement operations – with appropriate accountability measures also included.

The specific skills required would include but not necessarily be limited to the ability to carry out:

- Intelligence and criminal/forensic investigations;
- Crowd-control and riot-suppression missions;
- Emergency-response and –management tasks;
- High-intensity policing and enforcement duties;
- The protection of senior officials and other VIPs;
- Search-and-rescue missions; and
- The provision of force protection for fire, medical, and humanitarian operations.

Communications Interoperability Mandatory

Constabulary units would of course have to integrate their operations with those of local, state, and tribal police and federal law-enforcement and homeland-security agencies, as well as National Guard units and other military forces. To do this would require interoperable communications at all levels, together with common approaches to mission planning and concepts of operation. All of these would have to be reinforced by the mechanisms needed to produce and use intelligence properly and maintain situational awareness.

Moreover, these operational issues would have to be anchored firmly in national policy – with effective oversight provided and appropriate rules of engagement (including rules for the use of force and the addressing of civilian complaints) agreed upon well in advance. Warning capability, mobilization, training, exercising, and logistics also would be needed to ensure adequate cross-jurisdictional authority and a force structure appropriate to carry out a full spectrum of complex missions.

The development of such capabilities is essential to meet the new threats likely, both at home and overseas, in the Age of Terrorism. The open question is what would be the best organizational configuration. Should the capability be provided by a federal civilian force, and therefore under the Department of Homeland Security? Or should it be primarily military in nature? Or a combination of local/metropolitan police and state police, with some essential assistance provided by private security contractors?

These and other political and operational issues would require considerable study. It would not be surprising if a mix of all these resources would be required to address the broad range of missions faced in catastrophic settings. In any event, a credible case can be made that a domestic constabulary service with expeditionary reach is not only needed but would be an exceptionally prudent national investment.

John P. Sullivan is a lieutenant with the Los Angeles County Sheriff's Department. He is assigned to the Emergency Operations Bureau and currently serves as Director of the National Terrorism Early Warning Resource Center. He specializes in terrorism, intelligence, and conflict disaster operations and studies.

The Need for a National Port Readiness Standard

By Gavin O'Hare, Transportation

The stage has been set. Commercial port security is now a major national priority. But an important question still has to be answered: If the Secretary for Homeland Security was asked to brief the president on the national maritime-readiness posture, where would he begin? Unfortunately, there is currently no universal national maritime-security readiness reporting system in place.

For that reason alone, preparing for the briefing would be a daunting task for the secretary. Pulling together a huge number of non-standard inputs on the security readiness of the nation's more than 350 ports – and attempting to make sense of all that information, particularly as it relates to the myriad of threat scenarios that keep port-security professionals awake at night – would be a task that is virtually unmanageable at present.

The U.S. Coast Guard is already carrying out a large number of security audits, and also monitors the compliance of U.S. ports with the mandates set forth in the Maritime Transportation Security Act (MTSA). But those efforts do not in themselves constitute a readiness reporting system. Interestingly, though, there is a very large federal agency – the Department of Defense (DOD) – that reports on the readiness of its own branches, installations, and activities on a daily basis. The U.S. military has in fact spent many years perfecting a process that standardizes, codifies, and synchronizes current military readiness reporting with the nation's short- and long-term war-fighting requirements.

To carry out this immense task, DOD uses what is called the Defense Readiness Reporting System (DRRS) as an auditable self-evaluation tool to report a unit's present condition of readiness to and through the chain of command. Of course, the DOD primary mission, fighting wars, necessitates the availability and use of an accurate and comprehensive readiness reporting system.

Similar Mission, Similar Measurement Model

The Department of Homeland Security (DHS) has a similar mission – on the home front rather than overseas – so would be well advised to evaluate the DRRS as the model for a similar national standard to evaluate and report the maritime readiness of the U.S. homeland.

It is already possible, both in theory and in actuality, for security readiness to be measured and reported in a way that provides DHS with critical information regarding the ability of U.S. ports to respond to various threats. First, though, standards must be established to quantify and qualify maritime-security readiness in a rational and coordinated manner. Following the establishment of such standards, a system must then be implemented that would allow those responsible for the nation's maritime security to have a universal way to communicate not only with one another but also with other government agencies on security matters.

Here, the principal challenge for DHS might be to provide the U.S. maritime-security community with the methodology needed to facilitate visibility into each individual port's ability to respond to various levels of increased threats. With all of the individual parts in place, the collective security posture and capabilities of all U.S. ports combined could easily be determined.

The solution would necessarily start with the individual port operator. All of the nation's ports have a vested interest – as well as the responsibility to their constituents and stakeholders - to ensure the continued viability of an efficient and secure environment for global commerce. Port operators must manage readiness by aligning their own strategic objectives with tactical security requirements. By developing a framework for reporting and managing security performance data throughout the entire U.S. maritime-security domain – a framework that does not currently exist – DHS has the opportunity to unify readiness initiatives at the national level.

Major Coast Guard Involvement Mandatory

The creation of a national reporting system for maritime readiness obviously falls within the DHS charter. Moreover, the U.S. Coast Guard, a DHS agency that already has a long and effective regulatory relationship with U.S. ports, is well positioned to develop and implement such a system. However, *all* stakeholders throughout the U.S. maritime community have a vested interest in the safe, secure, and efficient operation of the nation's port system. Because of the overall national-security stakes involved, though, it seems obvious that the federal government should finance the development and deployment of the maritime-security system (which then would be managed at the port level).

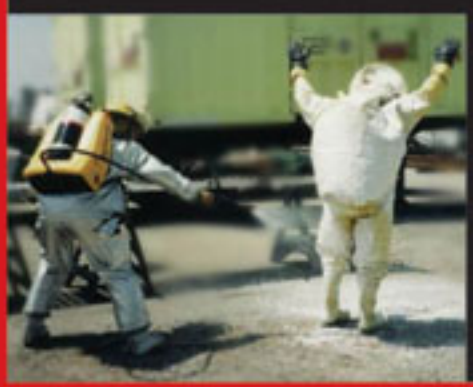
Through its USCG maritime-protection arm, DHS already mandates that all of the nation's ports develop and implement facility security plans (FSPs) that create and control the standards of operation required from a security perspective. One state agency – the Virginia Port Authority (VPA) - that since 9/11 has been particularly proactive about managing security readiness has earned high praise from DHS and the Coast Guard by focusing on and investing in security initiatives that not only provide added security but also contribute to the improvement of business processes. VPA has implemented a strategic planning tool for security that provides valuable insights on how operations can flex within MARSEC (Maritime Security) conditions without impeding the core business of all U.S. ports – moving freight.

The development of a national maritime-security readiness standard would further strengthen the public/private working relationship between federal, state, and local governments on the one hand and, on the other, the nation's port operators. The adoption of more uniform, and more stringent, self-evaluation standards, combined with the submission of regular reports on security readiness, would have the added benefit of helping ports achieve better security efficiency, improve customer satisfaction, and, ultimately, enhance the overall maritime-security readiness of the entire nation.

Gavin O'Hare is a senior consultant with Trident Global Partners, a transportation consulting firm based in Annapolis, Md. A graduate of the U.S. Naval Academy, he is now an adjunct professor at the Academy as well.

EXTREME DECON

From Battlefields to Boulevards



With the advent of fourth generation, or asymmetric, warfare, a city street may become a target. Are you prepared to remediate a dirty bomb, chemical, or biological attack? With Intelagard systems and solutions, you will be. Keep yourself and others alive while protecting critical infrastructure. Intelagard offers a full line of CBRN decontamination systems and solutions, including the chemical/biological decontamination formula, EasyDECON™ DF200, and the radiological/nuclear decontamination formula, RadPro® by Environmental Alternatives, Inc. Intelagard systems may also be used with all classes of fire foam for fire suppression purposes.

From the man-portable Macaw backpack to the large-scale Falcon Fixed Site Decontamination System, Intelagard has a system to fit your needs. Call Intelagard today for powerful and effective decontamination solutions and truly be prepared.

Intelagard is the exclusive distributor of EasyDECON™ DF200

CONTACT US TODAY!
CALL 1.303.309.6309, or e-mail info@intelagard.com.

INTELAGARD®
www.intelagard.com

California, Washington D.C., Montana, Iowa, Arkansas, North Carolina, and Connecticut

By Adam McLaughlin, State Homeland News

California
San Francisco Airport First With Chip Scanners

San Francisco International Airport is the first in the nation set to accept new passports embedded with computer chips that show a traveler's photo and include his or her personal identification data, federal officials announced on 27 September.

The airport, a test site for the new passports, is one of 33 that will receive the chip-reading machines, which are being installed over the next few weeks in order to meet the 26 October deadline mandated by Congress. Starting on that date, 27 countries whose citizens do not need visas for short-term business and tourist travel to the United States will be required to issue passports that include the chips. "The United States has already started to issue such passports," said Jarrod Agen of the U.S. Department of Homeland Security (DHS).

The new ID chip will be embedded both with the traveler's photograph and the biographical information printed on his/her passport. The chip "will also have the capability to hold digital fingerprints and iris scans," Agen said. Federal officials say that the new passports will make it more difficult for travelers to enter the United States using false or forged documents.

The new passport program, one element of a more comprehensive plan to make the nation's air, land, and sea ports more secure, is being rolled out two years past its original deadline, because extra time was needed both to develop the technology required to test and manufacture the new chips and to persuade other countries to comply with the more rigorous U.S. entry requirements. The program has been attacked by critics who charge that the data on the chips – which use a radio signal to transmit the biographical ID information on them to the passport readers – is not properly secured and could be stolen by thieves and/or terrorists during the transmission process.

Anna Hinken, DHS spokeswoman for the program, said the department has set up a protocol to protect travelers' data that permits access only by the airport's scanners, but the department is not requiring that the data be encrypted outright.

San Francisco Improves Emergency Management Capabilities

San Francisco Mayor Gavin Newsom has announced the launch of AlertSF, a new function of the city's Emergency Alert system that sends text-message alerts to mobile devices. Because text messaging "is one of the most popular ways of communicating today," Newsom said in his 19 October announcement, "AlertSF will be an important tool to help San Franciscans stay informed when a disaster occurs."

Officials said that San Francisco's Disaster Council also plans to review the city's Earthquake Response Plan Enhancement, which supplements the city's existing Emergency Operations Plan (EOP) with catastrophic-earthquake-specific response planning.

To develop the supplemental plan, the San Francisco Office of Emergency Services and Homeland Security reviewed after-action reports from several large urban earthquakes within the last two decades, including the Loma Prieta earthquake of 1989, the Northridge earthquake of 1994, and the Hanshin-Awaji (Kobe) earthquakes in Japan in 1995. Analysts used this rich store of data to identify possible future challenges to the city's own earthquake-response and disaster-management capabilities.

"I am proud of the work that we have done on earthquake preparedness," Newsom said. "Through our EOP, we have a solid plan for how to respond to several kinds of disasters, including earthquakes."

Newsom also announced the formation of a new unit: the Structural Safety and Emergency Management (SSEM) division, which will be responsible for implementing new seismic safety programs, including a proposed automatic gas shut-off valve program. SSEM also will seek ways to reduce the seismic risk posed by soft/weak-story, open-front, wooden-frame buildings.

"We are in one of the world's most at-risk seismic zones," Newsom said. "That is why my administration … is making seismic safety and emergency management one of our top priorities."

Washington D.C. Opens New Unified Communications Center

On 28 September, federal, state, and local government officials from the greater Washington, D.C., area dedicated a new Unified Communications Center that will accept calls for police, fire, medical emergency, and other public-service agencies throughout the entire Washington metropolitan area. The new center, in the historic Anacostia area of the nation's capital, also will serve as the communications hub for underground emergency operations in the Metro system, a corollary responsibility that also could involve personnel from several governmental jurisdictions.

The center eventually will be able, officials said, to share wireless audio as well as video and text data with various operations control centers in Maryland, Virginia, and other nearby states. The new center will be "a great model for the rest of the country," said Michael Chertoff, secretary of the U.S. Department of Homeland Security. "I hope we never have a catastrophe that will test this center," he added.

The 365 employees in the three-story, 127,000-square-foot center at 2720 Martin Luther King Jr. Avenue in Anacostia will be equipped with generators, food supplies, water, and the other resources needed to maintain operations for up to three days in the event of an emergency that eliminates easy access to those essentials. A local traffic-management center also is being headquartered in the building, which D.C. Mayor Anthony A.

Williams said will be "the nerve center for emergency services ... serving and protecting D.C. citizens and residents."

"In case of any emergency, we are on the same page, with the same authority," commented D.C. Delegate to Congress Eleanor Holmes Norton, who noted that the federal government had contributed $24 million for the construction of the center. "The federal understanding is that there are no borders," she said. "The attack on the Pentagon was an attack on the region."

By noon on September 29, officials said, the center's operators were answering an estimated 98.9 percent of all calls within five seconds, according to Suzanne Peck, the District's chief technology officer, vs. the national average of 95 percent of all calls in 10 seconds.

Montana
Opens Northern Border Security Unit

In a ceremony last Friday in Great Falls, Montana, the U.S. Customs and Border Protection (CBP) Air Wing opened a new link in the nation's chain of northern-border security installations.

Last year, President Bush signed into law a bill that provided $18.3 million to fund the Great Falls operation. The Great Falls Branch of the CBP's Northern Border Air Wing ultimately is projected to have five branches conducting operations in Bellingham, Washington, and Plattsburgh, New York, as well as in Great Falls. New wings also are planned to be made operational in North Dakota and Michigan.

The network is an important component of the federal anti-terrorism effort that started in the aftermath of the terrorist attacks of 11 September 2001. The opening of the Great Falls Branch strengthens the CBP's Havre sector, which has been assigned the responsibility of monitoring Montana's northern edge, which stretches for 456 miles along the U.S. border with Canada.

"This is the first time you have had serious air power," said Michael Kostelnik, DHS (Department of Homeland Security) assistant commissioner for Customs and Border Protection Air and Marine. "Homeland security is the wing's primary mission," Kostelnik said, "but others will be carried out, as well." Among the more important of those additional missions, officials said, will be the enforcement of U.S. immigration and drug laws.

The Great Falls Branch will generate an estimated 50 or so fulltime billets, which include positions for a number of armed law-enforcement agents. Among the seven aircraft planned to be assigned to the branch are two Cessna C-550 Citation II tactical jets (used primarily to intercept and track airborne drug smugglers and to enforce airspace security) and two UH-60-A Black Hawk helicopters.

The exercise tested the distribution of medical supplies that probably would be used in response to a flu pandemic in Iowa

Iowa
Health Officials Prepare for Flu Pandemic

No one knows whether a flu pandemic will strike Iowa this winter, but state and local public health officials from ten of the state's counties completed a full-scale exercise in late September that focused on a pandemic scenario. "I am very confident that we would be prepared to deal with it, but I do want to be able to do it better," said Mary Mincer Hansen, director of the Iowa Department of Public Health.

Nearly 300 people participated in the statewide disaster exercise, including representatives of several state agencies and the 10 counties involved. The Iowa Department of Homeland Security and Emergency Management hosted the drill, along with the Iowa Department of Public Health.

The exercise tested the distribution of medical supplies, drawn from a strategic national stockpile, that probably would be used in response to a flu pandemic in Iowa. The drill also involved communicating with the public, the use of Iowa's communication system, and the likelihood of a major demand on Iowa's hospitals and other health care facilities.

The scenario assumed that no Iowans would die from the flu, but that the state would have 254 confirmed cases of the flu, and 1,156 other citizens suffering from flu-like symptoms. David Miller, administrator of the Iowa Homeland Security and Emergency Management agency, said the exercise assumed that some state officials would be among those afflicted with the flu and for that reason would be unable to contribute to the state's response to the pandemic. To cope with that contingency, Miller said, the state "has developed continuity-of-government plans in recent years to help ensure that essential functions continue during an emergency."

Arkansas
Develops Statewide Wireless Emergency Responder Network

Previous problems with emergency communications systems will soon be a thing of the past, Arkansas officials said, thanks to the development and installation of the state's new AWIN (Arkansas Wireless Information Network) system. AWIN radios have been installed in key offices throughout the state's 75 counties in the latest step of a multi-phased program designed to leverage new and existing wireless resources to create a statewide interoperable wireless communication system that can be used on a 24/7 basis by emergency responders and other Arkansas public service entities.

Forrest City firefighter Samuel Pettus, a member of the St. Francis County Office of Emergency Services (OES), says that the system not only provides communications between all of the counties on one frequency but is also of very high quality. "We tested it in Little Rock the other day," said Pettus. "We can speak to people in Fayetteville and it sounds like they are in the next room."

The AWIN radios "are not going to be used for daily radio traffic," he added. "They are for

emergency use during disasters." If the chief of police in one area "is having problems handling a disaster in his town," Pettus continued, he "can call in to the network and speak to the main incident commander at the OES office. He can tell … [the incident commander] what is going on and what he needs help with."

A major advantage of the AWIN system, officials said, is that the network is not connected to the frequencies used by the individual state agencies. "It is separate and self-sufficient," Pettus pointed out. "It has its own set of repeaters throughout the state, so if you cannot reach a city because a repeater is down … [the call] can be re-routed around that repeater."

"I think that 90 percent of the time … [the AWIN system] will be used for major disasters," added St. Francis County Sheriff H.N. Green. "Tornadoes, earthquakes, floods – anything that would cause a need to pool equipment and personnel. Of course," he also pointed out, "everyone will take care of their own county first. If personnel are needed here, we won't send them off to another county. But it helps that we are now all on the same radio network and can contact … [one another] whenever we need to."

Green said that the Arkansas Sheriffs Association is now working to provide additional guidelines on how help is dispersed in times of disaster. One possibility under consideration, he said, is "splitting the state into quadrants," after which each county "would first look for help from the counties in its own quadrant."

North Carolina Mountain Counties Mapped for Potential Landslides

North Carolina Governor Mike Easley has announced the publication and availability of the first in a series of county maps that will enable communities throughout the state to evaluate, and thereby reduce, the risks of building homes and other buildings in landslide-prone areas of the North Carolina Mountains. The Geological Survey section of the state's Department of Environment and Natural Resources, which developed the initial landslide-hazard maps for Macon County, expects to complete similar maps for five other mountain counties during the next two years.

Just over two years ago – specifically, on 16 September 2004 – heavy rains from Hurricane Ivan triggered a landslide that carried massive amounts of debris a distance of more than two miles, killing five people and destroying 16 homes in the Peeks Creek community of Macon County. Between them, Ivan and Hurricane Frances – which smashed into the state a week earlier – started more than 140 other landslides throughout western North Carolina.

"These maps will show which areas are prone to landslides," said Easley, "and that [information] will help developers, county officials, and residents decide where to safely build homes, roads, and other structures."

The Macon County maps show not only where landslides already have occurred, but also where future landslides are likely and the path they might follow after they start. Landslide-hazard maps will be available for Buncombe and Watauga counties by next summer, officials said, with maps for Haywood, Henderson, and Jackson Counties expected to be available in 2008.

The state's three-year Landslide Hazard Mapping Program was funded with $1.3 million from the Hurricane Recovery Act of 2005, which was designed to provide disaster assistance to individual citizens, businesses, and public agencies that suffered damage from one or more of the six hurricanes that struck North Carolina in 2004. Easley signed the Hurricane Recovery Act in February 2005.

Connecticut Provides Public Alert Radios For All State Schools

Connecticut Governor M. Jodi Rell has announced that public-alert radios will be provided in the near future to all of the state's public schools, thanks to the combined efforts of the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Homeland Security (DHS). DHS provided $5 million in federal funds for the radios, and is working with NOAA to ensure that they are installed in all of the 97,000 public schools throughout the country. Distribution of the radios is expected to start at the end of October and should be completed within a few months.

The radios will sound a special tone as an initial alert to school administrators about a variety of hazards, and then follow up with additional details

The All-Hazard NOAA Weather Radios will alert schools not only of weather-related disasters, but also about a broad spectrum of other threats – including but not limited to terrorist attacks, child abductions, hazardous material leaks, and toxic spills. The radios will sound a special tone as an initial alert to school administrators about a variety of such hazards, and will then follow up with whatever additional details about the disaster are available. One of the principal benefits of the new radio system is that, once activated, a signal can be broadcast that automatically turns on the radio and alerts school officials to a potentially hazardous situation.

"School administrators will now be better able to keep track of potentially dangerous situations and take appropriate measures to keep students and staff safe," Rell said. "We can never be too prepared. Any device that helps Connecticut schools be better prepared will be a great benefit."

The radios, which operate 24 hours a day, are designed to receive forecasts, warnings, and other information from the Weather Service's 123 forecast offices. The radios, which are typically smaller than clock radios, use a battery backup for emergency power, and can be programmed to respond only to a warning for a specific area or region. The cost of the radios ranges from about $20 to $80 at most retail outlets.

Adam McLaughlin is Preparedness Manager of Training and Exercises, Operations, and Emergency Management for the Port Authority of N.Y. & N.J. He develops and implements agency-wide emergency response and recovery plans, business continuity plans, and training and exercise programs.

GammaRAE II Responder for personal radiation detection.

It has the rapid response of a detector and the accurate dose measurement of a dosimeter. Its dual detectors allow it to quickly cover a full range of gamma radiation fields while offering dosimeter functionality. The intrinsically safe, immersible design ensures reliable, safe operation in the most hazardous, rugged and wet environments and easy decontamination.

www.raesystems.com/info

Protection Through Detection

RAE SYSTEMS