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Publisher's Message

By Martin (Marty) Masiuk, Publisher



As in previous "omnibus" issues of *DomPrep Journal*, this January 2008 wrapup edition covers a broad mix of topics ranging from mass-casualty incidents to the U.S. port system to advances in communications and bioweapons sensors to – surprisingly, perhaps, to at least some readers – *fertilizer* and how it can be (and has been) used by terrorist to make a weapon of mass destruction.

Also worth mentioning is the fact that four of the articles in this issue are by working professionals in the domestic-preparedness/homeland-security field who have not previously written for *DPJ*: Shannon Arledge, Adam Montella, Theodore Tully, and August Vernon. Their knowledgeable reports represent another step forward in the magazine's continuing effort to serve as a key source of information for all segments of the rainbow spectrum that makes up the multidiscipline U.S. domestic-preparedness community. In the Age of Terrorism and of mass-casualty incidents it is no longer sufficient for policemen, firefighters, bioweapons experts, and hospital administrators to know their own jobs to perfection. They also must have a working knowledge of how their work fits into "the big picture."

Which, of course, is another way of saying that the individual tasks carried out by these and other highly skilled professionals are and must be complementary. If they are not – if they actually *complicate* the work done by other professionals at the same crime scene, to mention one possible example – they could actually negate, or at least complicate, the collective effort.

Kay Goss starts off the issue with a best-practices report on how the Commonwealth of Virginia deals with mass evacuations – namely, by putting a key state agency in charge and assigning complementary tasks to a dozen or more other agencies with specific expertise in the jobs assigned to them. August Vernon follows up with an overview of how political decision makers and medical professionals must work together in the management of mass-fatality incidents and events. Joseph Cahill discusses how volunteers can assist EMS professionals in situations requiring the use of "alternate-treatment" vaccination facilities. And Adam Montella points out that, good intentions notwithstanding, most U.S. businesses still are not prepared to recoup and recover from either a natural or manmade disaster.

The aforementioned fertilizer comes next, in a report by Joseph Steger on how new restrictions mandated by Congress on the possession and/or sale of ammonium nitrate – the principal ingredient used in the 1995 Oklahoma City bombing – may not absolutely prevent similar bombings in the future but will assuredly make them more difficult. Theodore Tully reports on the remarkably increased cooperation in recent years between hospitals and other medical facilities in the same geographic region, and Shannon Arledge discusses how the ancient art of moulage is being used to help medical training not only more realistic but also more effective. Finally, Christopher Doane & Joseph DiRenzo III report on how government and private-sector maritime stakeholders are upgrading their local port-security plans and policies.

Rounding out the issue are an election-year "change" commentary by Editor in Chief James D. Hessman, updates by Adam McLaughlin on the steps taken by four states (Indiana, Kansas, New York, and Ohio) to improve their own preparedness programs, and an exclusive interview, by Managing Editor John Morton, with Thomas Lockwood, senior advisor of the DHS Office of Screening Coordination and a world-class expert on ID cards, identity theft, false passports and other forgeries, and similar topics.

About the Cover: Petty Officer 2nd Class Diana Rodriguez, a lab technician in the Branch Medical Clinic laboratory of U.S. Naval Hospital Guam, prepares to work on the analysis of a specimen, one of a series of routine tests used to help in the diagnosis and treatment of patients. (U.S. Navy photo by Petty Officer 2nd Class John F. Looney.)

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Coordination and Command Policies For Mass Evacuations

By Kay C. Goss, Emergency Management



The U.S. surface transportation system plays a crucial role in responding not only to natural disasters but also to terrorist events

and technological incidents. At the national level, the Disaster Response and Evacuation (DRE) user service has available an "intelligent" transportation system to respond to and recover from such disasters. The user service provides personnel and other resources that constitute an essential component of the disaster response effort, and uses various information technology systems to prioritize, allocate, and strategize response evacuations.

Broad interagency coordination is critical in almost all disaster scenarios as well as in training and exercise plans. A major disaster may severely damage the transportation system within the area affected by the disaster, especially if facilities, equipment, and infrastructure are damaged, and may well disrupt communications as well. All of those facilities and systems already would be under significant pressure, of course, from outbound evacuees, inbound mutual-aid operational resources, inbound state and federal operational resources. outbound returning mutual-aid operational resources, inbound support shipments, inbound donations. unscheduled inbound returning evacuees, and outbound state and federal resources.

The emergency or disaster requiring an evacuation will vary considerably, particularly in the patterns and plans previously put in place to respond effectively to a spectrum of potential scenarios, including the following:

1. Catastrophic event with warning – i.e., an event, such as a major hurricane or devastating land fire, during which citizens may have to either evacuate or shelter in place (and later seek evacuation, and probably be placed on a timeline);

- 2. Disruptive event with warning an event such as a violent storm or a hazardous-materials incident, during which citizens may have to evacuate but probably will be able to return to their homes within a reasonable period of time;
- 3. Catastrophic event without warning – an event such as a terrorist attack or tornado during which citizens would have to take immediate action to protect themselves and possibly would not be able to return to their homes in the foreseeable future (this category of events may or may not involve evacuation); and
- 4. Disruptive event without warning – an event such as a tornado, a bridge collapse (or other transportation disaster), during which citizens would have to take immediate action to protect themselves (as with *catastrophic* events without warning, this type of event may or may not involve evacuation, but citizens usually would be able to return to their homes).

The Commonwealth's Common-Sense Example

A best-practice example of how each and all of these event categories should be managed is available from the Commonwealth of Virginia's Department of Emergency Management (VDEM), which assigns responsibility for the coordination of evacuation operations to the Virginia Evacuation Coordination Team for Operational Response (VECTOR), a unit of the Operations Section of the Virginia Emergency Response Team (VERT).

VECTOR membership represents several key agencies – including

not only VDEM but also the Virginia Department of Transportation (VDOT), the Virginia State Police, the Virginia National Guard, the Virginia Department of Social Services, and the Virginia Department of Tourism. At the top of a long list of agencies with important and specific operational responsibilities would be the Virginia Department of Transportation - which is tasked to assist with traffic control (in accordance with the highway laws of Virginia and the policies of the State Highway Commission) in the event of an emergency requiring evacuation; VDOT also would assist with the media outreach efforts of evacuation education pre-event (and notification during an event) with regards to the highway routes to be followed; in moving motorists to what are called "refuges of last resort" as an "event with warning" approaches; and in providing its own subject-matter expertise to other state agencies as and when needed.

The Virginia State Police coordinate traffic control (also in accordance with the highway laws of Virginia and the policies of the State Highway Commission} in the event of an emergency requiring evacuation; responsibility that includes: (a) the coordination of resources and information with local law-enforcement officials to assist in directing motorists - to the previously mentioned refuges of last resort – as an event with warning approaches; and (b) providing subjectmatter expertise to other state agencies.

The Virginia National Guard assists with traffic control in the event of an emergency evacuation, and also assists in directing motorists to refuges of last resort as an event with warning approaches. The Virginia Department of Motor Vehicles assists with the movement, to approved refuges, of motorists stranded along established evacuation routes. The Virginia Port Authority recommends policies, procedures, and projects necessary for the implementation of evacuation plans for the Commonwealth's waterways.

The Virginia Port Authority recommends policies, procedures, and projects necessary for the implementation of evacuation plans for the Commonwealth's waterways

An Appropriate Division Of Tasks and Responsibilities

Similarly, the Virginia Department of Aviation recommends policies, procedures, and projects necessary for the implementation of evacuation plans for the Commonwealth via air; and the Virginia Department of Rail and Public Transportation recommends policies, procedures, and projects necessary for the implementation of Commonwealth evacuation plans via mass transit and/ or rail (this is a particularly important responsibility in such highly urbanized jurisdictions as Northern Virginia, Richmond, Virginia Beach, and the Hampton Roads area).

The Chesapeake Bay Bridge-Tunnel Authority recommends policies, procedures, and projects for implementing an evacuation using the Chesapeake Bay Bridge-Tunnel facilities. The Virginia Department of Mines, Minerals, and Energy assists in the provision of fuel sources, including alternative fueling sources, both for evacuees and for support agencies.

The Virginia Department of Health provides guidance and technical assistance to local jurisdictions, medical facilities, and home health care agencies, such as those responsible for long-term care facilities and/or for planning and carrying out the emergency evacuation and/or relocation of medically dependent persons. The Virginia Department of Social Services assists in the selection and preparation of sites suitable for serving as refuges of last resort. The management of this task not only augments the evacuation process but also provides the shelter occupancy data needed to facilitate the movement of traffic along predesignated evacuation routes.

All of the agencies participating know they should use 2-1-1 and/or contact the Virginia Public Information Center (VPIC) to assist with pre-event outreach efforts to educate citizens on evacuation procedures and to help notify citizens *during* an event regarding the evacuation routes to be followed – also to monitor, coordinate, and manage shelter activations and sequencing.

Finally, Virginia Department the Management itself of Emergency recommends policies, procedures, and projects necessary for the overall implementation of evacuation plans for the Commonwealth. VDEM also is responsible for facilitating training on evacuation plans across state agencies local government agencies; and providing subject-matter expertise to a broad spectrum of other agencies and localities as needed; publishing approved policy guidelines, including performance measures; coordinating evacuation efforts with external (i.e., non-Commonwealth) agencies, including various federal, local, and neighboring-state jurisdictions; and using the 2-1-1 system.

Kay C. Goss, CEM, possesses more than 30 years of experience – as a federal and state administrator and in the private sector – in the fields of emergency management, homeland security, and both public finance and intergovernmental operations. She is a former associate FEMA director in charge of national preparedness training and exercises.

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The Management of Mass-Fatality Incidents

By August Vernon, Fire/HazMat



Most if not quite all U.S. public-safety agencies, at all levels of government, can effectively manage one or two fatalities,

and they do so on a regular basis in communities large and small throughout the country. A massfatality incident, however – which can arguably be defined as one "in which more deaths occur than can be handled by local resources" – is a much more daunting challenge.

A mass-fatality event can occur from several types of situations, including transportation incidents, industrial accidents, severe weather - including earthquakes, tornadoes, and other natural disasters - and acts of violence, specifically including terrorism. When any of these ravage a community it is important to remember, throughout the event and long after: (a) reverence for the dead and compassion for the living; and (b) the inescapable fact that these types of incidents will generate considerable media attention, and that in turn will in most if not all cases cause family members to respond by rushing directly to the scene.

The first indication that a mass-fatality event has occurred may come with the initial 911 calls. The event could be a high-impact plane crash with 45 "souls on board," a mass shooting, a severe bus accident with numerous injuries, or a tornado sweeping through a heavily populated area. Whatever the situation, the principal rule to be followed by first responders is the same - namely, that the bodies of the deceased must be left in place until released by the medical examiner's (or coroner's) office. One reason for this rule is that the "event" may also be a crime scene and/or part of a major investigation and must be treated as such at all times.

Blocks of Evidence, And a Mountainous Workload

In some situations, bodies and/or body parts might be scattered over a wide area. Or there could be numerous burn victims. There could be women or men, the elderly, or children among the fatalities. And, as previously mentioned, the incident "area" could be a crime scene that covers several square blocks. In the latter situation, all bodies, body parts, personal effects,

All bodies, body parts, personal effects, and other potential evidence not only have to be gathered and examined, but also very carefully documented

and other potential evidence not only will have to be gathered and examined, but also very carefully documented.

That is only the start. After all of deceased the have been found and examined, bodies and their presumptively identified, a longer more detailed examination, and identification, investigative and process will begin. It is preferable,

of course, that a fully equipped morgue be used during this stage of the process. However, if the overall workload – caused by the number of bodies recovered, for example, the difficulty of the terrain, and/or other circumstances – overwhelms the local morgue capabilities immediately available, a secured temporary morgue area can be established.

With very few exceptions, a major lawenforcement response will always be required in the aftermath of a massfatality event. There will be scene issues, investigative procedures, area security, family notifications, and numerous other factors to consider in managing the aftermath both effectively and as expeditiously as possible. Security is likely to be a major issue not only at the incident scene but also at family assistance centers and/or other facilities that may be established to address the needs of the friends and family members of the victims who have been identified. The correct handling of many masscasualty events also may require the participation of public information officers, and sometimes the establishment of a joint information center (JIC) to handle requests for media interviews and other questions.

Safety and Planning Issues Take Priority

The personal safety of the responders themselves must always be a paramount concern. Many mass-casualty events will initially be designated as biohazard areas, which means that first responders and others working at the scene must wear the appropriate personal protective equipment needed. They also must scrupulously follow all safety guidelines. Emergency managers must also take into consideration the

weather, the surrounding terrain, and a number of other variables - including, for example, the possibility that the incident scene might be further contaminated by spilled fuel and/ or that some buildings in the area might be in danger of collapsing. The handling of these and other issues might require that additional safety precautions be followed - e.g., the wearing of safety helmets and/or respiratory-protection masks, and the establishment of decontamination stations (for both the living and the dead). Obviously, the handling of massfatality events can be very stressful both for the responders and for the surrounding community.

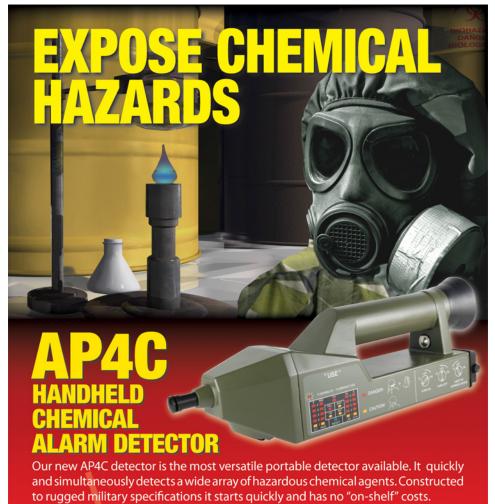
It is important to identify, as early as possible, the local and/or state medical examiners' offices that probably will be the lead agencies in the recovery operations; most of these agencies have extensive quantities of information available, and considerable operational experience as well; both of these invaluable assets can help immensely in the planning and response efforts.

A major federal resource that also is available for assistance, through the Department of Homeland Security (DHS), is the Disaster Mortuary Team (DMORT), Assistance а component of the National Disaster Medical System (NDMS). The DMORT is a federal-level response unit that was created specifically to provide mortuary assistance during and in the aftermath of mass-fatality incidents and similar events.

It is equally important that state and local public-safety agencies and their emergency-management offices discuss and plan, as far in advance as possible, how to handle the types of events discussed above. In doing so, they should be sure to follow previously established local guidelines and procedures as closely as possible. They will find that advance planning, combined with as much individual and group training as can be scheduled, will be the keys to the successful management of any mass-fatality incident that does occur.

August Vernon, an assistant coordinator for the Forsyth County (N.C.) Office of Emergency Management, served a year in Iraq as a security contractor conducting long-range convoy

operations involved in IED (improvised explosive device) and combat missions. He has served in emergency-management posts since 2000 and has been both a member of the fire service (since 1990) and a fire-service instructor; he also served in the U.S. Army as an NBC (nuclear, biological & chemical) operations specialist. He teaches courses in incident management, hazmat operations, and terrorism/WMD response operations, and has written articles on those and other subjects for several national publications. He is available for questions and comments at <u>fdtac@vahoo</u>.



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EMS Operations at Alternate-Treatment Vaccination Centers

By Joseph Cahill, EMS



The administration of vaccines is a critical component of the response to many diseases – not only naturally occurring

diseases such as influenza or chicken pox, but also terrorist attacks in which "bio-weapons" laced with such diseases as small pox or anthrax are used.

Planning for such events has revealed that staffing - more accurately, the lack of enough staff - will be one of the foremost problems likely to be encountered when a disease-centered disaster occurs. Although there would be numerous other problems to contend with - a shortage of medical facilities, for example, and/or various supply-chain deficiencies - the shortage of trained personnel may well be the most important: There simply will not be enough trained people on hand to administer the immense number of vaccinations required in the wake of a large-scale disaster that involves the sudden spread of an infectious disease.

administration The actual of а vaccination is not technically difficult, though, and is well within the skill set of most paramedics. Many state and local planners have, in fact, drawn up emergency procedures that call for the use of paramedics from local EMS (emergency medical services) agencies to provide the staffing needed to deal with the outbreak, intentional or accidental, of a deadly disease.

This approach may, of course, serve as a functional solution in smaller-scale local emergencies such as an isolated outbreak of measles, but dealing with an isolated outbreak is not a major problem in most areas of the country. In fact, the availability of public health nursing staff that can be brought to bear in most isolated events is usually sufficient to meet the probable need.

Fewer Resources Available At the Time of Greatest Need

An important factor to be considered is that any event large enough to stretch the nursing resources throughout an entire region also is likely to be stretching the EMS resources available throughout the same region at that same time. The current prime example of a worst-case scenario is the outbreak of a pandemic influenza – "pan flu," for short. In a real flu pandemic, all areas of the entire country are likely to be in a crisis mode

In a real flu pandemic, all areas of the entire country are likely to be in a crisis mode at the same time, leaving no unaffected area from which to draw additional staff

at the same time, leaving no unaffected area from which to draw additional staff – with a major increase in patient volume and an increase in absenteeism among the overall health care staff further exacerbating the problem.

Although paramedics can make a significant contribution by administering vaccines, the number of people who can "pinch hit" for the paramedics themselves – in an ambulance run, for example – is severely limited both by state laws and by the functional reality that several other EMS tasks must be carried out at the same time. Moreover, although many hospital-based caregivers are capable of providing the level of care provided in an ambulance, it is illogical to plan to use them to cover EMS staff personnel who are not available for

ambulance duty because they are working in a hospital setting instead.

A better solution – the use of lay vaccinators or vaccine technicians for the annual flu vaccine programs – is already in place in some venues, fortunately. The vaccination technique is really rather simple, and well within the scope of what can be taught to anyone who has a modicum of common sense. But it is the screening of potential vaccines and the careful monitoring of post-vaccination patients for adverse effects that requires a more advanced level of technical knowledge, and trained medical staff should be assigned to these tasks.

New York State, to mention but one example of how one state has taken action to cope with the shortage of trained personnel to deal with the vaccination problem, already has a statute in place that specifically allows non-licensed staff to administer vaccines – when authorized to do so by a local or state health officer. This law, which is frequently cited in emergency planning, also is used to support the use of vaccine technicians in the annual flu-vaccine clinics carried out in an ever-increasing number of state and local agencies.

In short, new ways of thinking are going to be required to cope with future largescale public health crises, and local planners will have no choice but to set aside entrenched labor-management positions and other current obstacles for the overall good of the community and the survival of as many infected citizens as possible.

Joseph Cahill is currently a Medico legal investigator for the Massachusetts Office of the Chief Medical Examiner. He also worked as the Exercise and Training Coordinator for the Massachusetts Department of Public Health - Center for Emergency Preparedness - and as an emergency planner in the Westchester (NY) County Office of Emergency Management, and served as a line paramedic for over ten years in the South Bronx and North Philadelphia.

Business and Personal Preparedness – The Key to Collective Survival

By Adam Montella, Health Systems



With the increasing severity and occurrence of natural and manmade disasters during the last two decades, the microscope of public

scrutiny has turned to some unlikely suspects – private industry and individual citizens. The California wildfires, Hurricane Katrina, and the 9/11 terrorist attacks are prime examples of just how damaging a single catastrophic event can be when stakeholders do not adequately prepare.

Aside from their obvious direct effect on the lives and property of individuals, these disasters dramatically affected business operations in the regions involved. Many companies were forced to put their business-continuity plans and IT disaster-recovery infrastructures into action. Unfortunately, many more found that the lack of a plan and, in some cases, the non-availability of enough capable employees, turned an already difficult task into an insurmountable challenge.

In today's "just-in-time-delivery" supplychain environment, basic goods are no longer warehoused awaiting orders. As a result of this major change in the way that most American businesses operate, this efficient but fragile system failed in the immediate aftermath of the 11 September 2001 attacks when critical supplies such as milk and toilet paper were unavailable in many parts of the Northeast. After Hurricane Katrina, to cite a somewhat later and more specific example, automobile manufacturers in Detroit were unable to resume production because a number of the small businesses that produced many of the air-conditioning vents for the industry were destroyed.

For many businesses, the situation appeared to be hopeless. However, in

what seems to be a hopeless situation, the presence of a detailed businesscontinuity plan can *create* hope. Having a disaster-recovery plan for people and critical information assets could make the difference, in fact, between an organization's survival and its demise.

A Workshop Series For Small Businesses

Today, either out of compliance or necessity, an ever-increasing number of the nation's large businesses have plans in place to deal with disaster. However, the continuity of small business operations is often overlooked, despite the fact that small businesses collectively account for most employment and more than half the production of goods and services in the United States. To address this problem, the Homeland Security & Defense Business Council has been hosting a series of national workshops in local communities to equip small and medium-sized businesses with "Critical Success Factors for Business Survival" in the event of a man-made or natural disaster in their home communities. These workshops are designed to educate the owners and operators of small businesses, and other local leaders, of inexpensive ways that they can partner with one another and be better prepared to carry out their responsibilities as business owners and responsible members of the community.

The first of these workshops – titled "Partners in Preparedness Symposium" – was held on 27 September 2007 in observance of National Preparedness Month. Nearly 400 people were in attendance. The American Red Cross of the National Capital Area and the Homeland Security & Defense Business Council hosted the interactive discussion to help businesses within the National Capitol Region prepare to meet 21stcentury risks such as natural disasters and terrorist attacks. The event was cosponsored by council members Bearing Point, Deloitte, Northrop Grumman, Raytheon, and Previstar.

Speakers at the symposium included former Oklahoma Governor Frank Keating, president and CEO of the American Council of Life Insurers; Greg Pellegrino, chairman of the Homeland Security & Defense Business Council and global managing director, Public Sector, of Deloitte Touche Tohmatsu; Darrell Darnell, director of the District of Columbia's Homeland Security and Emergency Management Agency; James C. Dinegar, president and CEO of the Greater Washington Board of Trade; and Linda C. Mathes, CEO of the American Red Cross of the National Capital Area.

Governor Keating, who was in office during the bombing of the Murrah Federal Building in Oklahoma City, is a key partner to the Red Cross and one of the nation's strongest voices in preparing communities for both manmade attacks and natural disasters. The 9/11 attacks and Hurricane Katrina "taught us that bad things will happen," he said. "They also taught us that the public will be unforgiving if we are not prepared."

The symposium led the preparedness efforts down a different and less publicized course: "Preparing Your Business to Survive the Unexpected." To help ensure that businesses are in fact better prepared, the workshop participants were given "Preparedness Toolkits," specially designed for small to medium-sized businesses, compliments of BearingPoint.

At the same event, the Homeland Security & Defense Business Council released *Corporate Responsibility: Why Businesses Should Be Prepared in a World of Uncertainty* – the first in a series of planned "thought leadership" publications that call on large and small

businesses throughout the nation to act to secure the economic engine that all Americans depend upon.

People Must Always Be the First Priority

Many small and medium-sized companies, of course, cannot afford fulltime business-continuity or emergencymanagement personnel. In today's economy, businesses both large and small are being forced to do more with less. The tools created for the symposium help to identify some cost-effective steps in creating the necessary plans. Additional tools – e.g., Previstar's Continual Preparedness System (CPS) – provide a cost-effective means of using technology to serve as a force multiplier.

Last year, the American Red Cross responded to 75,000 disasters nationwide ranging from house fires to local floods to life-altering tornadoes and hurricanes. However, a National Preparedness Month survey conducted by the ARC discovered that only seven percent of Americans have taken the steps necessary to prepare for such disasters. That is obviously not enough, as Darnell pointed out to the 27 September workshop attendees: "Preparedness is everyone's business," he emphasized. "Government can't do it alone. Business, government, citizens, and our partners such as the Red Cross, in the non-profit and volunteer community, must all work together to ensure that all segments of our community are prepared for emergencies of all types."

To address the various ways to meet personal-preparedness needs, the American Red Cross of the National Capitol Area and the Fairfax County [Va.] Chamber of Commerce Women's Business Council presented a second symposium – "Power of Preparedness" – on November 27. That session, supported by Previstar, was attended by some 45 women business leaders in Fairfax County and focused on ways to help participants better understand the impact of the individual's role in businesses preparedness within the community.

Setting the tone for the event was a presentation by Governor Keating's wife, Cathy Keating, former First Lady of the State of Oklahoma. She spoke of her personal experiences on the day of the Oklahoma City bombing, her role and perspective as a parent and community member, and her desire to make Fairfax County and the National Capital Area (her new home) the most prepared and responsive in the country.

What made the Fairfax seminar unique was its focus on the individual and the cascading implications between personal preparedness and community businesses. The seminar also drove home the fact that disasters affect people – first and foremost – and emphasized that numerous interdependent relationships exist between local businesses and the people not only living in the communities those businesses serve but also, many of them, employed by the same businesses. If people do not feel safe, and/or if their families and property are affected by a disaster, they will not be available to assist their employers in recovering from the disaster.

Regardless of whether the reference is to the individual, to a small, medium, or large business, or to a church, school, or government agency, the important thing is to take action. There is a lot of talk - especially after a disaster - about being prepared. But being prepared is not a one-step process, and does not have to be done all at once. Taking even small steps puts an individual citizen, and/or a business, on the right track. But that also is not enough - one must keep moving. As the humorist and philosopher Will Rogers once said, "We may be on the right track, but unless we keep moving, we can still be run over."

Adam Montella, vice president for operations of Previstar Inc., is an emergency-management and homeland-security specialist with more than 23 years of direct experience in a broad spectrum of government and private-industry posts. After the 11 September 2001 terrorist attacks he became the first general manager of emergency management for the Port Authority of New York and New Jersey and helped to rebuild the agency that owned and operated the World Trade Center in New York City.



Thomas J. Lockwood, Senior Advisor DHS Office of Screening Coordination



Mr. Lockwood's views of how the Department of Homeland Security is designing and implementing a common, flexible, and versatile credentialing framework that can be used in a broad spectrum of HLS and incident-management situations.

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<u>Reducing the AN Threat</u> Congress Acts to Prevent Murrah Bombing Repeat

By Joseph Steger, Law Enforcement

Explosive devices remain the weapon of choice of terrorists worldwide. According to the Bureau of Alcohol, Tobacco, and Firearms (ATF), over 200 explosive attacks occurred in the United States in 2003. Most explosive devices in the United States use commercially available chemical compounds as their key ingredients. One such compound, commonly used in the agricultural industry, is ammonium nitrate (AN) - which was the main explosive ingredient in the 1995 bombing of the Murrah Federal Building in Oklahoma City.

The destructive power of nearly two tons of fertilizer shocked America. and U.S. friends and allies around the world, when it killed 167 people - most of them instantly. Timothy McVeigh and Terry Nichols, the two men convicted of the bombing, understood AN's destructive potential and were easily able to acquire a large-enough amount of the compound to commit what at that time was the most lethal terrorist attack ever carried out on the U.S. homeland. (In the world of industrial accidents, the destructive power of AN was most graphically felt in 1947 when nearly 2,300 tons of AN accidentally detonated during transfer operations from a ship in Texas City, near Galveston, Texas. The explosion, which destroyed most of Texas City, remains one of the largest non-nuclear detonations in history.)

The easy availability of AN, coupled with its destructive potential when it is effectively mixed in compound, has made it a particularly attractive weapon component for would-be terrorists. For many years, and particularly since the 1995 destruction of the Murrah Building, U.S. legislators at all levels of government have discussed the sometimes complex pros and cons of regulating the sale, distribution, storage, and security of AN.

The Bureau of Alcohol, Tobacco, and Firearms already has statutory jurisdiction over certain aspects of AN when it is used as an explosive compound. However, some security

Expanded Authority And Tighter Controls

In that Act, Congress – building upon both the Homeland Security Act of 2002 and the existing Chemical Facility Anti-Terrorism Standards (CFATS) – expanded previous DHS (Department of Homeland Security) authority by adding AN facility registration to the list of regulatory tools available to the department. The CFATS standards, issued in 2006, establish a chemical-security

The production, storage, sale, and distribution of ammonium nitrate will be tracked through a registration program – which will include maintaining a database of persons & facilities engaged in the handling of AN

gaps remain in handling AN when it is used as an explosive precursor. In an effort to tighten if not totally eliminate those gaps, Rep. Bennie G. Thompson (D-Miss.), chairman of the House Homeland Security Committee, last year included, in Consolidated Appropriations the Act of 2008, certain chemical-security regulatory authority provisions that focus on AN and take recognition of the fact that, when produced in concentration, it can be diverted from its lawful purposes and be used in the construction of an improvised explosive device (IED).

regulatory capability focused on highrisk industrial chemicals that would be useful to terrorists as precursors for weaponization or toxic releases, and/or that could be otherwise exploitable through sabotage.

Under the new authority granted DHS, the production, storage, sale, and distribution of AN will be documented and tracked by the department through a registration program – which will include maintaining a database of persons and facilities engaged in the handling of AN. Another provision of the new authority permits DHS to check the names of those seeking

registration against the terrorist screening database. Of even greater importance is that DHS can use its new authority to deny the acquisition and/or handling of AN to persons whose identities appear in the terrorist screening database.

The expanded authority also requires the AN manufacturing and distribution industry to promptly report to lawenforcement authorities – within one day – any thefts and/or unexplained losses of AN that occur.

The penalties for manufacturing, purchasing, or transferring AN *without* DHS registration are substantial, moreover; DHS has the authority to impose civil penalties of up to \$50,000 for each violation. The department has six months to develop and start the registration process. The new authority is expected to provide a significant deterrent effect to terrorists simply by documenting the identity of those handling this explosive precursor. To begin with, businesses and individual employees in the AN manufacturing and supply chain will be more alert to potentially suspicious behavior of people attempting to acquire large quantities of high-grade AN.

In addition, thefts and suspicious losses of AN will be promptly reported to police, giving them an early opportunity for interdiction before the missing material is used in an explosive. Finally, law-enforcement agencies throughout the country will have an important new investigative tool – the registration database – to use in post-blast investigations.

Although DHS is required to keep the registration information secure,

the Act provides for sharing such information with federal, state, and local law-enforcement agencies when there is a need to do so. Although the Act may not absolutely prevent terrorists from acquiring this common chemical compound, it does make it more difficult for them to do so with their anonymity assured. In short, even the most determined terrorist will now face a much greater risk of detection in acquiring AN either through the lawful supply chain or by resorting to theft.

Joseph Steger is the pseudonym of a senior law-enforcement commander whose undergraduate background in a pre-medical program led to initial certification as an EMT in 1981. He retained that level of certification for eight years and across three states while serving as a federal law-enforcement officer. Over the years, Steger has worked closely with CONTOMS-trained tactical medics and physicians in numerous situations.



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Regional Hospital Coordination: Common Sense Made Mandatory

By Theodore Tully, Health Systems



Less than 10 years ago the lending of needed supplies to the healthcare organization down the street, in the middle of the

night, was perhaps the best example of coordination, as it was then practiced, involving two or more hospitals or other medical facilities. Hospitals were at that time - and still are, of course - motivated primarily by competition; almost all of them are private-sector businesses and must therefore be economically viable in order to survive. If a community hospital becomes a stroke center it might well motivate other hospitals in the same general geographic area to improve their own ability to handle stroke victims so that they, too, would be accorded that same prestigious designation. In the mid-1980s, hospitals in certain states competed to be designated as trauma centers. Their motivation was simply that, if they were not certified as being able to handle trauma victims, the public might opt to go to another hospital.

In more recent years – i.e., since managed-care systems have spread throughout the United States – the competition between hospitals has escalated to the point that hospitals that are unable to compete may either have to close or be purchased by a bigger and more solvent healthcare system.

Most of the nation's hospitals were required in the 1990s to include emergency preparedness in their disaster plans. If the hospital had been accredited by JCAHO (the Joint Commission on Accreditation of Healthcare Organizations), a hospital administrator probably would be required to produce not only the hospital's emergencypreparedness plan but also two examples of disaster drills that had been carried out during the previous year.

Actual Disasters And Unfunded Mandates

A hospital disaster plan was based on just that: an actual disaster resulting in numerous casualties. The scenario postulated usually was a plane crash, a train crash, a 10-car pileup on the interstate, or an internal fire. Hospitals typically carried out a drill once a year with their community EMS agency in preparation for just such an incident. If a community was fortunate enough to be served by several hospitals in the same general area, they might all participate by getting enough victims to put their plans in place – but it was the very rare community that actually coordinated the response between two or more hospitals.

In 1986, after thousands of deaths had been caused by a toxic release from a chemical plant in Bhopal, India, one of the first attempts was made to require communities throughout the United States to work with hospitals in their home areas to plan for similar emergencies. This planning initiative by the federal government was required by the Emergency Planning & Community Rightto-Know Act (EPCRA – also known as the Title III Superfund Amendments and Reauthorization Act, or SARA). Under the Act, communities were required to set up Local Emergency Planning Committees (LEPCs). Unfortunately, this well-intended requirement amounted in fact to an unfunded mandate and, at least partly for that reason, received little attention from the nation's hospitals.

9/11: A Cataclysmic Turning Point

The terrorist attacks of 11 September 2001 changed hospital emergency planning forever. No longer was it acceptable simply to plan for hospital emergencies in a vacuum. The potential loss of life during major disasters such as hurricanes, a pandemic flu or a smallpox outbreak, an anthrax attack and/or terrorist use of various weapons of mass destruction all made it clear that one hospital, or even a community-wide hospital system, would not be adequate for potential emergencies that really do happen. If nothing else, this dawning realization gave those hospitals that



The online resource for preparedness professionals

already were fearful about business competition something else, and much more important, to fear.

In 2002, though, the allocation of federal grant dollars to community hospitals throughout the country created an important incentive for hospitals to work and cooperate with other hospitals. At the national level, states were given hospital funding for emergency preparedness through the Department of Health and Human Services (HHS). The delivery of such funding was based on demonstrable coordination and cooperation between and among hospitals. States and hospitals had no choice but to demonstrate community, regional, and statewide hospital coordination.

Today, hospital planners sit next to one another on community emergency planning committees. They also share emergency-response equipment, develop "best practices" for various emergency-response situations, and work on ways to communicate with one another during a mass-casualty incident. Most U.S. hospitals still have a long way to go to set up truly emergency-response integrated systems to manage trauma, burns, the outbreak of a pandemic flu, chemical exposures, and other potentially lethal events. However, although they still compete with one another financially, an increasing number of hospitals now also cooperate with one another more closely than ever before in the development and implementation of their emergency planning and response policies and procedures.

Moulage Casts Reality With Mock Injuries

By Shannon Arledge, Viewpoint

At first it appears to be the set of Hollywood's latest horror film: torn tissue, blood, lacerations, broken bones, and even vomit – enough, in other words, to make even the strongest person nauseous and somewhat woozy. But this isn't theater – it's the Center for Domestic Preparedness (CDP) in Anniston, Ala.

The use of artificial injuries in movies and/or for training purposes is not a new concept, and in fact is still evolving. Moulage techniques have been used emergency-response personnel by for quite a few years. Moulage (the term is a French word meaning a mold or cast taken from an impression and used in criminal investigations and for other purposes) comes in many forms, including "imitation wounds" made of rubber or latex that are emplaced on mannequins and/or living role players. Learning the correct use of moulage can be a difficult task. But taking the process a step further by adding makeup and a variety of other materials is a recipe for realistic training.

The CDP has used the art and science of moulage for almost 10 years, but until recently the CDP staff could not create the simulated injuries; they were all made by the private sector and purchased "off the shelf" from various

vendors who specialize in this gruesome science. Today, three CDP staffers provide both experience and art form during emergencyresponse exercises, in which they participate in addition to their regular duties. In early 2007, these artisans received basic moulage training from a local responder. After assisting in moulage applications over а

period of several days while preparing for an emergency-response exercise, the CDP staffers further enhanced their skills in advanced training carried out at the Image Perspectives' School of Moulage in Carson City, Nevada.

The Ancient Heritage Of Modern Realism

"Moulage dates back to the Renaissance," said Delois Champ, manager of the CDP Operations Center. "Moulage is used to provide realistic injuries for exercise and training purposes," she added. "Deep cuts, major trauma, and open fractures take several days to complete prior to applying to the victim." Depending on the severity of the injuries being created, it may take "several hours working on victims," Champ said, to complete a moulage cast or impression.

Exercise planning, including а determination of the moulage requirements likely to be approved, begins a few months before an exercise. Numerous meetings are held to determine both the types and number of injuries required to meet exercise objectives. After the injury requirements have been determined and approved, the moulage team brainstorms on the creation and application of the injuries each of



Theodore Tully has been director of Trauma and Emergency Services at the Westchester Medical Center (WMC) in Westchester County, N.Y., since 1994. Prior to assuming that post he served as a police paramedic/detective and as the Westchester County EMS (emergency medical services) coordinator. He also helped create and administer the WMC Regional Resource Center, which is responsible for coordinating the emergency plans of 32 hospitals in the greater Westchester County area.

the exercise "victims" will exhibit. The smallest details – down to blood pressure and pulse rate – are determined during the brainstorming sessions. "I love being creative and seeing how realistic I can make the wounds appear," said Wendi Feazell of the center's operations and support staff. " ... It affords you the opportunity to meet other staff members. We also have an opportunity to work with responders and get a better understanding of what they could see day-to-day."

The creation and use of moulage is not as easy as it may seem at first glance. The person "behind the makeup" needs a touch of artistic skill and creativity to add the desired effect of realism. "I have always been an artistic person," said Barry Snow, a CDP physical security staffer. "Blisters, cuts, and bruising are the easiest [imitation injuries] for me to create. Most of the materials we use stay in their liquid or workable form for only a short period of time, which requires working very quickly. You also need a very good sense of what the real injury that you are trying to simulate looks like, so the responder can react, diagnose, and treat the injury correctly to maximize the training benefit. In other words, it has to be believable."

High Praise From Users, Artisans

The use of moulage "is an interesting technique that makes our exercises unique," said Feazell. " ... Although we [the moulage staffers] are behind the scenes, I feel a sense of accomplishment by having added more realism that may help a responder in a real situation."

Using moulage as part of the training exercise with live albeit simulated victims helps sharpen the responders' reactions. Their response to a trauma scene could be the difference between life and death, especially with the added stress of having to face, and endure, some unnerving sights.

"Moulage significantly enhances the realism and effectiveness of exercises and training," said Champ. "This [i.e., the application and use of moulage] is a unique skill that enhances my ability to contribute to the CDP's mission."

Using the enhanced effects made possible by moulage "allows role-player victims to simulate their injuries better," Snow added. "It provides realistic training for our responders. I have received comments that the appearance was unbelievable and looked painful."

Each victim in any given exercise is suffering from pre-planned specific injuries and symptoms. The moulage experts usually are on the scene hours before the exercise applying the blood, open fractures, vomit, and lacerations specified in the exercise scenario. "Regardless of the situation or scenario, the addition of moulage adds a whole new emergency twist," Feazell said. "Using moulage changes the makeup – no pun intended – of the exercise. It's no different from theater special effects, and can sometimes be a little scary, but it is always real."

The look and feel of the trauma scene are definitely more realistic when moulage is used as the ultimate training aid. But the casts and molds used to create unsightly injuries are not products pulled off the shelves at the local moulage shop. The injuries simulated usually require hours to create. Supplies such as special makeup, stage blood, blood powder, simulated charred skin, liquid starch, latex, and



gelefects are among the common tools used to build moulage in a variety of imaginative combinations. "I know moulage enhances the training exercise," said Feazell. "This specialized technique prepares the responder for real-life emergencies."

Moulage may not be for the squeamish, but it does provide, and promote, a more realistic training environment. The use of moulage techniques prepares responders for real-life emergencies using a method that commands an immediate response and insight to potential injuries. "The bottom line," Feazell emphasized, is that "what is realistically experienced is better learned and retained."

For further information about FEMA's Center for Domestic Preparedness, visit <u>http://cdp.dhs.gov</u>.

Shannon Arledge is the public information specialist at the FEMA (Federal Emergency Management Agency) Center for Domestic Preparedness in Anniston, Alabama. A retired Marine gunnery sergeant, he served in numerous public affairs/public information assignments during his 20 years on active duty, including tours of duty at Marine Corps Headquarters, the Defense Information School, and the Marine Corps Air Station in Cherry Point, S.C. During the latter assignment he deployed to the Persian Gulf in support of Operation Enduring Freedom as chief of public affairs for Marine Forces U.S. Central Command.

<u>Commentary</u> Election-Year Realities, and the Promise of Change

By James D. Hessman, Editor in Chief



One primary election and one caucus down, and only 48 states to go. The quadrennialU.S.presidential election process, front-

loaded this year as never before, is well underway. By the time the candidates of the two major parties (with one or more viable third-party candidates a real possibility) have been officially nominated, most Americans should have a relatively clear understanding of what those candidates, and the parties they represent, stand for.

In a year when "change" is being described as the quintessential key to electoral success, this increased public comprehension of important issues should be a major step forward on the long and tortuous road toward the "more perfect Union" envisioned in the preamble to the Constitution.

It must not be assumed, though, that all changes are necessarily for the better. Most military experts, and a growing number of political pundits, now seem to agree, for example, that an immediate withdrawal of most or all U.S. troops from Iraq immediately after inauguration of the next U.S. president, as some Democratic candidates previously had been urging, might not be such a good idea after all.

On the other hand, it does seem increasingly probable that there will be at least a partial withdrawal of U.S. troops from Iraq this year, with a larger phased withdrawal of additional troops promised for next year. If that turns out to be the case, a carefully considered and phased reduction in U.S. defense spending also might be justified. The possibility that the funds made available from these defense cutbacks might be used to lower the national debt is not yet being seriously considered, though, and it will be difficult for either party to resist proposals to use the so-called defense "savings" to fund at least a few politically popular domestic programs.

The Voice Of the American People

So far, fortunately, no candidate in either of the two major political parties has called for a parallel reduction in funding for homeland-security and domestic-preparedness programs - just the opposite, in fact. Thanks in large part to Hurricane Katrina and other weather disasters, the bridge collapse in Minnesota, the fires in California, and a broad spectrum of other masscasualty events and incidents including the abortive 2001 anthrax attack on the U.S. Senate - the American people now seem to recognize the need to invest even more funds in homeland defense than have been allocated in recent years.

In keeping with the intuitive recognition that homeland defense begins at home, it can be taken for granted that almost all Americans - and their elected representatives in the U.S. House and U.S. Senate - would approve additional spending for state and local domestic-preparedness programs. Numerous polls and surveys show almost equally strong support for rebuilding, maintaining, and protecting the nation's critical infrastructure, for the recruiting and training of additional firefighters, law-enforcement personnel, and other first responders, and for the development, testing, and fielding of new communications, detection, and sensor systems of all types.

The voice of the American people is being heard every day on all of

these matters – and on a great deal more. Except for the War of 1812 the American homeland was virtually immune from foreign attack for more than two centuries. There were a number of terrorist attacks during the Cold War and post-Cold War eras, but these were relatively few and far between – and except for the first (1993) attack on the World Trade Center almost always occurred overseas.

These are important truths that politicians at all levels of government should keep in mind during this election year. The word "change" seems to imply new, different, better. But it is none of these if it is a change *back* – to old ways of thinking, to defense and homeland-security policies that did not work before and would not work now, to a rejection of the many recent *adverse* changes in world affairs that have occurred in recent years.

What is really needed, it should be obvious, is a change in thinking. Instead of reacting to events after being taken by surprise – once again – the nation's leadership, in both the legislative and executive branches of government, would be well advised to plan, in advance, to meet a broad spectrum of worst-case scenarios that threaten the life, liberty, and happiness of the American people. That truly would be a change for the better, and one worthy of universal respect.

James D. Hessman is former editor in chief of both 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. Hessman received a commission in the Navy following his graduation from Holy Cross College and served on active duty for more than ten years in a broad spectrum of surface warfare and public-affairs assignments.

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COTPs Updating Port Plans to Combat Maritime Terrorism

By Christopher Doane & Joseph DiRenzo III, Coast Guard



Successfully combating maritime terrorism within a U.S. port requires a coordinated effort among federal, state, local, and

private-sector security forces. То coordinate the multi-force effort required involves extensive joint planning, well ahead of time, between and among the numerous stakeholders involved. In accordance with guidelines mandated Maritime Transportation in the Security Act (MTSA) of 2002, it is the responsibility of the Coast Guard's Captains of the Port (COTPs), serving as Federal Maritime Security Coordinators, to facilitate such planning.

The same Act also requires the preparation and implementation of specific facility and vessel security plans, as well as broadly based Area Maritime Security Plans, as the principal instruments to be used in developing a comprehensive, multi-force/multi-layer security blueprint to upgrade the safety of U.S. ports. All such plans not only must be approved by the Coast Guard but also have to be updated regularly, according to the MTSA. As the next updates come due, the service's COTPs are employing proven planning processes to ensure that the newest versions of the plans effectively reduce the risks posed to specific ports by the threat of maritime terrorism.

Before any plans for combating maritime terrorism can be written, much less implemented, however, a painstaking analysis must first be carried out. Planners must complete a comprehensive systems analysis of their facilities, vessels, and/or infrastructure facilities identifying critical nodes (i.e., persons, places, or things) related to or significantly involved in public safety, port operations, economics, and environmental protection. At the port level, the primary goal is to identify various "centers of gravity" in and/or affecting the specific port for which an area security plan is being written. Most if not quite all centers of gravity are highconsequence nodes the destruction of which would result in both a significant loss of life and a crippling of the port's ability to function.

Critical linkages such as transportation systems that support the critical nodes also must be identified. This part of the analysis requires full participation from all stakeholders in the entire port community to develop a comprehensive understanding of what is, in even a best-case scenario, an extremely complex system.

A View from the Viper's Nest

A particularly challenging element of the systems-analysis process is the need to develop it not only from the perspective of the numerous stakeholders involved, but also from the perspective of a potential terrorist. This is another way of saying that what seems to be important from a government (federal, state, or local) or private-sector perspective may not be nearly as important from a terrorist's point of view. COTP planners and port stakeholders must therefore try to understand terrorist goals and objectives, particularly the results that terrorists are seeking to achieve through an attack on a U.S. port. Obviously, developing the terrorists' perspective will (or should) help identify the most likely terrorist targets within or in the vicinity of a specific port.

The next step in the analysis should be to assess various vulnerabilities associated with the centers of gravity that have been identified. This separate "vulnerability assessment" should be based on the best information currently available on terrorist methods and capabilities, both at the present time and for the foreseeable future – i.e., the period before the next planning update is scheduled. The primary goal in this step of the planning cycle is to identify the most plausible attack scenarios likely to be encountered. Planners should use this information to determine not only the most probable methods of attack but also the potential consequences of a successful attack.

After planners have identified the local centers of gravity - i.e., the specific targets most likely to be attacked, and how (and perhaps when) an attack is likely to be carried out - the next step is to determine how best to protect the port. The security actions required can take many forms, of course, carried out at many levels. At the facility level, for example, owners/operators might modify their operational processes to reduce the potential consequences of an attack, institute security measures to protect critical infrastructure, and both develop and implement a broad spectrum of similar measures.

At the port level, local, state, and federal law-enforcement and security agencies can carry out coordinated directsecurity operations to defeat attacks and to minimize adverse consequences after an attack has been launched. Of undoubtedly greater importance, though, they can initiate a broad spectrum of defensive policies and operations designed to prevent terrorists from mounting an attack in the first place.

Prevention Is the First Priority; Recovery Comes Next

To conduct effective preventive operations, however, planners first have to identify the critical capabilities that terrorists must possess to carry out a successful attack. To conduct a suicide-boat attack, to cite but one plausible example, a terrorist group probably would need not only trained people and relatively fast and maneuverable boats, but also a dependable fuel supply, explosives, a safe base of operations, intelligence information, and other tangible assets of various types. Local security forces seeking to prevent a terrorist attack, therefore, would have to conduct operations designed to keep a terrorist group from assembling and/or exercising these critical capabilities and assets.

This is, in fact, the essence of maritime domain awareness – i.e., the deployment of trained personnel, equipment, and sensors in such ways that any attempt by terrorists to organize an attack would be detected ahead of time, and defeated before it could start. Stopping attacks before they can be organized, rather than "defeating" an attack after it has been launched, must therefore be the principal focus of port security forces.

As the next phase of facility, vessel, and/or port-level security plans are developed, the Coast Guard's Captains of the Port are pursuing an all-inclusive approach to ensure full participation from all portsecurity stakeholders. The COTPs and other planners must ensure they have a comprehensive understanding of their port - not only as a system, but also both its centers of gravity and its vulnerabilities. They then would have to develop an expert understanding of the enemy: his goals, capabilities, and methods of operation. Armed with this information, they will be able to develop and disseminate a unified plan for defeating attacks - or, more importantly, preventing terrorist attacks from being launched. The keys are a close and continuing partnership between and among the numerous agencies and stakeholders involved, and detailed indepth knowledge of not only the port itself but also its potential enemies.

The views expressed herein are those of the authors and are not to be construed as official or reflecting the views of the USCG Commandant or of the U.S. Coast Guard.

Ohio, Indiana, New York, and Kansas

By Adam McLaughlin, State Homeland News



<u>Ohio</u> Columbus PD Will Use Virtual Technology to Enhance Response

The Columbus, Ohio, Police Department plans to use virtual technology, beginning sometime in 2009, to combat terrorism in that city. The department is working with Athensbased Ohio University to create accurate interactive models of 30 highprofile city buildings and other sites that are likely targets for terrorist attacks or other violent incidents.

The two-year project, awarded to the university's Telecommunications and GRID (Game Research and Immersive Design) Lab, is under the supervision of a police department unit called the Urban Area Security Initiative Terrorism Early Warning Group. The university plans to use a \$702,000 federal grant to develop the technology needed to obtain the results anticipated.

Columbus police will use the virtual technology to improve the effectiveness and reliability of its emergency-response operations, according to the designers of the project. First responders will be able to gain access to the data, and to the models available, both in the field (via wireless laptop PCs) and at a local precinct (by calling up information tailored to a specific area of the city).

The virtual models will exploit the capabilities provided by several new technologies, including 360-degree photography that provides views of the potential target sites from every angle, and what is called immersive video – which allows real-world scenes to be recorded from every direction at the same time. In addition, software

will be installed in the system to provide 3-D user control of variable playback speeds and the viewing direction desired.

The virtual models will exploit the capabilities provided by new technologies, including 360-degree photography and immersive video – which allows scenes to be recorded from every direction at the same time

The system also will incorporate GPS (global positioning system) and IGS (inertial guidance system) technology to provide highly precise tracking and positioning information. When it becomes operational, the virtual-reality system will use IGS to check the positions of key sites throughout the city when GPS satellite links are not available. The advantage of using IGS, according to the projects' planners, is that, once it has been "initialized," it will require no external references in order to determine its position, orientation, or velocity.

Columbus officials said that the police department plans to launch the system sometime in the spring of 2008 and to have it fully operational by the fall of 2009. The virtual-reality pilot program comes under the department's overall portfolio of plans and preparations for homeland security response and recovery, according to Lt. Fred Bowditch,

Christopher Doane (pictured) and Dr. Joseph DiRenzo III are visiting senior fellows at the Joint Forces Staff College in Norfolk, Virginia, and adjunct faculty members for Northcentral University in Prescott, Arizona. They write and lecture frequently on maritime and port-security issues, and are regular contributors to DOMPREP.com. Both authors are retired U.S. Coast Guard officers.

commander of the department's Terrorism Early Warning Group.

The university also will combine additional databases – e.g., GPS data and measurements – with the images received, and when appropriate will even use video-game technology to enhance the images received. The game technology will allow police to move the images around as if they were avatars — i.e., fully mobile "virtual people" — in a video game. The project designers said they expect the avatar feature to significantly improve the interactive nature of the virtual-reality system.

<u>Indiana</u> Launches Statewide Hazards Reporting System

Indiana is unveiling a new standardized system to report conditions across the state and keep Indiana residents safer during severe weather and other hazardous situations – including but not limited to fires, floods, utility failures, major accidents, public health emergencies, thunderstorms, and acts of terrorism.

"Under the previous system, there was a large variation in reporting standards, which resulted in confusion for the media, the general public, and emergency personnel," said Gregory Dhaene, director of the Response and Recovery Division of the Indiana Department of Homeland Security (IDHS). "Standards in many of the state's 92 counties were different" from one another, he said, and that "made it difficult to decipher the conditions reported throughout the state – or, in some cases, between neighboring counties."

The new system is a collaborative effort between IDHS, members of the state's Emergency Management Alliance, numerous county emergencymanagement directors, and the Indianapolis Office of the National Weather Service.

of the counties involved Each will local authority, retain officials said. The various county emergency-management directors will assess, determine, and report local conditions at the level they deem most appropriate. If a local emergency is declared, the county commissioners still will retain the authority they need to determine the type of restrictions that will be drafted into the local declaration.

IDHS director J. Eric Dietz lauded the efforts of the numerous organizations and agencies involved to develop an important new statewide system so quickly. "Creating and implementing a new system across an entire state is a great accomplishment," Dietz said. "To bring a streamlined, easierto-understand structure like this to fruition so rapidly ... ultimately will lead to greater efficiency, increased public awareness, and, most importantly, an increase in the personal safety of more than six million Indiana residents."

<u>New York</u> NYC Seeks to Deploy More Bioweapons Sensors

New York City officials have quietly activated some of the nation's newest generation of early warning sensors to detect a biological attack, turning on a limited number of filing-cabinetsized air filters last month in highly populated areas of Manhattan. Some NYC officials said, though, that their initiative was not supported by the White House, and that the Bush administration has not been encouraging deployment of the new sensors.

If true, those charges represent a major change in the administration's position of five years ago, when the White House not only was prodding local

authorities to move faster to detect the use of biological weapons but also allocating hundreds of millions of dollars for a broad spectrum of biosecurity-related initiatives. One reason for the administration's seemingly diminished sense of urgency, of course, may be that the new sensors, which cost an estimated \$100,000 per unit, have not yet been certified to be both reliable enough and affordable enough for widespread deployment. Competing budgetary demands may also have been a factor in the administration's diminished enthusiasm.

"We would like to see a little bit more focus in that area [biosecurity], and I think the federal government could do a better job," New York Police Commissioner Raymond W. Kelly said in an interview earlier this month. He apparently was referring to the desire expressed by NYC officials for more detectors and enhanced capabilities under a federal government program known as BioWatch. Air samplers were installed throughout more than 30 major U.S. cities in 2003, under the BioWatch program, to detect the airborne release of biological-warfare agents such as anthrax, smallpox, and other highly lethal pathogens.

BioWatch was meant to speed up the response capabilities of state and local, as well as federal, health authorities in the critical hours before a disease could spread and symptoms started to appear in the people infected. More than \$400 million has been spent to date under BioWatch, but officials in New York City and elsewhere say that the older air samplers installed under the program do not work as well as intended.

The principal problem with the BioWatch program, apparently, is that there is a major time lag between infection and detection. The older samplers catch airborne particles in filters that are manually collected once

a day and taken to a laboratory for analysis, a process that translates into a built-in delay of 24 hours or more before a pathogen can be detected. Critics of the earlier system say there also have been a number of false alarms generated by the earlier program, as well as some quality-control problems and limits on the system's size.

New York City officials say they prefer the new Autonomous Pathogen Detection Systems model developed by Lawrence Livermore National Laboratory and activated last month with federal support. The new systems can automatically sniff the air hourly for up to a week, unattended, and can identify up to 100 harmful diseases; they also can carry out two types of genetic and biochemical reaction tests, preserve live specimens, and transmit the results immediately to a laboratory or other facility monitoring the systems.

<u>Kansas</u> KSU Co-Hosts Workshop For HLS Degree Program

Kansas State University (KSU) and the U.S. Army's Command and General Staff College (C&GSC) co-hosted an educational needs analysis workshop on 4 January in the Lewis and Clark Center at Ft. Leavenworth, Kansas. The workshop focused on the need for a regional homeland-security (HLS) degree program.

Shawn Cupp, an assistant professor at C&GSC, said that about nine months of planning went into the workshop, during which local and national-level experts representing a broad spectrum of homeland-security topics and disciplines presented not only their opinions on the need for a degree program but also their recommendations on the subject areas that the program's curriculum should cover.

Cupp co-organized the event with KSU's Dr. Cheryl Polson, who noted that

the university has provided academic degree programs on post for C&GSC faculty and students, and for the Fort Leavenworth community at large, for almost 30 years. "When CGSC asked K-State to explore the possibility of jointly sponsoring the creation of a new academic degree program related

The approach adopted by the organizers was to gather a large number of experts who have specific experience in homeland-security situations, pool their expertise and individual inputs, and then build a curriculum

to homeland security," she said, the request "... was seriously considered. The homeland security educational needs analysis workshop was the first step in this process."

KSU Provost and Senior Vice President Dr. M. Duane Nellis said the approach adopted by the program's organizers was to gather in one place a large number of experts who have specific experience in a variety of homelandsecurity situations, pool their expertise and individual inputs into the process, and then build a curriculum around what those experts believe are the essential elements that should be covered in a quality program leading to the award of an accredited degree.

The workshop opened in Marshall Lecture Hall with comments by Major

General Tod M. Bunting, adjutant general of Kansas. As adjutant general, Bunting is the director of Homeland Security for the state, overseeing both the Kansas Army National Guard and Kansas Air National Guard components and the state's Division of Emergency Management.

Bunting focused much of his opening address on the state's plans for "Crisis City," a multi-use homeland-security training facility to be located at the Great Plains Joint Regional Training Center in Salina, Kansas. He said that the facility will provide realistic homeland-security training not only for the military but also for civilian responders.

Workshop attendees spent most of the day divided into small working groups. With the help of a facilitator, each group answered discussion questions and offered expertise during three sessions. The session topics were "Homeland Security as a Profession and Field of Study," "Defining Specializations and Interest Areas," and "Defining Specialization Content Areas."

Before the participants broke up into the smaller groups, KSU professor Charles Griffin told the attendees he was in awe of the accumulated experience, knowledge, practice, and wisdom represented by the group. Griffin, who served as lead facilitator for the workshop, acknowledged that the atmosphere was appropriate for a long-term discussion, but also suggested that the agenda for the day was perhaps a bit ambitious, and asked the experts to stay focused on their group as well as individual goals.

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.

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Measuring Preparedness: One Step at a Time Frederick "Skip" Burkle, Jr., MD, MPH, DTM, Senior Scholar, Scientist, and Visiting Professor with The Center for Disaster and Refugee Studies at the Schools of Medicine and Public Health, Johns Hopkins Medical Institutions: Senior Fellow at the Harvard Humanitarian Initiative at the Harvard School of Public Health.

The Biological Time Bomb: Local, State, and Federal Response to Emerging Infectious Threats

Richard Preston, PhD. Preston's books have cemented his status as a first-rate investigative journalist and gifted storyteller, as well as put him in the forefront of the emerging diseases and biotechnology arenas. The *Hot Zone* introduced the world to the threat of Ebola and other viruses. In The Cobra Event, also an international best seller, Preston turned his attention to the threat of biological terrorism.





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