



BioPreparedness

An Unending Search

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Business Office
517 Benfield Road, Suite 303
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www.DomesticPreparedness.com
(410) 518-6900

Staff

Martin Masiuk
Publisher
mmasuk@domprep.com

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

John Morton
Managing Editor & Interviews
jmorton@domprep.com

Dan Brethauer
Sales Support
dbrethauer@domprep.com

Susan Collins
Creative Director
scollins@domprep.com

Sharon Stovall
Web Content Coordinator
sstovall@domprep.com

Carole Parker
Database Manager
cparker@domprep.com

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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

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Editor's Notes

By James D. Hessman, Editor in Chief



As the cover photo suggests, this November printable issue of *DomPrep Journal* puts special emphasis on the potential terrorist use of biological and/or chemical weapons against Americans – not only overseas but also on the U.S. homeland. The issue not only starts off with a report, by Joe Posid of the Centers for Disease Control and Prevention in Atlanta, on the CDC's months-long analysis and investigation of the 2001 "Amerithrax" attack against Congressional offices on Capitol Hill, but also includes a companion article by Shannon Arledge on the TERT (Technological Emergency Response Course) offered at the Center for Domestic Preparedness in Anniston (Ala.) – which uses "live" agents in its training – and concludes with a grim reminder, by Steven Harrison, that the potential for a global avian-flu pandemic, not as well publicized in recent months as it had been earlier, still exists and, if anything, has grown in both scope and magnitude.

Not all of the news is bad, though. Also included in the issue are: (a) A report by Kay Goss on the construction and/or upgrading of emergency operations centers in numerous communities throughout the country; (b) An insightful analysis, by Joseph Cahill, on how the federal government, Louisiana, and the City of New Orleans used the tragic lessons learned from Hurricane Katrina to meet, and defeat, Hurricane Gustav; (c) A special Webinar introduction, by Adam McLaughlin, on the step-by-step and hugely successful effort by New York and New Jersey officials and first responders to develop, *beforehand*, an effective plan to cope with a terrorist *underwater* attack on a passenger train carrying almost a thousand commuters from the Exchange Place station in New Jersey to the World Trade Center station in New York City. (Cahill also provides some helpful hints on the development, use, and funding of a multi-purpose first-responder equipment inventory; and McLaughlin fills his monthly "States of Preparedness" section with timely updates on recent homeland-security upgrades in California, Georgia, Maryland, and Texas.)

But that's not all! Rounding out the issue are: (1) an already much-discussed "Open Letter to President-Elect Obama" from *DPJ* Publisher Martin (Marty) Masiuk urging the nation's next commander in chief to insist on much closer cooperation between and among the Department of Defense, the Department of Homeland Security, and the Department of State; and (2) two intriguing features on topics that, to most if not all Americans, are out of sight – and therefore, unfortunately, sometimes out of mind as well. The first of those articles, by Neil Livingstone, discusses the almost-mile-high Burj Dubai Tower now under construction, the spectacular target it provides for terrorists, and the various common-sense steps (plus some innovative ones) that can be taken to enhance its security. The second article, by Joseph DiRenzo III and Christopher Doane, points out that the new offshore energy platforms already built, or slated for construction in the near future, will add significantly to the already immense workload of the U.S. Coast Guard – which, although both overcommitted and undermanned, gallantly remains *Semper Paratus*.

About the Cover: The possibility that terrorists will use biological or chemical weapons against American naval/military personnel is a growing concern for U.S. commanders overseas. Here, Senior Airman Joshua Burns drops samples of a training agent into a biological-testing kit while Staff Sergeant William Hall (in background) uses a stopwatch and notifies the control center of the start time during a bioweapon-detection test at Tallil Air Base in Iraq. (U.S. Air Force photo by Tech. Sergeant Bob Oldham.)

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DomPrep Channel Masters

First Responders:

Glen Rudner
Fire/HAZMAT
grudner@domprep.com

Joseph Cahill
EMS
jcahill@domprep.com

Kay Goss
Emergency Management
kgoss@domprep.com

Joseph Watson
Law Enforcement
jwatson@domprep.com

Joseph Trindal
Law Enforcement
jtrindal@domprep.com

Medical Support:

Jerry Mothershead
Hospital Administration
jmothershead@domprep.com

Michael Allswede
Public Health
mallswede@domprep.com

Updates:

Adam McLaughlin
State Homeland News
amclaughlin@domprep.com

Infrastructure:

Neil Livingstone
ExecutiveAction
nlivingstone@domprep.com

Funding & Regulations:

Diana Hopkins
Standards
dhopkins@domprep.com

Borders & Ports:

Joseph DiRenzo III
Coast Guard
jdirenzo@domprep.com

Christopher Doane
Coast Guard
cdoane@domprep.com

Military Support:

Jonathan Dodson
National Guard
jdodson@domprep.com

ATACS, CDC, & Bioterrorism Preparedness

By Joe Posid, Public Health



In 2001, the Centers for Disease Control and Prevention (CDC) conducted an investigation and response to the release of *Bacillus anthracis* (the causative agent of anthrax) in the U.S. postal system. Approximately 1,700 CDC staff members worked on more than 20 teams at CDC headquarters in Atlanta, Ga., and in the field during this investigation and response. Federal, state, and local agencies collaborated with CDC to mitigate the public-health impact of the intentional anthrax release. Although most of the CDC staff members involved had never worked on a bioterrorism response before, their basic skill sets (e.g., epidemiology, laboratory, environmental microbiology, and public information) were needed to meet the potentially massive threat. After the event, CDC officials learned that many staff members had spent valuable time searching for documents, including patient management guidelines, lab protocols, clinical and immunization protocols, and on-call rosters.

The speed with which CDC responded to the 2001 threat would be equally essential to the success of an investigation of any infectious-disease outbreak. The CDC participants recognized the need for a comprehensive information system that would be a one-stop database for both headquarters and field personnel. The new system also would provide important information for staff members working on large-scale events outside of their own areas of expertise.

The system used in 2001 and since is called the All Threats Agent Content System (ATACS) – a name selected because it not only provides information on infectious-disease threats but also can be expanded to include information on non-infectious agents – e.g., chemicals as well as radiation and nuclear materials

– that could, if released, have profound public-health consequences.

When Time Is of the Essence

Because ATACS was intended primarily for use by experienced public-health professionals with a limited amount of time available to search for information, the system needed to be: (a) quick; (b) intuitive; (c) secure; and (d) searchable. The design of the system was based on an organizational model created during the 2001 anthrax event. CDC staff started by creating a columnar matrix to represent pathogens of interest (e.g., plague, smallpox, tularemia, botulism, anthrax, and viral hemorrhagic fever), crossed by rows representing several categories of critical components. Content information appears when the user navigates to the intersection of any agent and any critical component.

The critical-component categories listed are: emergency-response plans; media/communications outlets; quarantine information; environmental microbiology information; patient-management guidelines; investigational/research informational materials; epidemiology/surveillance information; professional information; a list of vaccines and pharmaceuticals; food information; the names of public-health partners; water information; infection-control information; public information guidelines; and both zoonotics and laboratory information.

In addition to the pathogen-specific information, the CDC staff included cross-cutting content across the pathogens. This section contains critical components common across all pathogens and procedures that do not require frequent updates, specifically including the following: clearance procedures; communications/media instructions; deployment protocols; information-technology (IT) guidelines;

other preparedness/response plans; lists of public-health partners; quarantine regulations; select agent lists; shipping regulations; strategic national stockpile locations; and lists of subject-matter experts/points of contact.

One ancillary benefit provided by use of the ATACS system is its ability to assess (not measure) various levels of preparedness. For example, each matrix box includes certain definitive content. Empty matrix boxes clearly imply, therefore, a knowledge gap for that particular component. In turn, the information gaps not only prompt adjustments to the CDC's strategic-research agenda but also provide a method to facilitate improvements in the overall level of agency preparedness.

ATACS-like systems can easily be adapted by other organizations whose staff perform duties similar, but not identical, to their normal responsibilities during significant events. Moreover, ATACS need not be limited to terrorism or bioterrorism events; CDC recently enhanced ATACS to include pandemic-influenza information that would be helpful in preparing for an influenza pandemic. This enhancement will allow hundreds of CDC staff personnel to work more effectively in the future on a pandemic-flu response, even if influenza is not necessarily in their own areas of expertise.

Joe Posid, the principal author of this article, is an emergency response coordinator who since 2001 has worked in CDC's Coordinating Center for Infectious Diseases and the center's Coordinating Office for Terrorism, Preparedness, and Emergency Response. Also contributing significantly to the preparation of the article were: Julie T. Guarnizo, a Northrop Grumman contractor with CDC's Division of Bioterrorism Preparedness and Response; Molly Kellum, a CDC laboratorian and program/policy liaison who has worked in several CDC divisions dealing with infectious diseases and environmental emergencies; and Cathy Stout, a former public-health advisor and recent CDC retiree who worked for six years on the development and implementation of the ATACS system.

Emergency Operations Centers

The Heartbeat of Disaster Management

By Kay C. Goss, Emergency Management



Emergency Operations Centers (EOCs) are complex facilities to design and build. Many emergency managers and other participants in response operations may be involved in only one new facility or only one remodeling during their careers. To begin with, it is a major challenge to obtain funding for an EOC that is designed not only to meet the needs of all partners and participants but also to take into account all of the critical factors and forces involved. Options for laying out functions in an operations room, and the relationships among designated spaces, are only two of many key factors to consider. In addition, the technology that is both available and accessible plays a huge role – e.g., audio-visual displays that make facilities media-friendly, the wireless capacity that makes a virtual operation possible, and the geographic information system that makes damage assessments readily available. Trends in the construction of new facilities and staffing issues for new facilities are increasingly offering numerous innovative options for configuration.

However, it is the incident action plans (IAPs) put into place in advance (in collaboration with all of the stakeholders involved), the professional leadership of the partners – honed and developed in joint planning, training, and exercises – and the resourcefulness of the participants that make or break an EOC's effectiveness. Other keys to success are management ability in a command-and-control environment, overall resource-management capabilities, and the mutual-aid arrangements reached through pre-arranged understandings

such as Emergency Management Assistance Compacts (EMACs),

It also is essential that the facility possess both survivability and redundancy, or there could be a repeat of the situation that occurred when New York City's EOC, which was located in the World Trade Center at the time of the 9/11 terrorist attacks, was itself destroyed. A well-equipped EOC features excellent and redundant communications, so that decision makers will have ready access at all times to real-time situational awareness. Flexibility also is required of all participants, so an open architecture is a plus (provided, though, that security can be maintained at the highest levels).

Changes in Guidelines And Funding Rules

A change in federal guidelines and in funding during the current fiscal year has opened opportunities for additional communities to consider how they might upgrade an existing EOC or build a new one. Under the Emergency Management Performance Grant (EMPG) program, federal funds can be used for the construction and/or renovation of emergency operations centers. However, construction and renovation costs are capped at the same level as in the fiscal year 2008 EOC guidance: \$1 million for construction; and \$250,000 for renovation. Nonetheless, EMPG will still be the fiscal backbone of emergency management across the country at the state and local levels; the fiscal 2009 rules require that 25 percent of this year's allocations be spent on planning, training, and exercises.

The physical structure of the center is less important, however, than the competency of the professionals who staff it. They must have the ability to respond effectively and authoritatively to any possible disaster, and should also be able to think outside the proverbial box when confronting the robust uncertainties of the emergencies and disasters that have occurred so frequently in recent years.

The DHS/FEMA guidance provided for the Incident Command System/ National Incident Management System (ICS/NIMS) and the National Response Framework (NRF) set the stage for successful EOC operations. The National Fire Protection Association's "1600" guidelines – available from the NFPA website (www.nfpa.org) and similar guidance from the Emergency Management Accreditation Program (www.emap.org) both provide a good foundation for an effective response.

A Multi-Faceted Mandate for Excellence

Following are some of the more important incident-management guidelines mandated by those policy documents:

- The entity shall develop an incident management system to direct, control, and coordinate response-and-recovery operations.
- The same incident-management system shall describe specific organizational roles, titles, and responsibilities for each incident-management function.
- The entity shall establish applicable procedures and policies for coordinating response, continuity, and recovery activities with stakeholders

directly involved in response, continuity, and recovery operations.

- The entity shall establish applicable procedures and policies for coordinating response, continuity, and recovery activities with appropriate authorities and resources, including the activation and deactivation of plans, while ensuring compliance with applicable statutes or regulations.

Under the Emergency Management Performance Grant program, federal funds can be used for the construction and/or renovation of emergency operations centers

- The emergency operations/response shall be guided by an incident-action plan or by a management-by-objectives approach.

The number and titles of personnel working in the EOC may vary from community to community and from disaster to disaster, but usually will include some combination of the following: an emergency manager; a fire chief or battalion chief; a police chief; a public works director; the city manager; a recreation and parks director; a school superintendent/principal; a health director; an environmental director; a water, sewer, and sanitation director; a number of chamber of commerce/business

leaders; some media representatives; one or more FEMA officials; a county manager; the city mayor (or his/her representative); a county manager (or his/her representative); a sheriff; and members of the National Guard.

Also likely to be working in the EOC will be representatives of various non-governmental charities that usually play an active role in coping with disasters – e.g., the Salvation Army, the American Red Cross, the Southern Baptist Convention, the United Way, the Interfaith Alliance, the National Council of Churches, Catholic Charities, and the United Jewish Federation.

Regardless of the specific individuals involved or their formal positions, it is helpful in an EOC setting to keep in mind the basic principles of emergency management – with every participant/stakeholder being collaborative, comprehensive, progressive, risk-driven, integrated, coordinated, flexible, and professional. When all participants possessing these valuable qualities join forces to respond to and help a community recover from a disaster, the result will almost always be not only a magnificent display of community spirit but also a willingness to focus on the common good to bring about a brighter and more positive future for all concerned.

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

Filling the Equipment Inventory: Some Relevant Questions

By Joseph C. Cahill, EMS



Today's paramedics have available to them a wide variety of equipment and a vast array of medications. The selection of the equipment is often not decided by the paramedics themselves. A common-sense selection program, though, will represent the end user's preferences, and seek to position the equipment as close as possible to the patient(s) being cared for.

The process for evaluating a piece of equipment is fairly straightforward. The best processes start with a need – i.e., either an identified gap in the current treatment provided by the emergency medical services (EMS) system or a mandated addition/change in that treatment. In deciding what equipment to purchase, members of the equipment selection team should ask themselves some basic questions, including the following:

(1) What does this item add to the paramedic's diagnostics or treatment capabilities?

There are almost as many features as there are manufacturers of a specific type of device. Deciding which meets the need of an individual EMS service is often a simple matter of weighing the desired feature against the features that come with the specific device.

A *diagnostic* function allows the paramedic to determine the cause of the patient's illness or injury, whereas a *treatment* function allows him to correct – and/or arrest or at least slow down – the disease process.

It is not enough, though, that an equipment feature allows the paramedic to diagnose a condition he (or she) otherwise would not be able to – the paramedic also must possess the capability to treat that condition and/or

facilitate the speed and/or efficiency of treatment at the hospital.

The capacity to treat a particular condition need not be inherent in the feature or device; a separate capacity to provide treatment usually would be enough. To be truly effective a treatment should be either life-saving or should correct a condition that causes severe pain or other problems.

(2) How much does it weigh and how convenient is it to carry?

Paramedic equipment must be both portable and rugged. The author's personal experience in New York City suggests that a two-person paramedic team will consistently be able to carry about 75 pounds of gear to a patient's (or victim's) bedside. When more gear is required, the team will have to decide which equipment items are the most essential and which are the least useful.

As a rule of thumb, smaller, lighter, and more compact are almost always better; however, it should be remembered that big hands wearing thick exam gloves may have considerable difficulty in manipulating tiny buttons; this factor translates into a functional limit to the "miniaturization" of some devices.

A more effective strategy, therefore, may be combining a number of functions into one and the same device. Many of the manufacturers of defibrillator/cardiac monitors designed for paramedics have made the "combination" option a staple of their product lines, often by incorporating individual features into plug-in modules that can be added as optional extras.

(3) Will it function properly in a pre-hospital environment?

There are many devices that provide similar or sometimes better functional

capabilities than other devices that are typically carried in an ambulance – but many of those seemingly better devices are impractical, for various reasons, in the EMS world. Some are unusable, for example, because they have to be tethered to a source of electric power or oxygen; others fail the usability test because they need a stable platform to operate effectively.

By their very nature EMS capabilities must be mobile, and paramedics carry out much of their patient care separated not only from a fixed healthcare facility but even from their own vehicles. Paramedics frequently have to carry not only equipment but also patients across unsteady and broken terrain – which is another reason that many promising medical devices have been eliminated from consideration for purchase after a test drive in a moving ambulance has found them not suitable for use in a rugged or mobile environment. Ideally, of course, equipment selected for EMS use must be able to function even when slung over the paramedic's back.

A well-considered selection process should answer all of the preceding questions, and more, before the selection team tackles one of several even more daunting questions – namely, can the equipment be funded, both on the immediate "set up" level and, after the initial purchase, for the foreseeable future? Before answering that last question it should be kept in mind that *all* equipment has ongoing costs attached, either of consumables or in the maintenance and/or replacement of worn-out equipment.

Joseph Cahill, a medicolegal investigator for the Massachusetts Office of the Chief Medical Examiner, previously served as exercise and training coordinator for the Massachusetts Department of Public Health, and prior to that was an emergency planner in the Westchester County (N.Y.) Office of Emergency Management.

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Multipurpose Buildings

A Towering Challenge for Security Planners

By Neil C. Livingstone, Building Protection



The new Burj Dubai Tower will rise 5,250 feet off the desert floor, only ten yards short of thrusting a full mile into the air, and when completed will be the tallest man-made structure on earth. Expected to be open for occupancy in September of next year, the Tower will be able to offer future tenants 160 habitable floors packed with premium retail space, offices, and luxury apartments. Because of its great height and enviable location, it also will present unique challenges to security designers and planners.

Perhaps of foremost concern is that it will be an “icon” structure located in one of the most unstable regions of the globe. The World Trade Center Towers also were icon structures, and terrorists have often viewed such buildings as particularly desirable targets because their destruction not only causes a major loss of life but also generates such huge media attention around the world.

All multipurpose buildings present large and extremely complex security needs – and, as with other venues, those needs have to be closely evaluated as part of a comprehensive security assessment. The assessment also will take into consideration such related factors as the location of the structure (in terms of terrorism and crime); its vulnerability to natural disasters; the threats represented by hazardous materials spills, power failures, and severe weather conditions (snow, high winds, extreme heat, etc.) as well as fire and/or arson; and various situational engineering and design issues. This latter category, depending on the design features of the structure, invites comparisons to the 1981 collapse of the Hyatt Regency Hotel walkway in Kansas City and

the mysterious loss of windows at the 60-story John Hancock Tower in Boston – where, on windy days, four-by-eleven foot windows in the Tower would drop off for no apparent reason and shower glass on the streets below.

Laminated or Minimal Glass, But Absolutely No Atriums

Only when the threat assessment has been completed can a detailed security assessment be undertaken. Obviously, it is always easier and more cost-efficient to incorporate security enhancements on or into a structure before construction than to retrofit those enhancements on a building already completed. If the building is located in a high-threat area, such as Baghdad, or is an inherently high-threat structure such as an American embassy almost anywhere in the world, a number of special security enhancements and upgrades will have to be considered. Among those enhancements and upgrades will be substantial setbacks, blast walls, progressive-collapse design features, a major use of laminated glass (or the minimal use of any type of glass), and the prohibition of parking underneath and/or adjacent to the structure.

Another consideration should be the elimination of atriums. Atriums are a bomber’s best friend and allow huge amounts of pressure to build up that blow out walls and cut supports or shake down a structure (depending on whether high-order or low-order explosives are involved). The U.S. Marine Barracks in Beirut was pancaked in 1983 when a suicide bomber drove an explosives-laden Mercedes truck into the barracks’ lobby/atrium at the Beirut Airport; that audacious and preventable act caused the loss of 241 American servicemen, mostly Marines. By contrast, buildings with multiple

well-reinforced walls not only dissipate the blast effects of an explosion but also reduce the likelihood of damaging a building’s structural integrity.

Security designers also have to keep in mind, when recommending enhancements and/or construction changes, that there will always be tradeoffs between security requirements and the functionality of any structure. An airport, for example, that is so secure that it impedes the flow of people, cargo, and luggage defeats the very purpose for which it was created. As one security expert commented, “The safest structure will always be one buried in the Nevada desert with a tall fence around it and armed guards. But who needs a building in the Nevada desert?”

Blind Spots Buttressed By Intimidating Invisibility

The interior spaces of buildings also must be protected, of course – and this is achieved by the use, for example, of access-control systems (to screen visitors), closed-circuit television (CCTV) cameras, sensors (primarily to detect fire, smoke, or chemicals), and the elimination of blind spots and dark areas where thieves and rapists can hide.

Some of the most highly innovative secure structures in the world are currently being designed and built by Al Corbi of SAFE (Strategically Armored & Fortified Environments). Corbi, who has worked with the U.S. Justice Department and with various foreign governments on extremely sensitive security systems, has created almost impregnable structures that require few if any guards or operators. All of his walls and doors are built with impenetrable ballistic cores, his windows are made of bullet-

resistant materials, and everything is tied together by a number of sensory and tactical systems, coordinated by computers that not only can detect any potential threat but also take swift and appropriate action to lock down the entire facility if necessary.

SAFE's system isolates those in the structure until the detected (or suspected) threat can be contained or neutralized. One method of doing so is to design the structure in such a way that each and every access point (halls, stairways, etc.) can be turned into a mantrap that possesses the ability to introduce tactical systems that can be used to incapacitate intruders.

The key to his systems, says Corbi, is their invisibility. "For security to be effective," he maintains, "it must be invisible. One can't defeat what can't be seen ... and there is nothing more intimidating than the unknown."

Another potential security vulnerability is the landscaping surrounding a structure. Several years ago my company was hired to work with architects and planners in creating a new financial center outside the capital of a prominent developing country. We recommended that campus-like landscaping be adopted for the site, which covered several hundred acres; the landscaping would feature closely trimmed grass and stand-alone trees, which not only would be visually attractive but also eliminate the security vulnerabilities posed by clumps or thickets (of trees). We also mandated that there be no thick foliage next to any structure because it would provide cover for intruders who had breached the guarded and patrolled perimeter. Similarly, all foliage was banned within ten meters of the center's perimeter fence so that it would not potentially block the CCTV cameras and line-of-sight sensors that were to be installed.

In the final analysis, all buildings are vulnerable, to some extent, to a number of threats, both internal and external, but with careful analysis and proper planning almost any structure can be made much more secure without undermining its function or disfiguring its aesthetics.

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



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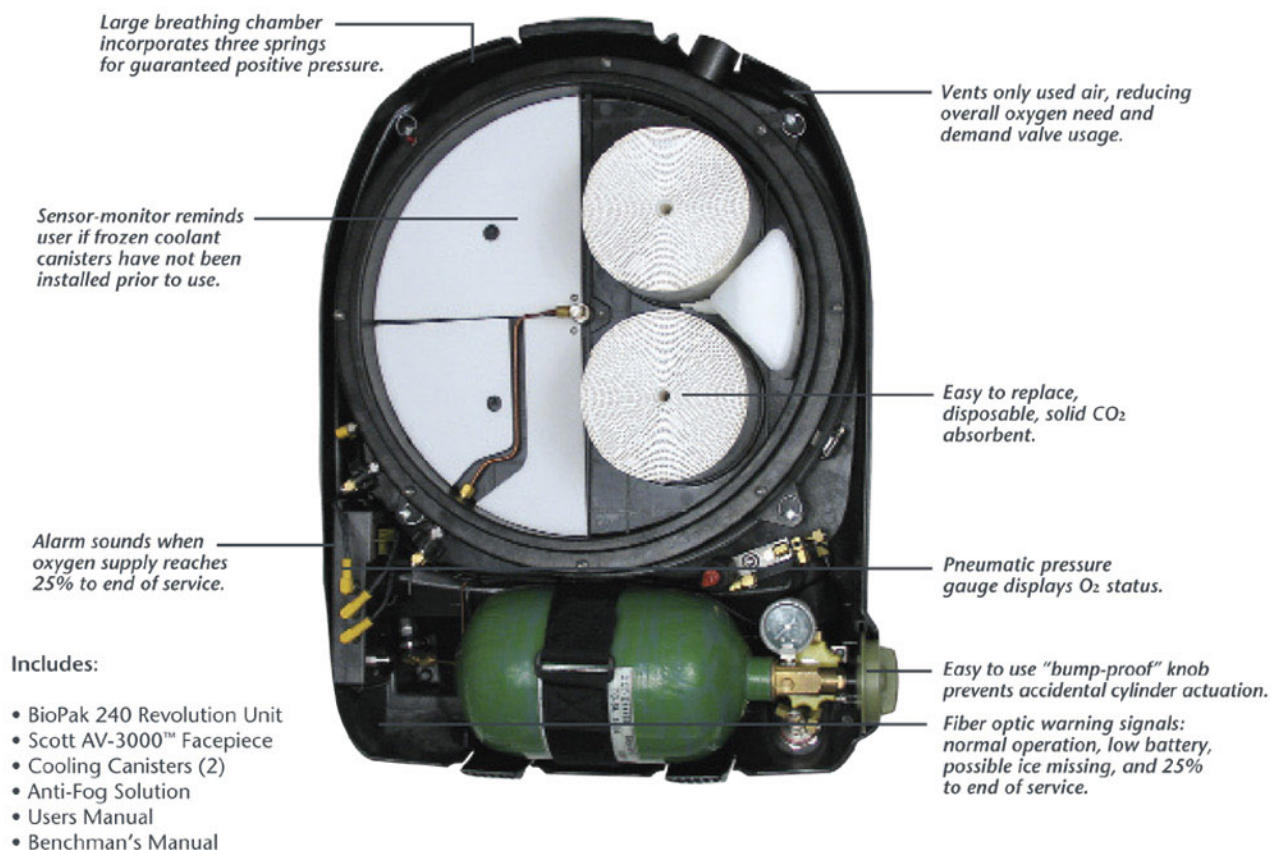


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Underground, Under Water, and Under Heavy Pressure

By Adam McLaughlin, Emergency Management



The 2004 Madrid train bombings, the attacks on London's transportation system in 2005, and the attacks on India's passenger railroad in July 2006 – all have made it clear that rail networks are high-value targets for terrorist groups. And all provided helpful information in developing some of the more effective techniques used to manage an interagency planning effort that created the multi-jurisdiction plan needed to respond to a potential explosives attack on a PATH (Port Authority Trans Hudson) train moving under the Hudson River between the Exchange Place station in New Jersey and the World Trade Center station in New York City.

Without a timely and well-coordinated response the results of such an attack could be a major loss of life as well as prolonged economic strains on both the region and the nation. To address the potential effects of the scenario postulated for the Port Authority of NY & NJ (PANYNJ) it was decided that a detailed and coordinated response plan to a catastrophic incident along the PATH rail line with local, state, and federal partners would have to be developed.

There are several challenges associated with coordinating a response plan to address an explosives attack on a PATH train carrying approximately 900 passengers from Jersey City, N.J. (the Exchange Place station), to lower Manhattan (the World Trade Center station) under the Hudson River during rush hour. Not only would such an attack result in a large number of fatalities and have a lasting economic impact, the location of the attack would almost necessarily require a combined response from New York City, PANYNJ, and Jersey City as the major players – with a host of other local, state, federal, and non-profit organizations and agencies also participating. The

size and nature of that type of response would require an incredible amount of coordination – which would be compounded by the complexity of the tunnel's narrow dimensions and/or the possibility of significant damage to the tunnel structure itself.

In addition, the size and length of the tunnel, coupled with the very limited access to the platform available from the street level, would present major complications to responders – who would have to rescue possibly hundreds of patients/victims suffering from various medical conditions. Moreover, after the responders entered the station and moved down to the platform level, they would find that most and perhaps all of their communications systems would be extremely difficult and perhaps impossible to use. For that reason, one of the assumptions used in the rescue scenario is that any explosion on or in close proximity to the train would sever the communications line that runs along the top of the tunnel – which is exactly what happened in the explosion that occurred in the London Underground in July 2005. At the Exchange Place station, radio communications from the street to the platform and into the tunnel would have to be built at the scene of the incident by responding agencies.

The Development Of a Step-by-Step Strategy

In addition to the topographical challenges just enumerated, an entirely different set of challenges exists because of the bi-state locality of the incident. Planning for such an incident with so many agencies participating at the same time would be too difficult, so a step-by-step strategy was developed to coordinate the New Jersey jurisdictions and agencies first, then do the same with the New York City jurisdictions and agencies before merging the planning efforts of the two states. To begin the

critical-incident response planning with the New Jersey agencies, six separate seminars and one comprehensive workshop with New Jersey entities were planned – structured around the following functions: (1) Mass Casualty Medical Support; (2) Rescue/Extrication and Firefighting; (3) Public Safety, Security and Investigation; (4) Multi-Agency EOC (Emergency Operations Center) Coordination; (5) On-site Incident Management; and (6) PATH Train Operations.

Each seminar included participation by multiple agencies and disciplines relevant to the function. The expected outcome from these discussion-based exercises was that the agencies and organizations participating would be able to determine most of the key and critical tasks required to develop a unified and effective response to the situation postulated.

The next step in the planning process was the development of an exercise designed to tie the capabilities-based seminars together. The Planning Workshop provided all of the seminar participants an opportunity to discuss response concepts, policies, plans, procedures, and capabilities with representatives from the other five functional areas. Participants from each seminar briefed the entire audience on their results, specifically highlighting the critical tasks specific to their respective functions. At the conclusion of the workshop, participants were able to agree upon numerous issues related to the following:

- Unified command structure with lead agencies;
- Incident facility locations – i.e., command post, staging areas, and casualty collection points;
- Initial incident objectives;

- The roles and responsibilities of each discipline involved;
- The tactical communications architecture required; and
- Critical logistical requirements.

The participants also agreed that communications tests and drills, carried out in the tunnel, should be the next step in the planning process, and that a detailed rescue-and-evacuation procedure should be developed for moving victims from the incident site to the station platform – and, from there, either up to the street level or transferred to another rail vehicle for transport to medical staging areas that would be established along the rail system.

Orientations, Operations, And a Final Full-Scale Drill

After these discussion-based exercises were completed, the Port Authority's Office of Emergency Management hosted a series of station and tunnel orientations for over 650 responders. The orientations provided firefighters, emergency-services police, and emergency medical services (EMS) responders with essential practical information about the tunnel such as standpipe locations and the tunnel's power, lighting, and ventilation systems. After the responder orientations, the planning team transitioned into the operations-based exercise phase of the process, which included a drill focusing on on-scene assessment-and-rescue needs, establishment of the command post, completion of a communications drill, and a full-scale exercise as the capstone event.

The assessment-and-rescue drill was developed specifically to validate sets of procedures designed to provide timely intelligence to the unified command representatives. An immediate objective in the early stages of the response to multiple explosions on a train in a tunnel under the Hudson River, it was determined, would be the deployment of an Assessment Task

Force into an area close to the site of the explosions before a rescue effort would or should be initiated. For that reason, a multi-functional and jurisdictional task force – consisting of firefighters, hazardous materials (hazmat) technicians, and law-enforcement bomb technicians – was formed to develop recommendations on how to deal with the following aspects of the response operation: chemical, radiological, and/or hazardous materials detection and sampling; tunnel damage assessment; an IED (improvised explosive device) search; and, if necessary, IED disabling, disruption, and removal. It was assumed, in addition, that indicators and information from self-evacuees, the train conductor, and the train engineer could provide the Assessment Task Force with critical information before additional responders would be committed to conduct a rescue operation.

An additional challenge tested during this drill – and in the full-scale exercise – was the extrication of multiple non-ambulatory victims from the incident train in the tunnel, taking them back to the platform, and then up to the street level for treatment. To at least partially reduce the scope and complexity of this labor-intensive effort, it was decided that a “rescue train” should be used to move victims at the incident site back to a train yard approximately one mile from the station. The secure train yard

also would serve as a treatment and transport area for the EMS personnel participating. The “rescue train” itself – a diesel-powered engine moving a flatbed car – could hold up to 30 patients on litters. Even with track power not available, the diesel engine could carry the flatbed car along the track to a position as close as possible to the incident train, and from that position receive the casualties.

The final rehearsal drill before the full-scale exercise was designed for participation by the unified command leadership and to test interagency communications. During that drill, such “incident facilities” as the initial command post, staging areas, and casualty-collection points were validated, and the ability to communicate from the incident scene in the tunnel back to the street level was confirmed. The final step in the planning process was a full-scale exercise, which was conducted in late October of 2007 to tie in all of the critical tasks the unified command would have to carry out during the first two hours of the incident response.

Adam McLaughlin is with the Port Authority of NY & NJ, and is the Preparedness Manager of Training and Exercises, Operations & Emergency Management, where he develops and implements agency-wide emergency response and recovery plans, business continuity plans, and training and exercise programs.

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TERT Takes Toxic Approach to Emergency Response

By Shannon Arledge, Viewpoint

The Technical Emergency Response Training (TERT) course is considered one of the most unique as well as valuable courses offered at the Center for Domestic Preparedness (CDP) in Anniston, Ala. TERT – one of several all-hazards training courses at the CDP – provides one-of-a-kind training, and the CDP is the only U.S. site where civilian emergency responders can train in an actual nerve-agent environment.

This hands-on training experience takes place at the CDP's Chemical, Ordnance, Biological, and Radiological Training Facility – the COBRATE. The TERT course enables responders to effectively prevent, respond to, and recover from incidents involving chemical weapons and other hazardous materials.

The major TERT attraction “is the extensive hands-on training [provided] and the fact that responders perform tasks in a genuine nerve-agent environment,” said Mellione Richards, TERT course manager. “... An operational-level, performance-driven course, it provides responders with the skills necessary to respond to a real-world incident.

“We provide our nation’s first responders with the necessary tools to go home and protect themselves, their families, and their communities in a WMD [weapons of mass destruction] all-hazards incident,” Richards continued. “The TERT course is the foundation upon which several of the CDP courses are built.”

The Updating Of Traditional Disciplines

Rick Dickson, acting assistant director for training delivery, points out that the TERT course is an expanded version of the CDP's original “COBRA Course” – offered in the center's early years following the CDP's founding in 1998. “The original COBRA course

focused on more traditional response disciplines like fire, EMS, and law enforcement,” Dickson continued. “The course was redesigned to ... [provide] the toxic training experience needed by traditional and non-traditional emergency responders.” Included in that category are emergency management, healthcare, public health, public communications, public works, and government administrative

The course offers multiple disciplines the opportunity to not only train together, but also to gain a better understanding of each discipline’s roles, and responsibilities in catastrophic events

professionals. The TERT course offers an opportunity to all of them, Dickson said, “to receive the operational defensive training ... [needed] to respond to acts of terrorism.”

Modifications to the TERT course continued during the past decade to include response activities associated not only with terrorism but also all-hazards events caused by accidents, acts of nature, and/or man-made disasters.

More than 10,000 emergency responders have trained in the current course since its inception in 2001. The course now offers multiple disciplines from numerous jurisdictions the opportunity to not only train together, but also a chance to gain a better

understanding of each discipline's capabilities, roles, and responsibilities in catastrophic events.

“The TERT course includes responders from [a variety of] response disciplines,” said Dickson. “What makes this course truly unique is the varying levels of experience [of the participants] ... which may include a firefighter who is in his or her first years of service to a nurse with more than 20 years of experience.”

CEUs, PPE, And a Focus on CBRNE

The four-day course features more than 30 hours of training, and provides responders with the experience needed while wearing various levels of protective equipment. The TERT course also provides more than three hours of Continuing Education Units (CEUs). (The CDP is an authorized provider of CEUs under the International Association for Continuing Education and Training.)

“Responders have an opportunity to experience [wearing] multiple types of personal protective equipment – PPE Level B, for example, which includes use of a self-contained breathing apparatus, and Level C,” during which an air-purifying respirator is used “in several different scenarios,” said Kenneth Vinson, assistant TERT course manager. “Sometimes it’s hot, sometimes it’s cold,” he continued, “but very seldom is the temperature just right. The responders experience the challenges involved with using PPE and they receive a thorough explanation of how to operate the gear. At the end of the class, they feel much more confident with all of the equipment.”

In addition to classroom instruction, the TERT course provides students with important operational training

that includes a number of hands-on exercises. The all-hazards approach features a summary of the terrorist threat, potential targets, and various chemical, biological, radiological, nuclear, and explosive (CBRNE) hazards that may be used in WMD incidents. "Responders attending the TERT course will receive an overview of CBRNE materials, incident command systems, and extensive decontamination operations," Richards said. "They also receive instruction on mass-casualty triage, improvised explosive devices, and search techniques."

"TERT is a complete, diversified course that ranges from an awareness level, a refresher level, or a very complex level for some responders," Vinson summarized.

Emergency response providers participating in the TERT course finish their CDP training confident in their own ability to perform in situations requiring emergency response. At the completion of the challenging course, the responders who successfully complete the course are presented the coveted COBRA pin – a King Cobra in a hooded threat display, a recognizable warning posture – that signifies their successful entry into and execution of difficult tasks in a toxic environment.

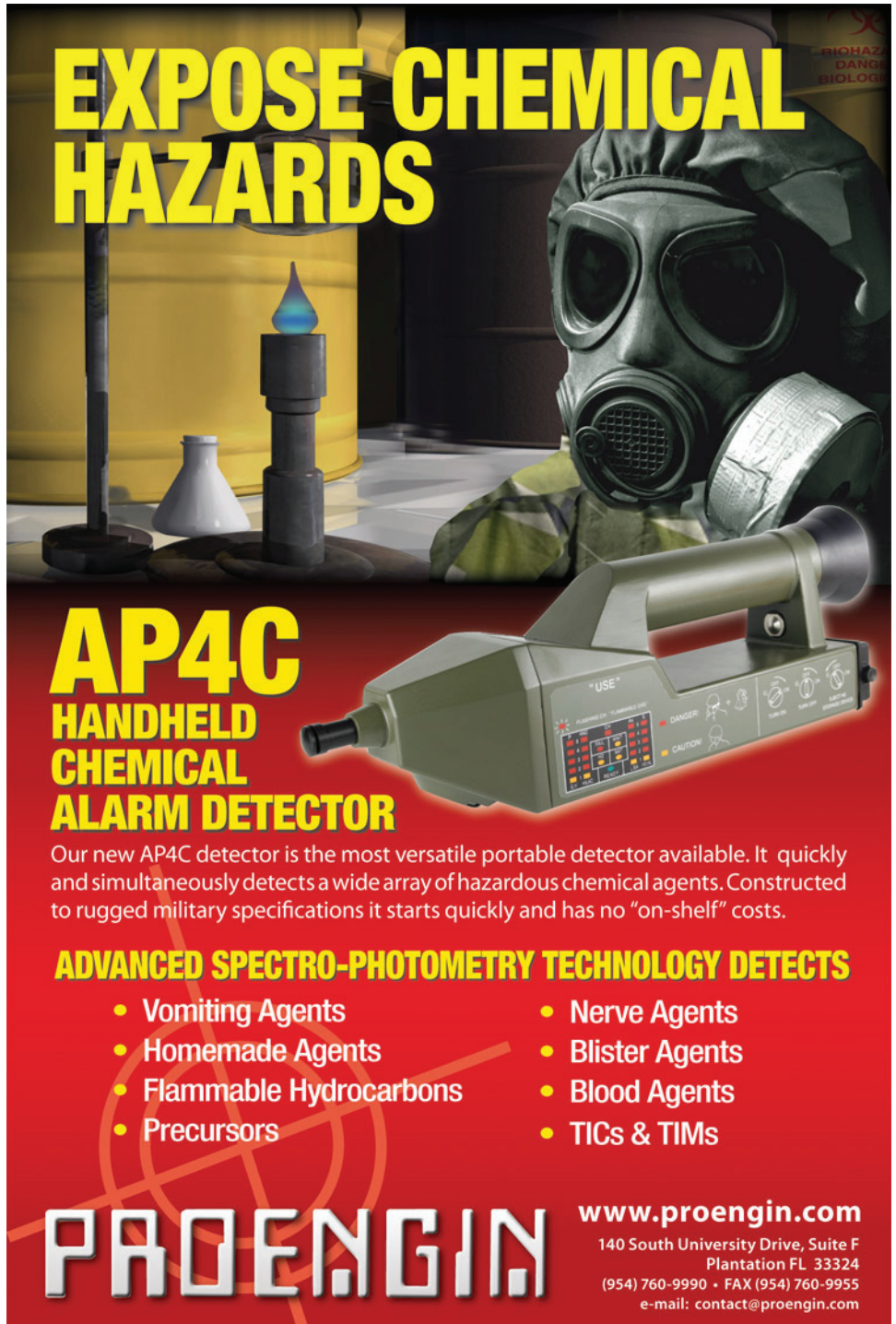
"The course exceeded my expectations," said Lt. Stephen Weiler, a police officer from Illinois. "I feel very comfortable now attempting to provide quality response to a mass-casualty incident. I really enjoyed the [COBRATF] training, and how we tested two separate agents. Police, fire, medical, EMS responders are not 'windshield' tourists in the professions we serve. We are the ones who get out and get our hands dirty – boots on the ground, hands-on, in the middle of it all. The COBRA facility, and the [COBRA] pin as a reminder, is one of those places we love to be," he added. "You can't find the COBRA pin on

eBay®. You earn ... [it] by successfully going through the CDP training."

The TERT course serves as the bedrock for a number of the 38 courses offered at the CDP. The center's training and curriculum staffs constantly review course materials to ensure that the CDP training is always both current and relevant, based on new doctrine, the changing threat, and the needs of the response community.

For additional information about training opportunities at the CDP, visit <http://cdp.dhs.gov>

Shannon Arledge is director of public affairs at the Center for Domestic Preparedness (CDP), the nation's only Congressionally-chartered federal training facility in which live chemical/ nerve agents – also known as chemical weapons of mass destruction – are used in the training of civilian emergency responders.



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A Matter of Mutual Trust:

The Fallout from Katrina; the Effect on Gustav

By Joseph Cahill, EMS



It is rare that emergency-management officials have the opportunity to review two similar events that have occurred under fairly similar circumstances and see how

the changes in procedures and plans implemented after the first event have affected the outcome of the second. Hurricanes Katrina and Gustav provided this rare opportunity to apply the scientific method to Emergency Management.

Several important changes implemented after Katrina occurred months and weeks – and a few of them years – before Gustav hit the Gulf Coast. One of the most significant changes was that the major players in both events met several times before the second storm and, among other things, identified the actual personnel who would take part in the preparations for Gustav. It was vital that not only the leadership but also the line personnel become comfortable with one another, and with each other's agencies, well before having to depend upon one another under extremely difficult operational pressures.

At the local level, the city of New Orleans worked closely with Louisiana's Orleans, Jefferson, Saint Bernard, and Plaquemines Parishes under the auspices of the Urban Area Security Initiative (or UASI region) refining guidelines on evacuation procedures and other plans. In addition, after the planning process was completed, federal, state, and local agencies tested various components of the plans in a number of DHS (Department of Homeland Security) exercises.

Host-state agreements also were negotiated, in advance, with a number of other states that probably would be asked to receive and shelter evacuees. As a result, those states were ready when the time came, and the states directly affected by Gustav did not have to *hope* that these potential host states

would help – they already *knew*. This preplanning effort also gave the host states the time they needed to have shelters selected, equipped, and ready if and when another major hurricane would hit the Gulf Coast.

More than just meeting with one another and producing a plan on paper, the familiarity that this cooperative effort generated meant that the leaders of the numerous local, state, and federal agencies involved had the time they needed to develop a level of mutual trust that allowed for rapid and coordinated action during the actual time of crisis. Without such familiarity, decisions almost assuredly would have quickly bogged down in introductions, the establishment of roles and hierarchy, and similar non-operational details.

A Careful Plan, Executed With All Deliberate Speed

In the months and years after Katrina, officials of DHS's Federal Emergency Management Agency (FEMA) met a number of times with their counterparts in state and local agencies, and put particular emphasis on pre-event gap analysis. According to FEMA's Mary Walker, the "real lesson" of Katrina was that emergency management at all levels cannot simply wait until a crisis happens to determine what resources are needed. The gaps that exist must be identified in advance; doing so allows the operational plan agreed upon by the numerous agencies participating to cover the known gaps by design, rather than by chance, and makes it easier for operational personnel to focus greater attention on covering the unanticipated.

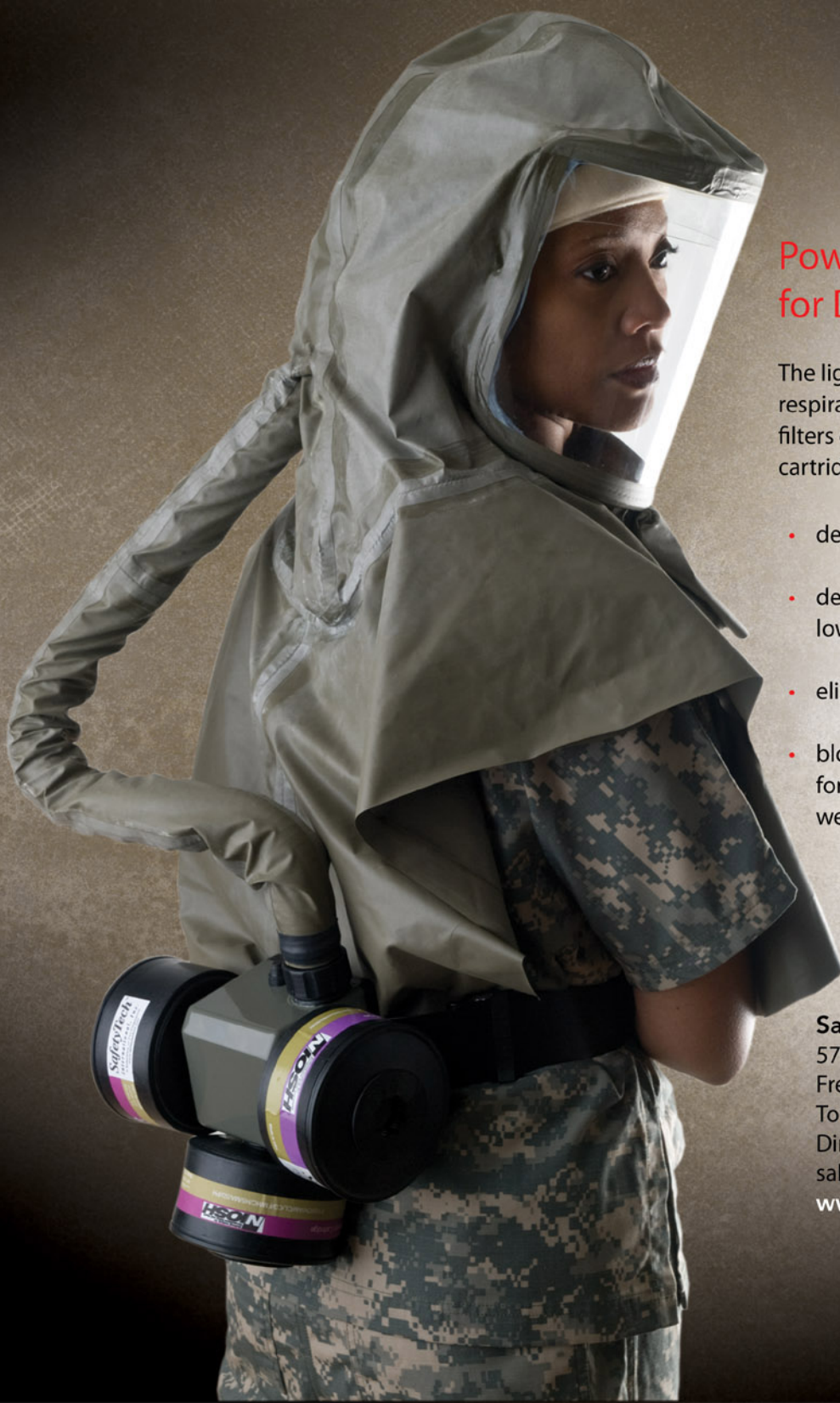
The gap-analysis process requires that the various levels of emergency management meet and discuss not only the requirements for a successful response but also the resources likely to be available – or, of perhaps greater importance, *not* likely to be available.

This process not only identifies the gaps in resources but also puts the various levels of government in close and direct contact with one another, and that association fosters even more effective working relationships.

Experience shows that, in today's world, any potentially catastrophic event such as a hurricane requires the coordinated efforts of a relatively large number of agencies. For that reason alone, even the physical size of the Emergency Operations Center (EOC) must be reconsidered, according to Mathew Kallmyer, deputy director of the New Orleans Office of Homeland Security and Emergency Preparedness. And, in fact, additional EOC space was provided during Gustav to accommodate all of the agencies represented. Here it also should be noted that the duration of operation of the EOC in a major disaster situation also is longer – in large part because recovery operations *after* the disaster usually require as much time and effort between agencies as the planning and coordination effort did *before* the disaster.

The expansion of the EOC into a regional resource where city, state, and other major players could meet and work on problems during the emergency also was key to coping successfully with Gustav.

In the final analysis, the major lesson learned from Katrina – and applied successfully when Gustav hit – is that effective emergency management cannot be done "ad hoc." The major players likely to be key participants must plan together, practice together, and work together "in the off-season," so to speak, or the operation on game day will suffer. In the end, successful large-scale emergency-management and response operations are about people and agencies working together – not because they have to, but because they trust each other.



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Growing Vulnerabilities in the Maritime Environment

By Joseph DiRenzo III & Christopher Doane, Coast Guard



Offshore energy platforms, which are vital to help the United States meet its energy requirements, not only are growing in number but also create unique security challenges. Using Liquid Natural Gas (LNG) terminals as an example, according to the U.S. Department of Energy there are now two offshore LNG platforms in operation, one off New England and one in the Gulf of Mexico. Two more offshore LNG facilities have been approved, though, and six additional facilities have been proposed. The locations for these new offshore facilities include the Gulf of Mexico and the waters off New England, New York, Florida, and California.

This growth is representative of what is happening in other components of the U.S. energy industry. The rate of growth can be expected to increase significantly, moreover – despite the current economic situation and the at least temporary reduction in the cost of oil imported from overseas – because the national demand for more domestic energy production is still likely to increase. As more offshore energy facilities are built, however, the workload for the nation's already overburdened maritime security forces, particularly the U.S. Coast Guard, will increase as well.

The Maritime Transportation Security Act (MTSA) of 2002 established the security requirements for the nation's offshore facilities. This law places primary responsibility for the security of a facility on the facility's owners and operators and postulates a number of specific requirements, including but not limited to: the designation of a facility security officer; the imposition of special security measures within restricted areas and/or for the delivery of stores and industrial supplies; the

development and implementation of other security measures for monitoring operations; and the establishment of various "security incident" procedures.

All of these security measures, and more, must be validated and certified by the Coast Guard. As the number of offshore facilities increases, therefore, so will the Coast Guard's workload – not only for ensuring facility compliance with the security requirements mandated by MTSA 2002 but also for the planning and coordination of a number of security measures above and beyond those specified in the individual facility security plans.

A Broad Section of Additional & Essential Missions

Commensurate with its responsibilities for ensuring the safety and security of the U.S. maritime domain, the Coast Guard is responsible for a variety of other security-related operations and activities – including but not limited to: (a) the boarding and/or escort of vessels entering and/or leaving U.S. ports; (b) the security of those ports and the waters adjacent thereto; and (c) the patrolling of U.S. coasts, ports, harbors, and the nation's inland waters. Most of the patrol work is carried out in the ports, waterways, and rivers by Coast Guard personnel manning a fleet of small boats – many of which carry Coast Guard law-enforcement officers.

To ensure the security of offshore platforms, however, requires transiting greater distances in a more dynamic, and much more dangerous, ocean environment, and for that reason larger vessels and crews are both needed. Unfortunately, the operational demand for the Coast Guard's aging fleet of patrol boats and ships is already exceeding capacity, and there is sometimes a shortage of trained personnel as well.

Replacement vessels are coming into the fleet inventory under what is called the Deepwater Program – which projects the upgrading and/or replacement of most of the multi-mission service's current ship and aircraft inventory over a period of the next 10-20 years or so.

But the delivery schedule for replacement cutters is much slower than the projected growth of new offshore facilities. In addition, other work demands – the interdiction of drugs and illegal migrants, for example, the enforcement of U.S. environmental and oil-pollution laws, and the Coast Guard's increased maritime-defense responsibilities in recent years – all impose even greater burdens on the service's already overworked personnel and physical assets. In that context, it is important to note that Deepwater will *replace* the service's current aging cutter fleet, and therefore increase the fleet's overall capabilities – but will *not* increase the size of the fleet itself.

The projected growth in offshore facilities to meet U.S. energy demands will place an even greater strain on the already under-resourced Coast Guard. The service possesses the required competencies, capabilities, and legislative authorities needed: (1) to ensure that the growing numbers of offshore facilities maintain proper security measures; and (2) to augment that security with direct action – if, as, and when needed. What the service still lacks, though, is the greater fleet capacity that is absolutely needed to meet the significant additional workload requirements now projected.

Dr. Joseph DiRenzo III (pictured) and Christopher Doane are retired Coast Guard officers and visiting fellows at the Joint Forces Staff College. Both of them have written extensively on maritime security issues. Any opinions expressed in the preceding article represent their own views and are not necessarily the official views of the U.S. Coast Guard.

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An Open Letter to the President-Elect

By Martin (Marty) Masiuk, Publisher

Dear Senator Obama:

Congratulations on your historic victory. Our nation has spoken and it is now time for all Americans to support you as you make the difficult transition to assume your new duties as president and, of even greater importance, as commander in chief of the nation's armed forces. As you do so, I would like to offer some unsolicited advice about the priorities you are considering for your administration.

Much was spoken, by both major candidates in this year's presidential campaign, about the need for change. The citizens of America agreed, and elected you to develop and implement new and far-reaching 21st-century ideas and approaches to the problems our nation will encounter in the "new world order" of tomorrow.

From my vantage point, one major change I would suggest would be a realignment of the duties and responsibilities currently assigned to the Department of Defense, the Department of State, and the Department of Homeland Security. Each of those departments plays a significant national-security role, and all are individually as well as collectively responsible for the protection and preparedness of our country and the American people themselves. It is already clear, though, that the new global challenges already apparent or now developing just over the horizon will require that you redefine the roles of each of those departments – and also provide the funding necessary to

ensure that all three are able to carry out the full spectrum of their duties and responsibilities.

As you yourself pointed out many times during the past 18 months, for America to sustain its role as the leading global power requires that we continue to have capable, well-trained and well-equipped soldiers, sailors, airmen, and marines as well as strong National Guard and Reserve components and a multi-mission Coast Guard.

On balance, though, as you also said many times during this year's campaign, greater emphasis must now be placed on America's ability to lead the world through negotiation, carried out by an energized diplomatic corps. Secretary of Defense Robert M. Gates perhaps said it best, in his remarks at Kansas State, when he recommended strengthening our capacity to use "soft" power by integrating it better and more completely with "hard" power to create and implement not only a more engaged but also a more effective diplomatic and intelligence approach to our dealings with other nations throughout the world.

I also urge you, Mr. President-Elect, not to forget that if the combination of economic and military strength, patient but firm diplomacy, and intelligent political leadership fails, our nation will need capable, well-equipped and well-trained local, state, and federal preparedness professionals from the fire-service, law-enforcement, EMS, and emergency-management

communities to respond to unforeseen and often unforeseeable disasters and catastrophes, whether acts of nature or terrorist attacks. The nation's public health, emergency medicine, and hospital/healthcare communities also will need increased support if they are to be both ready and able to manage disasters, both manmade and natural.

I know that you are fully aware that climate changes, a pandemic flu and/or other diseases, and asymmetric attacks – either home-grown or "imported" from overseas – all require that America lead the world in its prevention, protection, preparedness, and response policies and capabilities. For that reason alone, your Department of Homeland Security must be a full and equal partner with the departments responsible for our nation's defense and diplomacy.

Finally, as you prepare to take on the daunting new challenges facing you and your administration, I offer you, Mr. President-Elect, the full support of DomesticPreparedness.com – which, I am pleased and privileged to note, will next week celebrate our tenth anniversary of serving the nation's homeland-preparedness community.

Sincerely yours,
Martin (Marty) Masiuk
Publisher

Note: For the full text of Secretary Gates's remarks at Kansas State, click on <http://www.defenselink.mil/speeches/speech.aspx?speechid=1199>

Maryland, Texas, Georgia, and California

By Adam McLaughlin, State Homeland News



Maryland Dedication of New National Biodefense Analysis & Countermeasures Center

The Department of Homeland Security dedicated a massive new national biodefense laboratory in Frederick, Maryland, in late October, moving toward the facility's opening despite questions raised about the potential risks posed by the deadly pathogens to be studied there.

When the National Biodefense Analysis and Countermeasures Center at Fort Detrick is fully operational – in March 2009, according to current plans – about 150 scientists assigned to the lab will be tasked with protecting the country from a bioterrorist attack through prevention or containment. Another of the center's goals is to allow investigators to "fingerprint" a number of such biological agents as viruses and bacteria, quickly tracing their source and, in many situations involving bioweapon attacks, catching the offender.

But critics cite the case of Bruce E. Ivins, a researcher at the U.S. Army Medical Research Institute of Infectious Diseases, also at Fort Detrick, as evidence that the building and manning of such installations might actually help bioterrorists obtain access to lethal agents. FBI investigators have charged, in fact, that Ivins, who committed suicide in July of this year, was responsible for the so-called "Amerithrax" attacks in late 2001, not long after the 9/11 terrorist attacks.

Construction began in June 2006 on the \$143 million, 160,000-square-foot facility inside Fort Detrick,

headquarters of the Army's sprawling medical research post in Frederick. The ship-shaped building will be divided between the lab's major divisions: a forensic testing center, which will focus on identification of suspected culprits in biological attacks; and the Biothreat Characterization Center, which will focus on research that will be used to predict what future attacks might look like and to guide the development of effective countermeasures.

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Scientists affiliated with the lab already have been working in leased space at Fort Detrick, but the officials who spoke at the dedication said that the scientists and other future employees are anxious to move into the new center as soon as possible. "This is a great day; many of us have been waiting for ... [it] for a long time," said Jamie Johnson, director of the Office of National Laboratories of the DHS (Department of Homeland Security) Science and Technology Directorate. "I feel very passionately about this facility, and I feel even more passionately about its mission. This is state-of-the-art, cutting-edge bio-forensics."

Footnote: Barry Kissin, a Frederick lawyer who strongly opposed the lab's construction, said he fears that

the facility will be used to create biological weapons even though senior U.S. government officials have said on numerous occasions that the lab's mission is a purely defensive one. Kissin disagrees: "It [the center] is not only a huge threat to local public health and safety," he said, "it is in the forefront of the instigation of a brand-new arms race in the realm of bioweapons. Here we are, expanding by about 20 times the size of the program that we are now being told generated the only bioattack in our history."

Texas Lawmakers Critical of Federal Response to Hurricane

Most Texas lawmakers have praised the state's own response to Hurricane Ike, but some also have criticized the efforts of the Federal Emergency Management Agency (FEMA). During a late October meeting of the Texas Senate's Transportation and Homeland Security Committee, Senator Thomas Williams, who represents four of the counties hit hardest by the hurricane, criticized the "faceless bureaucracy" at federal agencies for failing to meet the needs of southeast Texas following the storm. "We want the same thing for Texas that they did for Louisiana," he said in a release posted on the Texas Senate web site. "They [federal officials] have not done it and they have turned a deaf ear to the people of southeast Texas."

Williams said that trailers for emergency shelter are desperately needed in his region. In the five weeks following Ike's landfall on 13 September, he said, his region requested 4,000 FEMA trailers, but only 150 were delivered. "I have people living in tents in the driveways

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of their homes and living in their cars right now because FEMA has not delivered trailers to the people in southeast Texas," Williams said.

Another issue related to the hurricane-relief efforts has been the lack of federal reimbursement for recovery efforts in the region. According to Steve McCraw, the state's Director of Homeland Security, the "100 percent reimbursement period" has already ended for a number of recovery efforts ranging from debris removal to the restoration of electrical and water infrastructure facilities. Texas Governor Rick Perry has requested that the reimbursement period be extended for 18 months, McCraw said, but the federal government has yet to answer. If the request is denied, McCraw pointed out, state and local governments could be left footing the bill for further recovery efforts.

FEMA spokesman Simon Chabel defended his agency's response, saying, according to an Associated Press report, that the agency has been responding both quickly and compassionately. He said the agency already has spent more than \$250 million to help find temporary housing for victims of the hurricane. FEMA spokespersons also reported that inspectors contracted by the agency have completed more than 350,000 inspections, or 97 percent of the requests submitted by homeowners and renters.

Damage inspections are free and generally take 30 to 45 minutes. They are conducted by FEMA contract inspectors who have construction and/or appraisal expertise and have received disaster-specific training. Each inspector wears official photo identification. Inspectors document the damage, the FEMA spokespersons

said, but do not determine a resident's eligibility for disaster assistance.

Georgia Airport Fields Explosives Detection Technology

The U.S. Transportation Security Administration (TSA) announced last Thursday that millimeter-wave technology is now being used to improve security at the Hartsfield-Jackson International Airport in Atlanta, Georgia. Millimeter waves can be used, without any physical contact with a passenger or any other human being, to detect weapons,

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explosives, and other threat items concealed under the layers of clothing worn by that person.

"The use of whole-body imaging is a significant step forward in checkpoint technology," said TSA Assistant Administrator for Security Operations Lee Kair. "By expanding the use of millimeter wave, we are providing our officers with another tool to enhance security and protect the public from evolving threats."

To guard the privacy of passengers, security officers view images from a remote location. From that location,

the security officer cannot ascertain the identity of the passenger, either visually or otherwise, but can communicate with a fellow officer at the checkpoint if an alarm is presented. A security algorithm will be applied to the image to blur the face of each passenger, further protecting that person's privacy. Images cannot be stored, printed, or transmitted – and are deleted forever once cleared. The millimeter-wave systems have no storage capacity.

The millimeter-wave devices at Hartsfield-Jackson are expected to be used in a random but continuous protocol. Use of the technology is voluntary, and any passenger who is randomly selected may opt for a different form of screening, such as a "pat-down." The technology is also a voluntary alternative to a pat-down during secondary screening. During a demonstration test at Sky Harbor Airport in Phoenix, Arizona, 90 percent of the passengers participating in the demonstration chose the millimeter-wave technology over the traditional pat-down system previously used.

A millimeter-wave system uses electromagnetic waves to generate an image based on energy reflected from the human body. It passes harmless electromagnetic waves over the human body to create a robotic image. It is considered extremely safe – the energy emitted by millimeter-wave technology is only about one ten-thousandth of the energy emitted by a cell phone.

Millimeter-wave technology is currently in use at 16 airports in addition to Atlanta: Albuquerque, Baltimore/Washington, Dallas/Fort Worth, Denver, Detroit, Indianapolis, Jacksonville, John F. Kennedy in New York, Las Vegas, Los Angeles, Miami,

Phoenix, Raleigh-Durham, Ronald Reagan in Washington, Tampa, and Tulsa. Additional systems at other airports are slated for deployment in the next several months.

California Conducts Largest Earthquake Drill in History

Hundreds of thousands – perhaps millions – of residents of southern California dropped almost simultaneously to the ground on Thursday morning, 13 November, huddled under tables or desks, and remained in place for a minute or so in what has been described as the largest earthquake drill in history.

More than five million people registered to participate in the drill, one of several in the week-long “Great Southern California ShakeOut” – a series of drills, exercises, and other events organized by scientists and emergency officials to prepare citizens for a major earthquake that many seismologists and researchers think is overdue in the area.

Most of those participating in the ShakeOut – whether in classrooms, offices, or homes – were expected to take cover under tables or desks and to hold on as though a devastating earthquake were rattling buildings and structures in the vicinity. However, despite the large number of registrants, organizers have no way of knowing exactly how many people actually dived under desks, tables, or other furniture at 10:00 a.m. last Thursday and waited for the imaginary seismic activity to cease. “We wanted it [the exercise] to be so big that you really cannot manage it,” Mark Benthien, executive director of the Earthquake Country Alliance, said of the drill.

The alliance – which is composed of earthquake professionals, emergency personnel, and business as well as government leaders – organized the drill. Benthien said that the registration list is the only basis of estimating how many people may actually have participated in the Great ShakeOut. Other than anecdotal stories, he said, “We are not getting reports in.” The organizers are encouraging

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participants who had not previously registered to do so now, he added, so that the alliance’s estimate will be more accurate.

Benthien said that a number of medical and emergency personnel also were involved in simulated exercises, including responses to staged collapsed buildings and to medical emergencies. Those drills were scheduled to continue for several more days, he said.

The scenario for the ShakeOut was based on a magnitude-7.8 earthquake occurring along the southern San Andreas Fault, beginning at the Salton Sea and spreading north nearly 200 miles. An earthquake of that magnitude, it was calculated, could

kill an estimated 1,800 people, injure another 50,000, and cause \$200 billion in damage, according to the U.S. Geological Survey, which led a team of more than 300 experts in devising the scenario.

“It’s not a matter of ‘if’ an earthquake of this size will happen, but ‘when,’” the Great Southern California ShakeOut’s website says. In July, a magnitude-5.4 earthquake – not nearly as strong as “The Big One” that researchers have predicted is almost inevitable – hit the Los Angeles area. After that earthquake, officials said, the stress relieved by smaller tremors was minuscule compared with the amount building up for the so-called “Big One.”

There is a 99 percent chance that California will experience a quake of magnitude 6.7 or higher within the next 30 years, according to the Uniform California Earthquake Rupture Forecast, sponsored by the U.S. Geological Survey, the California Geological Survey, and the Southern California Earthquake Center – and published in *Science Daily* earlier this year.

Benthien said that several other major earthquake drills have been held recently in both Mexico and South Korea, but “in terms of the breadth of the participants ... we think this [the ShakeOut drill] is the largest of that kind.”

Adam McLaughlin is with the Port Authority of NY & NJ, and is the Preparedness Manager of Training and Exercises, Operations & Emergency Management, where he develops and implements agency-wide emergency response and recovery plans, business continuity plans, and training and exercise programs. He designs and facilitates emergency response drills/exercises for agency responders, state and federal partners, and senior Port Authority executives.

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H5N1: Still Waiting in the Wings

An Updated Assessment of the Pandemic Flu Threat

By Steven Harrison, Public Health



Any highly transmissible disease has the potential to overwhelm local, regional, and perhaps even national medical and public health systems – while at the same time degrading critical-infrastructure/key-resource capabilities across all governmental and economic sectors. During a pandemic, the nation's ability to respond to concurrent all-hazards emergencies at the federal, state, and local levels of government will also be severely diminished.

Planning for a widespread infectious-disease outbreak is particularly important, because experts in this field agree that future pandemics are inevitable – but may be ameliorated to at least some extent. The timing and severity of those pandemics are the great unknowns. "Influenza pandemics can be expected to occur, on average, three to four times each century when new virus subtypes emerge and are readily transmitted from person to person," according to a major 2004 report issued by the World Health Organization (WHO). However, the report continues, "the occurrence of influenza pandemics is unpredictable. In the 20th century, the great influenza pandemic of 1918–1919, which caused an estimated 40 to 50 million deaths worldwide, was followed by [other] pandemics in 1957–1958 and 1968–1969."

Avian influenza virus subtype H5N1 has emerged as a virus of particular concern in recent years because it "mutates rapidly and has a documented propensity to acquire genes from

viruses infecting other animal species," the WHO report also says. Moreover, although normally occurring in birds, some cases of human infection from H5N1 also have been documented.

Ominous Statistics – Probably Underestimated

The H5N1 infections, the Centers for Disease Control and Prevention (CDC) pointed out in a later (2007) report – *Key Facts About Avian Influenza (Bird*

Avian influenza virus subtype H5N1 "mutates rapidly and has a documented propensity to acquire genes from viruses infecting other animal species"

Flu) and Avian Influenza A (H5N1) Virus – "have generally resulted from people having direct or close contact with H5N1-infected poultry or contaminated surfaces." In Thailand, the CDC noted, "probable human-to-human transmission was reported in 2004"; the likely cause was "prolonged and very close contact between an ill child and her mother." Two years later (June 2006), the CDC also noted, "WHO reported evidence of human-to-human spread in Indonesia."

Between 2003 and early September of this year, the World Health Organization said in a more recent report, there were 387 "confirmed cases of human avian influenza"; that number was based, though, on information received from only 15 countries. What was more alarming is that those 387 confirmed cases had caused 245 deaths – a fatality rate of 63.3 percent. It is likely a relatively large number of other cases had occurred during the same time frame but were not reported (the WHO figures were based solely on laboratory-confirmed cases).

Because all influenza viruses have the ability to change, scientists are concerned that the H5N1 virus may eventually acquire the ability to infect humans directly, after which the virus could spread very quickly from one person to another – and, it seems very likely, from one country to another. Compounding this concern, the CDC pointed out in its 2007 report, is the fact that "there is little or no immune protection against these viruses in the human population." Unlike seasonal influenza, the viruses that could cause a pandemic mutate from year to year.

Another major factor that must be considered, commented Dr. Anthony Fauci of the National Institutes of Health (NIH), is that pandemic influenza is caused by a virus "that is dramatically different from those that have circulated previously." Such viruses, Fauci said in a 2006 paper (*Pandemic influenza threat and preparedness; Emerging Infectious Diseases*), "can cause pandemics

because few people, or none at all, have had prior immunologic exposure.

"If the virus acquires the ability to transmit readily among humans," he continued, "an influenza pandemic could ensue, with the potential to kill millions of people." Fauci further noted that "the H5N1 avian influenza viruses now circulating [in 2006] may be the most likely candidates for triggering an influenza pandemic because of ongoing reports of new cases in humans."

Millions of Deaths, Trillions of Dollars

The financial effects of such an outbreak would likely be staggering, and would probably affect all nations throughout the world. The World Bank said earlier this year that a severe influenza pandemic "could kill 71 million people and cause a recession costing more than \$3 trillion." Last year, Trust for America's Health estimated that U.S. economic activity "would shrink 5.5 percent in a 1918-like pandemic, correlating to a 2005 Congressional Budget Office projection that a pandemic would cut the U.S. GDP [gross domestic product] by 5 percent."

The cost of a major pandemic would be not only financial, but political, social, and economic as well. High worker absenteeism, for example – and the resulting disruptions in the availability of critical-infrastructure and key-resource products and services – would significantly affect the national and global supply chains and therefore diminish the ability to respond to not only the pandemic event itself but also to other potentially catastrophic emergencies. In addition, an influenza pandemic that results in the closure of borders, causes

high absenteeism, and disrupts the transport of commercial goods would significantly disrupt the availability of everyday essentials.

Another factor to consider is that international travel is now such a

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routine aspect of everyday business and pleasure that it would allow individuals infected with highly contagious illnesses to travel to and from other countries within a matter of hours, all but guaranteeing the likelihood that infectious diseases would spread more rapidly today than was ever before possible.

For that and many other reasons, the nation's public-health community must continue to closely monitor the still evolving H5N1 situation – and at the same time be equally prepared to cope with any other contagion that could result in a highly transmissible infectious-disease outbreak. In short, even though the nation's, and world's, attention is now focused primarily on political and economic issues, Public Health must lead pandemic response-planning efforts in coordination and cooperation with all levels of

government as well as with non-governmental organizations and the nation's citizens at large.

For Additional Information:

On the 2007 CDC report, click on <http://www.cdc.gov/flu/avian/gen-info/facts.htm>


On Dr. Fauci's paper, click on <http://www.cdc.gov/ncidod/EID/vol12no01/05-0983.htm>

On the World Bank's estimated \$3 trillion cost of a flu pandemic (developed by the University of Minnesota's Center for Infectious Disease Research & Policy, Academic Health Center), click on <http://www.cidrap.umn.edu/cidrap/content/influenza/biz-plan/news/oct1708economy.html>

On the World Health Organization's 2004 report on avian influenza and the significance of its transmission to humans, click on http://www.globalsecurity.org/security/library/report/2004/influenza_factsheet_who04.doc

On the 2008 WHO report on the Cumulative Number of Confirmed Human Cases of Avian Influenza A (H5N1), click on http://www.who.int/csr/disease/avian_influenza/country/cases_table_2008_09_10/en/index.html

Steven A. Harrison is the assistant director – emergency operations, logistics, and planning – for the Commonwealth of Virginia's Department of Health. His principal duties involve: (a) various tasks related to and/or requiring a working knowledge of both Chempack and the Strategic National Stockpile; and (b) execution of Virginia's own Hurricane Preparedness and Exercise Program. He also collaborates with other policy makers and decision making officials on the Cities Readiness Initiative and State Managed Shelter planning. Harrison, a graduate of the College of William and Mary, also holds a Master Exercise Practitioner certification and is pursuing a Master's Degree in Homeland Security.





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