



The Lifeline of Hope

Response and Recovery



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Editor's Notes

By James D. Hessman, Editor in Chief



The protection of first responders, the long-awaited implementation of the Real ID Act, the need for and benefits resulting from a detailed and well articulated Incident Action Plan (IAP), and the greater responsibilities now being assigned to hospital emergency managers.

Those are but a few of the timely topics discussed in this printable March issue of *DomPrep Journal*, which also features a Special Report on how five of the nation's most innovative companies – Draeger, DuPont, ILC Dover, Safety Tech International, and Scott Health & Safety – are designing, testing, and producing a broad range of PPE (personal protective equipment) clothing, face masks, respirators, and other safety gear not only for first responders but also for the victims of mass-casualty incidents.

Also included in the issue are several important inter-related articles: by Kay Goss, who spells out the need for and complex issues related to the creation of verifiable credentials that can be used by not only government employees but also private-sector volunteers working together at the scene of mass-casualty incidents; by Stephen Macke, who reports on the rapid growth and immense usefulness of the “gateway” systems that have transformed yesteryear's babble of confusion at disaster scenes to today's clear and coherent multi-agency/multi-jurisdiction communications networks; and by Glen Rudner, who focuses special attention on the potentially lethal complications of the previously mentioned IAPs when a specific incident involves hazardous materials and/or a weapon of mass destruction.

Rounding out the issue are Steven Harrison's comprehensive report on the best-practices example of public-health planning in the Commonwealth of Virginia; an informative sidebar by Dennis Jones on the federal government's not-always-helpful “flexibility” in the definition of important acronyms; and a quartet of coast-to-coast news vignettes by Adam McLaughlin on recent security and safety upgrades being introduced and implemented in the states of Georgia, New York, North Carolina, and Washington.

As in almost all previous issues of *DPJ*, several common themes are emphasized: (a) the need for advance planning, at all levels of government, and for continued cooperation and coordination at the operational – i.e., first-responder – level between and among the numerous agencies and neighboring political jurisdictions now involved in the still developing U.S. homeland-security mosaic; (b) the equally important requirement for frequent individual, team, and multi-agency drills and exercises – which should be not only carefully monitored, graded, and evaluated but also translated into lessons-learned changes to future op orders; and (c) the culpable lack of funding that still, in many jurisdictions, limits the capabilities of first responders and, when a real disaster strikes, translates directly into lives lost, critical infrastructure ruined, and massive economic losses affecting the entire community.

The lack of funding is probably the most intractable problem mentioned above. For more than two centuries the American people, and their elected leaders, have demonstrated their ability to respond and recover from crippling blows – the attack on Pearl Harbor is the most obvious example, and the terrorist attacks of 11 September 2001 the most recent. The ability to be, and stay, prepared ahead of time, though, seems to be a somewhat more elusive quality.

That need not and should not be the case, though. The “ounce of prevention” axiom mentioned at the beginning of this month's Special Report on PPE is well known to every adult citizen. It also should be the guiding principle of plans, policies, and budget decisions at all levels of government. ▼

About the Cover: Medical personnel of Taqaddum Surgical, the main facility of its type in Iraq's Al Anbar Province, work fast but in well-planned precision to save the life of an Iraqi soldier wounded during an insurgent attack against U.S. and Iraqi forces in late April 2006. (Marine Corps photo by Corporal Daniel J. Redding, USMC, 1st Marine Logistics Group.)

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Credentialing of Private-Sector Disaster Support Personnel

By Kay C. Goss, Emergency Management



The credentialing of private-sector disaster-support personnel presumes a very strong public-private partnership. The development of a true public/private-sector disaster credentialing system is a significant challenge. The goal is to create common credentials for public and private-sector first responders and emergency managers by working on key screening initiatives, including ways to foster the interoperability of credentialing systems for federal, state, tribal, and local governments.

A cautionary note should be mentioned, though: emergency managers and first responders are not at the present time generally credentialed themselves. Even in that context, however, there are not only multiple barriers to but also effective facilitators of such vital partnerships between the public and private sectors that must precede a wide and robust credentialing system – which should include at least some and preferably all of the following:

- The education of each sector on the unique needs of the other sector and the resources available. A few years ago, EDS and ICF International worked on several projects – including an inventory of private-sector assets in the National Capitol Region that could be used during a catastrophic disaster – related to a program initiated by the Greater Washington Board of Trade's Emergency Preparedness Task Force. The result was stunning when it was realized the vast amount of resources that actually could be made available, under close and trusted public-private partnerships.
- The evolution of public policies, established procedures, and best

practices for the coordination of disaster-recovery activities between the two sectors before, during, and following a disaster – with special focus on credentialing and access to the private sector's own businesses, including those within the disaster area itself, when providing assistance. One can only imagine the added problems the victims of Katrina would have had without the immense help provided by WalMart, Home Depot, and Lowe's, as well as many other private-sector partners.

- Advocacy and promotion of the importance of an effective relationship between the two sectors at local, state, tribal, national, and international levels.
- The development of a repository of lessons learned, case studies, empirical data, and collective research on the need for and the benefits likely to flow from an effective partnership between the two sectors.
- The fostering of academic programs and degrees in the same field, as well as research and development on the benefits previously achieved by cooperation and collaboration between the private and public sectors during major disasters.

The necessary first step in such an innovative program would be securing government-wide attention and support, as well as: (a) Seeing and articulating the need; (b) Committing to something new and previously untried; (c) Providing the level of comfort needed to ensure that local control will not be lost; and (d) Developing a system that is both manageable and secure.

Why Is a Credentialing System Needed?

In addition to serving as a means of raising awareness of the critical importance of business continuity to the government itself, a credentialing system also: *Creates* a formal system and process for achieving access; *Helps* protect critical infrastructure while also promoting safety, security, and economic recovery; *Saves* the time and manpower wasted when ad hoc processes lacking effectiveness and security prevail; *Forces* businesses through the process of identifying the real essentials, resulting in an improved response; *Changes* the dynamics of response (because the government's primary concerns during a crisis are professional control and ensuring public safety); *Solves* the issue of maintaining control and allowing access to a disaster site; and *Ensures* uniformity of credentialing, providing easier and quicker recognition.

The private sector also benefits, though, because it can: rescue vaulted assets; retrieve vital records; power down its own networks, mainframes, and servers; retrieve both laptops and servers; recover files, computer records, microfiche, and back-up tapes; begin clean-up and restoration work; restore critical operations and customer services; and avoid severe financial loss and a probable loss of customers.

A corporate emergency access system should have at least two characteristics: (1) Through a written agreement with the local jurisdiction, it will allow priority emergency access (when safety permits); and (2) It will be fully funded by the private-sector participants.

FRAC, FIPS 201, And Future Olympics

Approximately eight months ago (19 July 2007), the Department of Homeland Security (DHS) took a major step in implementing its system for credentialing public and private-

sector first responders by conducting a demonstration in Washington, D.C., and several other cities throughout the country. In addition to participating in the DHS-sponsored event, private-sector entities and officials played an important leadership role by organizing

The private sector benefits because it can: rescue vaulted assets; retrieve vital records; restore critical operations; and avoid severe financial loss and a probable loss of customers

credentialing in the financial sector. At that time, Chicago, Pittsburgh, Harrisburg, Denver, Jacksonville, and several localities within the National Capital Region – as well as a number of states across the nation – sought to test the technical capabilities of and familiarize participants with the First Responder Authentication Credential (FRAC) system.

FRAC, a DHS initiative, uses the technology components of Federal Information Processing Standard 201 (FIPS 201) to verify identities with the goal of providing incident commanders with the electronic capability to grant emergency-access privileges into, out of, or within an incident area to first responders, response support staff, and critical government personnel in the execution of disaster-recovery efforts.

A number of states are in the early stages of implementing the system; the City of Chicago also is evaluating it. The information gleaned from the demonstration benefited all

participating jurisdictions. The system is currently being deployed in the National Capital Region.

Personnel used the electronic validation made possible by FRAC technology to identify the participants who had authorized access to the designated area by using hand-held readers to scan the “smart” credentials provided by each participant. Those credentials, used for identity assertion, used demographic information about the participants that was dynamically linked to vital attributes (certifications, authorizations, qualifications, and privileges) to serve as the basis for whether or not the participants were approved to enter the quarantined area.

Establishing a credentialing system by which essential personnel will be permitted to safely access business facilities during a disaster has long been an elusive objective, and the July 2007 demonstration reflected how differing government jurisdictions use those credentials. Here it should be noted that such a system would be very useful not only during and in the aftermath of natural and/or manmade disasters but also when a U.S. city hosts the Olympics and/or a number of other special events.

The bottom line in credentialing is this: Progress is being made every day toward achievement of this seamless public-private sector preparedness, mitigation, response, and recovery goal, especially in preparing for catastrophic events – but much more still remains to be done.

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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Force Protection – First, Protect the Protectors

By Joseph Cahill, EMS



The most important thing an emergency-services agency can do to improve its effectiveness in a disaster is to guarantee the survival of its own staff. Without firefighters, police officers, emergency medical technicians (EMTs), and paramedics the fire trucks, police cars, and ambulances sit in the station; it is the staff who do the work.

During a disease-based event such as a bio-terror attack or an influenza pandemic any reduction in the staff that provides mass vaccinations and/or prophylaxis would be one of the most significant shortfalls affecting the medical response. One of the highest priorities for the staff is and always must be the vaccinations and/or prophylaxis that provide force protection for the first responders themselves.

Seen in that light, it becomes obvious that force protection is more than purchasing personal protective equipment (PPE), masks, ballistic vests, and/or turnout gear; it is also, and of even greater importance, such preventive measures as the administration of vaccines and ensuring that prompt and effective medical care is available should the risks so often involved in emergency responses overtake a responder.

In any disease-based event, force protection always will include the establishment and use of physical barriers such as masks and gloves – but it also will encompass vaccinations and the administration of pharmaceuticals such as antibiotics and antivirals. The administration of vaccine is well within the skills of a paramedic and of most intermediate emergency medical technicians (EMTs), who provide injections using the same techniques on a routine basis.

A Very Special Delivery Advocated

Some emergency planners have called for the use of mail carriers to bring Cipro or other pharmaceuticals to every house and apartment in an area threatened by a massive outbreak of disease or a bioterrorism attack. Simple logic suggests that, if the lay public – with no training and no pre-

Force protection always will include the establishment of physical barriers such as masks and gloves – but it also will encompass vaccinations and the administration of pharmaceuticals

screening process – can be counted on to follow the directions shipped with the medications, trained medical personnel such as EMTs and paramedics certainly can be trusted to do the same thing. Regardless of the medication or the method of delivery, EMS professionals have both the skills and the equipment needed to deal with the most severe negative outcome possible: the overwhelming allergic reaction called anaphylaxis.

Many emergency-response agencies have instituted programs in which staff personnel are vaccinated at their work locations, usually by nurses. These programs typically include shots for hepatitis and annual influenza vaccines. Similar programs could be enacted during an outbreak to ensure

that vaccines could be shipped to stations where paramedics work, and they in turn could vaccinate the other members of the staff.

Implementation of such a plan would of course require the drafting of protocols that outline a patient profile of who should *not* be vaccinated and/or provided medications. The same documents should spell out not only what vaccines should be administered but also under what conditions, what the anticipated adverse effect(s) might be, and, of the greatest importance, those persons who should *not* receive the vaccine.

Approval of such plans from the state agencies that oversee the boundaries of medical practice and those that oversees EMS regulations would have to be obtained in advance, of course. In order for paramedics and EMTs to immunize their co-workers – or anyone else, for that matter – the scope of practice must be adjusted to allow such immunization. Because any such change might require an act of the legislature – or, at the very least, approval on the part of the state oversight agency – this needs to be done in advance.

During a biological disaster, maintaining the human resources available in operational readiness translates directly into the saving of lives – and, more importantly, is the least that the public can offer those people who agree to go into Harm's Way to save the lives of their fellow citizens.

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 County (NY) Office of Emergency Management, and served as a line paramedic for over ten years in the South Bronx and North Philadelphia.



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Incident Action Plans for Hazmat/WMD Incidents

By Glen Rudner, Fire/HazMat



While searching for an effective methodology to use for reference in developing its plans to deal with hazmat and WMD (Weapons of Mass Destruction) threats, the Virginia Department of Emergency Management's Technological Hazards Division found a program that was both reputable and backed by science. That program, Chemical Profiling of Known Chemicals, came from the U.S. Coast Guard Environmental Response Division in Yorktown, Virginia, and has been used now for almost ten years by operations-level responders and technicians in the Commonwealth with considerable success. The chemical profiling included in the program is a relatively simple process that looks at and identifies the physical behaviors and hazards of the materials listed in the profiling document.

Five key evaluation points are considered in the process: (1) The ability of a specific product to release energy; (2) the "physical state" (solid, liquid, gas, or liquid with a gas component) of a specific material; (3) its potential flammability hazards; (4) its potential health and/or toxicity hazards; and (5) its potential corrosivity hazards.

To start working toward the development of ways to counter or at least mitigate the chemical hazards of the product it is first necessary to identify the chemical itself. There are several identification clues that can be used, including the following:

- The product's UN/NA (United Nations/ North American) identification number – this four-digit number usually can be found on placards, shipping labels, subsidiary

placards, shipping papers, and/or other product labels;

- The product's CAS (Chemical Abstract Service) number – which includes up to nine digits, separated into three groups by hyphens; the first part of the CAS number, starting from the left, has up to six digits; the second part has two digits; the third part is a single check digit;
- The product's STCC (Standard Transportation Commodity Code), a seven-digit numeric code representing 38 commodity groupings. Assignment of an STCC code is linked to a commodity description developed to conform to the exact descriptions included in freight transportation classifications of rail and motor carriers.

Names and "Marks" of Materials

When a responder knows the name of a product there usually is no need to conduct a time-consuming search for all of its identification numbers. It is important to remember, though, that the ID numbers are used to find the name. Knowing the hazard class also is important in understanding the primary hazard posed by a particular material (but it should be emphasized that many materials may pose multiple hazards).

The National Fire Protection Association (NFPA) has developed a helpful "704" marking system that can be used to determine potential dangers. The NFPA704, which is used for fixed facilities, gives the first responder a quick overview of the product's potential health (blue), fire (red), and reactivity (yellow) hazards.

A fourth section of the marking system gives a special warning (white) of additional chemical hazards. The potential hazards also are assigned numbers ranging from zero (0) to four (4), with zero meaning the hazard is minimal and four used to designate the highest hazard.

PRODUCT ID	UN NUMBER _____	STCC NUMBER _____	CAS NUMBER _____
	CHEMICAL NAME _____	HAZARD CLASS _____	
	NFPA 704 HEALTH _____	FIRE _____	REACTIVITY _____ SPECIAL _____

The next step in developing a profile is to determine whether the material is what is called a high-energy releaser and, therefore, both designed and intended to explode. There are three types of high-energy releasers that are of particular concern:

Explosive – Does the material fall into any of the Hazard-Class designations, assigned by the U.S. Department of Transportation, 1.1, 1.2, 1.3, 1.4, 1.5, or 1.6? If so, the material is a high-energy releaser and must be handled with extreme care.

Reactive – Does the material react with other chemicals? Are any of those chemicals present? Is any of the materials air- or water-reactive? If so, it usually is designated class 4.2 or 4.3. Another significant question: Does the product react with itself, or does it polymerize?

Radioactive – Do the materials meet the U.S. DOT Class 7 classification? These are the only materials that qualify as radioactive.

HAZARD	ACTION	NO		YES	PROFILE
		_____	_____	_____	
EXPLOSIVE	IN CONTACT WITH OTHER CHEMICALS	_____	_____	_____	EXPLOSIVE
	REACTIVE WITH OTHER CHEMICALS	_____	_____	_____	
REACTIVE	WATER REACTIVE	_____	_____	_____	REACTIVE
	AIR REACTIVE	_____	_____	_____	
	VIOLENT POLYMERIZATION	_____	_____	_____	
	CHEMICAL UNSTABLE	_____	_____	_____	
RADIOACTIVE		_____	_____	_____	RADIOACTIVE

On the right side of the form used by first responders there is a column that is headed with the word "Profile." The column provides an easy way for the responder to circle or check off the hazard that has been defined by the reference points mentioned previously. The responder now is in position to develop an initial report based on the hazard information already accumulated. Using the information in the first and second sections, the responder can report on the primary hazards and start looking in closer detail at the safety and personnel-protection issues also involved.

The next section helps in classifying the physical state of the materials. The most important factors to be considered here are the material's ambient temperature, its boiling point, and its melting point. Using those temperatures, the material can be evaluated as a solid, liquid, liquid/gas, or a gas.

PHYSICAL STATE	AMBIENT TEMP _____	BOILING POINT _____	MELTING POINT _____	PROFILE	
	EVALUATION	YES _____	NO _____		GAS
	BOILING POINT BELOW AMBIENT TEMPERATURE	_____	_____		LIQUID / GAS
	BOILING POINT BELOW 300 °F BUT ABOVE AMBIENT TEMPERATURE	_____	_____		LIQUID
	BOILING POINT ABOVE AMBIENT TEMPERATURE AND ABOVE 300 °F	_____	_____		SOLID
	MELTING POINT ABOVE AMBIENT TEMPERATURE	_____	_____		

As a point of reference it is worth mentioning that a boiling point of 300 F is recommended to be used as a safety break. Here it also should be remembered that the lower the boiling point the higher the vapor pressure – and the more likely it is, therefore, that the product will either volatilize or become a vapor. Once the referencing work has been done, the boiling and melting points have been determined, the physical states have been verified, and other "profiling" work has been completed, a more detailed and more accurate evaluation can be carried out.

Gas Hazards, pH Ratings, And Related Footnotes

When evaluating gas hazards, the following properties are looked at first: flash point; ignition temperature; lower

and upper explosive limits (LELs and UELs, respectively); and vapor density. Consideration of these as a group will give the responder the information required to determine the flammability of the material.

Various related information still is required, including whether the material is a carcinogen (cancer-causing agent), for example. Also, its permissible exposure limit (PEL) as well as a short-term exposure limit (STEL); whether it should be considered "immediately dangerous to life and health" (IDLH); and what amount of the product is considered to be a lethal concentration (LC).

This information focuses on health effects and assists in decisions related to protection of the civilian population as well as first responders; it helps considerably, for example, in selection of the personal protective equipment (PPE) needed by each group.

The last piece key piece of information needed is the material's pH rating – pH is a common chemical term with many roots; in English it stands for "potential of hydrogen." The pH rating is based on a measurement of the corrosiveness of the vapor/gas.

EVALUATE GAS HAZARDS	FLASH POINT _____	BELOW 100 °F _____	ABOVE 100 °F _____	PROFILE	
	IGN. TEMP _____	LEL _____	UEL _____		FLAMMABLE
	VAPOR DENSITY _____	BELOW 1 _____	ABOVE 1 _____		COMBUSTIBLE
	CARCINOGEN _____	NO _____	YES _____		RISE
					SINK
	LC ₅₀ _____	LESS THAN 100 PPM (0.01% w/v) _____	101 to 1,000 PPM (0.01% to 0.1% w/v) _____	INHALATION HAZARD	
	PEL _____	50 mg/Kg to 500 mg/Kg _____	500 mg/Kg to 5 g/Kg _____	HIGH	
	STEL _____	1,000 to 10,000 PPM (0.1% to 1.0% w/v) _____	5 g/Kg to 15 g/Kg _____	MODERATE	
	IDLH _____			LOW	
	pH _____		0 – 3 or 12 – 14 _____	CORROSIVE	

When evaluating a liquid hazard, its solubility and specific gravity are the properties looked at first (to

EVALUATE LIQUID HAZARDS	SOLUBLE IN WATER _____	NO _____	YES _____	PROFILE	
	SPECIFIC GRAVITY _____	BELOW 1 _____	ABOVE 1 _____		SOLUBLE
	CARCINOGEN _____	NO _____	YES _____		FLOATS
					SINKS
					CARCINOGEN
	LD ₅₀ _____	LESS THAN 50 mg/Kg _____	50 mg/Kg to 500 mg/Kg _____	INHALATION HAZARD	
	PEL _____	50 mg/Kg to 500 mg/Kg _____	500 mg/Kg to 5 g/Kg _____	EXTREME	
	STEL _____	1,000 to 10,000 PPM (0.1% to 1.0% w/v) _____	5 g/Kg to 15 g/Kg _____	HIGH	
	IDLH _____			MODERATE	
	pH _____		0 – 3 or 12 – 14 _____	LOW	
				CORROSIVE	

determine the behavior of the liquid component of the material).

When evaluating a solid hazard, sublimation and combustibility are the most important properties to be determined. Here, a footnote is needed: if a specific solid meets the criteria of sublimation (the term used when a product passes from a solid to a gas), then the gas also must be evaluated.

EVALUATE SOLID HAZARDS	SUBLIME _____	NO _____	YES _____	PROFILE	
	COMBUSTIBLE _____	NO _____	YES _____		EVALUATE GAS
	CARCINOGEN _____	NO _____	YES _____		COMBUSTIBLE
					CARCINOGEN
					INHALATION HAZARD
	LD ₅₀ _____	LESS THAN 50 mg/Kg _____	50 mg/Kg to 500 mg/Kg _____	EXTREME	
	PEL _____	50 mg/Kg to 500 mg/Kg _____	500 mg/Kg to 5 g/Kg _____	HIGH	
	STEL _____	1,000 to 10,000 PPM (0.1% to 1.0% w/v) _____	5 g/Kg to 15 g/Kg _____	MODERATE	
	IDLH _____			LOW	
	pH _____		0 – 3 or 12 – 14 _____	CORROSIVE	

All of this information will assist in evaluating the primary hazards that responders look for during a hazmat/WMD incident. The determination if the product is flammable, toxic, and/or a corrosive hazard – as well as an energy hazard, as determined earlier – can assist responders and incident commanders in developing safe tactical decisions as part of a solid Incident Action Plan, or IAP.

A final footnote: The skill required to carry out the research discussed above is difficult to acquire. It also is a very perishable skill, so should be refreshed and updated as frequently as possible. Such refreshing and upgrading can be carried out through a number of simple exercises that can be done once a month, on duty nights, in the station or elsewhere.

Glen D. Rudner is the Hazardous Materials Response Officer for the Virginia Department of Emergency Management; he has been assigned to the Northern Virginia Region for the last nine years. During the past 25 years he has been closely involved in the development, management, and delivery of numerous local, state, federal, and international programs in his areas of expertise for several organizations and public agencies.

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Greater Responsibilities, More Recognition for Hospital Emergency Managers

By Theodore Tully, Health Systems



If the 9/11 terrorist attacks were the watershed moment for the nation's emergency-management profession in general, the defining moment for *hospital* emergency management, particularly in the planning stages, was Hurricane Katrina. That single event shattered what little confidence the public previously had in all emergency plans, especially those for hospitals.

For the emergency managers actually on the scene in Louisiana, and elsewhere on the Gulf Coast, it was disappointing, and somewhat disturbing, that their fellow citizens seemed either unable or unwilling to recognize the incredible sacrifices that so many responders, especially those outstanding healthcare providers who stayed with their patients at considerable risk to their own lives, made during and after that cataclysmic "once in a century" event. All but buried in the chaos and confusion that followed the hurricane were the facts that only the United States could have responded to such a disaster so quickly, that a great deal of incident-response planning *did* go right, and that probably *no* major U.S. institution, public or private, could have been fully prepared to respond to a catastrophic event of such unprecedented magnitude.

Nonetheless, and despite all the things that did go right during Katrina and its overlong aftermath, the nation's hospitals and other healthcare facilities should and must focus greater attention on the many aspects of their emergency-management plans and operational capabilities that obviously do require improvement.

If nothing else, Katrina focused the attention of administrators and lawmakers alike on what must be admitted were inadequate assumptions

and, therefore, poor emergency planning on the part of most if not all of the hospitals directly affected by the monster hurricane. Prior to Katrina, most decision makers in the U.S. healthcare industry believed – erroneously, as it turned out – that a federal government response to an emergency, although perhaps not immediate, would follow in a few hours, not days.

One of Several Weak Links in the Chain

Most hospital administrators in New Orleans and surrounding areas, it seems safe to say, also believed that "sheltering in place" until help would arrive was a more advisable alternative than immediate (and potentially very dangerous) evacuation. These same officials, however, failed to see (among other things) the weakness of a hospital supply chain that sets a healthcare facility up for failure if reliable plans are not in place to ensure the re-supply of medicines, pharmaceuticals, and other medical consumables in a relatively short period of time – anywhere from 24 to 72 hours, for most practical purposes.

In the context of their previous professional experience – and/or the lack thereof – clinical personnel also probably never believed that "the triage color," black, would ever have to be used outside of a battlefield, or that physicians would be required to make some extremely difficult ethical decisions about the limited resources available to them – sacrificing some very seriously injured patients, for example, to save the lives of others who seemed more likely to survive.

Looking back at the many reasons *why* emergency planning could and should have been better – but was not – during Katrina and the flooding that followed, the first and most obvious questions

asked by hospital administrators, and by legislators as well as the print and broadcast media, were: (1) "Who were the hospital leaders?" (2) "Who did the healthcare institutions put in charge of the important task of preparing hospitals for emergencies?"

The answers received were and are not surprising: Prior to Katrina, most U.S. hospitals and other healthcare facilities delegated those important planning roles and responsibilities to some of their best people. But almost all of those same people, understandably but unfortunately, had a huge number of other responsibilities as well. Until Katrina struck, and for some time after, most if not all U.S. hospital officials responsible for emergency planning usually had other full-time responsibilities as well, mostly in the provision of day-to-day healthcare for their hospital. In short, prior to Katrina, hospital leadership during an emergency situation was at best a part-time responsibility.

The Beginning Of a Much-Needed Upgrading

Today's emergency planning requirements for hospitals have been significantly elevated over the past several years, thanks in large part to Hurricane Katrina. The detailed new planning requirements mandated by the Joint Commission (JC) and/or by local/state healthcare regulators, for example, now require hospitals to greatly increase their institutional preparedness efforts. Additional funding resources, although still limited, also are being provided, though, and those hospitals that avail themselves of the funding available through federal grant programs are finding that some incredible deliverables accompany the grants.

Funding is possibly the most difficult problem facing most of the nation's healthcare facilities. The average

citizen, or legislator, who knows what hospitals now are being asked to plan for probably would judge the long list of requirements to be both appropriate and reasonable. But very few if any emergency planners and hospital administrators believe that the funding currently available is adequate for the numerous tasks assigned. That economic fact of life does not, of course, diminish the responsibility of healthcare institutions to plan for what *can* happen in even a worst-case scenario, to schedule and carry out drills and exercises on the more realistic planning assumptions that are, in fact, now in place, and to use those drills to significantly improve the hospital's emergency planning and capabilities.

Although the JC's current requirements do not specifically spell out the need for a full-time or even part-time emergency manager, it seems clear that the job of emergency manager is now at least an FTE (full-time equivalent)

position for most U.S. hospitals. The JC has said in briefings with hospitals and trade associations that it will hold hospital senior leadership responsible, under the leadership standards, if they do not allocate enough resources to their planning efforts. And the Joint Commission itself plans to put even greater emphasis on emergency management in the future, so the standards may receive yet another upward revision.

In 2007, the Health Research Institute (HRI) commissioned a new study of hospital preparedness by Pricewater Coopers. In that study – *Closing the Seam: Developing an Integrated Approach to Health System Disaster Preparedness* – HRI clearly identified leadership as a crucial need and encouraged the industry to select, train, and both develop and encourage what the institute calls “Disaster Masters” – i.e., a new and, it would seem, higher level of emergency-management professionals.

HRI also recommended, not incidentally, that hospitals: (a) Develop a standard curriculum and establish certification requirements for their future emergency leaders; (b) redefine the roles of all hospital staff personnel during emergencies; and (c) finally allocate the funding needed to support the development and maintenance of the on-going leadership skills required of emergency leaders.

Clearly, the time of the Hospital Emergency Manager has arrived. Now all that the hospitals have to do is find them.

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.

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A Focus on Solutions**Personal Protective Equipment***By James D. Hessman, Editor in Chief*

An ounce of prevention is worth a pound of cure. Doctors, nurses, and other medical professionals are personally aware of the cruel truth that the lives of many patients "might have been saved" if the right medicines were available – and affordable. The same is true in homeland defense. The cost in dollars of the 9/11 attacks on the World Trade Center has been estimated to be "\$1 trillion, and counting." How much the lives of the more than 3,000 innocent people killed in those attacks were worth is a cost that is truly incalculable. This Special Report on personal protective equipment focuses on some of the life-saving garments and PPE systems now available.

Scott Health Focuses on "Lowest-Cost" Long-Duration Respiratory Protection

Homeland-security professionals working in what are called IDLH (immediately dangerous to life and health) environments would be particularly interested in any PPE gear or equipment item that helps them breathe more safely, more easily, and for a longer period of time in such environments.

That is exactly what the Scott BioPak 240 Revolution provides – long-duration respiratory protection – said Marty Lorkowski, industrial marketing manager-Americas for Scott Health. The "best option" for working in hazardous, "potentially IDLH, environments," he told DPJ, "is a four-hour re-breather." His company, he continued, "offers the most advanced re-breather on the market today." He described the Scott Biopak 240 Revolution as "a closed-circuit breathing apparatus [CCBA] that will provide 240 minutes of oxygen"

– enough, he pointed out, to keep the wearer "safe and comfortable during long wear times," such as those likely in mass-casualty evacuations.



The Scott BioPak 240 Revolution four-hour closed-circuit breathing apparatus (CCBA) is ideal for applications requiring long-duration respiratory protection in potentially Immediately Dangerous to Life and Health (IDLH) environments such as decontamination, urban search & rescue, or mass casualty evacuations.

In addition to the BioPak 240 and other CCBA units, Scott offers a number of other "respiratory solutions" for homeland-preparedness professionals, including CBRN (chemical, biological, radiation, nuclear) APR (air-purifying respirator) and SCBA (self-contained breathing apparatus) systems, Lorkowski said. Of particular interest to decision makers and budget analysts at all levels of government, he pointed out, is that Scott "always" offers "the lowest cost of ownership" for all of its SCBA systems – including, he emphasized, "the BioPak 240 Revolution."

SafetyTech's C-625 PAPR Critically Needed To Meet All-Hazards Bio-Preparedness Act

SafetyTech International, which counts the U.S. Special Operations

Command, the Federal Bureau of Investigation, Army Medical, and a growing number of other U.S. Army and U.S. Navy commands among its satisfied customers, was designing, developing, and manufacturing first-responder protective PAPR (powered air-purifying respirator) products even prior to the terrorist attacks on American targets on 11 September 2001. A number of the nation's largest hospital systems also are long-time customers, and several have identified the company's new C-625 Multi-Hazard PAPR System as a "critical need" if they are to be able to cope with future emergency-response incidents and events.

The C-625, which is one of several "loose-fitting" Safety-Tech products that comply with the All Hazards Bio-Preparedness Act of 2006, was specifically designed for use in multiple-response situations, said Jeff Paden, the company's sales & marketing director. Its "one-size-fits-all" hoods and "unique" audible alarms



SafetyTech's C625 Multi-Hazard PAPR system offers a precision one-size-fits-all PAPR solution for first responders and first receivers.



Draeger Safety Inc. offers a lineup of key safety products such as rebreathers, SCBAs, military dive systems, gas detection products, and chemical agent detection kits used to protect the nation's first responders from toxic chemicals and vapors.

(for low-flow or low-battery) provide significant flexibility. It is precision-molded and resistant “to all chemical-warfare” agents, Paden said, and is designed to be offered “with a variety of filters, cartridges, and canisters.” The loose-fitting systems and single-sized hoods, he pointed out, not only “eliminate fit-testing” but also simplify logistics. In mass-production quantities, of course, those bonus factors also should lower costs, as most government and private-sector customers would quickly recognize.

Thanks to its extensive experience and its already impressive customer base, SafetyTech has become, in Paden’s words, “the acknowledged world leader in CBRN PAPR design, development, and manufacturing.” The company’s products, he continued, are used by numerous U.S. government agencies for a broad spectrum of missions ranging from counter-proliferation programs to maritime interdiction and port security. In addition, Paden said, various SafetyTech products have been “extensively specified for use in mitigating the consequences of CBRN [chemical, biological, radiological, nuclear] events.”

Several U.S. military after-action reports, carried out in the wake of the 9/11 terrorist attacks and verified by later CBRN exercises, confirmed what SafetyTech had already concluded – namely, that multi-hazard PAPR systems such as the C625 would be particularly useful in carrying out “laborious response and decontamination missions.” Laborious, of course, means not only time-consuming but also manpower-intensive, and both of those negative qualities translate directly into higher costs for the American taxpayer.

A Winning Combination for Draeger: Quality Training & End-to-End Solutions

Today’s emergency responder has to be prepared to cope with a number and variety of minor and major catastrophes of all types – including, in some instances, certain situations not included in the standard training manuals. It is in large part for that reason that Draeger focuses considerable attention on PPE equipment that enables responders “to be prepared for the unexpected.”

The company’s new Combination breathing apparatus, designed for front-line responders who are carrying out tactical operations, is a case in point, said Greg Farmerie, Draeger’s business development manager, Defense & Security. Members of SWAT teams who are involved in a “first entry” assignment use a Combination system, he said, because it allows them to focus full attention on “other areas of their responsibilities.”

The Combination system allows the user to switch from compressed air to a powered air-purifying respiratory (PAPR) system while working in contaminated or potentially contaminated zones or environments. That capability conserves air, extends the on-scene time available to the individual responder, and makes

the initial response operations both faster and more effective.

The Combination system is used not only by Department of Defense units assigned to carry out CBRN (chemical, biological, radiation, nuclear) reconnaissance operations, Farmerie said, but also by local fire departments and both state and local law-enforcement professionals. Draeger’s BG 4 rebreather, on the other hand, is probably a better fit for individuals and units involved in analytical operations – e.g., those working in hazardous operations and recovery work *after* an incident has occurred.

“We offer end-to-end solutions in two core competencies,” Farmerie said: “CBRN breathing protection, and the detection of hazardous gases” – including those emitted by toxic industrial chemicals, chemical-warfare agents, and biological agents. In keeping with that philosophy, he continued, Draeger’s “total capabilities” include working in close cooperation with fire departments and police departments not only in providing and maintaining their equipment but also in carrying out the “quality training” needed for operational effectiveness.

ILC Dover Rounds Out First-Responder Ops by Focusing On Protection for MCI Victims

The emergency-management guidelines for coping with mass-casualty incidents



ILC Dover’s Sentinel XL™ CBRN is the only Cap 2 NIOSH-approved loose-fitting CBRN PAPR.

(MCI) of any type almost always start, understandably, with the same logical mandate: First, protect the first responders themselves – i.e., the firefighters, emergency medical technicians, policemen, and support personnel who are on the scene, sorting through the rubble, maintaining order, and putting their own lives on the line to save the lives of others.

ILC Dover, which has a long history of designing and producing protective masks, hoods, and other chemical/biological protective equipment for all branches of the nation's armed forces, does not disagree with that mandate. But it carries it a step further by paying special attention as well to the development of easy-fit PPE units that save the lives of those who are caught in the rubble, who might be unable to escape without the help of others, who might even be unconscious – who are, in short, the MCI victims that the first responders are trying to save.

The company's SCape® CBRN(30) – which already has been approved by NIOSH as an *escape* respirator – has several features that, in the words of National Sales Manager-PPE Tom Grasso, make it “a true one-size-fits-all” unit that starts to operate “the minute the product is removed from its container. There is nothing for the users to do than remove the product and put it on.”

Dover also offers a Sentinel XL™ CBRN chemical-preparedness variant of the system that is fitted with a butyl rubber hood and an unprotected (but very lightweight) breathing hose that make it particularly valuable for use in pandemic preparedness and the control of infectious diseases. Among its special features are a combination low-battery audible and visual alarm

system that activates when the battery life is running low and a head cover that permits use of a stethoscope.

DuPont's Global Heritage Of Quality: Working Today To Protect Tomorrow

It is not surprising that DuPont was one of the first companies the federal government turned to in the post-



9/11 efforts to design, develop, and produce the broad range of PPE gear needed, in massive quantities, by the nation's first responders to protect the U.S. homeland in the Age of Terrorism. For many decades, the company has been a world leader in building a wide range of quality products not only to meet Department of Defense needs but also to protect the lives of the nation's firefighters, policemen, and emergency medical technicians who are first on the scene of a domestic incident or event – whether natural or manmade.

DuPont has earned global respect for not only the quality of its long and ever-improving line of protective garments but also for the flexibility,

versatility, and adaptability of those garments – as is evidenced by four of the company's best-known products: DuPont™ Nomex® fiber to cope with thermal hazards; Kevlar® fiber for ballistic, stab, cut, and abrasion protection; Tyvek® garments to provide dry-particulate protection; and Tychem® garments to protect against toxic chemical and gas hazards.

In the field of domestic preparedness, one of the company's most important PPE offerings is the Tychem® ThermoPro, an ingeniously designed product that, as described by Jeff Jung (the company's North American Segment Manager, Emergency Response), provides “protection from dual hazards – flash fire and chemicals – in one single-layer garment.”

Proven quality, superior distribution and logistical support, and leading-edge products – DuPont has earned its reputation the hard way: by working hard every day, *for over 200 years*, to help meet the needs of all who need protection, whether from fires, natural disasters, chemical spills, or outbreaks of infectious disease. But the company is not done yet, Jung said. DuPont scientists and designers are now exploring “a variety of new offerings,” he said, including membrane technology for chem/bio protection, improved-design chemical protective garments (“to facilitate donning and doffing”), and several fire-service products designed “to improve thermal insulation” and otherwise enhance “firefighter performance.”

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.

PPE: Defining the Terms, Resolving the Ambiguities

By Dennis Jones, Viewpoint



Fundamentally, the personal protective equipment (PPE) required to protect two workers – one responding to a hazmat (hazardous materials) incident and one providing care to an infectious disease patient – differ considerably from one to another, but most Americans, including those working in the emergency-response and medical communities, commonly refer to both types of equipment as PPE. This dual use of the PPE acronym can result in confusion – e.g., when the DHS (Department of Homeland Security) Hospital Preparedness Program Grant Guidance documents suggest that local communities develop caches of PPE to prepare for potential threats, but it is not always clear which type of personal protective equipment a specific guidance document refers to.

Although the fundamentals of NIMS (National Incident Management System) resource typing demand clarity and consistency in the categorization of response assets, each government agency seems to have its own definition of PPE. The Federal Emergency Management Agency (FEMA), for example, defines PPE in *its* NIMS guidelines, as “Equipment and clothing required to shield or isolate personnel from the chemical, physical, thermal, and biological hazards that may be encountered at a hazardous materials incident.” That definition, it should be noted, does not include any medical protective garb.

The Office of Safety and Health Administration (OSHA), on the other hand, uses two definitions. One, which applies to hazmat gear; states that PPE “is designed to protect employees from serious workplace injuries or illnesses resulting from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards.” The second OSHA definition, used for “healthcare settings,” describes PPE as “specialized clothing or equipment worn by an employee for protection against infectious materials.”

There is yet a third definition, though – one used by the Food and Drug Administration (FDA) – that covers

both areas of risk: “PPE is any type of specialized clothing, barrier product, or breathing (respiratory) device used to protect workers from serious injuries or illnesses while doing their jobs,” according to the FDA definition. Depending upon the varying workplaces or experiences of individual employees, it seems reasonable to suggest, the expression “PPE” can be interpreted as referring to a rather broad spectrum of clothing and/or equipment items.

However, the confusion over “PPE” can be readily clarified through the recognition and identification of two functional classes or sub-categories of PPE. Each sub-category might be given its own acronym: PPE-HM to describe hazmat gear; and PPE-HC to describe the gear to be used in a healthcare setting. Acceptance of the two new acronyms would allow for the adoption by FEMA (and any other agency – state, federal, or local – working in the hazmat or healthcare fields) of three standard definitions. The FDA’s current definition could be used to refer to PPE generically, and OSHA’s two current definitions could be adopted to define the two new sub-categories.

For additional information about the definitions cited above see: (a) Typed Resource Definitions: Law Enforcement and Security Resources, FEMA 508-6; July 2007; (b) Personal Protective Equipment, OSHA Fact Sheet, U.S. Department of Labor, 2002; and (c) Guidance for the use and selection of Personal Protective Equipment (PPE) in healthcare settings, Centers for Disease Control and Prevention.

Dennis Jones, RN, BSN, was the first health community preparedness director for the Georgia Division of Public Health and in that post directed the statewide health community program in its preparations to prepare for and respond to all health-emergency events, including the planning for Pandemic Influenza. A finalist in Atlanta’s 2003 Healthcare Hero award, the first chairperson of the Atlanta Metropolitan Medical Response System Healthcare Section, and a nationally recognized expert in hospital disaster preparedness, he is now serving as an executive consultant with Collaborative Fusion Inc.



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Real ID: No Impediment to Law-Enforcement Photo Sharing

By Rodrigo (Roddy) Moscoso, Law Enforcement



The Department of Homeland Security's recent release of its Final Rule on implementation of the Real ID Act of 2005 calls for minimum standards for state-issued drivers licenses as one step in a larger effort to make it more difficult for unauthorized persons to acquire and/or create a fraudulent license or state ID card. After reviewing comments from various states to its originally proposed Real ID regulations, DHS amended several key provisions of the Act and delayed the implementation timeline for minimum standards in order to reduce the cost burden to states and to allow a longer period for compliance. Nonetheless, the new Rule calls for significant enhancements to state DMV records, including the capture, storage, and provision of interstate access to drivers-license photos. One question remains, though: Will the implementation of Real ID impede, or provide impetus to, current efforts to provide access to DMV photos to law-enforcement officers in the field?

A key objective of the Real ID Act is to reduce the ability of terrorists to obtain fraudulent identification cards. Technological improvements will certainly help in reducing fraud. However, unless additional technologies are implemented to complement the Real ID regulations, the front lines of ID "verification" will remain primarily with law-enforcement officers in the field, who must physically inspect the new ID cards to determine if they are in fact legitimate.

Police and other law-enforcement officers throughout the country have long needed the ability to quickly access secure, accurate, and quality images of individuals during routine traffic stops and investigations, and at

various security checkpoints. Although drivers-license photo-sharing is a common intrastate practice in many areas of the country, no states are currently sharing the drivers-license photos of their own state residents with other law-enforcement officers in the field in neighboring states. The full implementation of the Real ID Act may make that desirable practice much more obtainable, at least technologically.

Unless additional technologies are implemented the front lines of ID verification will remain primarily with law-enforcement officers in the field who must physically inspect the new ID cards

Technologically Possible, But Politically Risky?

DHS has been working closely with government and non-government agencies to determine the potential IT infrastructure needed to support real-time access and data exchange across state lines. Several existing systems have been identified, such as the American Association of Motor Vehicles' Digital Image Exchange Program, the Commercial Drivers Licensing System, and the National Law Enforcement Telecommunications System. The creation of a common infrastructure would certainly allow for easier image sharing. However, privacy concerns have been raised about the security of and potential access to a national drivers-license image database.

The American Civil Liberties Union (ACLU) has expressed concerns, for example, about the Real ID Act's supposedly tacit creation of a National ID card, and other privacy advocates have cautioned against the creation of such a system, given the potential for unauthorized access to this information – including access by federal agencies. The unauthorized and embarrassing access to State Department passport records of three presidential candidates disclosed earlier this month certainly exemplifies the type of problem that Real ID wants to avoid.

The DHS Final Rule attempts to address this issue, among others, by making it clear that the Real ID Act "does not create Federal access rights to State DMV databases." Here it might be noted that the ACLU has not so far expressed any concern about certified law-enforcement personnel having access to drivers-license photos in the field, even across state lines.

Today, several states are technologically capable of sharing their photos with law-enforcement officials in neighboring states – and, more specifically, in a mobile environment. National implementation of the Real ID Act may hasten and enhance the several photo-sharing initiatives already underway and thereby provide local first responders throughout the country with the tools they need to effectively implement and achieve the objectives of Real ID.

Rodrigo (Roddy) Moscoso currently serves as Communications Manager for the Capital Wireless Information Net (CapWIN) Program at the University of Maryland. Formerly with IBM Business Consulting Services, he has over 15 years of experience supporting large-scale IT implementation projects, and extensive experience in several related fields such as change management, business process reengineering, human resources, and communications. ▼

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The Gateway Key to Synergistic Communications

By Stephen Macke, Viewpoint



The use of bridging devices to tie together two or more wireless communications networks started over 15 years ago, thanks in large part to initiatives taken by the U.S. military and various non-military federal agencies looking for ways to provide and/or improve the basic communications needed for field operations that require several units or agencies to coordinate their activities.

The first networks were somewhat complicated to set up, were not user-friendly, and usually required a dedicated technician to ensure they were managed and used correctly. The synergistic advantages provided by temporarily combining two or more radio networks involved in the same project soon became obvious, though, and the nation's technical community began to respond. Today, there are dozens of computer-aided gateways designed to provide a range of interoperability options by means of digital signal processing systems with varying features and functions.

In a public-safety communications system today a gateway is a network element capable of interfacing with other disparate networks to bridge protocols and talk paths in order to ensure an orderly combined response to a critical event. The continuity provided by the delivery of vital services during any tragic occurrence – whether a serious highway accident or a fire on the county line or a catastrophic incident such as a hurricane or an act of terrorism – is helped immensely by the availability of an efficient communications system.

Planning, Preparations Programming, and Training

A communications gateway must be able to facilitate well-organized communications between several

agencies and/or political jurisdictions that must be in close and constant communication with one another to function properly in times of emergency. However, like any other technological device that a first responder can use, the gateway has to be preplanned or preprogrammed to meet the needs of a specific foreseeable critical event, and then rehearsed – through multi-agency drills and exercises. Typically, any agency or jurisdiction is involved

**Typically,
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jurisdiction is involved
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might occur numerous
times during the course
of a month or year**

in a number of mutual-aid events that might occur numerous times during the course of a month or year. The larger events are almost always much more difficult to prepare for; however, with proper planning they can be handled in an effective and efficient way.

This new technology tool can be either an “enabling” implement or a “disabling” one – depending, usually, on how well an organization or agency has been trained. The three most common causes of gateway failure are: (a) A lack of *training*, which can result in the device sitting on the shelf; (b) A lack of *disciplined* use when deployed – which means, for example, that several people might be talking at the same time, causing so much confusion that no one can effectively listen; and (c) A lack of *stewardship*, which is

caused by not properly maintaining the equipment, sometimes rendering it useless when it is most needed.

There are three primary types of gateway systems now commonly used.

“Portable mounted” – i.e., capable of being carried in a suitcase, for example; these systems have limits on both functionality and range, but may be used for rapid-deployment situations;

“Mobile mounted” – carried in a command vehicle fitted with antennas that help extend the radio footprint; these can be feature rich; and

“Fixed” – these usually are installed at higher-power base stations in a strategic location to provide maximum capabilities that can be remotely controlled and dynamically reconfigured for a specific type of incident.

It is important to recognize that interoperability, or the lack thereof, is not basically a technology issue but, rather, an operational and political issue that can be overcome through interagency agreements, joint classroom training, and joint field-readiness exercises as well as actual operations. Regardless of the feature sets available and/or the robustness of the specific gateway system, training is the most significant factor involved in the use of this still growing and increasingly important technology.

Stephen Macke, creator of Advent International and a senior consultant with the Communications and Networking Division on the staff of the Georgia Tech Research Institute, has more than 30 years experience with some of the nation's major telecommunications companies, including duty as vice president of Marconi's North American Fixed Wireless Team. He co-authored the North American wireless local loop strategy for Marconi, and served as liaison to the company's product management team.

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Incident Action Planning – A Step-by-Step Process

By Steve Grainer, Fire/HazMat



The writing of an Incident Action Plan (IAP) for what is called an “expanding incident” is a long, complex, but also comprehensive process designed to clearly identify incident objectives, strategies, and tactics based on fundamental decisions made by the incident commander (IC) – who is responsible for establishing the incident objectives. The latter are used by the supporting command and general staff to identify the strategies and tactics needed to achieve the objectives set by the IC. Through the step-by-step process of conducting a tactics meeting, followed by a planning meeting, and other intermediate steps the command and general staff develop a plan based on the resources available and other factors.

The development of a written IAP becomes particularly important when an incident: (a) involves more complications than expected; (b) requires more than the customary departmental resources provided; and/or (c) may require several operational periods for conclusion. For more than 30 years incident commanders charged with fighting wildfires have followed and refined a systematic approach for developing a written IAP by using several standard forms that are designed to capture all of the information needed to manage the resources operating on the incident scene.

The specific forms used in the IAP planning process are: ICS 202 – Incident Objectives; ICS-203 – Organization Assignment List; ICS-204 – Division Assignment List; ICS 205 – Incident Communications Plan; and ICS-206 – Medical Plan. Basically, completion of these forms provides the information needed to effectively manage almost any major event or

emergency. The same forms also provide the information needed to answer several specific questions, including the following: (1) “What is intended to be accomplished?” (2) “What resources will be used to carry out the intended actions?” (3) “How will these resources be organized and supervised?” (4) “How will resources communicate during their operations?” (5) “How will care be provided for any personnel who may be injured during the activities?”

The incident commander must not only manage all aspects of the on-going incident but also ensure that adequate planning is being carried out for the next operational period

A Standard Format To Ensure Continuity

Because this information is provided in a standard format, all of the personnel resources involved will be able to follow the same guidelines during the operational period of the specific IAP. The guidelines also ensure greater continuity between all of the resources involved. In a more formal IAP development process, the incident commander approves the plan for implementation (usually in the next operational period). However, the actual development of the IAP is supervised and coordinated by the planning section chief.

The incident commander (or unified incident commanders) must not only manage all aspects of the on-going incident but also ensure that adequate planning is being carried out for the next operational period. The delegation of responsibility for planning to a planning section chief ensures that the planning process remains active and stays current during major events. The planning section chief is responsible for keeping informed of all current conditions; for anticipating changes in those conditions; and for monitoring and documenting all aspects of the incident.

Each member of the command and general staff – those specifically responsible for operations, for example, or for logistics, finance and administration, planning, public information, liaison, and/or safety – contributes input about his/her functional responsibilities and capabilities for the next operational period. The data, information, and input provided is collected and collated by the planning section staff and cross-referenced to the objectives previously identified by the IC to ensure that the objectives set can in fact be achieved.

Safety Factors And Other Concerns

Although not included in the IAP, two other standard ICS forms – ICS 215 and ICS 215A(G) – also are integral elements of the planning process. ICS 215 provides detailed information on the resources needed to accomplish the tactical actions consistent with the objectives established by the IC and provides a way to identify: (a) the resources required to carry out the tactics selected



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(indicated by “Req” on the 215); (b) the resources on hand (“Have”); and (c) the additional resources required to conduct the tactical operations projected (“Need”). By simply subtracting the “Have” number from the “Req” number, planners and staff can determine if it will be necessary to seek more of those resources. The ICS 215 also can be used to determine when resources on hand

exceed the need (and therefore can be demobilized or reassigned).

The ICS 215A(G) is a document used in the planning process that captures specific safety concerns related to the tactical operations being planned. When coupled, the ICS 215 and 215A(G) help the planners (and subsequently the IC) to be certain that all necessary resources and

appropriate safety considerations have been identified. When all of this related information has been compiled the planning process can proceed, and development of the formal IAP can be completed. Normally, the ICS 215 and 215A(G) forms are completed during the tactics meeting, and provide the baseline information needed for the later steps in the planning process.

Once the IAP is completed and approved by the IC, it is briefed to operational supervisors in an “Operational Period Briefing” (sometimes referred to as the “Shift Briefing”). In turn, the supervisors share the assignments and other guidance with the operational staff immediately prior to beginning operations for the current operational period. Faithful adherence to this standard process ensures that all members of the “choir” are “singing to the same sheet of music.”

In summary, Incident Action Planning is *always* required. Typically, though, for a “run of the mill” response, the IAP is provided or prompted verbally by the incident commander, without detailed written instructions or guidance. But when the complexity, scope, and/or duration of a particular incident expand significantly, the Incident Command System provides the tools (forms) and structured process needed to ensure that a systematic approach is followed in the planning for and management of incident operations.

Steve Grainer is the chief of IMS programs for the Virginia Department of Fire Programs. He has served Virginia fire and emergency services and emergency management coordination since 1972 in assignments ranging from firefighter to chief officer. As a curriculum developer, content evaluator, and instructor, he currently is developing and managing VDFP programs to enable emergency responders and others to achieve NIMS compliance requirements for incident management.

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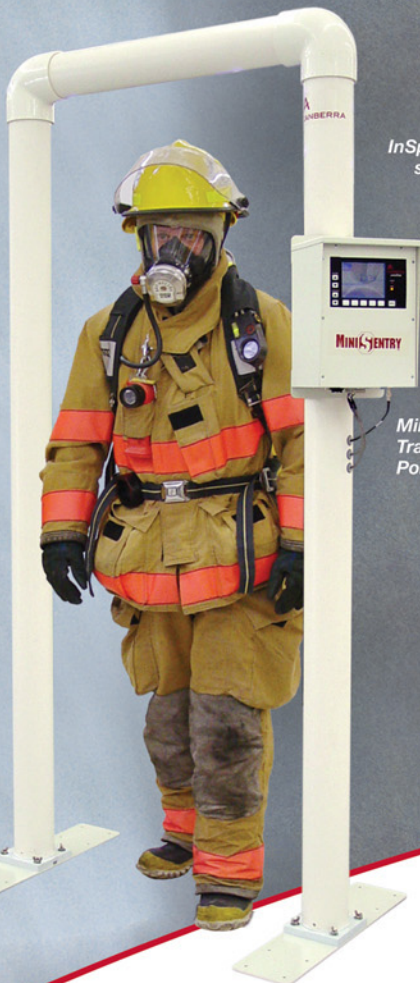


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Partnerships at Work in Public Health Planning

By Steven Harrison, Health Systems



A key goal of the Virginia Department of Health's emergency preparedness and response program is the identification and resolution of lessons learned through an aggressive drill and exercise program. The sharing of best practices among the Commonwealth's thirty-five health districts is an important component of the agency's approach, which strongly encourages the standardization of plans and procedures, cross-jurisdictional interoperability, the minimization of costs – by avoiding duplicative efforts, for example – and the adoption of already proven strategies.

In 2007, the VDH sponsored more than 40 state, regional, and local health-centric exercises. The department also participated in numerous exercises conducted by other agencies in which the VDH's engagement was deemed appropriate. A well planned and well executed exercise almost always results in better coordination among all of the organizations and individuals involved – from senior elected officials and budget planners to community-based volunteer and non-profit organizations. The health-centric exercises carried out by the Commonwealth, for example, have demonstrated that pandemic-response decisions not only affect and relate to numerous continuity-of-government issues but also require, partly for that reason, an in-depth examination of the legal authorities and ethical decisions that also are involved.

Untested options on the delegation of authority, succession plans, absenteeism, social distancing, public countermeasures, resource prioritization, and post-event reconstitution must all be carefully thought through and addressed as

expeditiously as possible. Sharing the lessons learned in the exercises completed and adjusting already-proven principles against a pandemic threat will go a long way to ensure that policy and planning needs are satisfied. As difficult as decisions on such matters will be to make, the resolution of identified enhancement items will help decision-makers from the private sector as well as government sectors – and not only

The facilities involved are being encouraged to ensure that their plans include adequate all-hazards response, evacuation, and sheltering provisions

those involved in and/or under the jurisdiction of public health – be better prepared to meet the needs that have become apparent. But the goal will still be the same: to better serve the citizens of Virginia and the Commonwealth's work force in future times of emergency.

Hurricanes, Shelter Plans, And Special Medical Needs

Without the detailed planning and affirmation of operational procedures made possible through inter-agency, multi-sector cooperation, training, and exercises, VDH's capability to deliver needed assets to responders,

and to the Commonwealth's population at large, would be less than optimal. Neither VDH nor any other government agency is or can be independently effective in dealing with mass-casualty all-hazards events. Success can be achieved only through a network of working relationships linking the private sector with the Commonwealth's emergency-management and homeland-security agencies.

The Metropolitan Medical Response System (MMRS), a strong supporter of VDH programs – and an organization through which many forward-looking initiatives have been made possible – provides an excellent example of how the partnership works. Given Virginia's vulnerability to hurricanes, the capability to shelter and/or evacuate medically fragile citizens is always a high priority. At the direction of Governor Timothy Kaine, the Commonwealth recently created new state-managed shelter plans that individually and collectively spell out the organizational structure, coordination needs, activation process, and operational support required for the administration of a general population shelter in which a special-medical-needs component is co-located.

State-managed shelters may be opened by the issuance of a "Governor's Emergency Declaration" or as a mission assignment postulated by the Virginia Emergency Operations Center. The shelter plans previously mentioned are intended to be implemented if a large segment of the Commonwealth's population has to be evacuated from a region – the Tidewater area, for example – when the sheltering capabilities of local and/or neighboring jurisdictions



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either are not available or already have been (or are reasonably expected to be) exceeded.

A Crosswalk Document For Community-Care Facilities

Virginia also recently enacted legislation requiring the preparation and promulgation of emergency plans by certain community-care

institutions – specifically including nursing homes, assisted living facilities, and group homes. Not all of these facilities developed comprehensive emergency plans in the past, and some may not have the staff expertise required to develop an in-depth emergency preparedness program on their own. However, significant progress in this area has been made over the past

year and the facilities involved are being encouraged to ensure that their plans include adequate all-hazards response, evacuation, and sheltering provisions.

To help in that effort, a “crosswalk document” listing not only the Commonwealth’s regulatory requirements but also the emergency-planning best practices recommended for a broad range of facilities has been developed and will soon be available for use. The crosswalk document was developed under the direction of the Virginia Department of Emergency Management, which worked in close cooperation with the Virginia Emergency Management Agency (which was particularly helpful in the completion of this initiative) and the Commonwealth’s Departments of Health, Social Services, Education, and Mental and Behavioral Health.

Through a comprehensive exercise program and collaborative public-private partnership, marked improvement is already apparent. The examples cited all demonstrate the detailed degree of planning, networking, and operational proficiency that is required for preparedness and response efforts to be effective at all levels of government, anywhere in the nation.

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.

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By Adam McLaughlin, State Homeland News



Washington Training Video Available on Pandemic Flu Preparation

A new video has been created and is being distributed in Washington State to help businesses, government agencies, and community-based organizations prepare for the ongoing threat of what could be a catastrophic global event – i.e., the outbreak of a pandemic flu.

Public Health Seattle & King County launched *Business Not As Usual: Preparing for Pandemic Flu*, a 20-minute training video to help advance local preparedness efforts.

The video is available online at www.metrokc.gov/health/pandemicflu/ video; a free DVD also can be ordered that includes helpful planning materials.

“It is essential that businesses, government, and social service agencies can continue to provide critical services to the public during a severe pandemic flu, which will last for months,” said King County Executive Ronald Sims. “We developed this video to inspire and support local businesses and organizations in their preparations.”

The new video, created to assist workplace leaders and staff in their pandemic-flu planning efforts, describes in unflinching terms the severity and extent of the devastation that a pandemic flu could cause, and what life might be like during an outbreak. It also shows the benefits of being ready, and provides practical tips for creating a preparedness plan.

“Buildings are left standing, and the roads remain open, but the health impacts of a severe pandemic flu will be felt throughout our community,” said Dr. David Fleming, director and health officer for Public Health Seattle & King County. “Everyone will need to change how we do business when a pandemic flu comes, so it is important that everyone prepares now.”

***“Buildings
are left standing,
and the
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community”***

The video includes profiles of community leaders who share their experiences in preparedness planning. Among those contributing their expertise are local leaders from Washington Mutual, Food Lifeline, Puget Sound Energy, the Harborview Medical Center, the Chinese Information and Service Center, and the Seattle Fire Department. Sims and several Public Health experts also share their knowledge and years of experience in disaster preparation.

“At Food Lifeline, we have been working hard to create sound plans to prepare our staff and organization to respond effectively in times of


disaster,” said Linda Nagoette, the company’s president & CEO. “Whether the challenges we face are weather-related or stem from pandemic flu, it is our responsibility as a service provider to be ready – both at home, and at work.”

After a pandemic virus develops, it can spread rapidly, causing outbreaks not only in neighboring communities but also around the world. The federal Centers for Disease Control and Prevention (CDC) predicts that as much as 25 percent to 30 percent of the entire U.S. population could be affected in a worst-case situation. In King County alone, a severe pandemic flu could make 540,000 people ill – and, of those, an estimated 270,000 would need outpatient care, over 59,000 would require hospitalization, and 11,500 could die within the first six weeks of an outbreak.


New York Amtrak Riders Will See More Patrols, Face Random Bag Searches

Police with automatic weapons and bomb-sniffing dogs will patrol Amtrak trains and randomly search carry-on bags in a dramatic tightening of security announced in late February. Although some riders were unhappy with the idea of guns on the trains, most seemed to welcome the new security plan.

“I think it is good,” said Yvette Davis, 23, an assistant shoe store manager from the Bronx, interviewed while waiting for a train in Penn Station. “You can never be too protective, especially with some of these crazy



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people." "I think it is great," added Manhattan software salesman Dan Hurley, 39. "I have often wondered why there is so little security on trains. They [terrorists on a train] could do as much damage as [on] a plane."

Amtrak officials insist that the security ramp-up will not make anyone late. "We are very conscious of the fact that you are in an environment where commuters have minutes to go from train to train," said William Rooney, Amtrak's vice president for security strategy and special operations.

The new measures mark a significant shift for Amtrak – which, unlike the airlines, has had only a relatively small visible increase in security since the 9/11 terrorist attacks, making rail transportation more attractive to passengers eager to avoid long security lines and other inconveniences in airports. But railway officials have voiced increasing concerns about security since the 2004 bombings of commuter trains in Madrid that killed 191 people.

Amtrak's new "mobile security teams" will focus initially, officials said, on the Northeast Corridor lines between Washington and Boston, the railroad's most heavily used route. The additional patrols and random bag searches later will be expanded to the Amtrak lines throughout the rest of the country.

U.S. Senator Charles E. Schumer (D-N.Y.) hailed the beefed-up security as "a strong step toward making the highly vulnerable rail system more secure," but also said it should be done "in a way that will not increase lines and wait times."

Amtrak chief Alex Kummant insisted that riders will not be overly

inconvenienced by the change. Passengers will not have to arrive at stations earlier, and those selected randomly for screening will be delayed no more than a couple of minutes, he said. He said that security teams will show up without prior announcement, though, at stations and set up baggage screening areas in front of boarding gates.

***TSA expects
to spend
\$22.4 million
during the next
two years to train
170 new
bomb-sniffing dogs
– 85 of the dogs
will be handled
by TSA inspectors
and 85 by local police***

Officers will randomly pull people out of line and wipe their bags with a special swab that detects explosives when a bag carrying explosives is put through a specially equipped machine. If the machine detects anything suspicious, officers will open the bag for inspection. Anyone who is selected for screening and refuses will not be allowed to board, officials said, and his or her ticket will be refunded.

Georgia Atlanta Airport Begins Training of Bomb-Sniffing Dogs

Federal inspectors stationed at Hartsfield-Jackson Atlanta International Airport started training with bomb-sniffing dogs last week

as part of a nationwide effort to improve and expand the screening of cargo carried on passenger aircraft. The two Atlanta teams going through the training process are expected to be ready to screen cargo at the world's busiest airport sometime this summer. Atlanta will receive three more federal dog teams this year, said Christopher White, spokesman for the Department of Homeland Security's Transportation Security Administration (TSA). The city's police department currently has 13 dog teams working at the airport as well.

TSA is assigning its dog teams to airports – e.g., Hartsfield-Jackson International – that ship the greatest volumes of cargo on passenger planes, the agency spokesman said. The teams will be used primarily to detect explosives in cargo, but might also be used elsewhere in the airport during emergency situations.

Assignment of the new dog teams "will greatly enhance screening because of the volume of cargo" shipped through the Atlanta airport, said Randy Gardner, one of the Atlanta-based TSA inspectors who will begin the training (which is being carried out at Lackland Air Force Base in San Antonio, Texas). "Handlers have limitations," Gardner pointed out, "as do regular screening equipment – they work in conjunction with one another."

The TSA program aims to meet a requirement set by Congress last year, White said, that all cargo carried on passenger aircraft be screened for explosives by 2010. The Congressional mandate to screen all cargo carried on passenger aircraft was one of the most important recommendations made in 2004 by the 9/11 Commission, which analyzed all aspects of U.S. domestic security after the terrorist attacks of 11 September 2001.

TSA officials said that the agency expects to spend \$22.4 million during the next two years to train 170 new bomb-sniffing dogs – 85 of the dogs will be handled by TSA inspectors and 85 by local police – and to deploy them at U.S. airports. By the end of the year, White said, nearly 700 bomb-sniffing dogs handled by TSA officials and local police will be stationed at U.S. airports throughout the country.

The first TSA dog teams – a dozen dogs and handlers being assigned to major airports in Miami, Los Angeles, New York and Washington – are expected to graduate this month from the 10-week training course being carried out at Lackland. Those teams will not begin checking cargo for explosives until May, however, because of the time it will take for the dogs to become accustomed to their new environments and to be properly certified.

North Carolina Brunswick County Emergency Services Goes Extra Mile for Safety

The Brunswick County emergency services department has gone the extra mile to keep the county's residents safe. Two years ago the county purchased the services provided by the FirstCall interactive network. The FirstCall system, based out of Louisiana, takes the phone numbers of all Brunswick County residents and puts the numbers into a database. During dangerous situations, the network can call the numbers and notify the residents of the potential emergency situation.

During a life-threatening event such as a fire, a chemical spill, severe weather, or a missing person, the Brunswick County emergency services staff will have the option of activating the FirstCall interactive network – which

is essentially a “reverse 911 system” that has the ability to call anyone in the database who might be affected by a developing emergency situation.

The network “can be used for any type of law-enforcement event,” according to Scott Garner of Brunswick County Emergency Services, “if you need to tell people to get out [of their houses and into a safer environment].”

***“Hazardous material ...
That is
probably where
... [the system] would
be used the
quickest
or would be the
most effective.”***

“Hazardous material,” Garner continued. “That is probably where ... [the system] would be used the quickest or would be the most effective.”

FirstCall was used most recently during a major “smoke-out” condition in the Longwood area. During that situation, the service helped notify residents living in the area of the smoky conditions in their vicinity and warned them that they should either stay at home or, if they absolutely had to travel, to do so very cautiously.

The service can also be extremely helpful during fast-moving severe-weather events such as thunderstorms or tornadoes. The best way for citizens to stay informed during such events, usually,

is through use of the NOAA weather radio network, which issues severe weather alerts from the national weather service 24 hours a day. During hurricane season, though, FirstCall could be a life-saving backup, Garner said, by notifying residents of possible flooding conditions and of times “when voluntary evacuations are put in place, when mandatory evacuations will be put in place ... and when roads may be out of service because of flooding.”

County officials said they believe the new service is well worth the cost. “It is money well spent,” Garner said. “ ... anytime we can inform the public of a dangerous situation – or in the future maybe a potential need to carry out an evacuation ... [because of] hazardous conditions – we can do it quickly and efficiently through the FirstCall network.”

The county's emergency services department says that the responses received from local residents on FirstCall have been “very supportive.” County residents have been particularly appreciative of the fact that the information they most need can be given them during the very short phone call required. The new system is available to all residents of Brunswick County, officials said. Anyone who has an unlisted phone number or a cell phone, and who lives in Brunswick County, can sign up for the service as well as those with listed numbers.

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.