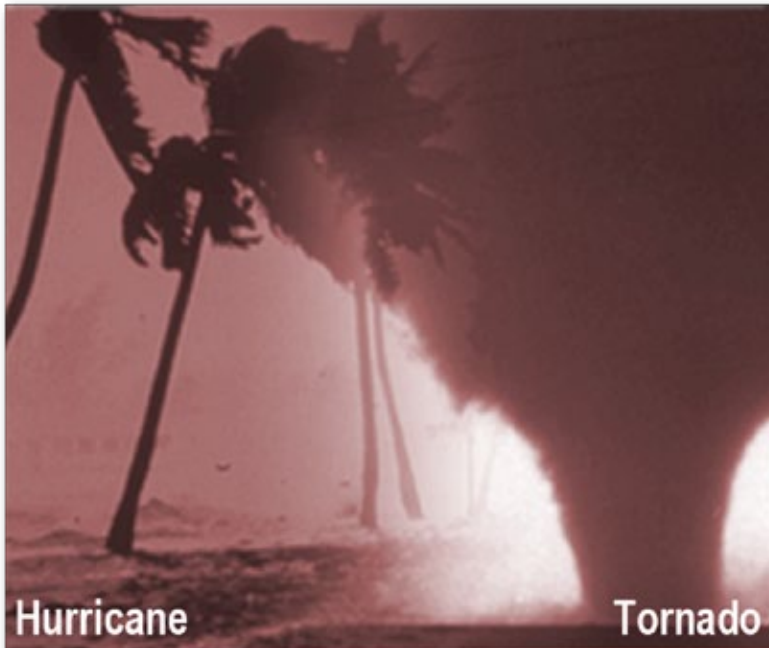




NATURAL DISASTERS



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Editor's Notes

By James D. Hessman



As the Eastern United States prepares for the official start of the 2013 hurricane season, wildfires break out in California, heavy snow falls in upstate New York, a killer tornado rips through Oklahoma, and floods rise in Iowa. Fortunately, the nation is much better prepared than it was when Katrina hit in 2005, and somewhat better prepared than last year when Sandy smashed into New Jersey and New York. "Better prepared" is comforting, of course, but well short of fully prepared. Fortunately, recent legislation has eliminated some previous bottlenecks – several of them of a strictly political nature. As the fourteen authors/coauthors in this monthly wrap-up issue point out, though, there are still many difficulties blocking further progress and even greater effort still is needed.

Kay C. Goss leads the issue with an authoritative report on the tornado that turned Moore, Oklahoma, upside down last week, totally destroying several schools in the process, and killing some of the children. She then adds a comprehensive summary of other incidents – school fires, in particular – that have taken the lives of many other children.

Scott Fitzsimmons adds a quick and helpful primer on tornado preparedness in general. And Stephen Grainer discusses several ways in which the federal Incident Command System might and should serve as the foundation of future pre-disaster plans at all levels of government.

James Lee Witt and James Loy (a former Coast Guard commandant who played a key role in the post-9/11 response effort), team up in a well-articulated report on a bill that is still languishing in Congress. If passed, that bill would help build an IRA type of national fund, paid in advance, to assist taxpayers in the recovery phase of the responses to future weather disasters.

Raphael M. Barishansky continues the march with a detailed report on the reauthorization of the National Recovery Act, which provides additional and much-needed grant funding and clarifies some ambiguities in the original legislation. Jordan Nelms and Amanda Faul follow up with a candid discussion of the numerous "Challenges, Definitions & Jurisdictions" that also must be addressed before additional progress can be made in this unending war between people and the world in which they live.

Jamie Stowe focuses special attention on Hurricane Katrina, the political problems that impeded a full and rapid recovery, and the improvements made when responding to Hurricane Sandy in 2012. Christian Schulz and Raymond Guidetti report on several ways that state fusion centers can be effectively used to respond to natural disasters.

Rounding out the issue are two articles. Joseph Cahill discusses the unique challenges that communities can face by combining their response resources. And Stephen M. Thal and William H. Austin focus on citizens with functional needs. During Katrina, the authors point out, the nation breathed a collective sigh of relief when a large number of mobility-impaired victims were airlifted to safer surroundings an hour or two away – only to discover that their wheelchairs had been left behind.

About the Cover: Hurricanes, tornadoes, and other natural disasters are unpredictable, costly, and often deadly. This issue of DPJ is respectfully dedicated to the nation's first responders, who put their own lives on the line to save their fellow citizens. (Cover photos provided by the Federal Emergency Management Agency)

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Protecting Schools – Tornadoes & Other Natural Disasters

By Kay C. Goss, *Emergency Management*



On 20 May 2013, a deadly EF5 tornado ripped through parts of Oklahoma. Two miles wide at one point, with winds reaching 200 mph, the tornado cut a 22-mile path similar to the one caused by another massive tornado that struck the state, in the same general area, in 1999. The death toll from the latest EF5 tornado stands at 24, with more than 100 other people injured.

Seven of those killed were students at Plaza Towers Elementary School, one of two schools in the tornado's path. Local residents helped pull the students from the rubble after the school's roof had been torn off and its cinder-block walls knocked down. Briarwood Elementary School also took a direct hit. Several children were initially trapped inside the building, but all were eventually rescued and reunited with their families.

Teachers from both schools followed procedure by moving students to the innermost areas of the respective schools. Covering their heads with their hands and backpacks, the children were instructed to get down on their hands and knees. Both schools were totally demolished, and it seemed significant in the aftermath that neither had received the funding needed to build safe rooms. Because the severe weather was predicted, with a 15-minute plus warning, neither school released its students at the regularly scheduled time but opted instead to shelter in place.

When schools and disasters are mentioned in the same sentence, many people often think of tragic school shootings – such as that at Sandy Hook Elementary in Newtown, Connecticut, on 14 December 2012. However, as several recent storms and tornadoes demonstrate, many other types of disasters can and do affect schools in every country.

In 2012 alone, an estimated 32 million people around the world were displaced by various types of disasters, and many schools were destroyed or significantly damaged. A 2008 risk assessment of schools in Northern California revealed 16 discrete types of disasters that already had occurred or could occur. Each type – including active shooters, drought, sink holes, and others – is currently being addressed, but all still require additional mitigation measures. The U.S. Department of Education Safe and Drug-Free Schools Program, which funded the 2008 assessment and other projects for elementary and secondary schools as well as higher educational institutions, was abolished in 2010.

School Tragedies – Deliberate, Natural & Accidental

Almost unimaginable today is the fact that the largest number of deliberate deaths in the United States – school children and staff combined – occurred in Bath, Michigan, on 18 May 1927, when a member of the



local school board, apparently upset because of an increase in taxes to support the school, planted homemade dynamite bombs in the school's basement. Only half of the bombs worked as intended, but they still killed 45 students and school employees. The school board member later killed himself in front of the school by blowing up his car, which was packed with additional explosives.

Not quite three decades later – at Our Lady of The Angels School in Chicago, Illinois, on 1 December 1958 – a devastating fire cost the lives of 92 children and three nuns, the most deaths caused by a school fire in the nation's history. When the fire started, super-heated gases killed many children who were still sitting at their desks, pencils in hand. Their deaths occurred rapidly, and they had no chance to react.

From a strictly U.S. historical perspective, the most school deaths occurred on 18 March 1937 in New London, Texas, where students were preparing for an interscholastic meet in nearby Henderson. At 3:17 p.m., a shop class instructor simply turned on a sanding machine – and by doing so triggered a massive explosion when a random spark ignited natural gas that had leaked and accumulated in a crawl space beneath the school. In an instant, a large section of the school building disintegrated, and almost 300 students and teachers died. The blast caused by the explosion was heard many miles away. Today, more than 76 years later, the New London Museum, which stands across the highway from the site where the original school was destroyed, keeps alive the memory of the local generation of children who died on that terrible day.

Student Predilections & The Joplin Model of Courage

Ongoing research shows that long-term difficulties following a school disaster are most likely to be seen among children encountering and/or already suffering from the following during or shortly after the incident: threats to their physical safety; a fear of death; severe emotional distress; lost personal belongings or residence; relocation; or enrollment in schools with numerous schedule changes, double sessions, and/or other significant disruptions.

There is another and much brighter side of the picture, though. On Sunday, 11 May 2011, a devastating tornado tore through Joplin, Missouri, shortly after 5:00 p.m., destroying and damaging classrooms extensively across the city. Six schools were totally destroyed: Joplin High School, East Middle School, the Franklin Technology Center, Irving Elementary School, Emerson Elementary School, and the Old South Middle School (a transitional facility that was vacant at the time the tornado hit). Several other schools – Cecil Floyd Elementary, Duquesne Elementary, Kelsey Norman Elementary, and Roi S. Wood Administration Building – suffered major damages or partial losses.

Realizing the enormous devastation actually caused, and recognizing the deadly potential if the tornado had hit during the regular school day, it was surprising that only seven students and one school employee were killed. Even more encouraging, though, is the fact that the citizens of Joplin and the surrounding areas exhibited the community's strong resilience, built upon years of extensive planning, intensive training, regular drills and exercises, and updated technologies and interoperability to rescue and recover those in harm's way.

The Federal Emergency Management Agency (FEMA) and the Missouri State Emergency Management Agency provided a rapid and powerful support network for the city. However, FEMA Search and Rescue Teams did not really need to be deployed, thanks primarily to the preparedness efforts of Missouri's own state and local partners. In addition, the Boone County, Missouri Task Force 1 Search and Rescue in Columbia, a long-time (and highly professional) FEMA team, was nearby and a ready responder.

Those groups, teams, and individual citizens immediately began an inspiring recovery by making the rebuilding of the school – in time for the regularly scheduled fall session, less than four months later – an immediate top priority. The 2011 celebrations devoted to and centered on the opening of schools, as planned and on schedule, will serve for many years to come as a proud symbol of the city’s model comeback and united community spirit.

FEMA’s Helpful Planning Guidelines

The FEMA Emergency Management Institute has developed a significant number of independent study courses to help school officials prepare for a broad spectrum of such events in the near and distant future. One course that focuses on Multi-Hazards Emergency Planning for Schools is available for independent study and for in-classroom, on-campus learning. This course provides school officials with specific information on: “understanding incident management; forming the planning team; understanding the situation; developing a school emergency operations plan; incorporating the Incident Command System principles and roles in the school emergency operations plan; and training, exercising, and maintaining the school emergency operations plan.” According to FEMA’s website, and the course objectives postulated, participants who successfully complete the courses will be able to:

- Describe the activities related to the key areas of incident management;
- Describe how the school emergency operations plan (EOP) fits into district, community, and family/personal emergency plans;
- Identify the school staff members who should be appointed to participate on the school planning team;
- Similarly, identify members of the local community who also should be on the school planning team;
- Identify the most likely natural, technological, and human-caused hazards that might be encountered;
- Identify and assess the hazards most likely to impact a specific school;

- Describe each and all components of the traditional EOP;
- Identify the various steps required to approve and disseminate the school EOP;
- Describe the Incident Command System (ICS) principles and organization;
- Identify the ICS roles included in the individual school EOPs;
- Explain the benefits provided by training and exercising the school EOP;
- Identify the types of exercises available to exercise the school’s plan;
- Describe the steps available for developing and carrying out effective training drills and exercises; and
- Describe how exercise results should be used to improve school preparedness efforts.

To briefly summarize, the 21st century is both immensely hopeful, but also fraught with danger. Material abundance and advanced technology contend with international strife and sudden natural and manmade disasters, the most difficult of which are those affecting the lives of young children. Significant progress has been made in mitigating at least some of these disasters, but by no means all of them. Much more remains to be done – and will be, if enough citizens and their elected and appointed leaders provide the resources needed to build a better world for tomorrow.

Kay C. Goss, CEM, is the founding President and CEO for World Disaster Management, President of the Foundation for Higher Education Accreditation in Emergency Management, First Vice President of the International Network of Women in Emergency Management, and Vice President of the Every Child Is Ours Foundation; she also founded the FEMA Higher Education Program and serves as adjunct faculty at Istanbul Technical University in Turkey and at the University of Nevada, Las Vegas. She previously served as Associate FEMA Director in charge of National Preparedness, Training, and Exercises for President William J. Clinton and for 10 years was his Senior Assistant, in the Arkansas Governor’s Office, for Intergovernmental Relations. She also served as a member of the Virginia Commonwealth Preparedness Panel under Governors Mark Warner and Tim Kaine; and as Chair of the International Association of Emergency Managers Committee on Training and Education. She is the author of five books and several hundred articles, and a highly respected public speaker.

Incident Command for Natural Disasters

By Stephen Grainer, Fire/HazMat



In February 2003, President George W. Bush signed Homeland Security Presidential Directive Number 5 (HSPD-5), which directed the establishment of a National Incident Management System (NIMS). That directive mandated, among other things, the adaptation and adoption of an Incident Command System (ICS) as a core component of the NIMS. As many emergency response personnel already know, the ICS itself was originally developed for wildland firefighting.

Also, as has been well documented in recent years, some decision makers and responders in the emergency management community have resisted the mandate to use a system, originally developed to fight wildland fires, to manage supposedly higher-level events such as actual or potential terrorist incidents. This opposition apparently was based on the unproven premise that the differences in incident circumstances necessitated different management systems.

Although these and other arguments have subsided to some extent, there is still a continued reluctance to accept ICS as an appropriate and effective tool for managing all types of emergencies, including natural disasters. This skepticism is unfortunate because the most significant aspect of the NIMS-ICS approach is the all-hazards applicability of the concepts and processes that comprise the core of the system.

“Managing” a Disaster

Typically, the critics of ICS confuse strategic and tactical decision-making for different types of incidents (or hazards) with the fundamental purpose of ICS. But the ICS, by its very nature, is intended to provide a management template for any type of situation. Through the identification and establishment of

standard functional responsibilities, which are often identified by specific positions in the ICS command structure, the system provides what might be considered a “fill in the blanks” management organization chart. This deliberately generic approach enables response personnel to identify what functions should be staffed to execute the tasks and duties needed to manage the resources available to confront almost any type of situation. In essence, the standard ICS organization chart addresses the fundamental management

components – either through position staffing or by providing a list of the elements or activities necessary to affect sound management of the response efforts – in much the same way as managing any other type of situation.

The ICS intentionally does not mandate specific strategies, tactics, or incident objectives. It is, however, based on three consistent and mutually reinforcing priorities: (a) life safety; (b) incident stabilization; and (c) property preservation. These priorities provide the starting point for all decision-making relative to any type of situation imaginable – specifically including planned or non-emergency events.

As management and operational personnel are taught in basic ICS training, decisions and subsequent actions for any situation can be derived by remembering, and using, a simple acronym – POST (Priorities-Objectives-Strategies-Tactics/Tasks) – that captures the fundamental process flow by which the actions (tactics) needed for any given situation are ultimately determined. By following this systematic approach, incident managers can develop the overall approach needed to determine the actions necessary for each and every situation likely to be encountered. In addition, those actions (tactics or tasks) will help identify the necessary resources. Conversely,

From wildfires to terrorist incidents, the national Incident Command System provides effective concepts and processes for managing all-hazard events that affect other jurisdictions at all levels of government.

the lack of resources might dictate changes to objectives, strategies, or tactics because the resources currently available are either insufficient in size or simply not adequate to carry out the actions needed.

It is important to note that, in many situations, particularly naturally occurring disasters, response resources cannot “manage” what is occurring. This is especially true during the onset and impact phases of a natural disaster. The old adage that “You can’t fool with Mother Nature” merits thoughtful consideration. For example, there is no way to reverse or divert the course of a hurricane or to redirect a tornado.

However, recognizing that humans cannot alter the direction or impact areas of most natural disasters, it is critical that response resources soundly and effectively minimize casualties among responders and civilians, and also contain or control damage – to whatever extent is possible. In fact, the ICS is a logical and well-planned system for managing the broad spectrum of human and material resources that, in turn, manage the effects of the incident. More important, though, is the simple fact that the ICS provides a systematic approach for managing the resources needed to undertake the timely and effective recovery and restoration operations required in the wake of almost any major incident.

Minimizing Casualties & Other Damage

As is also taught in fundamental ICS training, there are five constant elements in ICS that constitute the management structure: command; planning; logistics; finance and administration; and operations. These same elements are often found in the management of any organization – government agencies, private companies, and even social clubs. Therefore, a persuasive case can be made that ICS is, indeed, applicable for any type of situation. Following is a brief summary of the various functions and responsibilities usually “assigned” to each of the five elements mentioned above.

Command – often titled “management” in nonemergency situations – is the element or function ultimately responsible for reviewing and approving recommendations and actions proposed or planned. Command typically establishes the objectives for the incident response. Requests for resources and authorization for expenditures are among the primary responsibilities of the command, or management, function. In a limited or discipline-based incident such as a fire, or even for organizational activities in normal



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operations, command is commonly executed by a single person. In more complex and widespread incidents, a “unified command” may be established to ensure that the responsibilities, authorities, and resources of many different agencies and organizations are effectively represented in the decision-making process.

Planning is the element or function responsible for monitoring and assessing the situation, identifying strengths, weaknesses, opportunities, and even potential threats to effective incident activities, as well as preparing alternative recommendations for action. The planning function is also responsible for documenting all significant actions taken (and likely to be repeated or avoided in the future).

Logistics is the function most essential to resource management. In addition to the responsibility for making sure that adequate resources (as determined by command and operations) are acquired in a timely manner, the logistics function is also responsible for, among other things: ensuring that those resources go where they are needed; providing appropriate medical support (for the human resources) and accommodations when applicable; and feeding those resources. The logistics function is also usually responsible for establishing the protocols and methodology needed for maintaining communications.

Cost: As any modern organization can attest, “everything comes with a cost.” The finance and administration function is responsible for overseeing the proper (and legally appropriate) expenditure of the organization’s funds. This function tracks costs, identifies potential savings, administers salary payments for workers – as well as rental or service charges for equipment resources – and administers compensation for claims that may arise from actions taken during operations.

Operations, which is typically the most visible aspect of incident management, is the function that is directly responsible for the supervision of all resources directly involved in the execution of activities relative to the situation, including actual response, recovery, and restoration. Because effective supervision is critical to ensuring safe operations, a

manageable span of control must be established. In simple terms, the more working resources there are that engage in activities, the greater the number of supervisors that will be needed. Consequently, the operations function will frequently entail the largest quantity of resources as well as the greatest number of supervisors.

Supporting Disaster Operations

Three other functions or positions may be necessary as extensions of the command function during long-term or complex activities: safety, public information, and liaison. When staffed, these positions directly support major responsibilities of the incident commander by relieving him or her of direct personal oversight of each to ensure safe operations, provide essential public information, and maintain coordination with supporting resources not directly involved in operational assignments. Here it should be noted, though, that these command functions – although carried out by other individuals in larger and more complex incidents – remain the responsibility of the incident commander.

In summary, the ICS as stipulated in HSPD-5 is an organizational management tool that provides a standardized template for managing virtually any type of incident or event. Almost every organization uses a similar template for routine activities. In fact, some realistic corollaries have been drawn between ICS and how the typical household is “managed.” Hence, a valid argument can be made that ICS is a logical extension of routine management that is readily applicable to cope with natural disaster emergencies as well.

Stephen Grainer is the chief of IMS programs for the Virginia Department of Fire Programs (VDFFP). He has served in Virginia fire and emergency services and emergency management coordination programs since 1972 – in assignments ranging from firefighter to chief officer. He also has been a curriculum developer, content evaluator, and instructor, and currently is developing and managing the VDFFP programs needed to enable emergency responders and others to meet the NIMS-compliance requirements established by the federal government for incident management. From 2010 to 2012, he served as president of the All-Hazards Incident Management Teams Association.

Tornado Preparedness Planning: An Updated Primer

By Scott Fitzsimmons, *Emergency Management*



Early spring begins “tornado season” in the United States, which means that it is time to evaluate emergency plans and prepare for these deadly and costly storms. According to the National Weather Service (NWS), there are approximately [1,200 tornadoes](#) throughout the United States annually. Many of them cause significant property damage and, depending on their strength and duration, a number of deaths – [68 deaths](#) were reported last year, but the fatality rate has often been much higher. Moreover, although tornadoes cannot be prevented, an effective planning process can help reduce risk significantly and at least partially mitigate the property damage and other adverse consequences even during the most catastrophic of such events.

In the United States, the first step in determining the level of threat, and the appropriate response to it, is to gather enough information to determine the location of the most tornado-prone areas of the country and the frequency of these severe storms in such areas. Fortunately, the NWS and its Storm Prediction Center produce numerous products that: (a) help identify tornado activity anywhere in the United States; and (b) help emergency planners in every corner of the country understand the nature and size of the threat facing their home communities. Local emergency management agencies and/or weather services may be able to provide the more precise information needed to better define the tornado threat facing a specific community or geographic location.

The Current Guidelines to a Safer Future

The next step planners usually must take is to determine the greatest vulnerabilities in the areas most likely to be in the direct path of future tornadoes. Although there often is very little that can be done to prevent nature-related threats, there are many things that can be done to at least minimize the vulnerabilities of a specific community or geographic locale. To begin with, when reviewing a particular facility, some vulnerabilities to consider include: (a) the types of materials used in the construction of buildings; (b) the lengths and configurations of the building roofs; (c) any structural items or “add-ons” located on top of the roof – heating and air conditioning systems, for example, as well as antenna towers, flag poles, etc.; (d) trees, light poles, or dumpsters close to the structure; (e) the type and sizes

of windows in the building, as well as window protection systems such as reinforcing mesh or protective glazing; and (f) any hazardous chemicals or petroleum tanks near the structure.

The term “tornado shelter” now is often replaced with two different terms: “best available refuge areas” and “safe rooms.” The Federal Emergency Management Agency (FEMA) defines a [best available refuge area](#) as any and all areas in an existing building that have been judged “by a qualified architect or engineer to likely offer the greatest safety for building occupants during a tornado.” [Safe rooms](#) are similarly defined by FEMA as specialized rooms constructed to provide “near-absolute protection ... based on our current knowledge of tornadoes and hurricanes.” In 2008, FEMA developed a helpful how-to guide – FEMA Publication P-361, [Design and Construction Guidance for Community Safe Rooms](#) – to help design and build safe rooms; the same publication offers additional guidance for identifying areas of refuge and assessing a wind-hazard score.

Risk Communication to Reduce Public Panic

Risk communication, as defined in a [May 2012 report](#) by the National Consortium for the Study of Terrorism and Responses to Terrorism, is described – in a definition developed by Vincent Covello, founder and director of the Center for Risk Communication – as the “process of exchanging information among interested parties about the nature, magnitude, significance, or control of a risk.”

The same report also indicates that most people respond better when the risk communication is made through several sources, over multiple channels, and frequently repeated. An effective risk communication program, therefore, will push the risk message over multiple channels – for example, text, emails, public address announcements, electronic information boards, and alert messaging systems – and should have the ability to issue repeat and/or updated messages. After communication pathways have been developed, it is important that the target population understands not only what information is being communicated to them, but also what actions are expected of them.

The messages sent must include at least four key points: (a) the source of the threat; (b) who or what official authority has declared the emergency; (c) the response action(s) needed; and (d) how the emergency will later be “cleared.” For example: “A tornado warning has been issued by the NWS. Go to your sheltering areas and remain there until the ‘All Clear’ has been given.”

Somewhat earlier, a [2010 article](#) (in *Behavioral Sciences & the Law*) noted that the specificity of the message is an important factor both in risk perception and in encouraging appropriate responses to an impending threat. In other words, the more specifically the actions necessary to live through it are described, the greater the risk is perceived. Other historic research in disaster evacuations shows that the likelihood for an appropriate response also includes such predictors as the certainty, proximity, and likely severity of the threat. Not all of these qualities must be incorporated in the original risk message, of course, but building into the message at least the most important of these predictors will more clearly define the risk posed to the target population, thus increasing the likelihood of compliance by the general public.

The same general advice, focused more tightly on crowd control, was included in a [2005 article](#) in *Psychiatry: Interpersonal and Biological Processes* by Benigno E. Aguirre of the Disaster Research Center at the University of Delaware, who described the effect of population density as follows: “The response of the gathering of people to the perceived presence of danger and the sense of urgency to respond to the crisis is immediate and overwhelming that the different propensities and choices of the individual evacuee and his or her group are largely erased.”

Aguirre’s theory also argues that, secondary to the density of a group in a given area, the individual is no longer free to make his or her self-determined actions and, largely for that reason, usually responds to the influences of the group. The prevailing mentality in such instances – more common in commercial structure fires than other scenarios – therefore becomes less a condition of mass panic and more a matter of mass “thinking.” When developing the areas of refuge, occupancy formulas can help ensure that those who are taking refuge are both safe and free to make safe decisions.

Strongly Recommended: Training Plans & Frequent Drills

Preparedness programs have both an educational and an exercise context built into them to help develop and encourage the responses desired from the target population. Among the most helpful topics to include in the training plan are the following:

- Basic information about tornadoes;
- Safety features related to the site itself – emergency lighting, generators, and weather radios, for example;
- The location of safe rooms and/or other refuge areas;
- An effective and comprehensive risk communication plan; and
- The roles and responsibilities assigned to floor wardens and other employees.

[Research](#) published by the American Meteorological Society in 2009 found that the average “lead time” for the first tornado in a system to occur on a particular day is 16.4 minutes. The research also found that more than 10 percent of all tornado warnings provided by the NWS were issued with zero or negative lead times – zero lead time means that the warning is issued simultaneously with the touchdown of the funnel cloud, whereas a negative lead time means that the funnel touched down before the warning was issued.

Some tornado preparedness programs implement the use of tornado spotters to help visually identify and report funnel clouds, an ancillary capability that can significantly help cover some of the gaps that develop when radar imaging fails. To create a network of spotters who can supply critical information, the NWS provides the appropriate training, free of charge, to citizen volunteers. Subsequently, when tornado watches are issued, various sections of the plan go into effect immediately so that protective actions can be taken even before the watches become warnings.

Testing the Plan to Identify & Prevent Future Problems

Training drills and exercises should be conducted at least annually to familiarize the target population with the evacuation procedures and locations. Such drills should

not only test the plan but also help to identify any remaining problems or other issues that need to be corrected. Among the potential problem areas to look for when conducting drills are the following:

- Equipment failures – for example, bullhorns, P.A. systems, and emergency lighting systems;
- Procedural issues – ensuring that people know what to do and when to do it; and
- Population movement and sheltering – recent construction that may have shifted the areas of refuge or altered evacuation routes, or population changes in buildings that may have affected the balance of people in certain refuge areas and/or the duties assigned to floor wardens.

It also helps, of course, to add an evaluation component to the tornado planning process, which should include both an after-action report and a recommended improvement plan based on actions – both positive and negative – that were noted during the drill. As a result, things that went well can be reinforced and anything that went wrong can be analyzed, understood, and corrected in revisions to the original plan.

To briefly summarize, each year tornadoes continue to cause serious injuries, deaths, and significant monetary losses throughout the United States. However, through technology, awareness, and planning, these severe weather events can be mitigated, at least to some extent, to help reduce the most severe weather vulnerabilities. A tornado risk communication plan should be relatively concise, but also descriptive enough to encourage greater compliance. The plan also must be exercised frequently enough to ensure that site personnel understand how and when to respond. The most important fact to remember, though, is that all of

the preceding is an ongoing process, various sections and parts of it will change, and the plan will continue to evolve.

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Reauthorizing the Nation's Preparedness

By Raphael M. Barishansky, Standards



Most professionals in the U.S. public health emergency preparedness community are, in varying degrees, aware of and reasonably familiar with the Pandemic and All-Hazards Preparedness Act (PAHPA) and/or have had their own preparedness efforts, and their response operations, directly affected by it. The U.S. Congress passed and then-President George W. Bush signed the original law, which had broad implications for the Department of Health and Human Services' (HHS) preparedness and response activities, in December 2006.

The PAHPA, also known as Public Law No. 109-417, was enacted specifically “to improve the nation’s public health and medical preparedness and response capabilities for emergencies, whether deliberate, accidental, or natural.” The initial act, passed in the wake of Hurricane Katrina, which struck the Gulf Coast in 2005, also was intended to help the federal government support communities in various aspects of preparing for, responding to, and recovering from the adverse health effects of all public health emergencies and disasters, both natural and manmade.

Among other things, the Act: (a) amended the Public Health Service Act to establish the post of Assistant Secretary for Preparedness and Response (ASPR) within HHS; (b) provided new authorities for a number of programs, including the advanced development and acquisition of medical countermeasures systems and devices; and (c) called for the establishment and periodic updating of a quadrennial National Health Security Strategy. On a larger scale, PAHPA also has bolstered the ability of HHS to ensure that federal, state, and local governments are prepared to respond more effectively to a broad array of public health emergencies associated with both natural disasters and intentional attacks.

Protecting the American people during a public health emergency requires funding, the close collaboration of all parties involved, and continuing communications – all of which now have been reauthorized.

Authorizing Funds & Protecting Populations

On 13 March 2013, President Obama signed into law the Pandemic and All-Hazards Preparedness Reauthorization Act of 2013, which reauthorizes provisions of the Project Bioshield Act of 2004, as well as the aforementioned PAHPA of 2006, for an additional five years.

The PAHPA reauthorization will, among other things, provide \$2.8 billion – spread over five years – for the procurement of such necessary medical countermeasures as the vaccines needed to counter anthrax and smallpox. To ensure that those funds are not depleted, the reauthorization includes a provision requiring that HHS alert Congress when the funds remaining dip below \$1.5 billion. One additional element of the Reauthorization Act is that it grants new authorities to state health departments that will permit greater flexibility in dedicating resources to meet critical community needs during a declared disaster.

In order to meet immediate urgent needs, the reauthorization recognized the realities of responding to large-scale public health emergencies in times of fiscal austerity and allows states to temporarily utilize federally funded state personnel whose day-to-day jobs are not related directly to emergencies. Clearly, in times of a public health emergency, the ability to use an “all hands on deck” approach that makes the best use of all staff involved is obviously a major step forward.

Another element of the new Act is a mandate to plan more effectively for “at-risk populations,” which is of critical importance to those directly involved. Unlike the original law, PAHPA requires the ASPR secretary to consider the public health and medical needs of at-risk individuals during future public health emergencies. Moreover, to ensure there are no misunderstandings or misinterpretations, HHS officially defines “at-risk” as

“those individuals specifically recognized as at-risk in the statute, i.e., children, senior citizens, and pregnant women, as well as those individuals who may need additional response assistance.”

Included in the latter group are not only persons with physical or mental disabilities but also those with limited English proficiency. ASPR must consider the needs of at-risk individuals in the guidance policies given to recipients of state and local public health grants as well as in the acquisition, stockpiling, and distribution of the vaccines, pharmaceuticals, and other material resources contained in the Strategic National Stockpile. In addition, ASPR is required to: (a) oversee an advisory committee on at-risk persons; and (b) disseminate novel and best practices on outreach to and care of the nation’s at-risk populations before, during, and after public health emergencies.

Cooperation, Coordination & Long-Range Planning

Other key points of the reauthorization include:

- The reauthorization of programs including the Public Health Emergency Preparedness (PHEP) Cooperative Agreement Program, the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP), the Medical Reserve Corps, and the Hospital Preparedness Program (HPP);
- New emphasis on the need to clarify and explain the roles and responsibilities of the ASPR in providing policy coordination, streamlining, and strategic direction;
- A requirement that the ASPR submit a plan that will be independently assessed by the Government Accountability Office and prepare an annual and internally coordinated five-year budget plan of medical countermeasure priorities; and
- A requirement for more robust interaction between the U.S. Food and Drug Administration and medical countermeasure sponsors, including “regulatory management plans” for each countermeasure that receives an investigational use application.

It is important to note that among the more significant elements of PAHPA are the previously mentioned grants/funding streams the legislation will provide to thousands of state and local public health agencies and organizations as well as hospitals. These funds call for, among other things, improved communications and collaboration between and among these entities. That requirement should translate directly into a much improved understanding of capabilities and capacities as well as the better overall planning needed to respond to sudden disasters. There have already been some successes – coping with the 2009-2010 H1N1 pandemic, for example, and the successful evacuation of healthcare facilities after such major weather events as the 2011 tornado that devastated Joplin, Missouri, and Superstorm Sandy, which caused significant damage in New Jersey in 2012 – in this regard and this act will no doubt build upon those.

The original PAHPA will undoubtedly go down in history as one of the most important laws ever enacted to improve the nation’s public health emergency preparedness capabilities. The 2013 reauthorization means that the numerous victories and advances achieved in the world of public health emergency preparedness over the past decade will continue far into the future – certainly more than the five years specifically mandated.

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Fusion During Crisis: Aftermath of a Perfect Storm

By Christian Schulz & Raymond Guidetti, State Homeland News



In the wake of Hurricane Sandy in 2012, several million Americans in New Jersey wrestled with decisions that focused on such mundane but essential questions as where to buy gasoline, purchase food, and obtain prescribed medications. For public safety and private sector companies and agencies bent on advancing their continuity plans, the decisions made and actions taken seemed almost impossible in the face of what rapidly became a paramount challenge to the entire state. Sandy's devastating impact on the electrical power grid, for example, with its second- and third-order effects, added further complications to returning to normal operations – and resulted in other adverse consequences felt statewide.

Two fundamental challenges were encountered and had to be dealt with from the start: (a) the limited availability of the validated “official” information needed to influence crucial lifeline decisions; and (b) the state's relatively low capability to disseminate helpful information both quickly and effectively. This was despite the fact that over the past several years the state's fusion center had been developing and maturing. The ability to receive, analyze, disseminate, and gather information – all of which actions, for fusion centers, are essential to the creation and development of critical operational capabilities – put the New Jersey Regional Operations and Intelligence Center (NJ ROIC) squarely in the middle of the efforts to prepare for and react to the rapidly approaching storm.

Fortunately, a previously defined relationship with the All Hazards Consortium, a multi-state sanctioned 501c3 nonprofit organization, facilitated the access to and use of commercial point-of-sale information for crucial commodities across New Jersey – and, not incidentally, gave analysts and fusion center liaison officers the ability

to cull through essential information related to the sale and distribution of fuel, food, and pharmaceuticals.

Moreover, after adding its own helpful context to such information, the fusion center returned a significant volume of value-added information to its own law enforcement, public safety, and private sector constituents through established dissemination groups. The result was almost immediate – in effect, offering public safety and private sector companies and agencies the validated information they needed to make crucial decisions that ultimately helped local residents locate, obtain, and use life-essential commodities.

The responders to Hurricane Sandy last year fused together information from numerous unconventional partners to develop and implement new guidelines that saved many lives and reduced infrastructure damage by billions of dollars.

The first U.S. fusion centers started operations in the wake of 9/11, in New York, California, Arizona, and Georgia. Since that time, their focus has been primarily directed toward information collection and on analyzing the threats posed by terrorism. However, in an age heavily reliant on a consistent flow of timely and accurate information and intelligence, it has become clear that the fusion centers themselves can be appropriately aligned with the federal government's Incident Command System in a joint effort to respond to and counter major adverse incidents and events. Sandy underscored how fusion centers can meet their own responsibilities in this area by addressing the needs

of government agencies and helping the private sector effectively respond to and recover from a major disaster.

A Perfect Storm Vs. Imperfect But Improving Response Capabilities

The New Jersey Office of Emergency Management ([NJ OEM](#)) was established in December 1980 through what was prosaically described as Governor's Executive Order 101. That order established the office within the New Jersey Division of State Police, Department of Law and

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Public Safety. Organizationally, the NJ OEM – which falls within the Emergency Management Section, Homeland Security Branch – was assigned responsibility for, among other duties: (a) coordinating all federal and state natural disaster assistance operations and resources; (b) enforcing authority over all emergency policies, laws, rules, and regulations; (c) organizing, staffing, and coordinating activities of the state’s emergency operations center; and (d) facilitating the flow of information between and among New Jersey’s 21 county OEMs as well as other state and allied agencies.

In 2006, the state of New Jersey formed the NJ ROIC and opened the doors of its first fusion center, commonly referred to as “the ROCK.” The NJ ROIC, an interagency intelligence and information-sharing initiative, is designed primarily to provide the resources, professional expertise, and vital information needed to maximize the state’s ability to detect, prevent, investigate, and respond to all crimes and hazards that may adversely impact the state.

The NJ ROIC consists of several major components: (a) the Intelligence Watch and Warning Unit; (b) the Intelligence & Analysis – Threat Unit; (c) the Intelligence & Analysis – Crime Unit; (d) the Fusion Liaison & Intelligence Training Unit; and (e) the Information Sharing Unit. The Intelligence Watch and Warning Unit not only serves as the central notification point for all emergency operations throughout the state but also provides tactical information and operational intelligence through the utilization of a number of federal and state databases.

The principal policy connecting the state’s emergency management capability with its fusion center is rooted in the operations plan of the state emergency operations center. That plan identifies the NJ ROIC as the central conduit for information and intelligence exchange involving law enforcement and public safety agencies, senior government officials, and the private sector. The 24/7 Intelligence Watch and Warning Unit has the capacity to receive, analyze, and disseminate large quantities of information to more than 9,000 customers.

The unit’s day-to-day operations also have helped to solidify a close and effective partnership between emergency management agencies and the fusion center, making the transition from steady state to full activation an almost seamless effort within the state emergency operations center. In effect, this still evolving partnership between the state’s emergency management personnel and the fusion center has created a unique capability designed to become immediately and fully available during a significant disaster.

The Development of a “New Normalcy”

On 29 October 2012, Category 1 Hurricane Sandy smashed into the New Jersey coastline just outside of Atlantic City. Sandy, officially recognized after the fact as the largest Atlantic hurricane on record to hit that area, had a wind-span diameter of more than 1,000 miles. It made landfall during a high tide and a peak lunar cycle – a combination of worst-case conditions that escalated the storm’s wave heights and elevated the resulting storm surges to record levels. The sheer magnitude and force of the storm’s aftermath underscored the importance of the information dissemination and intelligence sharing essential to help the state emergency operations center in its response and recovery efforts. At the same time, the NJ ROIC was able to provide broader constituencies with the essential information needed to stimulate future resiliency plans and operations.

The NJ ROIC’s capabilities, usually aimed at alerting constituencies to potential threats posed by terrorism and/or other forms of violent crime, would now focus squarely on supporting local, state, and federal government agencies in the long list of response and recovery missions that followed the greatest natural disaster in the state’s history. Five critical mission areas quickly emerged for the fusion center to address – and, later, to incorporate as

the vital objectives needed for leveraging fusion efforts during any future natural or manmade disaster.

Following is a brief summary of those mission areas, which for the foreseeable future will provide a helpful roadmap for other fusion centers to follow as they develop their own disaster intelligence plans.

- *Enhanced information sharing and the dissemination of disaster information:* (a) The NJ ROIC's principal mission – to act as the primary focal point for information sharing throughout the state – positioned it uniquely to disseminate situation, weather, and traffic reports to the broad spectrum of customers requiring such information in New Jersey. (b) Working in partnership with the All Hazards Consortium, the NJ ROIC was able to provide the private sector with timely information on the current status of fuel, food, hotel, and pharmacy locations and levels of operation. Daily situational awareness messages were used to give the private sector this critical information.
- *The parallel gathering and sharing of other categories of essential information:* (a) Because local and county offices of emergency management were overwhelmed with requests for the resources needed to respond to the disaster, leaders were unable to provide a complete description of their own operating environments. Through use of the NJ ROIC's Fusion Liaison Officer program, collection of the information needed to better understand the storm-torn environment was initiated. (b) The NJ ROIC's ability to leverage the skills of 300 New Jersey State troopers, and 290 troopers from other states, to collect and share information about the environment was critical in determining where to assign police resources. (c) By leveraging numerous social media venues as well, the NJ ROIC also was able to validate and further disseminate timely information related to criminal activities.
- *The production of disaster intelligence for senior government executives:* (a) Daily intelligence briefings about the operating environment were provided to the senior commanders and state authorities directly responsible for the recovery. (b) To ensure that a measured amount of patrol resources were quickly detailed to affected areas, intelligence briefings about the criminal environment also were provided to the New Jersey Attorney's General's office.

- *The production of disaster intelligence needed by field personnel:* (a) The NJ ROIC provided law enforcement planners, commanders, and field personnel with the intelligence products needed to patrol storm-ravaged areas. (b) Similar intelligence briefings were provided in the field to ensure that changes in the operating environment were disseminated in a timely and relevant manner.
- *The use of tightly focused collection efforts to support Federal Emergency Management Agency (FEMA) and NJ OEM operations:* (a) The NJ ROIC leveraged its relationship networks with local police chiefs to help FEMA, the NJ OEM, and the Army Corps of Engineers gather the information needed to provide preliminary assessments of the damage in storm-ravaged areas. (b) To help identify the areas most severely affected by the storm, the NJ ROIC conducted 49 preliminary damage assessments of the impact on Monmouth and Ocean counties.

Policy Matters & Future Disasters: A More Hopeful Aftermath

Despite the devastation that followed Sandy, the subsequent multi-disciplinary approach to problem solving demonstrated how the NJ ROIC can and would adapt during a disaster to meet the needs of its customers and maintain its role as the state's primary information sharing point. The operational capabilities of the NJ ROIC during that time – which included collaboration and cooperation between multiple government and private sector agencies, sustained information flows, the use of appropriate leadership principles allowing for and encouraging creativity and, above all, careful and extremely detailed planning – helped to foster the collaborative environment needed for solving complex issues.

Before, during, and in the immediate aftermath of Hurricane Sandy, the NJ ROIC rose to the occasion by providing the platform needed by emergency managers to increase their information sharing capabilities, produce the intelligence needed to understand an ever changing environment, and effectively use state resources to help recover from a disaster that had devastated the entire state. The lessons learned from this experience are worthy of codifying into the daily

operations of the NJ ROIC, which almost assuredly will be called upon again to address future incidents affecting the state.

Moreover, the experience gained by agencies throughout New Jersey in their efforts to rapidly and effectively deal with a major crisis may well serve as a primer for facilitating future discussions about the policy changes and training doctrine needed to meet future contingencies. Such discussions would: (a) promote the better leveraging of fusion centers needed to help recover from disasters; and (b) demonstrate how fusion centers can continue to mature and support the full spectrum of other homeland security missions and operations.

The Incident Command System obviously offers an appropriate foundation for the functional role played by intelligence, but the lessons learned from Hurricane Sandy underscore the fact that reliable intelligence, combined with the quick sharing of accurate information, plays a much greater and better defined role in coping with future disasters.

Christian Schulz (pictured), a 25-year veteran of the New Jersey State Police, currently holds the rank of Major and serves as commanding officer of the state's fusion center – i.e., the Regional Operations Intelligence Center (ROIC). Prior to assuming his present post, he held various assignments with the NJ Office of Emergency Management, including the position of executive officer, where he was responsible for oversight of all statewide emergency management programs. He holds a Master of Arts degree in security studies from the Naval Postgraduate School and a Masters degree, in public administration, from Seton Hall University.

Raymond Guidetti has been a senior fellow, since 2008, with Long Island University's Homeland Security Management Institute. He recently completed a 12-month fellowship within the U.S. Department of Homeland Security's Office of Intelligence & Analysis and is the author of several articles on intelligence, fusion centers, and intelligence-led policing. In 2006, he received a Master of Arts degree in security studies (Homeland Defense and Security) from the Naval Postgraduate School.

Significant contributions to this article were made by W. Ross Ashley, the Executive Director of the National Fusion Center Association (NFCA). He also serves on the Board of Advisors to numerous corporate clients. He was confirmed by the U.S. Senate in December 2007 and served as Assistant Administrator of the Grant Programs Directorate until August 2009. Previous roles include: Chief Executive Officer of the National Children's Center (NCC), founder of the Templar Corporation, Director of Law Enforcement Technologies at ISX Corporation, and other private-sector positions. He is a retired Air Force Intelligence Officer who served in both the Virginia Air National Guard and the U.S. Air Force Reserve.

Fortifying the Financial Infrastructure

By James Lee Witt & James Loy, Funding Strategies



In one convincing and catastrophic stroke, Hurricane Sandy proved in 2012 that hurricanes are not simply about sand, boardwalk planks, and expensive mansions being swept out to sea. Television cameras always seem to capture those images first, and that tendency often leaves a lasting impression on the nation – that only businesses and wealthy beach towns need rescuing. Nothing could be further from the truth. What the public does not see is the magnitude of the losses experienced by lower- and middle-class families that remain devastated after the cameras leave.

A March 2013 [study](#) carried out by the New York University Furman Center for Real Estate and Urban Policy showed that low- to mid-income families were hit hardest by Sandy. In fact, 54 percent of the New York City homeowners who applied for aid from the Federal Emergency Management Agency make less than \$60,000 per year.

Hurricane Sandy illustrated the fact that a majority of the citizens living in the areas most likely to be harmed by natural catastrophes are working class families. Helping people recover from a natural catastrophe is therefore an issue of fiscal responsibility that concerns homeowners across the nation.

The massive storm also illustrated not only how much reliance the nation now places on emergency response agencies, but also how tirelessly the responders themselves worked during the immediate hours after the storm made landfall. Fire officers in the Rockaways, for example, heeded their individual calls to action even while many of them lived in the very neighborhoods hit hardest by the storm.

On 18 April 2013, U.S. Department of Homeland Security (DHS) Secretary Janet Napolitano provided written [testimony](#) for a House Committee on Homeland Security hearing on the department's FY 2014 budget. "This funding will sustain resources for fire and

emergency management programs,” she pointed out, “while consolidating all other grants into the new, streamlined [National Preparedness Grant Program].” Such consolidations, and other budget cuts necessitated by the recent sequestration, are now adversely affecting the funding available to state and municipality first responder agencies and organizations throughout the nation.

One potential solution for the states and municipalities – creating and maintaining a privately funded national catastrophe fund – would leverage a strong public-private partnership to ensure that the U.S. financial infrastructure as a whole is fully prepared to cope with future catastrophes such as Sandy before they occur. A national catastrophe fund that serves as a major component of a comprehensive and well-integrated program would help address insurance affordability and could be used to expand coverage options for all homeowners – while at the same time protecting taxpayers from the seemingly endless need to provide emergency relief.

Fortunately, there is already a bill – the [Homeowners and Taxpayers Protection Act of 2013](#), recently introduced by Rep. Albio Sires (D-NJ-8) – that proposes a better and more comprehensive catastrophe-management approach. That bill builds upon legislation ([Homeowners’ Defense Act of 2007](#)) that passed the House of Representatives in 2007 by an overwhelming bipartisan vote of 258-155, but stalled in the Senate. The bill was reintroduced and approved by the House Financial Services Committee as the [Homeowners’ Defense Act of 2010](#), but once again failed to pass both houses of Congress and be signed into law. The new bill would, among other things, provide significant funding for emergency medical technicians and the public safety officials who work to strengthen vital first responder training.

A national catastrophe fund, which is a major component of this comprehensive legislative solution, would be somewhat like a “catastrophe IRA.” The way it would work is as follows: Insurance industry money would prudently be set aside and built up for a speedy and well-resourced recovery from a true natural catastrophe whenever and wherever it hits. Because the fund



would be financed through private insurance premiums, it would provide the protection needed without imposing an extra financial burden on the nation’s taxpayers.

During these difficult economic times and with the frequency of natural catastrophes, building a privately funded backstop rather than relying on another taxpayer-funded bailout will lessen the economic risk facing the nation’s homeowners. This type of public-private partnership would strengthen the stability and capacity of the private sector and allow more private companies to participate in the market.

In short, a catastrophe fund program such as that proposed here would help fortify the nation’s overall financial infrastructure. At the same time, the program would strengthen and upgrade U.S. national preparedness in general, before the next major crisis erupts, by providing greater protection for homeowners now and far into the future.

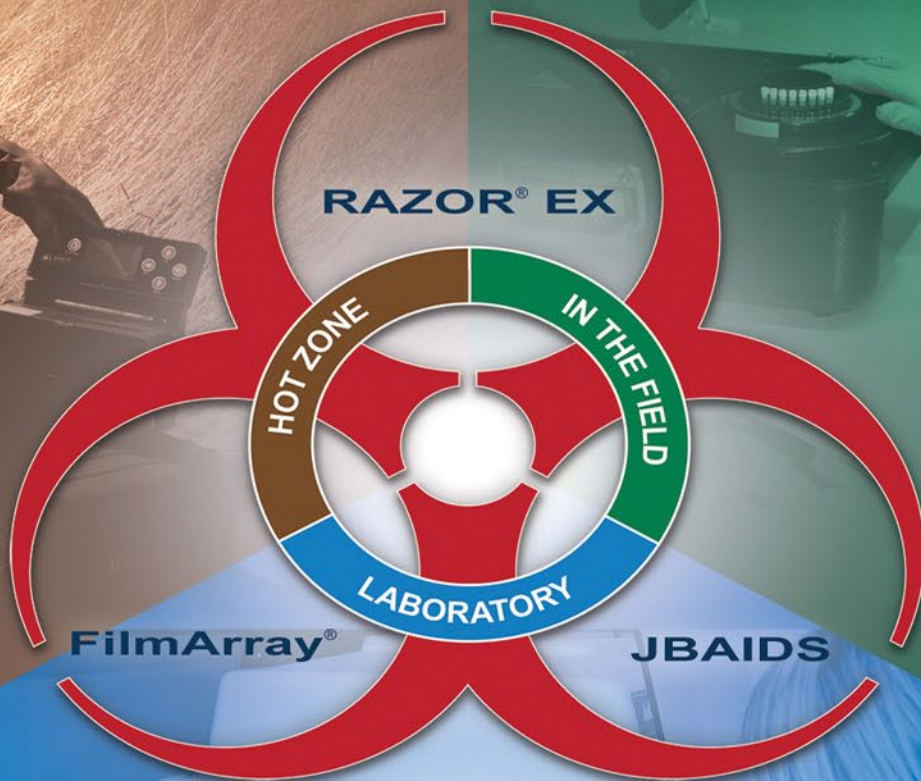
James Lee Witt (pictured) is executive chairman of Witt O’Brien’s, a disaster response and crisis management consulting firm based in Washington, D.C. Previously, he was the director of the Federal Emergency Management Agency under President William J. Clinton. He is also the co-chair of [ProtectingAmerica.org](#).

Admiral James Loy, USCG (Ret.), is a senior counselor at The Cohen Group. Previously, he was commandant of the U.S. Coast Guard (1998-2002), administrator of the Transportation Security Administration (2002-2003), and deputy secretary of the U.S. Department of Homeland Security under President George W. Bush (2003-2005). He is also the co-chair of [ProtectingAmerica.org](#).

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National Preparedness: Challenges, Definitions & Jurisdictions

By Jordan Nelms & Amanda Faul, Standards



In late 2011, the U.S. Department of Homeland Security (DHS) released the second document in the series of Presidential Policy Directive 8: National Preparedness (PPD-8) guidance. Although the initial release of the National Preparedness Goal re-emphasized the use of a capabilities-based approach to preparedness, the National Preparedness System (NPS) description identified the process by which the nation should build and sustain its emergency management and homeland security capabilities, organized in accordance with the five mission areas spelled out by PPD-8: prevention, protection, mitigation, response, and recovery. The NPS builds on several years of capabilities-based preparedness by updating the 2007 National Preparedness Guidelines with a process that matches the National Preparedness Goal's Core Capabilities.

At a surprisingly concise six pages, the "NPS Description" actually provides very little in the way of concrete and actionable steps, relying on supplementary guidance – in the form of Comprehensive Preparedness Guides and the Homeland Security Exercise and Evaluation Program – to provide the granular details on how to transform concept into practice. The NPS also incorporates the new DHS grant performance requirements of completing: (a) a Threat and Hazard Identification and Risk Assessment (THIRA); (b) a State Preparedness Report; and (c) the forthcoming Capability Estimation Process.

Having concluded the first required THIRA, which set the scope for the data collection and analysis needed for the State Preparedness Report, the states and major metropolitan areas in the Urban Area Security Initiative (UASI) program met the FY 2012 DHS grant performance requirements – mostly by trial and error, though, because they had no "best practices" to draw upon. Nonetheless, the FY 2013 DHS grant guidance

will place even greater emphasis on the NPS as a driving mechanism for preparedness investment – mostly by incorporating capability estimation as the analysis tool between the THIRA's capability preparedness targets and the capability preparedness scoring of the State Preparedness Report. For the third straight year, state and major urban areas will have to further enhance their ability to implement the NPS in order to remain in compliance with DHS grants.

NPS implementation can usually be broken down into two major categories: organization and process. States and major urban areas with existing preparedness programs – usually based on legacy national preparedness programs or "homegrown" programs – may well be challenged with adapting their programs to meet the new requirements. Following are some of the more important aspects of the two categories mentioned above.

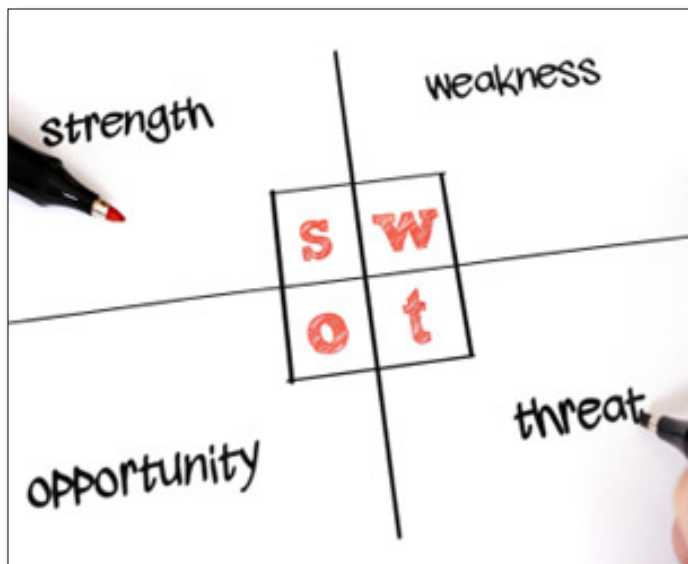
Organization: An Emphasis On Core Capabilities

One of the most important components of emergency preparedness is the people directly involved. State and local governments implementing the NPS, therefore, will probably run into an organizational challenge when crafting their NPS implementation strategies. Interagency emergency preparedness programs at the state and local levels

rely heavily on functional groupings, primarily based on the emergency support function structure of the National Response Framework. In the almost 12 years that have passed since the 9/11 terrorist attacks, the emergency support function structure has been an essential component of most state and local emergency management agencies. However, this institutionalized coordinating structure does not mesh well with the organization of the National Preparedness Goal's Core Capabilities.

The NPS's emphasis on capabilities organized by mission area is not an exact replication of the emergency

After the term "risk" has been defined for a particular jurisdiction, organizations and agencies can begin to address the risk assessments, capability estimates, and validation challenges that they probably will face.



support function construct, a bothersome reality that leaves at least some emergency managers confused about how to reconcile the differences. Adding to this challenge is the fact that the functional groupings within the National Disaster Recovery Framework – i.e., the recovery support functions – represent a departure from the emergency support function construct. However, it appears that the recovery core capabilities were developed with the pre-existing National Disaster Recovery Framework in mind.

To complicate matters even further, PPD-8 places responsibility on an organization to be the overall lead in coordinating each mission area’s capabilities set. The primary choice for the traditional emergency management mission areas of mitigation, response, and recovery is the emergency management agencies, but it is not yet clear who or what agency should take ownership of the prevention and protection missions. Ultimately, agency authorities will have to dictate both the lead and the support roles, but several hard decisions will first have to be made.

The State Preparedness Report suggests that a tiered approach to data collection – emphasizing the use of intra-state emergency management or homeland security regions – might be the best alternative available. By using a regional approach, which recognizes the reliance on mutual aid and assistance in emergency operations, local jurisdictions would, in theory, report capability preparedness information to their regional working group(s); the latter would in turn report up the line to the state emergency management agency. Unfortunately, this primarily

geographic view of emergency preparedness becomes somewhat problematic when integrating statewide agencies and partners such as nonprofit organizations, as well as state agencies with local offices that support local emergency operations. Thoughtful consideration must be given to the role of intergovernmental coordination if an emergency preparedness program is to be successful.

Process: Six or More Steps – And Lower Barriers

The first step in implementing the NPS process for states and major urban areas is to thoroughly consider the six steps and determine whether: (a) various elements have to be added or subtracted; and/or (b) if the six steps should be further divided in order to make the system actionable to the extent needed to meet the challenges of a particular jurisdiction. Many of the steps that encompass the NPS would have to cover several programs when implemented – a requirement that could be cumbersome in itself and also could cause confusion related to program administration and oversight.

Although it is important that a “customized” implementation of the NPS not require too many steps, the goal should be to devise a system that would actually reduce barriers to participation by, among other things, increasing the specificity of tasks and spelling out the accountability for each. After a customized implementation has been developed, there are several other challenges that must be addressed to fully realize how various capabilities will be built, delivered, and evaluated. Following is a brief analysis of the most important of those challenges.

Risk assessment challenges – The first requirement in this area is to determine the definition of “risk” that the jurisdiction will use to fully identify threats and hazards and, by doing so, assess the risk posed by each. The THIRA and the hazard mitigation planning related to hazard identification and risk assessment are among the more important tools to use in this step, but each jurisdiction must ultimately decide how it wants to evaluate the risk to the community posed by each threat or hazard considered.

The threat and hazard identification process drives the formulation of specific preparedness targets, as well as preparedness goals, that various jurisdictions must develop. The preparedness target identifies what the jurisdiction needs to fully deliver a specific capability. Capability

targets must be based in turn on the understanding, on the part of jurisdiction leaders, of what they are preparing for, which would be either: (a) the realistic consequences of the threats and hazards they face; or (b) the most likely impacts of a catastrophic occurrence. For UASI states, harmonizing the THIRA is critical to ensuring consistency between capability targets at both the state and UASI levels.

Capability estimation challenges – Capability estimation involves: (a) determining the plans, organization, equipment, training, and exercise elements required to build and sustain a specific capability; and (b) comparing those requirements to the actual resources and activities available to determine any gap that remains. When conducting a capability assessment, it is important to interface not only with neighboring jurisdictions but also with state and regional partners. Such collaboration could result in capability estimates that consistently measure capability requirements and allow for information sharing, particularly information related to implementation of the National Incident Management System. Effective state-to-local jurisdiction coordination and communication also ensures that resources are not double counted as both a local and a state asset. The potential to overestimate resources through double counting is particularly high in areas where state agencies have local offices that support local emergency operations.

Capability validation challenges – For capability validation, it is important that a consistent policy be used to determine when it is appropriate for after-action reporting. It is unrealistic to require a formal after-action process each and every time a capability is delivered. For example, coping with a multi-vehicle collision involving the potential spill of hazardous materials requires several core capabilities – critical transportation, environmental response/health and safety, on-scene security and protection, and public health and medical services. Such incidents are relatively common in some jurisdictions. To require an after-action report for all such situations in those jurisdictions, though, could be unduly cumbersome and might ultimately result in unnecessary paperwork and capability validation data. Among the potential thresholds that should be considered in such cases are the following: (a) The number of capabilities delivered; (b) any remaining challenges identified that require improvement; (c) significant improvements in the delivery of the various capabilities needed; and (d) the number of agencies involved in the delivery of those capabilities.

The Scarcity of Best Practices & Other Pitfalls

One continuing challenge that state and local jurisdictions must face as they move forward with implementing PPD-8 is the limited number of existing best practices that have already been validated. Each jurisdiction will, therefore, either have to develop a preparedness system process from the ground up or wait for other jurisdictions to develop best practices that can be adapted to fit the needs of other locales.

Nonetheless, political and operational jurisdictions must conduct their own thorough and systematic capability estimates and develop the processes needed to build, maintain, and evaluate the various capabilities required. Any jurisdictions that will not or cannot do this will lack the accurate and consistent data on resource gaps that they will need to make their own future resource procurement and allocation decisions. Beginning the process by giving full and objective consideration of the potential pitfalls identified above can help ease the overall system development decisions required.

For most states and major urban areas, implementation of the NPS has become a necessity for many reasons, but particularly to continue receiving DHS grant funding. It also is important, though, that the DHS itself recognize the challenges that lower-level jurisdictions will face in meeting the National Preparedness Goal, specifically including giving thoughtful consideration to the quantity and variety of resources required to sometimes totally transform legacy preparedness programs that are no longer valid or effective.

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Lessons Learned From Katrina Pay Off in Response to Sandy

By Jamie Stowe, DoD



It is interesting to see how the overall state and federal response efforts to Hurricane Sandy in 2012 differed from, but were strongly influenced by, the responses seven years earlier to Hurricane Katrina – the last catastrophic hurricane to significantly involve the nation’s active-duty military forces. It seems obvious in hindsight that most if not all participants in the 2005 response – federal and state military units, state and federal decision making officials, and such national responders as the Federal Emergency Management Agency (FEMA) – learned many lessons from Katrina, then applied them quickly and effectively before, during, and after Sandy made landfall.

Among the more important of those lessons were how to improve the necessarily close interactions between federal and National Guard forces. The role played by active-duty military personnel during the Sandy response was made much easier by avoiding several potential friction points experienced during and following Katrina. [Title 10](#) of the U.S. Code pertains to federal military forces and strictly limits the actions of those forces when responding to an event under civilian control. Because of the chaotic turmoil – in both the local environment and the political arena – there was significant friction between state and federal leaders during the Katrina response.

To restore order, save lives, and start the massive recovery process required, President George W. Bush directed the U.S. Northern Command, a major DoD (Department of Defense) command, to establish an active-duty/Title 10 Joint Task Force (JTF-Katrina) to bring order out of the chaos in and around New Orleans and help the hundreds of thousands of people directly affected by the storm.

Despite JTF-Katrina’s overall success and the effectiveness of the Joint Task Force’s command structure, the perceived “takeover” by federal forces of a supposedly “civilian” matter, no matter what the circumstances, not

only raised some concern among local residents and authorities but also led to well-publicized political criticism of the local, state, and federal leaders directly involved.

Nonetheless, there were many lessons – operational as well as political – learned from Katrina that could be seen in the quick and effective actions taken by federal, state, and military leaders in the early stages of Hurricane Sandy. To avoid any misperception of who was in charge this time around, and to prevent mistrust that could potentially dampen state and federal collaboration, U.S. Northern Command chose to deploy a coordina-

tion element – led by an Army National Guard general who was on federal status, rather than a (traditional or career) three-star active-duty general. In addition, the only joint task forces deployed – Joint Task Force Sandy (New York) and Joint Task Force New Jersey – were led by officers from those two states.

Working from Joint Base McGuire-Dix-Lakehurst, a federal installation in up-state New Jersey, the principal role of the active-duty/federal military coordination element was to receive, stage, and allocate the active-duty forces arriving in

local areas to carry out the missions specifically requested by the two states and approved by FEMA. In effect, the active-duty component of the response units deployed were legally “loaned” to the states, but the operations were overseen by the National Guard commanders who worked directly for the governors of New York and New Jersey.

To help facilitate National Guard and federal planning and response efforts – and prevent potential dysfunction/rivalries – U.S. Northern Command, working in close cooperation with the New York and New Jersey governors, used a “Dual Status” Commander construct that combines state and federal military leadership. The still fairly new command and control model of the Dual Status Commander is led by a state’s

The Department of Defense used lessons learned from Hurricane Katrina to provide a more collaborative effort when responding to Hurricane Sandy.

National Guard general, but provides him or her with a Title 10/active duty military deputy commander and staff to help meet state needs by employing active duty assets to carry out certain very important, but also legally limited, missions.

Those missions must first be requested by the state, though, and pre-approved by both FEMA and the U.S. Department of Defense. The Dual Status Commander model, used in both New York and New Jersey, effectively cushioned what may have been the most difficult political problem in the post-Katrina response operations: The difficulties that developed when Louisiana and New Orleans political leaders rejected an early federal assistance proposal to help in the post-Katrina cleanup and recovery operations because it meant, among other things, that active duty forces would have been in charge of Louisiana's National Guard troops.

This time around, the federal government provided what proved to be a "win-win" scenario for the states – namely, an opportunity to receive help from active duty resources, but without losing political control of the response efforts and/or being upstaged by the Department of Defense or any other federal agency. That approach also found a way for DoD to provide federal military assistance to civilians in need of power, fuel, and water removal without infringing on the civilian leaders closest to the local government who might already be concerned about federal intervention into local jurisdictions.

The views expressed in this article are solely those of the author and do not necessarily represent the views of the U.S. Department of Defense, the U.S. Air Force, or any other federal agency.

Major Jamie Stowe, USAF, is a medical plans and operations officer who has more than 14 years of experience in emergency planning and response operations with the U.S. Air Force and the U.S. Army. He has not only completed a Department of Defense planning fellowship but also has been directly involved in numerous contingency operations – including those following Hurricanes Rita, Ike, Gustav, and Sandy, the Japanese tsunami and nuclear plant responses, and the 2010 earthquake in Haiti. He holds a master's degree in Business Administration and is now pursuing a master's degree in National Security and Strategic Studies from the U.S. Naval War College.

Specialized Teams Meet Unique Challenges

By Joseph Cahill, EMS



Specialized units provide emergency capabilities above and beyond the traditional base function of the agency to which they belong. EMS (emergency medical services) agencies, for example, provide pre-hospital emergency care as well as transportation for the sick and injured. A less common example, though, of a specialized EMS unit might be a farm rescue unit trained and equipped specifically for disentangling persons caught in farm machinery.

A specialized unit can be either a single-function team equipped with its own vehicle and trained crew or a typical line unit possessing unusual and sometimes unique capabilities. Establishing and training such a team, however, is almost always a multi-step process involving the assessment of unique risks and estimates of cost. The first step is necessarily, though, an assessment of risks, equipment, and other material resources already available. To carry out such assessments, past incidents as well as the risks most likely to be faced in future incidents must be considered.

The next step is to determine an estimate of probable costs and, therefore, the funding needed and/or likely to be available. Equipping a first responder unit is no small task. Properly equipped emergency vehicles frequently cost more than \$100,000 per unit, the basic equipment and supplies needed for the vehicle will add tens of thousands more, and the continuing costs – for personnel, replacement supplies, and sometimes vehicle replacements (or upgrades) – will have to be factored into all future budgets.

The High Cost of Unique Capabilities

Specialized units also mean specialized costs – for additional equipment, new training, and purpose-built vehicles. All are likely to be needed on a continuing basis, but some of these costs can be defrayed by repurposing existing vehicles. For example, New York City EMS created support vehicles in the late 1990s by refitting retired ambulances to carry large amounts of equipment. Similarly, Philadelphia's rescue unit went into service in the early 1990s in a refitted soda delivery truck.

When responding to the bombings during the Boston Marathon, state and city officials used highly specialized police bomb-disposal units as well as fire department rescue squads and medical special incident teams.

Larger cities throughout the nation are the most likely to need, use, and be able to provide funding for specialized units of various types – usually because major metropolitan areas often have and can tap into a higher tax base. Many sparsely populated areas, though, no matter how large geographically, are unable to fund a specialized unit.

An often-used strategy to resolve this problem is for several departments in similar circumstances, and in the same geographic area, to pool their resources to field a specialized unit that all departments can share. These “joint” operating units may take their structure from an existing jurisdiction such as a large county – or, if that is not feasible, create a special district that crosses multiple jurisdictional lines.

Paperwork & Acquisition Requirements

In such situations, there is considerable paperwork involved. Creating a special district is primarily a legal process, which may or may not require a referendum. Regardless of the jurisdictional structure, a written agreement between the agencies involved should provide specific details, in advance, on such important issues as funding, staffing, operational procedures, and command structure. Although the special unit may be able to operate smoothly and efficiently without having to consult a rule book, having written rules offer legal and operational references that can be used to settle differences that might have to be resolved. For similar reasons, the leaders of the various agencies involved should know and approve – again, in advance – the specifics of any legal or operational commitments that have been made.

Creating and operating a specialized unit involves the acquisition of equipment, supplies, and vehicles, as well as the training of the staff involved. As with any other type of emergency planning initiative, exercising and testing the system is vital – so is “closing the loop” by using the lessons learned in exercises and actual operations to modify and revise the plans as and when needed.

Real-World Footnote: At the time this article was being written, specialized units from the greater Boston area, police bomb-disposal squads, fire department rescue teams, and [EMS](#) special incident units were responding to the terrorist bombings at the [Boston Marathon](#). The highly professional performance of all of these units, and others, was exemplary. Without prior organization, detailed planning, and excellent training, chaos would have ruled the day.

Joseph Cahill is a medicolegal investigator for the Massachusetts Office of the Chief Medical Examiner. He previously served as exercise and training coordinator for the Massachusetts Department of Public Health and as emergency planner in the Westchester County (N.Y.) Office of Emergency Management. He also served for five years as citywide advanced life support (ALS) coordinator for the FDNY – Bureau of EMS. Prior to that, he was the department’s Division 6 ALS coordinator, covering the South Bronx and Harlem. He also served on the faculty of the Westchester County Community College’s Paramedic Program and has been a frequent guest lecturer for the U.S. Secret Service, the FDNY EMS Academy, and Montefiore Hospital.

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Local Heroes Helping Their Fellow Citizens With Disabilities

By Stephen M. Thal & William H. Austin, Emergency Management



In 2005, the Capitol Region Emergency Planning Committee (CREPC) in Hartford, Connecticut, experienced success in many areas of emergency response preparation.

Building on homeland security grants, regional leadership, a common mission, and sheer determination, most activities carried out by the committee, and the agencies represented on the committee, were a natural expansion of the collaboration and mutual aid policies and attitudes that followed the 9/11 terrorist attacks in 2001.

One operational area, though – dealing with citizens suffering from various disabilities and/or possessing emergency needs, now referred to as “functional needs” – was lacking in both leadership and focus. Hurricane Katrina in 2005 served as yet another strong indicator of the need for states and local governments to expand their efforts to help citizens with functional needs in or following any type of disaster-related incident.

A Four-Step Plan of Action

To do just that, a representative committee of local leaders met and determined that an effective plan of action should be developed to determine what specific steps should be taken to address this shortage of a much needed service. The first step taken was to establish an additional and specifically targeted regional emergency support program for functional needs ([RESE 19](#)). The second step was to develop – in collaboration with the University of Connecticut – a special course curriculum focused on such interrelated actions and topics as response doctrine, emergency procedures, situational and sensitivity awareness, and the behavioral patterns of citizens suffering from various disabilities.

The third action taken was the creation of a “Regional Disability Training Team” that included in its membership several people suffering from various

types of disabilities themselves – legally blind, for example, hearing-impaired, and/or mobility-impaired. Those members contributed in many ways – particularly through their personal life experiences, which had a tremendous impact on the overall value of the collective endeavor.

An unanticipated fourth benefit was provided when the Regional Disability Training Team became part of another experiment when it was incorporated into the statewide Citizen Corps Council Program as a functioning Community Emergency Response Team (CERT) sponsored by West Hartford.

First responders have the responsibility of protecting all citizens within their own jurisdictions, including those who have functional needs. Knowing what to do and how to do it will help ensure that those needs are met.

Teaming Up for A More Effective Response

In short, the regional disability training team has become an increasingly valuable component of the Capitol Region emergency preparedness initiative. Those participating in the program recorded several successes almost immediately when first responders – beginning with the fire service – went through the two- to four-hour program. Many course-evaluation comments praised the course and its value to the community at large. Many firefighters commented that they had never before had the opportunity to be trained by instructors who themselves were suffering from various disabilities and were able to tell the trainees exactly *how* to help them when help was needed.

Learning how assistive devices play a key role in the life of a mobility-impaired citizen is the first lesson covered in the program. The television coverage of Hurricane Katrina in August 2005 showed disabled citizens being safely evacuated from New Orleans International Airport – but then arriving at their destinations to find no mobility support available because their wheelchairs had been left behind in New Orleans.

Anxieties, Misunderstandings, Service Animals & Other Topics

Among the other lessons learned from the course are a better understanding of how to communicate with persons with various types of disabilities, and what questions to ask before their evacuation or transport takes place; also covered are such topics as occasional misunderstandings, the possible lack of communication, and how to deal with unexpected body language, fear of the unknown, and/or anxiety – any or all of which may slow down proper execution of the life-saving actions required. Ever mindful of changing emergency response needs and governmental regulatory pressure to consider citizens with functional needs, the course has been modified numerous times to reflect both the latest doctrine and the continued input from attendees.

The key mission of the team is to deliver a course that offers clarity of need, a familiarization with proper response techniques, a positive outcome for affected citizens, and the satisfaction of all persons involved in understanding the sensitivity of the situation. Today's specific course content includes discussion of, among other things: the prevalence and preferences of people with disabilities; general disability awareness and appropriate interaction etiquette; the importance of ensuring that people and their supportive devices stay together; various types of effective communication methods; a working knowledge of assistance/service animals and their roles; registry development; emergency response role-playing activities; and the continued importance of ensuring that people suffering from various disabilities continue to help develop their own emergency response plans.

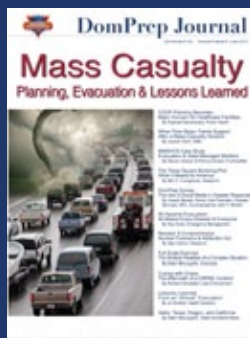
To date, more than 3,300 first responders have been through the course since its inception. The largest challenge so far involved training over 400 police officers from the Hartford Police Department. In addition, presentations also have been made at various conferences and special events, and the course has been made available to students at both the U.S. Coast Guard Academy and the Massachusetts Maritime Academy.

The team's efforts have been commended and officially recognized by senior officials of both state and federal agencies. By far, however, it seems that the most valuable impact the training efforts, and training team, have brought to the Capitol Region as a whole is the enhancement of regional resiliency and overall response capabilities. This value was clearly illustrated by the heroic and extremely successful efforts of first responders in the region during the recent massive power outages and unprecedented damage caused by Hurricane Sandy.

Stephen M. Thal (pictured) is commander of the Disability Training Team of the Capitol Region (Hartford, Connecticut) and chairman of the Region 3 Regional Emergency Support Function 19 Functional Needs Service. He can be contacted at stephenthal@sbcglobal.net.

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