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Spring 2008



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PHOTO BY JOCELYN AUGUSTINO/FEMA

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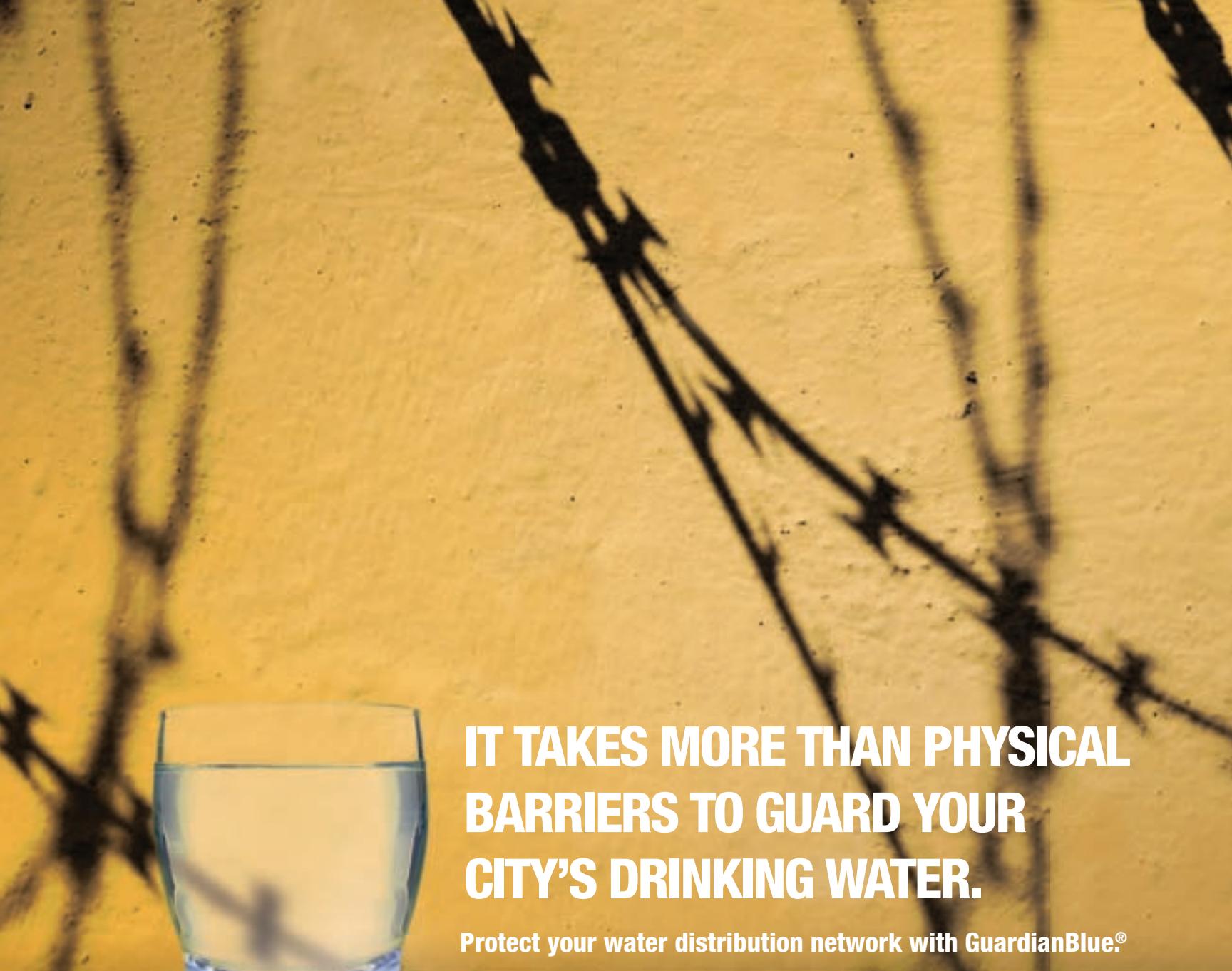
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Perpetuating Preparedness

During a crisis, citizens must understand that they could be the first responders, and should be prepared for it. And you — as a first responder, emergency manager, government employee or citizen — can do something to perpetuate citizen preparedness.

"Who becomes the first responder during a disaster, when 911 doesn't work or the police or fire can't respond immediately?" asked LuAn Johnson, public education program manager of the Washington Emergency Management Division, during a session at the Partners in Preparedness Conference 2008. The answer was clear: whoever happens to be present.

This citizen-as-first-responder theme was a common one at the conference, held in Tacoma, Wash., in April.

"We know our jurisdictions are not as prepared as we need them to be," Johnson said.

She said two things fly off the shelves during a crisis: batteries and water. Both are easily acquired, and we could help ourselves by keeping a stash on hand — but we don't. She said 40 percent of injuries during natural disasters involve stepping on glass — cut feet. Simply keeping a sturdy pair of shoes under the bed would reduce that percentage.

Disaster preparedness must be a partnership between the government and citizens, and it's the government's role to educate citizens on how to prepare to be first responders.

The Federal Emergency Management Agency has shifted its focus from awarding grants for resources and conducting emergency management exercises, to

looking toward planning. Involving citizen groups in planning will be paramount to state and local governments if they want to continue receiving grant monies, and if they want their jurisdictions to be prepared.

Each of us can do something to perpetuate this preparedness; first responders are citizens too, and can lead by example.

This discussion reminds me of the smoke alarm I bought for my parents a couple of years ago. They were painting at the time and said they'd install it when everything dried. When I visited recently and asked about the alarm, it still wasn't installed; they said they'd do it soon. But I have a feeling it won't get installed until I do it. It's easy to do, yet easily put off by so many people — although it could make the difference between escaping the house in time and perishing.

Most folks don't think it will happen to them. Perhaps the idea is so frightening that they don't want to think about it. So they don't.

Johnson has tried to get people to think about it for years. She helped create the Seattle Disaster Aid and Response Teams program, now called Seattle's Neighborhoods Actively Prepare.

Most of us aren't prepared for a local disaster, because we haven't even thought about what to do in an emergency. And that reminds me of that smoke detector sitting on a desk at my parents' house. I pledge to take a few minutes this weekend to help make their house safer. What will you do? 



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Jim McKay
Editor
Emergency Management



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* In the Field

The next-generation 911 system will bring public safety answering points up to date by allowing them to receive text, data and digital images from the latest consumer devices. The next-generation call center will receive messages directly from automobile alarms, tracking systems, such as OnStar, and video feeds from bank alarm systems.

To read about what to expect from the next-generation system, turn to page 34.

* Rebounding

PHOTO COURTESY OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION



PHOTO COURTESY OF SAM ABELL/NATIONAL GEOGRAPHIC



PHOTO COURTESY OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION



A plan that included a \$20 million drainage improvement and nearly 100 gutter inlets has helped rebuild Shockoe Bottom.

The Bottom is Back

by Adam Stone

The historic Shockoe Bottom district in Richmond, Va., has recovered from the devastating blows of Hurricane Gaston.

By the time it was over, most of David Napier's Old City Bar and adjacent catering operation were saturated. After just two days in business, "all of our offices and the kitchen on the first floor were completely destroyed," Napier said.

Such was the impact of Hurricane Gaston, which doused Richmond, Va., with at least 10 inches of rain on Aug. 31, 2004. When it was over, Gaston had produced what some newspapers called a 5,900-year rainfall event and a 2,500-year storm, killed nine people and caused a reported \$120 million in damages throughout the mid-Atlantic states.

For many in Richmond, the storm's wrath was epitomized by the devastation of Shockoe Bottom, a historic riverside entertainment quarter. The popular restaurant and nightspot district is the lowest point in the city, and that's where the water went, tearing down buildings and tossing vehicles through the streets.

Today the district is back on its feet, the restaurants are open and perhaps most sig-

nificantly, the city just completed the first phase of a two-stage effort to rehabilitate the faulty drainage system that failed to stop Gaston's floodwaters.

What Happened?

To put it bluntly, Gaston tore Shockoe Bottom apart because the water had nowhere else to go.

Chris Beschler, director of Richmond's Public Utilities talks about the "box" and the "arch," along with a malformed drop inlet system. As to the latter, intakes for the catch basin existed, "but they were in the wrong places in the gutter, and they were grossly, grossly undersized."

Add to this the box, a massive piece of underground infrastructure designed to gather local rainwater and feed it into a wastewater treatment area. The box has capacity problems because of the arch, a vast pipe in the shape of an inverted "U" that draws water from the higher parts of the city and dumps it into the box. It's more than the box can

handle, and Shockoe Bottom has been routinely soaked even by mild thunderstorms for many years. The system couldn't possibly handle Gaston.

A \$20 million drainage improvement effort has given many merchants the courage to return to Shockoe Bottom. The plan includes installation of nearly 100 gutter inlets, properly positioned this time. Engineers also have disconnected the arch from the box, so water from uphill now flows directly into the wastewater treatment plant.

The second phase of the plan calls for repairing a retention basin that hasn't functioned properly in years, Beschler said. The entire project is slated for completion in early 2009.

The first phase of the effort came in about one-third under budget, a fact Beschler attributes to good vendor prices thanks to fortuitous timing, after a project launch in January 2007. "With a construction project of that magnitude, you normally do not start working in the winter," he said, "but we

wanted to keep the momentum going, and at that time of year the vendors wanted to keep their people working."

In addition to the long-range infrastructure effort, many Shockoe Bottom business owners appear to have been heartened by the city's more immediate response to the storm.

"The city did a fabulous job of cleaning it up very quickly," said Erika Gay, program manager of Venture Richmond, a downtown economic development and marketing non-profit, formed in 2006 through the merger of four existing agencies.

"There were inches and inches of mud and debris left. Once those 8 feet of water went away, the city got rid of all that debris within a day or two," said Gay. "So when the business owners came back to see what had been damaged, they could see how much of it had already been cleaned up."

Business Returns

Just three months after the hurricane, *The Washington Post* declared the neighborhood "ready for visitors," and indeed, many restaurants and bars reopened speedily, though it took the better part of two years to get things back to where they had been before the storm. The last returnee was the popular bar Havana 59, considered by many to be an anchor to the neighborhood, Gay said. More than a dozen feet of water had filled the dining room.

Napier reopened in Shockoe Bottom 11 months after the storm. He scrambled to find the \$200,000 he would need to restart his business, liquidating his personal assets for \$100,000 and borrowing nearly \$43,000 more from banks.

The city came through with a \$57,000 grant, money drawn from funds generated by Department of Economic Development fundraising efforts. "That was really what made me able to get the restaurant reopened," Napier said.

As a federal disaster area, Richmond drew assistance from the Federal Emergency Management Agency and the Small

PHOTO COURTESY OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION



Amazingly just three months after the hurricane the neighborhood was declared "ready for visitors."

"There were inches and inches of mud and debris left. Once those 8 feet of water went away, the city got rid of all that debris within a day or two."

— Erika Gay, program manager, Venture Richmond

Business Administration. At the same time, local groups took an active role in efforts to get Shockoe Bottom back on its feet. The River District Alliance (now part of Venture Richmond) coordinated a "Back the Bottom" fund drive, with donations to be distributed among businesses that were most in need. The Economic Development Department managed the fund, which Gay said approached \$200,000.

While the alliance previously marketed the river district as a whole, in the wake of Gaston, "we threw all our time and money into marketing Shockoe, telling people that 'the Bottom is dry,' that businesses were open again," Gay said.

Numerous local media outlets made pro bono advertising space available. "The phone was ringing off the hook, anything from the Jewish Community Center wanting to give us ad space, to the *Richmond Times-Dispatch*," Gay said. "We usually did ads that included all the businesses in the river district, but for this we just listed the businesses in Shockoe Bottom."

The community effort culminated in the "Back the Bottom Relief Concert" in November 2004. Local music studio owner, David Lowery from the band Cracker helped orchestrate the event, which featured Cracker and Camper Van Beethoven. The concert helped boost total local fundraising efforts to the \$350,000 mark, according to published reports at the time.

Between city engineering and the support of local organizers, Shockoe Bottom has once again put itself on solid footing.

"It takes a long time for people to actually come back. You can't just say, 'Oh, it's ready.' But they are coming back," Napier said. "Four new restaurants opened just this year. We have the only place in Richmond where you can walk down two blocks and see 10 different restaurants, none of them chains. People are now investing down here, and that will bring people back." ☀

* Major Player

Tony Cardenas

Los Angeles City Councilman, District 6

Los Angeles City Councilman Tony Cardenas has a lot on his plate. In addition to tackling gang violence and cleaning up air quality in Southern California, Cardenas also worries about vulnerabilities related to U.S. ports — an issue he believes is equal to airport security but doesn't receive the same attention.



PHOTO BY TED CARRERON

by Jessica Jones

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What are your concerns about port security?

Unfortunately Washington isn't responding appropriately with the kind of funding that we need post-9/11. When you think about the kinds of things that can be done through the ports — the size of the containers and the ability to put chemical agents in them — it could have an effect once it arrives at the port, or it can be put onto a truck undetected and then brought into the country.

For example, the ports of Los Angeles and Long Beach intake more than 60 percent of all the containers coming into the U.S. The vulnerability there is tremendous, but the amount of funding given to ports is perhaps one small fraction of the funding given to airports. Unfortunately I think it has to do with Washington focusing on what they think the public wants — to feel safe in airports.

What can be done to make the public aware of this vulnerability? On a positive, proactive sense, we need to get Congress and the president to understand that they need to start focusing on that.

Unfortunately the most effective way we would see the right kind of change would be an actual incident. I think reacting to an incident the way we reacted to 9/11 created the kind of energy and synergy for them to put funding into trying to see if we can fortify the safety within our airports. Until we have an incident at one of our ports, only then are we going to see the kind of infusion at the proper levels. But hopefully we can have a positive dialog, with the right kind of attention and reaction from Washington, without having an incident.

What would you want to convey to the policymakers and politicians who might read *Emergency Management*? First of all, we need to convey to them the kind of vulnerabilities we have. For example, 9/11 occurred on the East Coast, in New York, and then a portion of it occurred in Washington, D.C. The fact of the matter is, if you look at the West Coast, the most vulnerable city is Los Angeles — perhaps even more vulnerable today than New York. We shouldn't have to wait for an incident or tragedy where we lose 100 or 1,000 American lives in order for them to give the proper attention.

Also, when it comes to emergency operations, it's the actual command-and-control issues — the responsibility and responsiveness of the community when we have an incident such as that. It's one thing to prepare; that's always important. But at the same time, it's equally important for us to be fortified with the kind of communication and networking necessary when you have a situation where massive response is required. +

To read more about Tony Cardenas' views on various vulnerabilities in the U.S., go to www.emergencymgmt.com.



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Danger Zone

AMERICANS MAY SOON USE GOOGLE to see whether their homes are threatened by a hurricane's storm surge, said the director of the National Hurricane Center (NHC) in March.

Storm surge, the massive wall of water carried inland by a hurricane, destroys homes in vulnerable coastal areas, and is a great threat to those who ignore evacuation orders.

NHC Director Bill Read said a planned program will pair a Google application with storm surge data that meteorologists have used for years. Together, the application and weather data will determine the flooding threat of any storm category.

"People can plug in their address and see at what level they are at risk," Read told the Reuters news service.

He said he hopes the program would be available in time for the Atlantic hurricane season, which begins June 1 and ends November 30.

Hurricane forecasters use a computerized model called SLOSH (Sea, Lake and Overland Surge from Hurricanes) that estimates storm surge heights by taking into account a hurricane's size, internal pressure, forward speed, track and wind strength.

The idea to make SLOSH models publicly available evolved from the phone calls that inundate local emergency managers and weather forecast offices every time a hurricane threatens: Read said people ask what flooding will be like at their homes.

"We're not going to know that off the top of our heads," he said. "So we can say, 'Go to our Web site,' and it's there."

Hurricane forecasters will also offer a color-coded graphic this year on the NHC Web site, www.nhc.noaa.gov that will indicate storm surge probabilities for threatened areas, similar to forecasts already available on wind speed probabilities. The graphic will indicate the probability of the surge reaching or exceeding 5 feet within a given number of hours, Read said.

It promises to help local emergency managers with key decisions, such as when to lock down bridges and what roads could be washed out or need to be cleared.



Students Still Iffy

ALTHOUGH TEXT MESSAGING SYSTEMS have received much attention as a viable means of alerting students during a crisis, so far students have not embraced the idea, according to an *Associated Press* news report.

Hundreds of campuses have adopted text alerting (where students sign up for the alerts), but the enrollment rate among students and faculty is less than 40 percent, according to one provider of text alerting. According to another provider, enrollment was less than 30 percent.

Some students are concerned about giving out personal information, and others are indifferent, thinking a tragedy like last year's shootings at Virginia Tech will never happen to them. In fact, four in 10 students at Virginia Tech have still not signed up for text alerts, according to the report.

Experts said students will eventually gain confidence in text alerts, and they should be just one of many means of communicating with students and faculty.



Super Tuesday Tornadoes

WHAT'S BEING CALLED THE DEADLIEST tornado outbreak in the United States in 20 years — which struck on Super Tuesday — took the lives of more than 50 people and injured hundreds.

Tornadoes and severe storms hammered the nation's midsection, sweeping through 18 counties in Tennessee, Kentucky, Mississippi and Arkansas on Feb. 5 and Feb. 6, 2008. Tennessee was hit hardest, with 33 people dead, 189 injured and approximately 525 homes destroyed. Reports of winds up to 200 mph were reported, and damage to Union University in Jackson was estimated at \$40 million.

The outbreak was the deadliest since May 31, 1985, when storms killed 76 people across Ohio and Pennsylvania.



Tower of Ash

IN MID-MARCH, A TOWER of ash rose hundreds of feet above the Kilauea volcano at Hawaii Volcanoes National Park, attracting residents and tourists who wanted to catch a glimpse of the first explosive eruption there in more than 80 years.

Because of a tenfold increase of sulfur dioxide emissions from the volcano, the state's health and civil defense officials were concerned about how the ash and gasses spewed from Kilauea may affect public health. Officials monitored the emissions and wind patterns just in case they moved toward the local population.

Another small explosion occurred on the morning of April 16, and civil defense officials advised nearby residents that sulfur dioxide levels "may be high enough to cause severe reactions [for] those in the sensitive groups, as well as those in the general population," the *Honolulu Advertiser* newspaper reported.

An evacuation center was set up at the Naalehu Community Center, but the county lifted the evacuation advisory when sulfur dioxide levels dropped.





This pickup truck is stranded by flood waters covering streets in neighborhoods near the Meramec River in Valley Park, Mo.

Photo by Jocelyn Augustino/FEMA

BY JIM MCKAY » EDITOR

WEATHER SYSTEM SHOWS
NO MERCY ON RESIDENTS AND
EMERGENCY MANAGERS.

MIDWEST

MISERY

A SEVERE MARCH WEATHER SYSTEM DISPLACED RESIDENTS AND EXHAUSTED emergency managers, leaving 20 dead and historic flooding in its wake in parts of Arkansas, Missouri and Ohio.

The steady rain hammered an already-saturated Missouri and Arkansas, closed 60 Ohio state roads, then turned to heavy snow in Illinois, forcing the cancellation of more than 450 flights at Chicago's O'Hare International Airport.

The storm dumped more than a foot of rain in parts of Missouri in a 36-hour period, flooding rivers to the point that four crested at record levels between March 17 and March 19.

Severe storms are nothing new to Missourians. Since August 2005, Missouri has received 14 presidential disaster declarations including strong summer storms, massive power outages and serious flooding. Still, this storm opened the eyes of emergency managers.

"I have to admit being somewhat surprised by the scope of this flooding event," said Dante Gliniecki, statewide volunteer coordinator of the Missouri State Emergency Management Agency (SEMA). "This is one of the biggest flooding disasters in Missouri since the mid-1990s."

The previous disasters and emergencies set the stage for a better, more-cooperative effort this time.



Above: Locals in Biscoe, Ark., drove through flood waters in their 6x6 to volunteer to save houses near the Cache River, a tributary of the White River, which experienced high levels due to flooding in states north of Arkansas. Volunteers created a wall of sandbags around a house to keep the rising water out. *Photo by Jocelyn Augustino/FEMA*

Left: A house in Biscoe, Ark., was surrounded by sand bags to protect it from flood waters from the Cache River, a tributary of the White River. Houses throughout the region were threatened by flooding. *Photo by Jocelyn Augustino/FEMA*



History Lessons

During a recent ice storm, state emergency managers learned the value of a coordinated conference call system for state and local emergency managers, along with the National Weather Service, so that communities most in need are the first to get state resources. The system was established during the December 2006-January 2007 ice storms, when a lack of connectivity between state and local government left thousands of citizens without power for weeks.

During the floods, state, local and federal officials and volunteers were summoned to a conference call, during which every jurisdiction

aired its status and needs. Every agency was briefed by the National Weather Service on what to expect; volunteer organizations talked about shelter and food availability; and rescue agencies discussed the availability of rescue personnel, like water rescue teams. A "situation report" was posted on SEMA's Web site, which compiled the conference call and subsequent efforts to find resources that were requested, such as generators and drinking water. It proved to be an invaluable way to communicate.

Another lesson learned from previous floods was the establishment of a Multi-Agency Coordination Center in southeast Missouri to help manage swift water rescue requests. Though evacuation is voluntary in Missouri, hundreds were forced to leave their homes during the March floods, and police and other rescuers were busy aiding stranded residents.

"The continuous rains saturated the ground and created additional flash flooding and rising backwaters, so many residents who normally would not evacuate found themselves in conditions where evacuation was necessary," said

Susie Stonner, SEMA's public information officer. "More than 100 state employees and fire personnel with swift water rescue training responded in St. Louis, Cape Girardeau, Scott and Butler counties."

The devastation could have been much worse if not for Missouri's long-standing effort to move citizens out of harm's way.

After severe flooding during 1993, '94 and '95, Missouri began an aggressive buyout program, offering mitigation funds to remove families from floodplains. Since then, more than 5,000 homes have been purchased by local communities, which turn the land into open space, parks or low-maintenance recreational facilities.

"If the earlier buyout program had not been implemented, many more Missourians would have suffered from floods," Stonner said via e-mail. Gliniecki said the state hopes to increase the number of buyouts in the near future to prevent more flooded residences.

In another effort to improve the way Missourians respond to disasters, Gov. Matt Blunt launched a faith-based initiative in April

2008 for mass care and disaster outreach. The initiative provides coordination of nongovernmental, volunteer and faith-based organizations. These organizations will attend regional training sessions on how to set up and run a shelter in accordance with American Red Cross standards.

Arkansas Lacking Resources

Arkansas was also struck by heavy weather, which left emergency managers struggling to pay for cleanup and some officials contemplating whether housing should be limited in flood-prone areas. Heavy, consistent rains and floods followed the Feb. 5, 2008, tornadoes that had emergency managers scrambling through mid-April and prompted President George W. Bush to declare 35 counties in Arkansas federal disaster areas.

"It's been front, after front, after front," said David Maxwell, Arkansas Department of Emergency Management director. "I have folks who have not been in the office since shortly after the Feb. 5 tornadoes."

Maxwell is short of help and trying to keep track of various declarations, which have been taxing: keeping staff coordinated, accompa-

nying FEMA representatives to assess damage, and continuing to monitor rising waterways.

Being able to enlist out-of-state assistance would be helpful during emergencies, which is why the Emergency Management Assistant Compact (EMAC) was created. EMAC is a congressionally ratified organization that provides interstate mutual aid when requested.

But Maxwell would need to pay for an EMAC team if he requested one because of a new FEMA policy, and he can't afford it, he said.

The new FEMA Disaster Assistance Policy 9525.9 (Section 324 Management Costs and Direct Administrative Costs) went into effect March 12, 2008, and says that management costs reimbursed by FEMA won't exceed 3.34 percent. The state had already totaled management costs of about \$16 million in mid-April and wouldn't be eligible for FEMA reimbursement for an EMAC under the new policy.

"It's going to mean that states that are unable to bear the full cost of EMAC response would not be able to use EMAC," Maxwell said. "It will have the effect of damaging mutual aid in this country."

Arkansas, like Missouri, is accustomed to this kind of havoc, and experts say to expect

more of the same. "It is well documented that more and more people want to live near water," said Frank Richards, meteorologist for the National Weather Service's Hydrologic Services Program. "The resulting migration, along with increasing values of infrastructure like plumbing, heating and communications systems, increases the impact of flooding even if there is no enhancement due to El Niño/La Niña or global warming."

"In my opinion, while emphasis on addressing possible anthropogenic impacts on global climate change is prudent, in reality, our ability to control climate is considerably less than our ability to manage growth and development in weather-sensitive areas," said Richards. 



Above: Flood waters from the White River drenched farmland and communities throughout the Clarendon, Ark., area. The flooding was connected to the recent flooding that had occurred north of the state.

Photo by Jocelyn Augustino/FEMA



Below: This aerial of an agricultural property in northeastern Arkansas shows flooding by the Black River after torrential rains. FEMA assessed the damage caused by the flooding to help determine if federal assistance is required.

Photo by Samir Valeja/FEMA

Fusing EOC with the

IT'S CONVENTIONAL WISDOM that the first critical component of an emergency operations center (EOC) is the competency of the individuals who staff it — their ability to respond authoritatively to any possible disaster and their capacity to think outside the box when confronting the unexpected.

The second critical aspect of the EOC is its communications system. This needs to facilitate the inflow of information to ensure timely situational awareness, and allow strategic and tactical orders to reach the right people without delays.

One long-standing barrier to this has been interoperability issues. In part, that has been a technical problem. But interoperability also implies effective coordination, and that doesn't always happen naturally in a stovepipe environment where agencies have separate command lines and cultures.

In the law enforcement and intelligence arena, the push has been to get various agencies effectively sharing information and working in tighter coordination — something they didn't always do before 9/11. This led to the creation of what the law enforcement community calls the "fusion center."

Though most think of homeland security intelligence functions when they think of the fusion center, the concept has always included an all-hazards approach, according to Andrew Lluberes, director of communications for the Intelligence and Analysis Office of Public Affairs, of the U.S. Department of Homeland Security (DHS).

"The concept of the fusion center is to give the federal government and the states an opportunity to share information and intelligence, and that's not limited to terrorism," Lluberes said. "DHS's jurisdiction obviously includes terrorism, but a lot of other things as well: natural disasters chemical, weapons of mass destruction and just basic law enforcement."

BY BLAKE HARRIS



Fusion centers
offer resources for
improving emergency
operations centers.

Lluberes said some past natural disasters, such as Hurricane Katrina, didn't have the benefit of working fusion centers. However, he said fusion centers are beginning to mature and emergency managers will benefit from their existence. "As a conduit to share information and intelligence, they certainly would be used in a future natural disaster," said Lluberes.

Chicago's Crime Prevention Information Center interior shortly after its completion. The facility gathers information from multiple sources for analysis.



According to the DHS, there are nearly 60 fusion centers nationwide and more are being formed. Each has unique characteristics because of local priorities and concerns. A fusion center in Arizona or Texas, for example, might involve Immigration and Customs Enforcement or Drug Enforcement Administration officials because of their proximity to the Mexican border.

Though most fusion centers concentrate on law enforcement and homeland security matter, their operations can provide lessons for EOC managers.

Fusion of Data

The ultimate goal of any fusion center is to prevent terrorist attacks and to respond to natural disasters and man-made threats quickly and efficiently. But as a Congressional Research Service report also noted, there is no one model for how

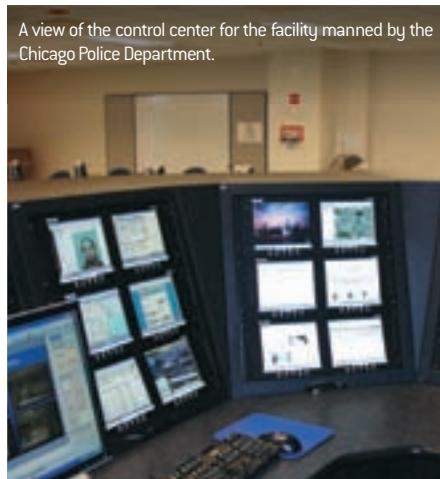
a center should be structured. Although many of the centers initially had purely counterterrorism goals, most have gravitated toward an all-crimes and even a broader all-hazards approach.

"Data fusion involves the exchange of information from different sources — including law enforcement, public safety and the private sector — and, with analysis, can result in meaningful and actionable intelligence and information," noted a Department of Justice guidelines paper. "The fusion process turns this information and intelligence into actionable knowledge. Fusion also allows relentless re-evaluation of existing data in context with new data in order to provide constant updates. The public safety and private-sector components are integral in the fusion process because they provide fusion centers with crime-related information, including risk and threat assessments, and subject-matter experts who can aid in threat identification."

Indeed, it's this informational process that extends the role of the fusion center from an anti-terrorism focus to general law enforcement and perhaps other emergencies and disasters. One such fusion center is Chicago's Crime Prevention Information Center (CPIC), which works on the anti-terrorism initiative, and general law enforcement. The center allows rapid discovery of possible crimes by recording sounds, such as gunshots, and showing police their exact locations on a computer screen.

About 30 full-time detectives, police officers and supervisors staff CPIC. Each of the 35 suburban departments working with the center lends officers to help field calls for information. Additionally representatives from the FBI, Cook County Sheriff's Office and other federal agencies provide liaison personnel to the center.

According to Chicago Police Cmdr. David Sobczyk, head of the Deployment Operations



A view of the control center for the facility manned by the Chicago Police Department.

Center, of which CPIC is an extension, focusing both on crime and terrorism strengthens the anti-terrorism mission. Not only are everyday crimes sometimes precursors to a terrorist attack, but more importantly, having a center that is constantly being exercised 24/7 by responding to actual public safety incidents only makes staff more skilled and effective in dealing with a terrorist threat.

This combined mission focus is evident as soon as one enters the CPIC room. As well as computer screens on the walls, there are TVs that show streams of news 24/7 from American and overseas news channels, from places like Israel, China or Arab states.

While it continues to evolve and is improving all the time, the \$1 million CPIC — funded with a homeland security grant, through seized drug money and from the Chicago PD's operational budget — has become a model for other jurisdictions. This prompted the DHS to engage Sobczyk to give presentations on CPIC to other law enforcement entities around the country.

Automating Information Streams

Much of the information flowing through CPIC like access to local and national crime databases, is nothing that a tech-savvy police officer couldn't access before. But previously it would have taken multiple searches and deliberate effort to search each source. CPIC has automated the process to a large extent, not only in terms of what databases are searched, but also added some artificial intelligence to determine information that might tie in and be relevant.

"This is changing the way that Chicago police investigate crimes," said Sobczyk. Previously officers would arrive at a crime scene with virtually no other information than what was given in the call. They would then have to return to the station, often the next day, to compile other information on file that might be relevant.

Now, through CPIC, when police are dispatched they immediately can refer to information provided by the center that's related to the location of the incident. Information that may be available includes: who has called the police from that location previously, recent arrests in the area, other incidents that have been reported and traffic tickets given recently on that block. This information helps direct the officers on how to approach the investigation and which questions to ask. "They aren't faced with the

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Fusion Center Problems Addressed

Nearly every state now has a fusion center to address gaps in data sharing, but many are not being used to their full potential because of problems that range from getting clearance to access information to the lack of funding to hire personnel, according to a Government Accountability Office (GAO) report released April 17, 2008.

Although one of the fusion center's goals is to share federal intelligence with local officials, that is sometimes not as easy as it should be, according to the report. Some local officials cited difficulties accessing the federal information systems. Others said that although the Department of Homeland Security (DHS) and the Department of Justice (DOJ) grant clearances for locals to access sensitive information, the process takes too long.

Local fusion center operators are also frustrated that sometimes key data is released only to federal personnel who are stationed at the center.

Lack of training and guidance was another issue that some fusion center officials said were problems, and officials also said that a guideline on establishing and operating fusion centers would be helpful.

Officials in 43 of the 58 fusion centers said they had encountered problems acquiring personnel, and 54 fusion center officials reported that federal funding was less than they need for sustainability.

The report explained that the DHS, the DOJ and the Office of the Program Manager for the Information Sharing Environment (PM-ISE) are taking steps to remedy these challenges. It also said the PM-ISE agreed with a GAO recommendation that the federal government define and articulate its long-term role for fusion centers and whether the federal government will provide resources for fusion center sustainability.

information availability and analysis to an entirely new level.

One simple lesson is to think in terms of the traditional information sources and how other sources might prove valuable if immediately available for instant access. This includes public sources of information, like television news broadcasts and the Internet.

The fusion concept for information analysis and sharing is something that is applicable to many types of disaster response. Indeed, when we've seen failures like with Hurricane Katrina, a key part of the problem has been inadequate and untimely information to formulate and direct the complete response needed — without delays.

However, looking at CPIC as one example, possibly the most important lesson is that fusion centers work well because they are in constant operation. The officials staffing them from different agencies are working with each other in the same room on a regular basis, gaining familiarity and skill with their informational tools. As Sobczyk points out, this is how CPIC's law enforcement mission strengthens its anti-terrorism mission.

situation of the next day, saying to themselves, 'If only I had known this,'" said Sobczyk.

CPIC's effectiveness comes in adapting existing applications and technologies to the specific needs of policing and homeland security, Sobczyk explained. An example is the extensive use of GIS maps with multiple information layers. Once crime and security information is amalgamated, far greater insight is possible for CPIC personnel. For instance, the system will predict exactly where the next gang shooting is most likely to occur. While other things might also be predicted, the main focus other than terrorism right now is violent crime. Sobczyk points out that since CPIC was launched in April 2007, the homicide rate for Chicago dropped to its lowest level in 42 years. He views CPIC as one contributing factor, in no small part, because it's changing how violent crimes are responded to and investigated.

Video Brings It Home

Looking over the shoulder of an on-duty detective in the CPIC room, nothing drives home the fact that CPIC is changing how Chicago's police operate as much as real-time video monitoring. Most of the cameras installed in city hot spots can be panned and zoomed from any PC in the room, meaning that officers can zero in on any suspicious activity in their vicinity. In one instance, a detective was watching a group of suspected gang members hanging around a street corner. The view is about the same as one would

have from across the street — clear enough to see if something suspicious is going on.

It's this kind of power that has helped to sell CPIC's innovations to the Chicago police force at large. All it takes is officers responding to an incident and getting directions on where to look for evidence over their radios, for example, to begin to appreciate the power that CPIC brings to the table. "They will be looking around in the sky, wondering who's watching from where," explained Sobczyk.

So far, about 600 video cameras have been deployed, the large majority of the type that can be panned and zoomed; 200 more have been ordered. And Sobczyk thinks the number will continue to go up: "I don't see a time when the number is likely to be reduced," he said.

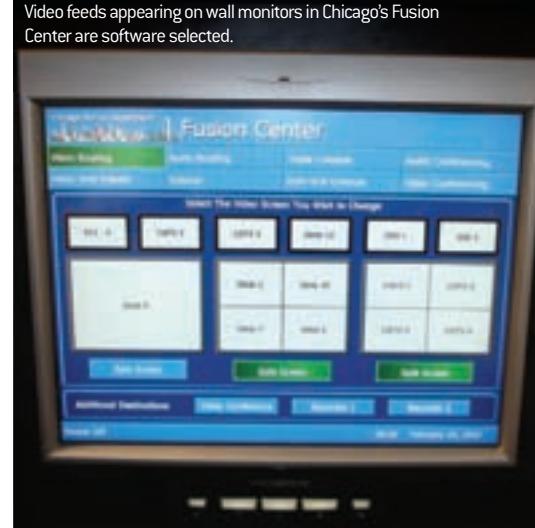
Interestingly citizens in Chicago haven't expressed much concern about the cameras going up in public spaces. If anything, they seem to be pleased that this new tool can help keep city streets safer.

Lessons for EOCs

A fusion center such as CPIC is probably more high-tech than most EOCs. However, most of what is installed is based on existing, off-the-shelf technology. This doesn't mean that it's technology that most law enforcement officers immediately recognize as valuable — until they see it in action.

It takes at least one technology champion to recognize how new technologies can move

Video feeds appearing on wall monitors in Chicago's Fusion Center are software selected.



Coordination is a people issue, as much as it involves procedural policies. EOCs that go into operation only in a serious emergency are not likely to work as efficiently as a center that operates every day with its tools.

Interoperability through technology is not the end, but rather the beginning of increased cooperation and coordinated action. 

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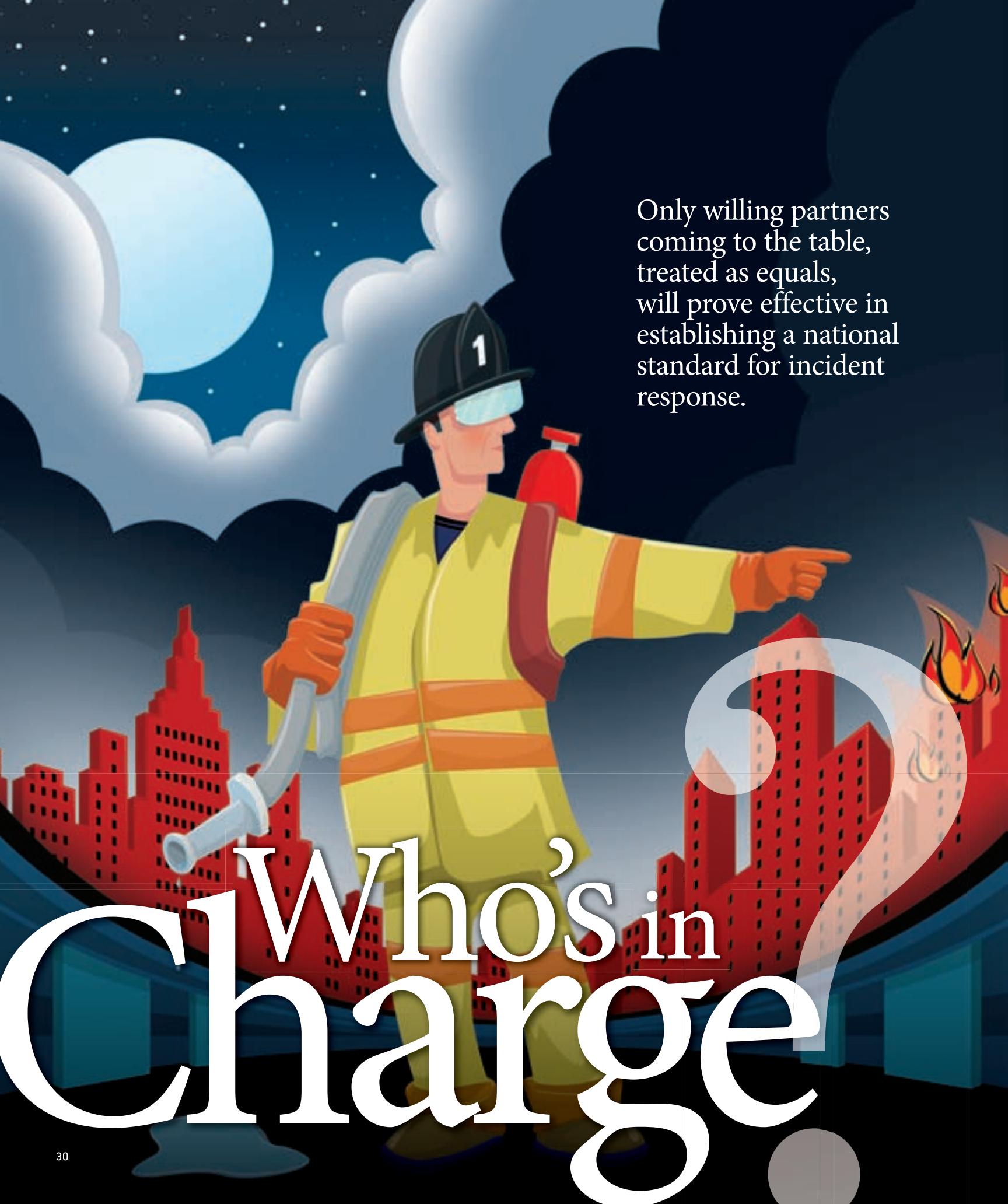
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Only willing partners coming to the table, treated as equals, will prove effective in establishing a national standard for incident response.

Who's in charge?

TENS OF THOUSANDS of hours have been spent nationally in a quest to implement a national standard for incident response, but the question remains: Has this endeavor to implement the National Incident Management System (NIMS) and the Incident Command System (ICS) been effective in reordering how the nation as a whole responds to emergencies and disasters?

Has the quest to have a chain of command, one that establishes clear command and control, been effective? Are we attempting to impose a system that does not function well within the day-to-day governance models that make up the American system?

The idea is that we respond together to protect people and property. Ultimately the establishment of mechanisms that allow for joint action via a coordinated response is the solution, but it's an arduous road. Federal mandates cannot overcome individual agencies' and jurisdictions' unwillingness to put aside turf issues in order to achieve the ultimate goal of a more rapid and efficient regional response.

On the Same Page

Having a federal-level system for how the nation as a whole responds to disasters — all governments responding similarly when bad things happen, either within their jurisdiction, or to another — is an admirable vision.

The ideal scenario is that everyone uses the same system and terminology when responding, which allows disparate agencies to come together quickly and avoid miscommunication when confusion ultimately rules — during disasters. This applies to localized emergencies where mutual aid resources come to the assistance of their neighbors, or in situations of a much broader scale like 9/11 and Katrina when the nation's resources are called upon to respond to a catastrophe of mega-proportions.

Conceptually this is working on paper. And it's working in practice to a degree. The U.S. Forest Service and Firefighting Resources of California Organized for Potential Emergencies (FIRESCOPE) gave birth to the ICS, and it has been well adopted by fire agencies — especially those in the Western states that must deal with wildland fires. The U.S. Forest Service's use of the National Interagency Incident Management

System (NIIMS) pioneered this effort. Cyclops NIMS — that's NIMS with only one "I" — is the fairly new national standard that expanded use of the ICS beyond the fire service to all responding agencies.

For public agencies to receive federal funds, they must have adopted NIMS, and met the requirements for training staff and implementing its use within their jurisdictions. As previously noted, the fire service in general has done a good job, and the ICS has been expanded to other disciplines that also have adopted it. It's interesting to note that the ICS has expanded far beyond the intended audience of first responders. There are now ICS solutions for schools and hospitals. Even businesses have started using the ICS to handle crisis situations that impact their business continuity.

The Ultimate Solution

The best use of the ICS occurs when single agencies respond to emergencies. Go to most scenes and ask, "Who's in charge?" and typically someone will step up and say, "I'm the incident commander."

This is perhaps the extent of their implementation of the ICS. It is good, of course, that they know to identify the incident commander. But it becomes more complicated with multiple agency or discipline responses, even those within a single jurisdiction. In many cases, you'll still see several command posts being established, one per discipline. In one postmortem of a winter storm and surface-water flooding incident, someone proudly proclaimed, "We established unified command!"

The issue, however, was that the "unified" entities were police and fire. Public works also had a command post and leadership, but wasn't incorporated into "unified command" for the incident.

The ultimate solution is to implement a "train as you will fight" mentality. We need joint training, planning and exercises with all potential partners if we're ever going to fix the issue of unified command within single jurisdictions.

And even more complicated is incorporating multiple jurisdictional authorities when responding to the same incident. At a school shooting, for instance, many agencies could potentially be involved in unified command:

law enforcement, fire, the school itself, public works and elected officials, to name a few.

The textbook answer is that since this is a shooting, law enforcement should be the incident commander with other key players participating in unified command. Once law enforcement resolves the situation, there will be a transition in command to another agency, perhaps the school district itself. This is easily written, but not always easily accomplished. Jurisdictional egos can become involved, along with personal history and interagency "baggage" that can be reflected in the level of cooperation occurring at the scene.

This interjurisdictional dance is one that most first responders, emergency managers and elected officials have neither practiced for nor participated in. Therefore, it can be messy at best, especially as leaders emerge, each wanting to highlight their agency's accomplishments and not be superseded by another.

These events can even seem simplistic when compared to large-scale regional disasters involving multiple jurisdictions, regions and state-level authorities. There are issues in responding to larger-scale disasters and the complex nature of our government structure, with federal, state and local levels.

One such issue is the lack of practice in how, in larger, cross-jurisdictional responses, the elected officials aren't used to working in tandem with other jurisdictions during emergencies. There are, we hope, mechanisms to share resources, but perhaps not strategies in responding. For instance, in a flu pandemic, it will be local public health officials who must determine protective measures in responding to the health crisis. If one county closes schools and bans large-scale assemblies like sporting events, and the neighboring county doesn't, these conflicting messages to the public won't support an overall coordinated response, and will undermine the credibility of both jurisdictions in the media and public's eyes.

I've briefed foreign delegations that have visited the United States to better understand how we as a nation respond to disasters. Many nations have only one police force and one fire service. Try explaining the paradigm that in a single, larger county in the United States, you can have more than 30 police agencies and

another 30-plus fire agencies — all of which are totally independent of one another with no chain of command for day-to-day operations. It is a complex web we weave here in America.

It becomes difficult for elected officials to subordinate their roles to other elected officials. And in actuality, by national governance models and a national system of responding, there aren't, in most states, mechanisms set forth in public law where one higher level of government can step in and direct the resources of a lower level of government.

The federal government occasionally threatens to "federalize" a disaster response, but in most cases, this is more symbolic than structural: It's basically a message to states and local jurisdictions that federal resources are prepared to start responding directly to move assistance straight to people and organizations in need. This means bypassing the sometimes cumbersome system of waiting for local jurisdictions to request resources from the state, and then



if states can't fulfill the request with state-level resources, they pass the request onto the Federal Emergency Management Agency, which has overall federal resource coordination responsibilities in responding to disasters.

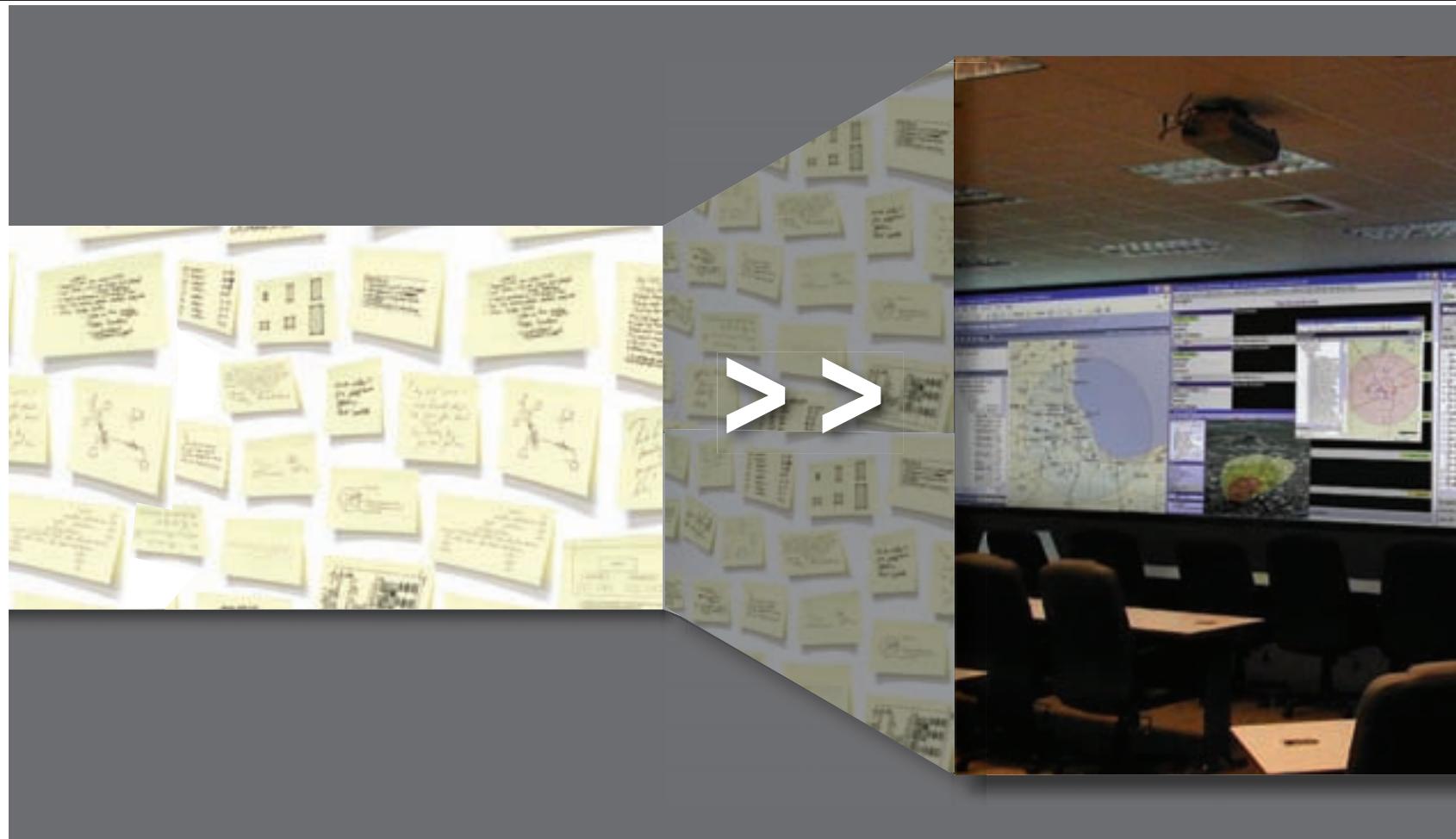
Work in Progress

Some progress is being made as far as different regions collaborating to plan how they will respond as a coordinated whole.

U.S. Department of Homeland Security (DHS) funding guidance has been helpful in requiring urban areas composed of multiple jurisdictions — known as Urban Area Security Initiative (UASI) regions — to jointly admin-

ister federal funds. These funds have typically been shared by police and fire to purchase equipment. Some forward-thinking regions are looking beyond just buying equipment with these funds — they're planning jointly. The Seattle UASI has used funds for evacuation planning and logistics planning, and looks to use the catastrophic funding for transportation recovery planning. Also, the St. Louis UASI has an RFP currently out for a regional "coordination" response plan.

The DHS provided some long-awaited support to this movement with the January announcement of fiscal 2008 Catastrophic Planning Grants for selected UASI districts. Proposals



were due May 1, and these funds must be used only for planning, and can be based on terrorism and natural-hazard scenarios. This is another step in our planning and funding guidance that's been a long time coming.

The concept of these regional response plans is just now starting to take shape. But as these urban areas come together in this capacity, they will find it almost impossible to establish a mechanism for the creation of a "command and control" form of incident response: It is not in our American nature and governance for one jurisdiction to subordinate itself to another, especially in a crisis. As such, the solution will need to be the establishment of mechanisms that allow for joint action via a coordinated response.

Planning for multijurisdictional responses can't be forced. There isn't a hammer to accomplish this work; only willing partners coming to the table and being treated as equals will prove effective. This latter part can be difficult

for larger jurisdictions because they are accustomed to having things their way and acting unilaterally. Only people dedicated to this interjurisdictional planning can accomplish it.

Regional planning takes a long time — to establish the relationships and eventually the trust between individuals at the planning table. There are those who might want to ram something together quickly, but if you violate a process that establishes the relationships in the first place, then you're doomed to fail. Allow plenty of time for the "storming and norming" process, and the result will be a much better product — one that has a chance of succeeding because jurisdictions are willing to follow the plan.

The plan is a set of promises made to each other that describes how each jurisdiction and agency will behave during a disaster. Promises can be broken, therefore what will eventually unite a region will be a continuing process of writing the plan, briefing it to others, conduct-

ing basic training on what this new concept will and won't do, and then exercising it to find the gaps — and starting the process all over again.

Regional planning processes are difficult, and sometimes it'll feel like your planning efforts are in slow motion. But remember: If it were easy, it would be done and implemented already.

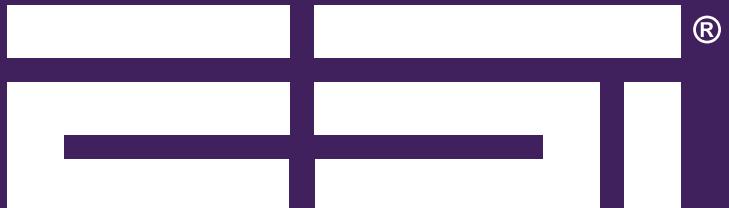
When you get discouraged and are ready to shuck the entire effort because of issues with people and jurisdictions — hang in there. Over time, events can end up being supportive, and recalcitrant individuals may eventually leave.

The goal is one in which jurisdictions having mutual respect for one another coordinate together for a more seamless response, and in the end, a more resilient region. These things are worth the time and effort and require a lot of patience to accomplish.

In the end, the answer to "Who's in charge here?" during a regional response is a collected and coordinated, "We are." +



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A New 911

BY DAVID RATHS

When Vermont's emergency response community switched to a new Internet protocol (IP)-based 911 telecommunications system in two data centers in February 2007, it put the state on the leading edge of the nationwide transition to next-generation 911 (NG 911) call centers.

Across the country, regional and state officials are working on standards and funding mechanisms to shift from legacy systems to IP-based networks — gaining the flexibility to handle emergencies and bringing the country's 6,500 call centers into the 21st century.

In essence, 911 centers are working to catch up with the profusion of consumer devices that send and receive text, data and digital images.

In a few years, most call centers should be able to exchange and disseminate text messages to the public alerting them of emergencies, as well as stream videos of bank robberies and transfer those images to police squad cars. And when a tanker truck flips over on the highway, a passerby will be able to take a photo with his or her cell phone and send a picture to 911 of the truck's hazardous material symbols. »

Model of Excellence

Many states have several regional 911 networks that can't communicate with one another and are tied to specialized 911 routing equipment and software used by landline telephone service providers. In addition, disparate emergency service agencies that are typically part of a metropolitan area are likely to have different types of software systems, making transferring callers and their information difficult.

That's not the case in Vermont.

"All incoming calls go to one of the two data centers and are converted to voice over IP [VoIP]," explained Jim Lipinski, IT manager of the Vermont Enhanced 911 Board in Montpelier.

From there, the calls are routed to one of nine call centers (also known as public safety answering points, or PSAPs) around the state. If one PSAP is busy with calls or knocked out of service by a storm, calls can instantly be routed to a second tier of nearby PSAPs.

"We can add flexibility while shrinking our whole system," Lipinski said. "We were able to decommission a PSAP that was taking less than 1 percent of calls statewide. The transition was no big deal — they just logged off."

Flash Forward

Experts working on next-generation systems realize the current architecture is outdated, and that wireless and VoIP technologies were added piecemeal to systems that weren't designed for it.

"The system we have is built on an analog platform," said Thera Bradshaw, principal with TKC Consulting Group in Los Angeles. "It served the country well for 40 years and was a public policy success, but the infrastructure that is in place is outdated in a mobile, digital world," said Bradshaw, who's a member of a Washington, D.C., trade group called the 911 Industry Alliance, and former president of the Association of Public-Safety Communications Officials.

For instance, during the April 2007 shooting at Virginia Tech that killed 32, students tried to send text messages to 911, Bradshaw said, not realizing that 911 call centers aren't equipped to receive text messages. They also can't handle cell phone photos or streaming video from closed-circuit TV cameras or devices used by the hearing-impaired.



Neighbors to the North

In the Enhanced 911 System implemented in Lanark County, Ontario, Canada — at the 911 Central Emergency Reporting Bureau (CERB) — the moment the 911 line is answered by the call taker, the address, phone number and name of the residence is displayed on two different screens.

One of these screens is the automatic location identification screen, which only applies when the call is placed on a landline, and it displays everything from the phone number and the address of the caller, to the phone company the residence uses. The second screen is the automatic number screen, which displays the phone number of the caller.

After connection is made to the caller, the call taker obtains the necessary information to dispatch the appropriate agencies, whether it be the fire department, rescue, police, ambulance (or emergency medical services) or some other service. When the critical information is obtained, the 911 CERB call taker directs the call to the appropriate agency to render assistance.

All that will change, but not for another two to three years. "At the rate we're going, we'll be lucky to have the first fully featured, standards-based NG 911 system in place by 2010," said Roger Hixson, technical issues director of the National Emergency Number Association (NENA), a group that fosters the technological advancement of 911 systems.

Hixson stressed that switching to IP networks is just the first step in a long-term process. The NG 911 systems will also require changes to software, databases and workers' procedures.

"Today's systems depend on things built into the phone network dedicated to 911 calling, including special software and databases," Hixson said. "NG 911 will be built on common and multipurpose networks, so hopefully there will be some economies occurring."

The NG 911 systems will run on IP-based networks supporting other applications such as GIS, which are used to support 911 and other business functions like utility mapping and planning. By consolidating stovepiped systems running on their own networks and putting them on multipurpose networks, state IT planners hope to simplify operations and save money.

PSAP in a Box

A key benefit of the greater flexibility and interoperability of PSAPs will be improved emergency response coordination. Hurricane Katrina is the most obvious example in which a "virtual PSAP" would have helped take over the functions of a PSAP call center that was knocked out of commission.

In 2008, Delaware expects to finish connecting its nine PSAPs with an IP network. "It will be great in emergency situations," said Terry Whitham, the state's E-911 coordinator. "We are working on a plan in case we need to evacuate a CAD [computer-aided dispatch] center. If that area is still getting a lot of calls, you can move to another PSAP, log into the original IP address and you're ready to process calls."

In its emergency planning efforts, Vermont is working on what Lipinski calls its "PSAP-in-a-box" concept. "Our emergency planners are very concerned about the scenario of a dirty bomb in New York or Boston sending a half-million refugees fleeing to Vermont," he said. That would double the state's population overnight, and those people would need a lot of services.

Lipinski's office is working on outfitting dozens of laptops with the necessary software



"The system we have is built on an analog platform. It served the country well for 40 years and was a public policy success, but the infrastructure that is in place is outdated in a mobile, digital world."

— Thera Bradshaw, principal, TKC Consulting Group

so that they could be used as a virtual PSAP at local college and university computer labs.

"We could scale up our call-taking capability dramatically," he said, adding that Vermont plans to train staffers in other positions to be call takers in emergencies. "We can maintain a normal load, yet double or triple the size of our operation in a few hours if need be."

Making the Transition

Besides additional flexibility during an emergency, 911 officials are excited about adding the capability to receive and respond to text messages. "Kids text to everybody, and they will try to text to 911," said Pete Eggiman, director of 911 services for the Minneapolis/St. Paul

Metropolitan 911 Board. "It's what they are used to doing, and it's what they'll turn to first in a stressful situation."

Receiving messages directly from automobile alarms, tracking systems such as OnStar and video feeds from bank alarm systems, also will be helpful. Currently these kinds of systems send signals to the alarm provider's call center, where a dispatcher relays the advisory to a PSAP. In the future, a 911 system will receive telematics information directly from an automobile system such as OnStar, and then a 911 call taker could potentially relay information — such as how fast the car was traveling when it crashed — to emergency room physicians.

But Eggiman said the ability to relay that information to police, fire and other first responders presents new challenges.

"Whatever we take in from a caller or bank, we have to be able to deliver to responders in squad cars," said Eggiman. "So we have to start talking about greater interoperability in all applications."

Help Wanted: Multitasking

All the potential new sources of data flowing in and out of 911 call centers may require additional training for call takers, who will be expected to multitask.

Many 911 call center directors say they already find hiring and retaining call takers a challenge. The pay and benefits don't match up with other public safety jobs.

"How all the new technology is going to affect people who do the job is a huge issue," said Delaware's E-911 Coordinator Terry Whitham, who is also co-chair of the Association of Public-Safety Communications Officials' 911 emerging technologies committee. "When I first took the job, the training was, 'Just sit in this chair and push these buttons,'" he recalled. "Now we can't pull in an officer from the road to fill an empty seat in the call center, because the complexity level of the job is too great."

Part of the solution will be in the design of software interfaces, said Pete Eggiman, director of 911 services for the Minneapolis/St. Paul Metropolitan 911 Board.

The important thing, he said, is that the interface be easy to use and uncluttered. "If it's a text message, they type. If it's a video, they watch it and forward it to the appropriate place." Forwarding an image shouldn't take more than a few keystrokes, he said.

Eggiman said the technological challenges of blending radio, criminal justice and GIS networks are less daunting than the political obstacles. Today these systems are riding on their own networks and they aren't sharing much information, he said.

"There needs to be a converged environment, and that doesn't mesh with how things are funded today," Eggiman explained. "There has to be a way to blend funding streams. We have to get city, county, state and the feds to all play in the same sandbox."

As the architecture is upgraded, the country shouldn't have 911 haves and have-nots, which has been the case in the past: "When we moved to enhanced 911, the rural areas were the last to get it, and when changes were made to handle wireless calls, the rural areas got those last too," Bradshaw said. Policymakers must advocate for the NG 911 architecture and ensure all U.S. call centers get the tools and training to utilize it, she said.

Hixson said NENA's volunteer groups are working to define the features expected of an NG 911 PSAP and the related data protocol standards. For instance, the systems are expected to transfer all data they receive to another agency in the appropriate NENA or Internet data exchange standard format. He admits that the process is time-consuming: "The frustration is, we should have more done by now, and the pace isn't fast enough. There's too much to do in too short a time frame."

Looking back, he said the worst part of how wireless and VoIP were added to the 911 system was that it took several years to accomplish.

"That's not really acceptable," Hixson said. "The next time we have a major innovation in telecom — we need it to be a matter of weeks or months — not years, before we work it into the 911 system." +



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The New York Yankees are one of the greatest teams in professional baseball, and until recently, also had a legendary manager: Joe Torre. But even Torre didn't go it alone — he had a batting coach, a pitching coach and trainers, among other helpers.

In baseball, you'd never even *think* of leaving the manager on the bench without assistance. But we do that in hospital incident management, expecting our leader to manage the World Series, so to speak, at a moment's notice — with only a few sandlot games and a job action sheet under his or her belt.

Hospitals don't run like fire departments, and hospital leadership doesn't use the Incident Command System (ICS). Fire departments utilize the ICS on every call; it's their standard operating procedure, just as it is for emergency medical services (EMS). Hospitals, however, only use it during a disaster, which is a federal standard. Using it only during disaster scenarios leads to inconsistent and potentially weak command centers. Those in charge of hospital preparedness agree that an atmosphere of confusion surrounds hospital command centers in terms of job descriptions and position-specific roles of incident command, such as planning section chief and operations section chief.

When a facility looks at its response assets, it usually only looks internally. Being part of an overall health system, however, one facility has access to more assets than just its own inventory — but may not

realize it. This leads us to the hospital incident management team concept: What if, like wild land firefighters, we could develop an incident management team that could deploy to an affected facility and assist in command center operations?

At Sanford Health in Sioux Falls, S.D., we've done just that.

Developing the Team

Sanford Health is a large health-care system that covers South Dakota, Minnesota, Iowa and Nebraska, and serves 24 hospitals, and more than 100 clinics and long-term care facilities. Most hospital facilities under our flag are Critical Access Hospitals, which are hospitals certified to receive cost-based reimbursement from Medicare. Most of them would suffer immediate staffing issues during a major incident.

About three years ago, the Center for Prehospital Care and Emergency Preparedness at Sanford Health began rolling out National Incident Management System (NIMS)-compliant incident command training. I traveled to each of the aforementioned Critical Access Hospital facilities to assess their capability to expand during an incident and maintain care over several days. The findings were simple: Although each facility could generate an adequate number of staff members to meet the initial needs of an incident, most couldn't maintain complex operations over numerous operational periods. This becomes even more challenging when you add an incident requiring decontamination, and is still more challenging when you look at incidents requiring a lot of resource management like a pandemic.

Beyond Incident Comm

GREG SANTA MARIA



Sanford Health
develops an incident
management team to
aid disaster response
in South Dakota.





Every hospital has a few people who are active in regional committees regarding NIMS compliance issues, infection control, pandemic planning and local exercises. Many of these people have been active in these roles for several years and know the standards and requirements to meet each year's competencies for federal funding. At Sanford Health, it was these people who began the focus and led the hospital incident management team to what it is today. We brought training in for them in higher levels of incident command, hazardous material operations, chemical hazard recognition, etc.

We began developing, almost innocently, what we see today: a deployable team of emergency operations center managers and incident management specialists who can respond to any affected facility in our health system, and assist the incident commander and the incident management team to achieve its objectives. The team has 24 members, and there isn't a second string. Team members are trained to a particular level. We eventually plan to have at least three members at each hospital, which would triple the team number.

The Training Ladder

The team response hierarchy is broken down into four levels. Each level is associated with a team member name or role, has a set of requirements and builds on the previous level's requirements. In addition, as a team member moves up to the next level, he or she becomes a trainer for the previous level.

Using training previously developed and widely accepted by regulatory agencies, such as the Federal Emergency Management Agency (FEMA) and The Joint Commission on the Accreditation of Health Care Organizations, we can build a team using widely accepted concepts. It also ensures almost certain compliance with federal, state and local regulations.

The only acceptable online training is FEMA's Emergency Management Institute's Professional Development Series. All other classes, including ICS 100-200 and IS-700, are required in the classroom to ensure comprehensive understanding of the curricula.

Training is advertised through the team e-mail group and offered every other month — the most recent training opportunity was a Level 4 exercise design class delivered by the

Training

This table illustrates the current training/team levels in the Sanford Health Incident Management Team structure and the requirements involved to achieve each level.

Level	Course	Hours
Level 1 HAZMAT Operations Technician	OSHA 1910.120 Decon Class ICS-100 ICS-200 IS-700	16 4 – Classroom 4 – Classroom 2 – Classroom
		Total Level Hours Total Team Hours
		26 26
Level 2 Decon Group Supervisor	All Level 1 courses Decon Group Supervisor Course ERT-BC	26 6 – System developed 16 – NFA
		Total Level Hours Total Team Hours
		22 48
Level 3 Incident Management Technician	All Level 1 and 2 courses FEMA PDS Emergency Management Program Strategic Application of ICS Principles ICS-300	48 Online - Approximately 24 hours 8 – GWU – VA Curriculum 8 – GWU – VA Curriculum 16 - FEMA
		Total Level Hours Total Team Hours
		56 104
Level 4 Incident Management Specialist*	All level 1, 2 and 3 courses Health system emergency response and recovery EM instruction, system evaluation and organiza- tional learning ICS-400 Exercise Design G139 Internship	104 8 – GWU – VA Curriculum 8 – GWU – VA Curriculum 16 – FEMA 16 – FEMA 32 – Internship with a team leader
		Total Level Hours Total Team Hours
		80 184

*Requires internship

South Dakota Office of Emergency Management. The average participant can complete all levels of coursework within one year, though some take longer. Some of the monthly training sessions are three-day classes. Other course subjects include team activation, exercise planning, upcoming federal requirements and cross-state border issues.

Most, if not all, members look forward to the regularly scheduled meetings and training. The

development of this team concept is a key element of its success. Members are there because they see the ultimate value of this project. They also know that they are the reason for its success and that their continued participation is what makes it a tangible asset.

When to Activate?

Powering up the system command center won't be necessary for every event across the

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The Sanford Health incident management team can respond to any of the 24 hospitals it serves in South Dakota, Minnesota, Iowa and Nebraska.



health system. The assumption was that activation would be automatic for any event requiring decontamination support or that is expected to exceed a single operational period — a specific, predetermined amount of time used to complete objectives.

In a recent event, we ran into an awareness and training problem: Many staff members involved in the hypothetical incident — an ammonia leak at a local business resulting in about two dozen injuries, which involved two of our hospitals — either knew little about the process or thought about it but didn't activate the command center.

The after-action discussion resulted in the development of an activation checklist that's part of the disaster packet distributed to every facility. The checklist asks simple questions with "yes"

becomes the liaison. The second on-call team leader deploys to the affected facility and also notifies team members at the closest unaffected facilities. This begins to power up the "close support" concept. A team member, usually Level 3, is deployed from the closest unaffected facility to the affected facility to meet the team leader.

There are team members at each facility, which quickly puts no less than three incident management team members in the command center at an affected facility. One team member immediately takes the liaison position and ensures hard communication with the system command center. Communication is then extended to the city or county emergency manager to ensure that all resource needs can be met either locally or from a distance.

We began to develop a team, almost innocently, that would eventually become what it is today: a deployable team of EOC managers and incident management specialists that can respond to any affected facility in our health system, and assist the incident commander and the incident management team in achievement of its objectives.

or "no" answers. The affected hospital command center and call team leader is activated with any "yes" response. This will take the guesswork out of activation on the end-user level.

Activation doesn't call out the entire cavalry immediately; it sets up an instant consultation between the affected facility and one of two on-call, Level 4 team members. The activation algorithm explains the process.

Once the decision is made to power up the System Command Center, the on-call team member who provided the initial consultation responds to the System Command Center and

Having these team members in place at the Hospital Command Center (HCC) provides several major benefits, including:

- hard-wired liaisons for solid communications;
- an ICS coaching staff to assist the HCC in the incident action planning process;
- freedom to release some local facility leadership from the command center to the operational areas; and
- confidence, although this might be an underestimated asset. There is much to be said about a team that plans with confidence versus a team that plans with uncertainty.

The entire team concept is to provide a command center coaching staff. This supports leadership. I regularly use the phrase, "I can run a disaster, but I can't run your hospital." However, together, as a team, we can do anything.

Trial and Error

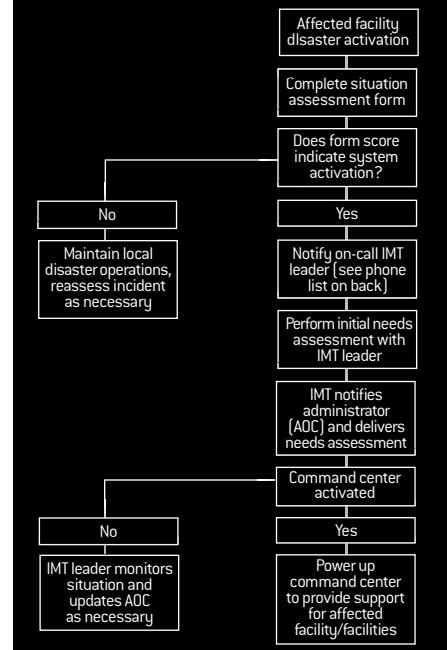
One of the biggest issues discovered outside the command center is the need for decontamination team support. Many of our communities have large amounts of hazardous materials, like anhydrous ammonia, and organophosphate- or carbamate-based pesticides. This, combined with the staffing available at our small facilities, leads to decontamination teams that can handle an initial surge, but need support to maintain operations. It's surprising how quickly you can run out of decontamination personnel on a hot day.

Today, hospitals are staffed with just enough personnel to handle the average daily patient load. In many cases, even a small-scale mass

Continued on p.56

Activation Algorithm

Activating a specific facility during a disaster doesn't immediately call out the entire cavalry; it sets up an instant consultation between the affected facility and one of two on-call, Level 4 team members. The following algorithm explains the process.



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Education programs
for potential emergency
managers aren't as
cut-and-dried as
they may first seem.

Editor's note: This is part two in the four-part series on education by Bob Jaffin, who serves on the International Association of Emergency Managers (IAEM) editorial review committee, and the IAEM training and education committee, and has been involved with the FEMA Higher Education Project's conference since 2003. As a benchmark, Jaffin staffed and shepherded through accreditation, the only homeland security undergraduate and graduate degree programs cataloged and available prior to 9/11. At the same time, he managed the staffing and accreditation for the undergraduate and graduate emergency and disaster management degrees at American Military University.

A Matter of Degree(s)

BY BOB JAFFIN

“**I** WANT TO HELP protect our country from terrorists,” is the comment I hear most often from prospective students looking to get their degrees in homeland security.

Most of them, however, end up really wanting a degree in intelligence or emergency management — with a few outliers in criminal justice, security management, national security or public administration, pretty much in that order. But in light of dozens of discussions I've had with such students in the last five years, distinguishing between a degree in homeland security and emergency management is too limited.

In its narrowest and most literal sense, protecting the country from terrorists is the function of law enforcement, intelligence and military special operations. This means the degrees to pursue would be criminal justice, intelligence and military studies — not what most prospective students had in mind, although a few are looking to actively pursue the “bad guys.”

Because the definitions and degrees in emergency management and homeland security are limited, I will dig deeper into the various degree programs and disciplines to provide you with a better understanding.

Deciphering Specialties

Emergency management and homeland security are *not* the same, nor are they two

differing views of the same core competencies. They draw on some of the same supporting specialties, they are both multidisciplinary by definition and regularly overlap, especially at the operational or post-event level.

To use a very crude and rather limited set of comparisons:

- Emergency management is very local and is about preserving life, property and, with voter approved limitations, ensuring freedom.
- Homeland security starts as far from home as possible and is about denying freedom to those who believe violence and intimidation are legitimate means to an end.
- Building on that, emergency management is a specific and critical function of local government, while homeland security is essentially, but not solely, a federal government function.
- Using a different lens, emergency management focuses on science, facts and the environment in its broadest sense, while homeland security focuses on people, beliefs and ideology.

Though these are all imperfect comparisons, they provide a starting point for evaluating the two interdisciplinary degrees, and they allow us to explore other areas and degree programs that help define and differentiate these two career paths.

The critical and recognized specialties — degree fields in bold form the core for the programs — that intertwine to create an **emergency management** degree program include:

- **Criminal Justice**
- Communication
- Emergency Medical Services
- Fire Science
- **Logistics Management**
- **Public Administration**
- Public Health
- Public Safety
- Security Management
- The critical and recognized specialties that intertwine to create a **homeland security** degree program include:
 - Constitutional Law
 - Criminal Law
 - **Intelligence**
 - International Relations
 - Military Studies
 - **National Defense**
 - **National Security**
 - Political Science

A Little Bit of History

The emergency management field is still young, and the homeland security field is essentially a post-9/11 phenomena. Understanding the current landscape and how we got here will also help you recognize why there is such a lack of similarity between programs and program

titles, and why so many are amalgams, some of which seem contradictory.

Emergency management and homeland security are applied or professional degrees, distinguishing them from traditional degree programs. Few schools are in a position to start two new, yet so closely allied, degrees simultaneously, and even fewer can undertake such efforts in new areas that lack a proven record of generating new registrations. Higher education has relied heavily on various forms of federal funding since World War II with grants and set-asides playing a large part in the overall funding formula.



As a result, educational institutions must find ways to appeal to the largest audiences possible, while ensuring they meet various guidelines for that critical, federal-funding stream.

The U.S. Department of Homeland Security (DHS) absorbed the Federal Emergency Management Agency (FEMA) including FEMA's mission, but has yet to figure out how to manage that mission. In crafting the DHS, Congress has created a multi billion dollar funding stream for training, education and research, but it also consistently uses language that has forced everyone — not just academic institutions — to alter their product offerings so they meet what are basically arbitrary, and oftentimes capricious, homeland security definitions, terms and conditions — not emergency management definitions, terms and conditions.

The size of that funding stream and the limiting language that the DHS adopted has led to the creation of many new programs in homeland security. This is all well and good, but unfortunately the larger effect has been a slowdown in emergency management funding, the forcing of many institutions to reconfigure

existing and planned emergency management programs to look like homeland security programs so they qualify for DHS money, and the general de-emphasis on the critical importance of a separate emergency management discipline — all to further solidify a DHS supremacy.

Since both fields are still in their formative stages, one school's homeland security program may be the equivalent of another school's emergency management program. In the end, today's program names and an institution's reputation are much less important than the program's content, teaching staff's qualifications, and prospective student's competencies and goals.

Take Your Pick

Neither discipline is inherently more important or better than the other. The issue is determining your strengths and deciding how or where you want to grow. Once you make that decision, you can begin to look at programs — and you needn't limit your search to just emergency management and homeland security with the aforementioned specialties also at your fingertips.

Finally before you evaluate any program, regardless of name or institution, and commit your time and dollars, here are some points to consider:

- Does the appropriate body accredit the institution?
- Does the program build on the internal strengths of the institution?
- Does the faculty for your program include practitioners and academicians?
- Do the program name and description align with the course offerings?
- Does the program appear to be designed for you, the student; is it designed to increase teaching opportunities for tenured faculty; or is it designed to capture federal funds?
- For the emergency management and homeland security programs, is the faculty, at a minimum, cross-disciplinary and national in scope?

Connect the Dots

Here is a little self-test to underline the importance of formal education and show the importance of knowing some history as you

advance your career and add management responsibilities.

Construct a diagram that connects the dots in something more than a simple linear manner; one that reflects both a timeline and critical relationships.

- Army North
- Asymmetrical Warfare
- Bhopal
- Civil Defense
- Civil Support Team
- Community Right to Know
- Emergency Management Accreditation Program (EMAP)
- Fusion Center
- Information Sharing and Analysis Centers (ISACs)
- Local Emergency Planning Commission (LEPC)
- Military Support to Civil Authorities
- State Emergency Response Commissions (SERCs)
- The Cold War

If you could do this and didn't need to research more than two items to understand them or see their relationship to emergency management as it exists today, then you have been educated along the way. If you cannot see or understand all the relationships, or had to research a lot of the information, perhaps you need to find a certificate or degree program at the right level to sharpen skills and expand your knowledge.

If you want to help build strong and resilient communities and contribute directly to your community's well-being on a daily basis — whether that community is local, regional or state — then emergency management is the track to pursue.

If you want to protect the public from bad people, then homeland security is the track to pursue.

In each case, there are many other disciplines that may be more closely aligned with your strengths and desires. +

For a more detailed look at the specific programs available in the emergency management discipline, look for Bob Jaffin's education story in the summer issue of *Emergency Management* magazine.

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Your Questions Answered

Funding questions abound, and knowing the answers can mean the difference between receiving a federal grant and watching it go elsewhere. Julian Gilman spent a lot of time as a grants administrator for the Virginia Department of Emergency Management, learning the process of competing for federal funding.

He is now a preparedness officer for the U.S. Department of Homeland Security/Federal Emergency Management Agency for Texas and New Mexico, where he works with state and local governments to help *them* understand the process. We enlisted his expertise for a brief Q&A on a few of the issues surrounding the grant process.

What are your thoughts on regionalization? Regionalization is a good thing when all parties involved benefit from the arrangement. For example, very few people would argue against a regionalized hazardous material unit because they are expensive and have a very specific training regimen. Generally the incidence of need is such that one or two teams can cover most, if not all, of the normal activity.

I also recommend a flexing regional composition, so you can join with other local governments that need the type of project/outcome you need to achieve and not joining with another local government because they are in your defined region on a map. A "flex" arrangement allows a local government to achieve synergies that exist with different partners when it makes sense to combine assets and personnel. This should extend to local governments outside of your defined geographical region when it achieves the desired outcome.

How do you recommend rural areas compete against the more urban areas of a state for funding? This problem shows up everywhere at one time or another, and you must make a good case to win funds for your area. You need to remember that a terrorist attack is most probable in high-population



areas, but rural areas aren't immune and need some attention too. A good example is the shooting at Virginia Tech; though not a foreign attack, it was an attack that had to be dealt with.

A well thought-out proposal and project should get attention and funding ... the key is a good proposal with solid arguments.

When is the announcement usually made about the latest round of homeland security grants? The new homeland security grants are announced in the latter part of each calendar year. You should watch for this announcement, so you'll have the background information you need to deal with your homeland security management team in indicating your desired projects and funding needs. Don't forget, you've already developed your investments/projects for

this round of grants. All you need to do now is fine-tune and evaluate them to determine which investments/projects you'll be able to proceed with, once you find out the amount of grant funding you'll receive.

Should jurisdictions have joint projects with others within the same county? Of course, and they make for good proposals as they represent more people that the project will benefit. You generally should know the people you need to discuss joint projects with, as the emergency community is fairly small and close-knit. Don't be afraid to reach out, you'll find common interest exists for all types of projects. You'll receive praise for developing joint projects; they should save funding and achieve the synergies of a cooperative project. ☀



by Julian Gilman

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COOPER Notification

BY CHANDLER HARRIS

When the U.S. president and other world leaders met in Sea Island, Ga., for the June 2004 Group of Eight (G8) summit, the Georgia Emergency Management Agency (GEMA) knew it'd be a logistical challenge. Besides the dignitaries' arrival, the region would be busy with federal, state and local law enforcement officials.

GEMA turned to Georgia Tech Research Institute's (GTRI) Battlefield Visualization system — a mapping tool developed under direction of the U.S. Army Research Laboratory — to help organize law enforcement and emergency responders involved in the summit. A 10-member GTRI research team modified the mapping tool for emergency management personnel and first responders, letting them coordinate their resources and responses in real time.

In nine months, Georgia Tech developed the Geographic Tool for Visualization and Collaboration (GTVC), which provided features unavailable in the standard Battlefield Visualization system, including higher-resolution maps and encryption for communications.

Put to Good Use

For the summit, the GTVC was installed in four command centers in Savannah and Saint

Island, where officials from collaborating agencies mapped staging areas — locations for planned and real-time protests, parade routes and helicopter landings. The Georgia Bureau of Investigation, GEMA, Georgia State Patrol, the FBI, National Guard and the U.S. Secret Service were the partnering agencies.

During G8, law enforcement teams used the mapping tool to monitor activities, while ensuring key law enforcement resources were available in the right places at the right times. Officials shared information simultaneously, keeping everyone informed and coordinated. The GTVC's multi-layer mapping capability, map layers can be peeled away to coordinate different functions, allowed responders to easily organize response and keep confidential data secure.

"When there was movement of a dignitary, we could see the route and compare that with locations of demonstrators," said Ralph Reichert, director of GEMA's Terrorism Emergency Response and Preparedness Division. "Everyone could see geographically what was going on and whether to react and respond. You can definitely plan response according to what resources you have at what location."

No major law enforcement crises occurred during G8, but many lessons were learned. After using the GTVC for the first time in the

field, GEMA wanted to make network connectivity easier; improve information reporting to include icons, text and other details; display real-time, GPS-based tracking of vehicles and personnel; and add more powerful geographic search capabilities, such as showing all hospitals within 50 miles.

GTVC developer Kirk Pennywitt, senior research engineer at GTRI's Information Technology and Telecommunications Laboratory, used those lessons to develop GTVC version 2.1 (v2.1). The new version has more than 130 new features and has garnered attention from agencies, such as the Florida Division of Emergency Management; emergency response agencies in Dakota County, Minn.; and Emergency Visions, a Georgia-based company that provides emergency management solutions that use the mapping tool.

Flexible, Easy to Use

GTVC v2.1 is a Java-based, client-server mapping application that helps officials respond to incidents, and plan and coordinate events in real time. It combines a flexible mapping engine with an interface for adding symbols, graphics and text annotations to maps, imagery and drawings. The mapping interface tracks the location and availability of hospitals, fire

Kirk Pennywitt, senior research engineer at the Georgia Tech Research Institute, displays the Geographic Tool for Visualization and Collaboration.

Photos by Gary Meek, Georgia Tech



**Georgia manages resources
with geographic tools.**

stations, schools, nursing homes, sandbags, dump trucks, water, personnel and supplies in an affected region. GTVC's network architecture can be used simultaneously by a large number of users viewing it.

The mapping information reveals moving objects based on GPS feeds that are instantly tracked, so organizers can define an incident at a location and continually enter status updates. Several geographic formats are built into the measuring tools: latitude, longitude, nautical measurements, metric units and Universal Transverse Mercator — a grid-based method of specifying locations on the Earth's surface that differs from the traditional latitude/longitude method. Any object on the map can link to a database file or Web-based URL.

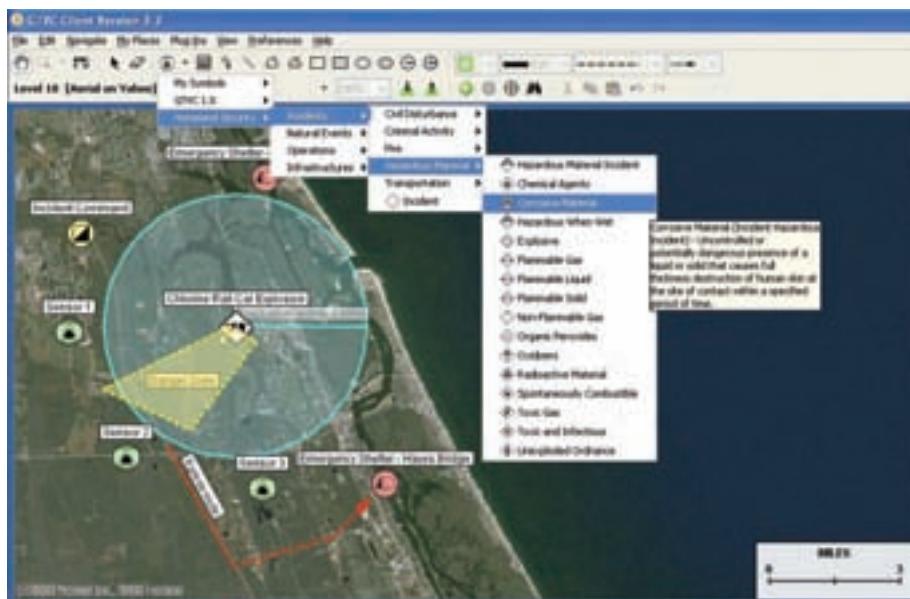
Pennywitt said GTVC v2.1 is easier to use than a full-blown GIS. The system can track chemical or smoke plumes and help personnel plan evacuation routes. To do this, it tracks critical personnel and supply resources, and shows those assets' status.

Pennywitt designed the GTVC so planners and responders don't need extensive GIS training. The system provides collaborative mission planning, rehearsal, recording and playback. Users from multiple locations can perform real-time operations and exercise planning with GTVC, which also provides a live view of a scene for first responders. All actions performed with the mapping tool are recorded and time-stamped for future retrieval and playback, which can help emergency planners use lessons learned for exercise planning.

Statewide Rollout?

Since 2005, GEMA has used GTVC v2.1 to map critical infrastructure and track resources; the tool was distributed to GEMA field staff. It's also used by the Georgia Office of Homeland Security, Georgia Bureau of Investigation and the Georgia State Patrol. GEMA is implementing the GTVC statewide as part of its critical infrastructure.

"Through this interactive application, if a major event causes a major response requiring mutual aid or the state responds, the local jurisdiction can map the location, any problems, and show a response route," Reichert said. "We can be in Atlanta, depict the same screen back to Savannah, and display what their routes will be and plume models."



The GTVC mapping application helps emergency managers plan in real time.

Emergency Visions provides emergency management solutions for the private and public sectors, and has used the GTVC for "comprehensive situational awareness" as part of its geo-mapping tool.

"[The GTVC] is one of the key components of our comprehensive solution," said Ric Gray, vice president of sales and marketing for Emergency Visions. "During an event, being able to plan for and visualize from a geographic standpoint, and to go in after the event and debrief about it, allows for a much higher level of planning and faster response."

New Tool for Florida

Florida's Division of Emergency Management is implementing a solution that includes the GTVC v2.1 for statewide disaster response that will use the expertise of the International City/County Management Association (ICMA), the National Emergency Management Network and Emergency Visions to provide comprehensive disaster management.

The ICMA advises governments to draw on a networked emergency management approach, which consists of a technology platform that maintains a comprehensive database of human and physical assets available for emergency response and recovery, and a geo-mapping tool to identify, select, activate, track and manage these assets.

GTVC v2.1 is essential for Florida to manage the eight to 40 disaster events that occur each day, said Charles Hagan, chief of the Florida Division of Emergency Management's unified logistics section. During a typical hurricane, a vast network of emergency assets are deployed: upward of 1,200

trucks, about 50 helicopters, three aircraft, 800 generators and 2,000 first responders.

"We wanted something that was easy for a field user that doesn't require a master's software degree, with layers of resources put over a simple map, on a platform that's user-friendly, so a first responder can use it," Hagan said. "[The GTVC] works very well — it's uncomplicated, and you can teach somebody in two hours."

Pennywitt's software development team improved the GTVC to give Florida new capabilities, including real-time resource tracking. But researchers also included the GTVC's ability to track mobile assets with GPS in order to:

- manage warehouse resources;
- display real-time resource availability;
- aggregate multiple resources in the same location with a single icon;
- show location coordinates in multiple formats, such as latitude/longitude and a military grid reference system; and
- update a resource's status by clicking on its map icon instead of using the database interface.

Emergency Visions also added ability to label resources with transponders, so when trucks leave a factory or warehouse, supply locations can be easily tracked.

"From the standpoint of complete consequence management, the first thing you do in planning is understand your resources, whether they be human or physical — inventoring and managing is the first step," said Gray. "The second step is checking out vulnerabilities while the emergency is occurring. That's the role of the GTVC." +



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Fusion Mania

“Fusion” has become a popular word in our modern culture. It’s amazing how often it’s used: There’s a car, the Ford Fusion; Gillette has a razor called Fusion; even Denny’s restaurants has a drink line called Fusion Favorites.

So, it isn’t surprising the federal government came up with the name “Fusion Center” for data hubs that are focal points for the gathering of information between state, regional and local law enforcement. They are designed to ensure information-sharing in an upward and downward fashion, so that when one level of government knows something, all levels also are made aware of the same information.

In the common vernacular, fusion centers would be called intelligence centers; in fact, fusion centers are staffed primarily with intelligence analysts. Within some communities, there can be sensitivity to using the term “intelligence analyst” since it smacks of governments spying on their citizenry.

Efforts to establish fusion centers have had their ups and downs. Early on, federal funding was made available for the establishment of fusion centers. The catch was that you couldn’t spend the funding to hire permanent full-time equivalent (FTE) staff. I guess the thought process was that desks and computers would have the ability to work in a seamless fashion to better protect the nation. In actuality, it was the federal government’s aversion to paying for more FTEs at the local and state levels that, in turn, would force federal officials to continue funding those new hires forever.

In some states, this led to “a work-around” by hiring contractors to work as intelligence analysts. An ensuing challenge emerged when fusion centers became *de facto* farm teams, training people in the art of intelligence-gathering analysis.

Then, these individual contractors would leave to take permanent positions with other federal, state or local law enforcement agencies — where they enjoyed a more secure future, not to mention medical and retirement benefits. There was a short respite when the hiring of intelligence analysts was allowed, but now with the federal fiscal year 2008 funding guidance, using federal funds for staffing is no longer permitted.

Despite the staffing challenges, there are beneficial trends emerging for fusion centers. One is the private sector contributing information and resources. I know of at least one instance in which a large private corporation has agreed to provide an intelligence analyst to a local fusion center.

And as an emergency manager, I’m heartened to see fusion centers also talking about being attuned to an “all-hazards” information gathering process. What that means in concrete terms remains to be seen, but the terminology is a step in the right direction.

The biggest challenge for fusion centers is still the sharing of information between organizations and all levels of government. You can put people from different law enforcement agencies in the same room, but if they share only the same coffee pot, you don’t have fusion. Perhaps you only have the typical (con)fusion that has existed between agencies as they seek to protect turf and “win the game” of being the agency that brings down the next terrorist plot.

The end goal needs to be that we function together, and recognize that we have one fight and should have one team. The phrase goes that there is no “I” in team, but there is one in fusion. Perhaps we need to redefine a new type of “fusion” — one that doesn’t have an “I.” 



by Eric Holdeman

Eric Holdeman is the former director for the King County, Wash., Office of Emergency Management, and is now with ICF International. His blog is located at www.disaster-zone.com.



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Continued from p.42

Make no mistake, the development and design of a team like this is no easy feat. It takes the support and backing of many people, including local emergency managers, regional and state health department representatives, and many others.

casualty incident could push a facility to a breaking point. This is even more apparent in Critical Access Hospitals.

It's even more surprising how quickly a health system can develop a large decontamination team if you look beyond the doors of the affected facility. With 24 hospitals in our system, decontamination training is an ongoing and continuous process. At any given time, we have approximately 160 personnel trained to the Occupational Safety and Health Administration (OSHA) 1910.120 (and .134) standards. OSHA 1910.120 is the hazardous waste operations standard for industrial facilities that dictates the standards that must be met by professional decontamination teams. The 134 level is the respiratory protection standard. Having one curriculum for training allows team members to easily integrate with one another, from one facility to another.

In addition, U.S. hospitals are working to achieve NIMS compliance. As the new NIMS five-year plan has been released, it is painfully clear that hospital leadership will have to participate in the higher-level — and drastically longer — incident command classes. Also, they will likely have to participate in the position-specific competencies being developed.

Hospital personnel can be quickly transported to offer support when another facility experiences a mass casualty event.

With that said, it's one thing to participate in a course, and another to practically apply — and eventually master — the skill sets delivered in these classes.

Another lesson came from a recent 10-facility ice storm exercise: Our command centers need to be more mobile.

South Dakota saw the value in that process and provided funding for command center technology that includes laptop computers with wireless cards and an electronic incident management tool called E-Sponder Express. The health system is deploying E-Sponder Express software across the intranet, which will be available to all system facilities. E-Sponder Express contains electronic ICS forms, resource management tools and a powerful communication tool that will automate all call trees. With the addition of this software, team leaders can log into an incident from home over a secure Web connection and monitor an incident anywhere in the system.

Moving Forward

Make no mistake, the development and design of a team like this is no easy feat. It takes the support and backing of many people, including local emergency managers, regional



Practice Makes Perfect

Sanford Health's Hospital Incident Management Team in South Dakota runs several exercises per year at whichever facility volunteers to host. This year Sanford will run numerous exercises at our facilities across the four state regions; the Minnesota and Iowa facilities are being brought deeper into the loop.

Sanford scheduled an exercise in Minnesota in June that will combine the resources of two health systems to assist the affected facility, and will test our communications with the county EOC, as well as that of the local hospital response region.

and state health department representatives, and many others. Most importantly, it works only when the team believes in it.

This isn't only a hospital-based process; this same concept can be used by a rural fire service, EMS and emergency management, to name a few. Keep in mind that this concept was developed to manage wildfires with great success. It's not new; it's just underused in other arenas.

The next step is to expand the project outside our health system. There are numerous stand-alone hospitals all over our service areas that would require the same assistance as our affiliated facilities. Expanding this project outside the system and to other systems expands the support structure and opens the door to necessary resources.

Maybe one day there will be an expert response team for hospitals across the nation. Maybe it will have started in South Dakota. +



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Open Standards

Emergency managers and first responders from diverse organizations need to share geospatial data so they are working from a “Common Operational Picture” during emergencies. Doing so has become much easier as a growing platform of standards now enables Web-based systems to work together.

Standards from the Open Geospatial Consortium (OGC) and the International Organization for Standardization make it much easier for solution providers to build open systems that integrate with other solution providers.

The U.S. Department of Homeland Security (DHS), through its business practices and geospatial enterprise architecture, recognizes the OGC’s value, and encourages consensus standards and specifications.

Particularly in emergency response, it’s important to reduce map-reading errors, which means presenting information in symbols familiar to users.

In August 2007, OGC members approved an XML-based standard that enables solutions that tailor data “on the fly” with presentation styles familiar to specific user communities, regardless of the data source. The OpenGIS Symbology Encoding specification and related OpenGIS Styled Layer Descriptor

(SLD) specification meet the needs of diverse emergency response teams who share diverse data sources, but require conformity to map styles designed for particular jobs.

In the past, it was necessary for all users in a community to have the same software running on the same hardware to make identical displays of the same data. Using open standards, critical-data providers and



users in a city or region can get the same results without having the same software or hardware — the same data is the key to a common display. The world’s vendors have now outfitted their software with open interfaces and the ability to display open-symbol sets, letting each location use whatever software best suits its needs.

The SLD standard has potential to further the DHS’s data-sharing goals by portraying an operational picture that is common to all users. The standard could enable developers to adapt applications to accommodate visually impaired — particularly colorblind — individuals.

As municipalities, states, regional authorities and federal agencies contract GIS development for emergency and nonemergency uses, they increasingly will include standards requirements that match those of both the DHS and their other GIS sharing partners.

Defining styling rules requires a styling language the client and server can both understand. The Symbology Encoding specification provides this language; it is an XML

language for styling information that can be applied to digital feature data (vectors, essentially) and coverage data (gridded data). It allows users to determine which colors or symbols are used to render features or layers.

Symbology Encoding is independent of service descriptions, such as Web services, and could therefore be used to describe styling in systems not connected to a service, such as desktop GIS.

It is important that information system solution providers use the new open standards. This allows data to be presented to user communities in a familiar language, regardless of the data’s source, enabling first responders and emergency managers from diverse organizations to understand each other. 



by **Sam Bacharach**

Sam Bacharach is the executive director of outreach for the Open Geospatial Consortium, an international industry group of 350 companies, government agencies and universities participating in a consensus process to develop publicly available interface specifications.

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BREAKING NEWS

Cell-phone systems vulnerable
in disasters

Associated Press, May 2007

Why cell phone networks are a weak
link in a crisis

CNN, August 2007

Rescue efforts were hampered by the lack
of cell phone service in the area

National Public Radio, January 2008

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San Francisco Chronicle, November 2007

Cell-phone networks fail
residents in disaster recovery

Washington Post, August 2007

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