

EMERGENCY MANAGEMENT

STRATEGY AND LEADERSHIP IN CRITICAL TIMES

NOVEMBER/DECEMBER 2014

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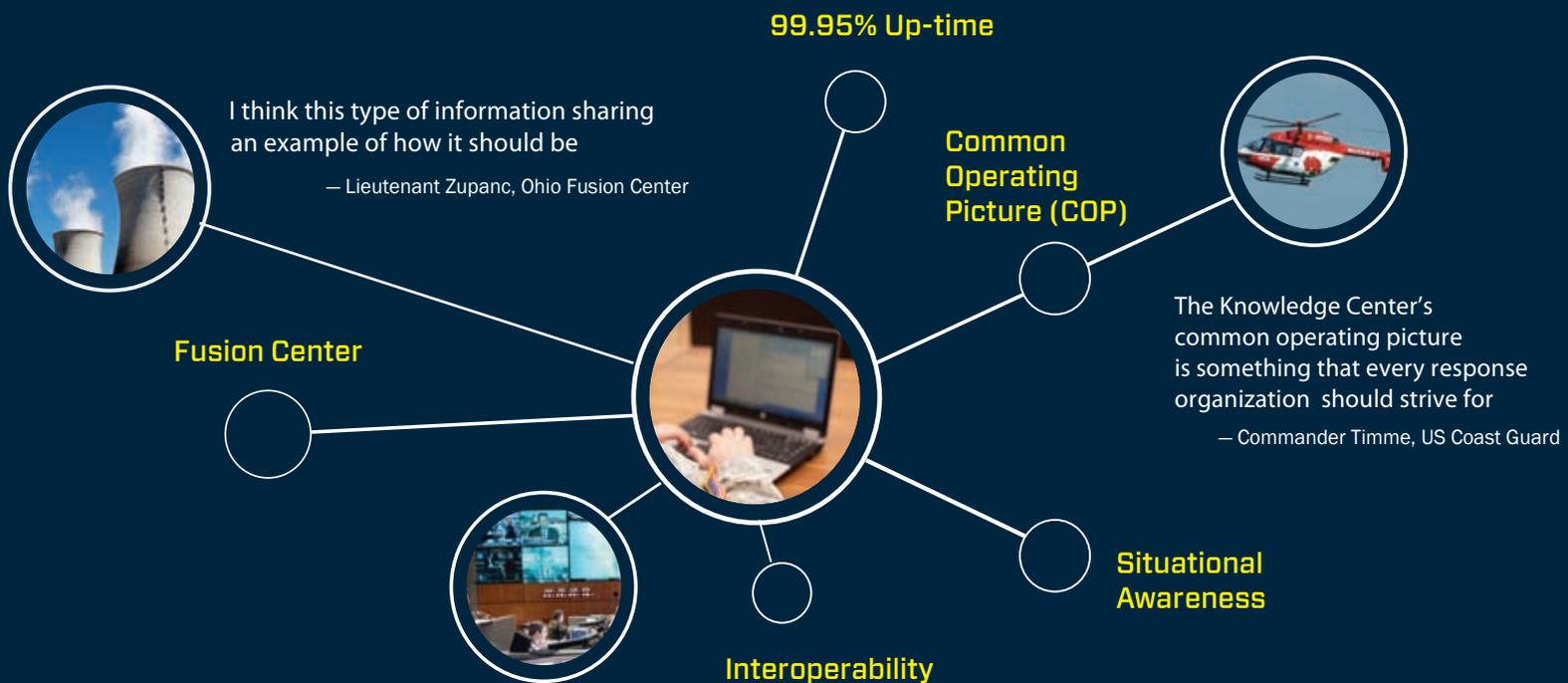


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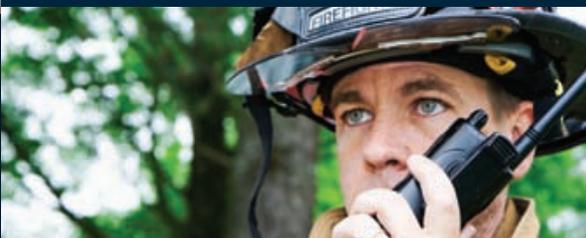
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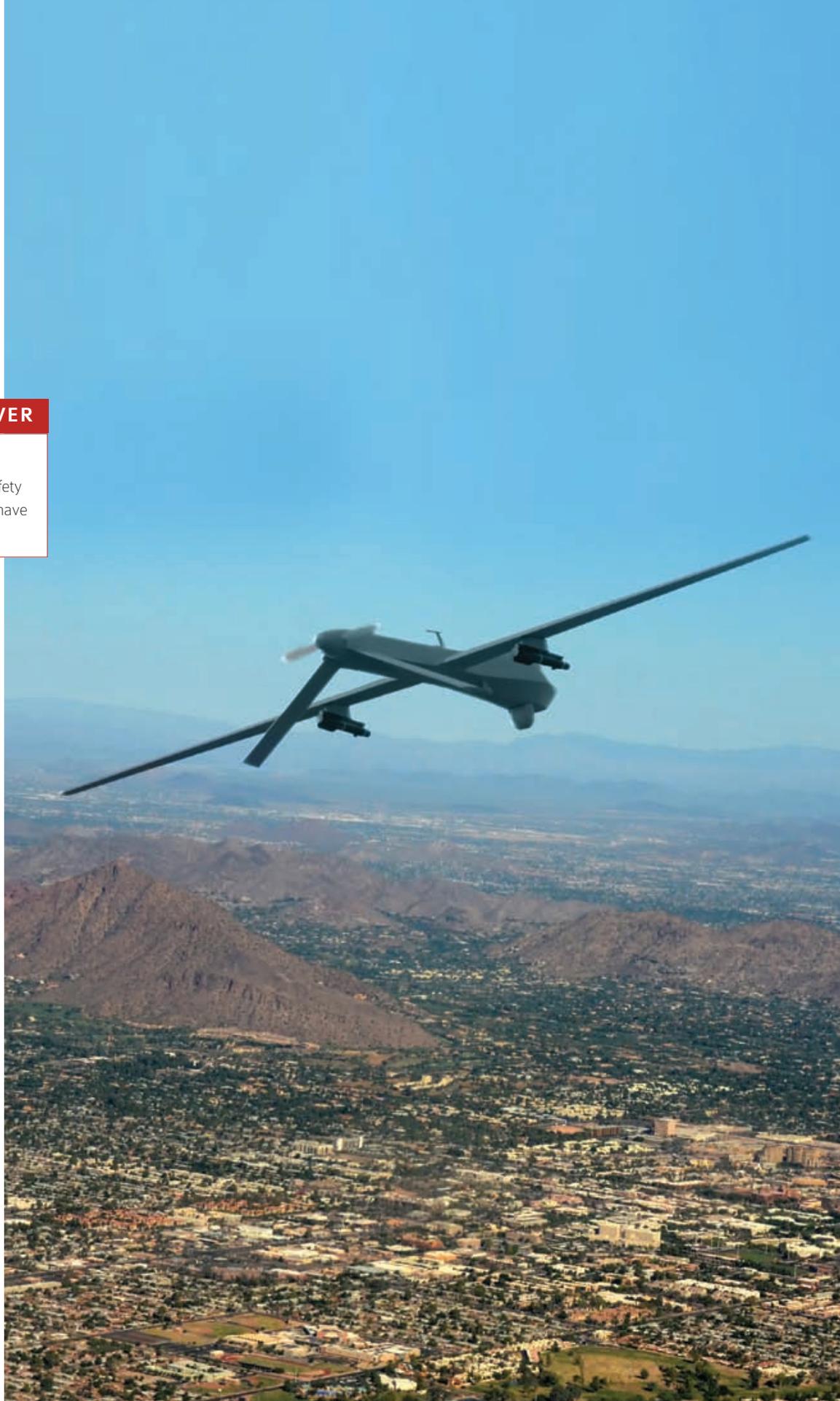
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DAVID HODD



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A Game-Changer

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ACTIVE SHOOTER MIRAGE

ARE SCHOOLS NEGLECTING ASPECTS OF SAFETY BY FOCUSING TOO MUCH ON THE ACTIVE SHOOTER SCENARIO?

BY JIM MCKAY

School shootings have captured the attention of the American public and certainly school administrators, who feel compelled to do something to prevent or mitigate the effects of a similar incident taking place on their grounds. Solutions — in the form of cameras, metal detectors, barriers, bulletproof windows and the like — are coming out of the woodwork and are being touted upon administrators. There is a lot of training available too, such as the Run, Hide, Fight video that demonstrates what to do in the event of an active shooter, including taking down an armed gunman. But there are problems with these approaches and educators are missing key elements of managing these scenarios by relying on some of the technology fixes and the active shooter training, some experts say. The Run, Hide, Fight training is an alternative to waiting for law enforcement to arrive, which is ineffective since most violent acts are usually over in minutes, before law enforcement arrives. The objective of the training video is to condition students and administrators, anyone faced with the potentially deadly situation of an active shooter, to recognize the best options for avoiding being harmed. Running is the first option. If you can get away from danger, do it. The

Disaster Preparedness



The Food Challenge

Alaska, with its unique setting, works to secure its food supply.

By Margaret Steen | Contributing Writer

In the every other state, Alaska has to be prepared for disasters, both natural and man-made. But as it works to make sure its residents would have enough food in a disaster, the state also has to deal with some unique challenges. "We've got volcanoes, earthquakes, cold weather — a lot of potential for emergencies here," said Deane Conzemius, state executive director for the U.S. Department of Agriculture Farm Service Agency in Alaska. "We have a food system that is resilient and strong, that could help us in case of emergency."

Work on that food system is happening on several fronts. The state is establishing an emergency food supply as part of a larger emergency management effort. Local communities are also looking at both short- and long-term ways to ensure a stable supply of food. All of this work happens against the backdrop of a huge geographic challenge. "We have many things in common with the rest of the country, but we also have some things that are uncommon," said John Markham, director of the Alaska Division of Homeland Security and Emergency Management. "We

still need all the basics — food, water, energy, medicine, shelter — but our need for these things is not in a limited number of ways. Most towns in the United States have several roads leading in and out of them and can be reached easily by helicopter if necessary. "The supply lines in Alaska do not work that way," Markham said. Ninety percent of the goods in the state come in through one port in Anchorage. One incident could have a very profound cascading effect on those supply lines. The structure of Alaska's government is unusual as well. In Alaska as in other states, the responsibility for emergency preparedness starts with the individual, then goes to the community level, then to the state and finally to the federal government. But more than that, Alaska is a "highly populated area about as large as Texas" in some geographic areas, but the state government, making the state primarily responsible for emergency services in those areas, the state has primary responsibility for several things that in many other states would be handled first by counties. Additional complicating factors include the fact that the federal government actually owns about two-thirds of the land in Alaska, through emergency preparedness is the responsibility of the state even for that federal land.

The state's geographic isolation is the challenge. Most of the goods it imports, and within Alaska, many people live in remote areas. "This is a long distance away," Markham said. "Transportation is not easy, and it's difficult. There are so many villages and small communities that are off-road, and the road system," Conzemius said. Even around Anchorage, some suburbs depend on bridges to connect them to the city, a vulnerability when it comes to getting food after a disaster. In addition, the extreme cold weather, with temperatures below zero for much of the year, can prevent winter harvests. Alaska has some advantages when it comes to emergency food, what Conzemius calls "a culture of wild food." Alaskans have traditionally hunted and fished, eating salmon, moose and caribou. They have frozen salmon, moose and berries for winter use. Especially in the remote villages, Alaska residents may be likelier than residents of

An outbreak of peace in the NGO/VOAD world is needed. It's really not funny but the truth is this: The way that NGOs and VOADs are forced to compete on the disaster ground is the root cause of why they fail to work together as well as they could. NGOs and VOADs turn up on the disaster ground and each one of them tries to find a mission. ICS calls for us all to check in with the EOC and be assigned a mission. Nope, we all head off and do bloody battle with each other.

The thing is, if you belong to a group of people who do not have chainsaws or heavy equipment and the work order calls for either of those tools, the chances of that organization asking other organizations if they can fulfill the work order are nominal at best. The whole volunteer community needs to wake up.

The sooner we work collaboratively, the sooner the communities we serve will be back on their feet. Do we ever ask ourselves why the professional responders do not always enjoy working with us? The police, fire and EMS all use ICS. The work gets shared in order that the work gets done. If we do not follow their lead we simply do not belong on the disaster ground. Our primary mission cannot be the glorification of our own organization. It has to be getting the communities we serve back on their feet ASAP.

For that to happen we need to work with each other, talk with each other, learn what each other is good at and how my mission can support your mission, about how your mission can support mine.

Chris Wharton, Team Rubicon

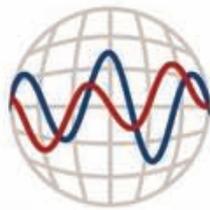
I've read and then reread your article. What really got me was the bold print on page 26, "I was on several school campuses for two or three hours in some cases before I was even asked why I was there." I'd sure like to see portable ballistic identification/welcoming stations. Bill Warnock — in response to Active Shooter Mirage in the July/August issue

Thank you for this article. The information was extremely useful and applicable to many of our readers who found the inspiration to reach out to their own community leaders and request more organized preparedness measures. Surplus to the Rescue — in response to The Food Challenge in the July/August issue

Although I tend to look at government programs like this with a jaundiced eye, I think it's a good idea given that we are at the end of a very long, perilously fragile supply chain. However, I think the long-term solution is to return to the days where

we produce most of our food ourselves. That we were able to produce 50 percent of our needs in the 1960s speaks highly for the feasibility of that goal. Today's technology and geothermal energy could allow us to use greenhouses year 'round. We might still need to import things like coffee and kiwis, but at least we wouldn't starve if some catastrophe broke that supply chain.

Lela Markham — in response to The Food Challenge in the July/August issue



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By Jim McKay

The Ebola Threat

This issue of *Emergency Management* was conceived before the Ebola scare reached Dallas so this column is the only piece on public health in the issue. We fully intend to address public health in the January 2015 issue.

In the meantime, we hope there is some clarity by then about the Ebola crisis as it pertains to the transmission of the disease and the threats to the general public.

SINCE EBOLA SYMPTOMS ARE SIMILAR TO THE FLU, PEOPLE SHOULD BE GETTING A FLU SHOT TO AVOID EVEN MORE CONFUSION AND HYSTERIA.

In the next issue we will address Ebola but also pursue topics that, on the surface, may not be as frightening as the deadly Ebola virus but are nonetheless just as threatening or more so.

As of this writing, there have been four cases of Ebola in the United States. And although that is obviously a concern, the virus has yet to reach proportions eclipsing threats from other diseases, including influenza, which killed more than 100 kids last year, most of whom were healthy when they got the flu. It is estimated that more than 200,000 Americans will be hospitalized with the flu this year. And since Ebola symptoms of nausea, vomiting and fever are similar to the flu, people should be getting a flu shot to avoid even more confusion and hysteria.

Then there are measles and pertussis, which are usually not fatal but troubling in that they are making a comeback.

Pertussis, or whooping cough, has seen a sharp increase (30 percent) in cases this year compared to the same time period a year ago. Last year there was a dip in cases to 28,639 as compared to 48,277 cases (and 20 deaths) in 2012, according to the Centers for Disease Control and Prevention (CDC).

Measles has reached a 20-year high in the U.S. Between Jan. 1, 2014, and May 23, 2014, 288 cases were reported, the largest number of cases reported in a five-month period since 1994. More than one in seven cases has led to hospitalization, the CDC says. The outbreak is mostly driven by unvaccinated people.

Methicillin-resistant *Staphylococcus aureus* (MRSA) can be fatal. MRSA is a staph bacteria that doesn't respond to antibiotics normally used to fight such an infection. There are more than 75,000 cases in the U.S. right now. It's usually spread in hospitals or other health-care settings, and it's constantly adapting, which worries researchers.

The CDC has admittedly dropped the ball for its initial handling of the Ebola cases and things may get worse before they get better. But Ebola, so far, doesn't seem to have the capacity to spread and threaten the U.S. like some of these other health threats.

My prediction is we will see the hysteria over Ebola fade as officials get a better handle on it and the public gets a better understanding of its limitations, and as we head into the next year, we will be left with flu deaths and the nagging comeback of other, heretofore, virtually eliminated diseases. 

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Ebola Stokes Fears

The news of two nurses in Dallas becoming infected with the Ebola virus after caring for an Ebola patient caused fear to spread and drastic measures to be taken in some cases. In Ohio, nurses were placed on leave because they were on a flight with Amber Vinson, one of the affected nurses.

In Cleveland, two schools were closed and disinfected because a school employee might have flown on the same flight as Vinson. School districts in Texas were also closed and disinfected for the same reason.

One two-year public college in Texas, with about 100 African students, stopped accepting students from African countries.

SOURCE: DALLAS MORNING NEWS



AP PHOTO/BRYNN ANDERSON

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WFP is working to provide food to more than 1 million people in Guinea, Liberia and Sierra Leone, including patients in treatment centres, survivors and families living in quarantine zones.

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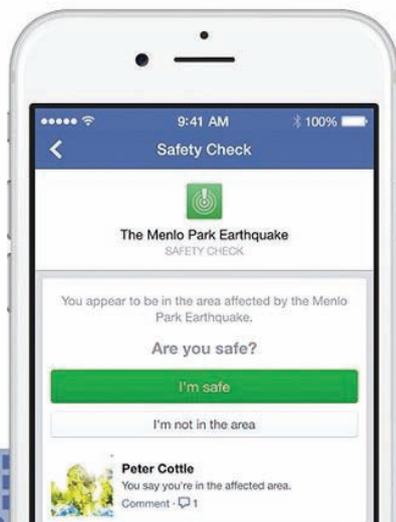
FACEBOOK DEBUTS SAFETY CHECK FEATURE

As people increasingly turn to social media after a disaster — both to get information and check to see if their friends and family have been affected — the platforms are creating disaster-specific tools. Twitter Alerts, for example, was launched in September 2013 as a way to highlight emergency information from vetted agencies across the social networking platform. And now Facebook has joined the movement with a new tool, called Safety

Check, that's designed to be an easy way for users to let their friends and family know if they're OK after a disaster.

The feature works on Facebook's desktop and mobile applications, including Android and iOS.

When users are within the vicinity of an area affected by a disaster, they will receive a notification from Facebook asking if they're safe. Selecting "I'm Safe" will post an update on that user's Facebook page.



Funding Cuts Could Impact Public Health Response



BENJAMIN CROSSLEY/FEMA

According to the National Association of County and City Health Officials, funding for public health preparedness was cut by nearly 50 percent

during the past year, decreasing the number of preparedness programs.

More than half of local health departments rely solely on the federal government for preparedness funding. The federal government provides three sources of funding that support the preparedness capabilities of local health departments.

The CDC provides \$640 million in Public Health Emergency Preparedness grants to 50 state, eight U.S. territory and four metropolitan health departments. These grants have been cut more than 30 percent since 2007.

NEW DIGITAL TOOL TO HELP FIREFIGHTERS BATTLE BUILDING BLAZES

Using a federal anti-terrorism grant, fire departments in the five-county area of Houston have developed a digital database of high-risk structures — those critical to the nation's daily operations,

high-rises and some large commercial buildings.

The database, accessible by tablet computer while en route to a scene, will replace binders full of papers tucked in the back of engines or command vehicles.

The digital system, which officials say is the first of its kind in Texas, includes data and photos relevant to firefighting decisions. For instance, it includes the location and water flow rates of hydrants,

SIDEWINDER SNAKE ROBOT COULD AID SEARCH AND RESCUE MISSIONS

In a project described in the journal *Science*, a team led by Georgia Tech researchers ran snakes, both robotic and real, across a challenging sandy slope. The results offer a fresh take on how sidewinder snakes move, as well as new insight into making better search and rescue robots.

Snakes never let a lack of legs keep them down. These limbless reptiles can climb trees, swim and even glide through the air, depending on the species. But even moving on the ground comes with its challenges — especially if it's on sand, a granular substrate that's made of tiny solids but moves like a fluid. Scientists are still studying how various animals move across such challenging terrain, particularly on dunes and hills.

— LOS ANGELES TIMES (TNS)



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details on construction types that influence how fast a fire spreads, and building floor plans linked to photos of key areas, such as entrances or gas line shutoff valves.

— HOUSTON CHRONICLE (TNS)

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UNMANNED AIRCRAFT CAN BE A VIABLE PUBLIC SAFETY TOOL BUT



BY MARGARET STEEN

Imagine giving firefighters the ability to identify hot spots in a wildfire, through real-time images, without risking the lives of staff members — or helping search and rescue teams scan a large area quickly for survivors after a disaster.

The technology to do this exists and is being used by some public safety agencies already with unmanned aerial vehicles. But UAVs have drawbacks, as well. Some agencies are adopting them, but concerns about safety, regulation and privacy are slowing the process.

UAVs are the vehicles flown by unmanned aircraft systems, or UASes, which include the aircraft and all the equipment required to control it. Both terms are used by those in the field. A more common name for them, drones, is not considered accurate by those who work most closely with the technology.

SAVIOR THREAT?

UNCERTAINTIES AND PRIVACY CONCERNS HAVE HELD THEM BACK.

“Drones were remote-controlled aircraft that were targets for missiles,” said Todd Sedlak, director of sales and flight operations and small UAS subject matter expert for Detroit Aircraft. The public sees them as “a mindless thing that does one thing.” He said UAVs have the capacity “to save lives, to help people and to prevent damage to equipment, property and people.”

UAVs come in all sizes: Some fit in the palm of a hand, while others are as large as full-size aircraft. There are two main types of UAVs: fixed-wing, which resemble airplanes and need runways, and vertical takeoff and landing, which can hover.

The U.S. Forest Service has been exploring potential uses of UAVs and UASes for several years, said Jennifer Jones, public affairs specialist with the agency’s Washington office.

“We’re very interested in this technology, and we’ve identified a lot of potential missions they could be used for,” Jones said. “And we have used them in a few cases very successfully.”

The Forest Service used unmanned aircraft in a partnership with the California Air National Guard to fight the 2013 Rim Fire. In the response to the fire, the UAVs allowed the incident team “to view events while they were happening,” said Jones. The equipment was used, for example, to verify new hot spots and detect the perimeter of the fire.

“It provided live, real-time images that could supplement those traditional nighttime infrared flights,” Jones said.

The Forest Service’s mission extends beyond fighting fires. There are several other ways UAVs could be used:

- Forest protection and management: UAVs could help monitor the condition of forests, determine the effectiveness of reforestation efforts or assess damage from events such as fires, landslides or floods. They could also help detect and map damage from insects, diseases and invasive plant species.
- Watershed management: UAVs could monitor the condition and boundaries of watersheds and sample air quality at various altitudes.
- Fish, wildlife and plant management: UAVs could help map habitats and survey fish and wildlife populations. They could also monitor the popula-



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tions of threatened and endangered fish, wildlife and plant species.

- Law enforcement: Authorities could use UAVs to help detect activities like narcotics production and timber theft.
- Post-fire response: UAVs could help map burn severity, evaluate debris flow and monitor vegetation recovery and ongoing flooding threats to downstream communities.

The Forest Service does not have a formal program in place for using UAVs, but it does have a working group looking at how it could use the systems. There could be advantages in terms of cost, safety and flying in locations and under conditions where manned aircraft couldn’t be used.

The Forest Service is not the only agency that’s moving slowly on the use of UAVs. The California Department of Forestry and Fire Protection (Cal Fire) has tested them in partnership with other agencies to see if they give commanders better real-time information about fires. But Cal Fire has no plans to use unmanned aircraft regularly, though it continues to evaluate them. “We’re constantly looking at new technology,” said Lynne Tolmachoff, a spokesperson for Cal Fire.

One agency that has been using UAVs for several years is the Mesa County Sheriff’s Office in Colorado. The program has flown more than

55 missions, totaling more than 225 flight hours.

The sheriff’s office first acquired an unmanned helicopter in 2009 and worked with the FAA to get a certificate of authorization that would allow the department to fly it. By the fall of 2010, the sheriff’s office had FAA permission to use the system anywhere in the county during the day, and it expanded its tests and started using the UAV to help other agencies with aerial photos during the response to events like fires and fatal traffic accidents.

In 2012, the department tested a fixed-wing UAV, which has a longer flight time than the helicopter and could be used for more searches or fire monitoring over larger areas. Now the department is beginning to use the systems for day-to-day operations.

One of the advantages UAVs offer public safety and emergency management officials is that they can see areas that are otherwise inaccessible because of the danger to human pilots. Another big advantage is cost.

Mesa County officials estimate that the UAVs they use would cost between \$25,000 and \$50,000 each. (They have spent much less because they have partnerships with the manufacturers to help test the systems.) Larger systems would cost even more.

However, the costs are still much less than for flying manned aircraft. Mesa County officials project that the long-term operating costs of their UAVs is about \$25 per hour. Planes and heli-

A MULTITUDE OF USES

Unmanned aerial vehicles (UAVs) have a number of potential uses for emergency response and public safety:

SEARCH AND RESCUE A UAV “can search a very large area very accurately and quickly,” said Todd Sedlak, director of sales and flight operations and small UAS subject matter expert for Detroit Aircraft. This can be particularly helpful for water rescue, since a warm body in cold water shows up quickly on thermal cameras. In the mountains after an avalanche, a UAV can search in

conditions where it’s too dangerous to send a manned aircraft. “An aircraft will search every square inch that you tell it to,” he said. “It will never get tired; it will never get bored.”

SITUATIONAL AWARENESS FOR FIRST RESPONDERS

“Let’s say a SWAT team has to serve a high-risk warrant — they have the ability to have a good view of the neighborhood, and if a suspect were to flee, where they’re going,” Sedlak said.

TRAFFIC CONTROL UAVs can help authorities see where traffic is backing up during a major event like a football game, or to get an aerial view of the aftermath of a traffic accident. A UAV is “a low-cost, safe and

easy-to-use alternative to anything that police are already using helicopters for,” Sedlak said.

FIREFIGHTING A UAV with a thermal camera can show whether the roof of a building has fire underneath it — a faster and safer way to make this determination than having a firefighter climb on the roof and use a hammer to find soft spots. It also can help determine what other buildings are at risk based on the wind speed and direction. In a forest fire, a UAV’s camera can see through the forest canopy to show where fire is spreading below. “This is already being done with manned aircraft,” said Sedlak. “This is cheaper, faster and safer.”

copters with pilots can cost between \$400 and \$1,200 per hour to operate.

If UAVs provide such great help to public safety agencies at such a low cost, why aren’t they being more quickly adopted? There are several uncertainties and concerns regarding their use, and these have slowed some agencies’ efforts.

One issue is safety. UAVs are considered aircraft, and some can be quite large. This is one issue that the Forest Service’s advisory group is looking at, Jones said. “Our top priority in the Forest Service is safety,” she said. That includes the safety of firefighters and other agency employees, as well as the safety of the public.

“They can pose a risk to people on the ground if one of those is flying overhead and a communications link is lost,” said Jones. “We’ve got to make sure that we can fly them safely, given the other aircraft that are often flying in fire environments.”

There are other details to be worked out, as well, Jones said. “We’re trying to define the mission requirements.” A lot of missions can also be performed by manned aircraft, and the agency wants to determine when officials would turn to UAVs and who would operate them.

There’s also some uncertainty about how UAVs will ultimately be regulated. Private citizens can buy and operate their own UAVs as a hobby, with few restrictions from the

FAA as long as they are not flown too high or too close to an airport. The FAA hasn’t issued specific regulations about when UAVs can be used by people who are being paid to operate them, however. The FAA is working on rules that would allow commercial use of certain UAVs in some circumstances.

Public agencies are able to get a certificate of authorization from the FAA to use unmanned aircraft under certain circumstances. But these can take a long time to receive, so most agencies can’t simply buy a UAV and start using it.

Another big concern is privacy. The Seattle Police Department last year abandoned a program to use UAVs while it was still in the planning and testing phase because of public concerns about privacy. It ended up giving the UAVs to the Los Angeles Police Department, which has said it won’t use them until the city decides on terms for their implementation into operations.

A number of states have passed or are considering laws that would limit the ways law enforcement could use UAVs, such as requiring a warrant for many uses.

Although UAVs may be sent to photograph wildfires and storms in situations where sending a manned aircraft is too dangerous, in urban settings most of what they are documenting could also be photographed by manned aircraft. The concerns raised by privacy advocates stem from their low cost and ease of use: If UAVs can be operated cheaply and

easily, what is to prevent law enforcement from conducting constant surveillance?

“Our main concern is the suspicion-less use for mass surveillance,” said Jay Stanley, a privacy expert with the Speech, Privacy and Technology Program of the American Civil Liberties Union. He said the ACLU is not opposed to all uses of UAVs. “I don’t think anybody objects to the use of a drone to find a lost child in the woods. Or if the police are raiding a crime kingpin’s home and want some aerial support and have a warrant to raid the home, we wouldn’t object to that. We just want to put in place some commonsense checks and balances.”

There are also questions about what secondary uses of the video are acceptable, Stanley said. For example, what if authorities collect video of a large area to assess damage after an earthquake but later decide to examine the footage to look for evidence of people growing marijuana? That could provide evidence that in other situations they would have needed a warrant to collect.

A final hurdle for some agencies is the rapid development of the technology, which can make decisions difficult.

“Every year something new and better is coming out,” said Tolmachoff of Cal Fire. “We’re looking at all avenues. We’re still researching and trying to figure out which one will work best for our department.”

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FIRSTNE IS OPTING OUT AN



T: OPTION?

MYRIAD FACTORS AND UNKNOWN CLOUD THE QUESTION FOR NOW.

Although states are mandated to participate in the network that will be proposed by the First Responder Network Authority (FirstNet), there is an opt-out option that would allow states to construct the network themselves, rather than leave the task to the federal government. Many details of the nationwide network remain unknown or undecided, however, which leaves the opt-out question up in the air. But at this early stage, opting out may not be a viable option for most states.

As part of a tax-and-jobs bill in 2012, Congress created FirstNet with the aim of delivering the first high-speed, nationwide wireless broadband network dedicated to public safety, using nationwide 700 MHz spectrum to break down decades-long interoperability and communications challenges.

Congress allocated \$7 billion in funding to build the new network throughout 56 states and territories involved. Every state will have to be connected, but no one is obliged to let the feds do the heavy lifting. An opt-out clause lets states choose, if they wish, to build and operate their own piece of the network. But is it realistic?



In situations such as the mudslide in Washington state, issues of operational control are critical.



Some local jurisdictions may reject a FirstNet plan that is controlled by federal operators.

Flickr/WDWSTHUB

Bolstered by what looks like sheer common sense, there is a growing sentiment that opting out would be a foolhardy measure. Simply put, why would any state reject government funding and opt instead to draw some vast untold sum from its own coffers to create and run the new network?

Despite such surface logic, some states say they are leaving open the opt-out option, while they wait for myriad unknowns to be resolved. “We’ve got to see what the design is,” said Bill Schrier, senior policy adviser in the office of the chief information officer for Washington state. “I have a committee of police and fire chiefs who will work on that design with FirstNet. If at the end of the process, the chiefs and mayors and county executives cannot get behind that design, I cannot see how we would opt in.”

This wariness of the unknown dominates much of the civic consideration when it comes to FirstNet and the opt-out option. FirstNet has just begun to circulate preliminary questionnaires polling states as to their needs, and has only recently launched a series of state-by-state conversations about the new network. In Ohio, leaders are following

that process closely, while simultaneously polling their own internal users.

“We talk to people about this virtually every day,” said Darryl Anderson, program director of Ohio’s statewide Land Mobile Radio system. “We are constantly watching the development of FirstNet, and we are interacting as necessary with FirstNet to make sure we represent the taxpayers and our first responders correctly.”

“We have done our initial outreach to our regional interoperability subcommittees for homeland security purposes,” Anderson said. “Our next logical step will be to go to our 88 counties and try to amass as many potential users of the system as possible.”

Managers of the FirstNet program say they intend to have similar conversations with states in the coming months. According to the FirstNet website, they plan to explore the project’s specifications including:

- construction of a core network and any radio-access network build-out;
- placement of towers;
- coverage areas of the network, whether at the regional, state, tribal or local levels;
- adequacy of hardening, security, reliability and resiliency requirements;
- assignment of priority to local users; and

- assignment of priority and selection of entities seeking access to or use of the nationwide interoperable public safety broadband network and training needs of local users.

If Anderson and other state leaders are taking measured steps toward evaluating FirstNet, it should come as no surprise.

In the first place, few details have so far emerged as to the nature of the network: What it would comprise; how far it might reach; how operations would be organized and who would pay for what. Amid these general unanswered questions, a number of more specific concerns remain open, such as the possible legal issues surrounding the choice to opt in or out.

Suppose, for instance, that FirstNet’s proposal appears too one-sided. “If they put a plan on the governor’s desk that says, ‘Here is what it will do and here is it will cost,’ that’s fine, he will sign that,” Schrier said. “But if they say, ‘We want to use 25 radio towers in various parts of Washington and we don’t want to pay for it,’ well, the governor probably can’t do that because it would be giving a valuable state asset to a non-state entity.”

Maybe the deal would violate state competitive bid requirements, or it might



FILE PHOTO/THOMAS HAWK

let federal authority pre-empt some aspect of state authority. "We would have to investigate something like that," said Schrier.

It's not that FirstNet would be legally problematic for certain, it's just that no one knows for sure right now, as no final proposals have been formulated. Along these same lines, and perhaps of even more immediate concern, is that no one is quite sure how the money is going to work.

It's easy to construct a scenario, for example, in which FirstNet cannot afford to operate itself, regardless of who builds it. "There are a number of different ways that capital could be acquired that would offset the cost for building a network, but do they have the number of users in the state to justify the ongoing cost of operating and maintaining it?" asked Robert LeGrande, founder of The Digital Decision consulting firm. He consulted early on the legislation that created FirstNet.

A number of factors will have to go into the consideration of long-term affordability. Perhaps states won't need a network to extend absolutely everywhere. Maybe they can set up roaming deals with commercial carriers. Maybe they license the network out to utilities, social services and other

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users. Maybe they can sell excess capacity back to the carriers. There are many variables and few solid answers so far.

On this crucial question of ongoing operations, LeGrande has strong opinions. Failing any sign that FirstNet is going to assume these duties, he said, states should seriously consider contracting out the work.

“This is a complex network that requires care and feeding,” LeGrande said. “I don’t

“The municipalities need to be heavily involved in what is happening in the state. They have enormous amounts of infrastructure that can be leveraged,” Ors said. States could tap those resources more easily, had the role of municipalities been better defined in the law. “There is this assumption that the states will do all the negotiating with FirstNet, which is probably the right place to do it, but the expectations for the municipalities have not been clearly spelled out.”

dogs or guys driving bulldozers?” he said. “Somebody who is close to the incident commander needs to determine that. And is it going to be someone in Reston, Va., or someone here in the state of Washington?”

It’s uncertain whether management issues would cause Washington to opt out, “but it’s not clear in the law and so far there haven’t been any public pronouncements,” said Schrier. Thus concern persists.

“WHO GETS PRIORITY ON THE NETWORK? WILL IT BE COPS OR FIREFIGHTERS, RESCUE DOGS OR GUYS DRIVING BULLDOZERS? SOMEBODY WHO IS CLOSE TO THE INCIDENT COMMANDER NEEDS TO DETERMINE THAT. AND IS IT GOING TO BE SOMEONE IN RESTON, VA., OR SOMEONE HERE IN THE STATE OF WASHINGTON?”

BILL SCHRIER, SENIOR POLICY ADVISER IN THE OFFICE OF THE CHIEF INFORMATION OFFICER, STATE OF WASHINGTON

think it is reasonable for a state to hire personnel just to maintain and operate that network. They need to partner with folks who have experience not just in operating a broadband network, but also operating a public safety network.”

Who would that be? Well, there’s the rub. Carriers can run a network, but they’ll play hold music on a service call. That’s no good in public safety. The logical support team would include some mix of commercial carrier talent and expertise drawn from the ranks for land mobile radio network operators. Right now, there’s no such entity in the marketplace, and LeGrande added, “This is not an entry-level position.”

These are big picture questions, most often pondered at higher levels of government. FirstNet typically has been treated as a state issue and perhaps rightly so. Much of the heavy lifting in terms of construction and operation likely will fall on the shoulders of state authorities.

At the same time, public safety is an intimately local affair, and some say the conversation about FirstNet needs to be playing out not just in the state house but also in city hall.

“This is a new dynamic for public safety, especially for local government,” said Yucel Ors, federal advocacy program director for public safety and crime prevention at the National League of Cities. “Many localities currently subscribe to commercial broadband services for law enforcement, fire and EMS, so there will have to be considerable buy-in.”

As the details of FirstNet are shaken into place, Ors said, “There has to be more outreach and more engagement with the municipalities moving forward. They need to be fully considered, even if the state as a whole is not ready to move forward.”

In practical terms, municipal involvement is critical, LeGrande said, since it is only at this level that the true scope of existing assets can be discerned. “Do you know what streets don’t have carrier coverage? Do you know how many users you have and what applications they are using? States need to partner down to the county and local jurisdictional levels to understand these things.”

By the same token, state leaders must also reach outward, engaging utilities and the commercial telecommunications sector to get a full picture of the existing situation. “You’ve got all these utilities, we are overbuilt with fiber, microwave systems, carriers on top of carriers. We’ve got backhaul providers, and we’ve got all these towers,” LeGrande said. “The state needs to know what all these resources are, to know what they can physically bring to the table.”

If assets are fundamentally local, the same may be said even more emphatically about operations. Reflecting on Washington’s recent tragic mudslides, which involved 900 responders and caused 43 deaths, Schrier said issues of operational control could be a deal-breaker.

“Who gets priority on the network? Will it be cops or firefighters, rescue

Jurisdictional questions may run deeper. Some states may reject a scheme that puts too much control of local networks in the hands of federal operators. Partisan concerns may push some Red states to reject the help of a Blue administration, or vice versa, in developing new public safety apparatus.

Bottom line: Why would any state opt out of federal funding and decide to shoulder the bulk of FirstNet development and operations on its own?

- Jurisdiction: Will the system ultimately belong to the states or to the federal government?
- Design: Who determines the structure of the network and will it meet all local needs?
- Operations: Who bears responsibility for the ongoing care and feeding of the system?
- The unknowns: What other factors have not even surfaced yet, in a process that is still in its early days?

Despite the various sticking points, Anderson gives voice to many state leaders when he said that, barring something really exceptional percolating up, the-opt out clause is simply unrealistic. It would cost Ohio about \$1 billion to tackle FirstNet without federal help.

“I really don’t see how a state can logically opt out and build out its own data system with the resources states have for public safety and communication,” he said. “We haven’t declared yet, but it doesn’t seem to me that opting out is a logical thing for a state like ours to do. It just comes down to cost.” ⊕

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A POWERFUL NEW PURPOSE



Team Rubicon members say relief work gives them a new sense of purpose and a mission as powerful as the one they'd had when they were in service.

SE

Team Rubicon unites the skills and experiences of military veterans with first responders to rapidly deploy emergency response teams across the U.S., while providing veterans with an important new mission.

BY JUSTINE BROWN

When a magnitude 7.0 earthquake shook Haiti on Jan. 12, 2010, hundreds of thousands of people were killed, and nearly 1 million Haitians were rendered homeless in a matter of moments. Powerful images of the aftermath, the tent cities, the overflowing medical clinics and the food lines were broadcast across the world.

Fortunately relief efforts were fast and numerous. But two former Marine Corps sergeants, Jake Wood and William McNulty, felt particularly compelled to help. Wood and McNulty canvassed relief organizations to find a way to get to Haiti, but the aid groups repeatedly suggested that the pair simply make a donation and leave the onsite assistance to people who “know what they are doing.”

Wood and McNulty knew they could do better than that, and they were determined. Together with six other veterans and first responders, Wood and McNulty gathered funds and medical supplies from friends and family and flew to the Dominican Republic. From there they rented a truck, loaded their gear and headed west to Haiti.

Over the next several weeks, the small team ended up helping hundreds of patients. And while they were there, Wood and McNulty realized that the chaotic situation in Haiti was not much different from the situations they faced during the conflicts in Iraq and Afghanistan. The skills they developed as Marines were in fact directly applicable to disaster response situations. The team members also realized that relief work gave them a new sense of purpose and a mission as powerful as the one they’d had when they were in the service. That prompted an idea: bring veterans together to form a unique international emergency response organization that could help people around the world, and at the same time give veterans a sense of purpose and support. Thus, Team Rubicon was born.

KIRK JACKSON, TEAM RUBICON



Coming Home

The mission of Team Rubicon is to “unite the skills and experiences of military veterans with first responders to rapidly deploy emergency response teams.” In doing so, the organization seeks to provide veterans with three things they lose after leaving the military: a purpose gained through disaster relief; community built by serving with others; and self-worth from recognizing the impact one individual can make.

Not long after the founders returned from Haiti and formalized Team Rubicon, they were off to assist with numerous other disasters around the world, including an earthquake in Chile and flooding in Pakistan. But in 2011, the organization faced a huge setback when one of the original eight members lost his battle with post-traumatic stress and took his own life. It turned out to be a shifting point for Team Rubicon. Its leaders realized that they needed to do more to help veterans at home, and as an international organization, they were limited in the numbers they could engage.

“As a domestically focused organization, we knew we could engage veterans in the thousands rather than in the

hundreds,” said David Burke, director of Field Operations for Team Rubicon.

So in 2011 the organization changed direction and focused its effort exclusively on domestic disaster response. Today, the team has more than 17,000 members, with the goal of reaching 75,000.

“The emergency response we do here in the U.S. is not usually to the scale of Haiti or Chile, but the need is just as clear,” Burke said. “While you may not be doing life safety in most cases, you are still having a massive impact on communities in need.”

Word of mouth has been the primary method of recruitment for Team Rubicon thus far. Once people sign up, they immediately get access to online training that introduces them to the organization and informs them about what to expect. They are also encouraged to enroll in basic FEMA training. Because recruits are either veterans or first responders, most already have key skills and training in areas like incident response and chain of command.

When a disaster strikes, team members are deployed to help with a wide variety of support tasks as well as community relations,



More than 450 Team Rubicon members helped homeowners recover from the devastating EF-5 tornado that struck Moore, Okla., on May 20, 2013.



incident command and tech support. For example, Team Rubicon members responding to recent floods in Michigan helped flood victims sort through possessions, discard rubbish and sanitize damaged property, at no cost to the homeowners.

“Team Rubicon is 100 percent donor funded,” Burke said. “We raise money through a variety of avenues, including grass-roots fundraising, corporate sponsorships and private sources. So far, we have not needed any state or local funding at all.”

Supporting Each Other

Not only do Team Rubicon services benefit the victims of a disaster, they are valuable to the veterans who participate as well.

“Some of the things that veterans miss when they leave the military are working as a member of a team, a sense of mission and purpose, and interacting with other veterans,” said Mike Hiltz, a U.S. Army veteran who recently participated in Operation: Flood Wrangler, the previously mentioned flood recovery operation in Dearborn, Mich., where approximately 2,500 homes suffered flood damage.

Hiltz said that what made the deployment (which was his first) special was seeing the surprise, relief and tears when an elderly homeowner, who had lost her husband two months prior, discovered that Team Rubicon was there to help her.

“I’m always amazed, but never shocked, when a group of veterans and like-minded civilians get together to complete a task and it just happens,” he said. “There isn’t a lot of standing around, trying to figure out who’s going to lead, debating the best way to accomplish the job, etc. Someone always steps up, and everyone else jumps in to lend a hand where needed.”

Alan Jones is a 69-year-old Vietnam veteran. Though he is active in his church and has done some mission work, he “somehow felt that was not enough.”

Jones recently found out about Team Rubicon and signed up. After an EF-5 tornado hit Faulkner County, Ark., on April 28, 2014, Team Rubicon launched Operation: Rising Eagle to provide home repair and debris removal to residents affected by the disaster. Jones was part of that team.

“Despite the fatigue, I haven’t felt this good and at the same time emotionally overwhelmed in years,” he said.



KIRK JACKSON, TEAM RUBICON

“The commitment from all the veterans, from the old-timers who are longtime members with many deployments, down to those of us on our first, is huge.”

Jones said those deployed on Operation: Rising Eagle ran the gamut, from an “old guy like me who can hardly bend down to tie my shoes,” to highly skilled youngsters, and everything in between.

Navy Veteran Karen Bump also participated in the Faulkner County operation. Since retiring from the Navy in 2007, Bump worked at two companies, started her own business, took up riding a Harley, went to Sturgis, S.D., and pursued other endeavors to “get reacquainted with that feeling of accomplishment.”

Then Bump found Team Rubicon.

“Once I arrived on station around fellow vets and began helping people, I realized what

I’d been missing and longing for — the love, camaraderie and support from people who understand my work ethic and share the same compassion for helping those who cannot help themselves,” Bump said. “Team Rubicon has been a medication I sorely needed, and it is healing a lot of my wounds, allowing me to be part of something so much bigger than myself. Team Rubicon also allows me to reunite and meet fellow vets from all eras of the wars, share experiences and make new friends that I might need to lean on one day.”

Watching Out for Each Other

Burke said the next steps for Team Rubicon are to continue to grow the organization, to make a bigger impact in disaster response and in veteran reintegration, and to respond to more commu-



Team Rubicon is a grassroots organization that is 100 percent donor funded. It has grown to include more than 17,000 members since its inception in 2010.

nities — specifically those that may not receive the attention that cities affected by huge events like Hurricane Sandy get.

“We want to focus not only on the big events, but also on the smaller communities hit by maybe a smaller storm that really don’t get any attention or support from state, federal or nonprofit entities,” Burke said. “It’s a challenge to scale, it’s a challenge to keep up with because there are so many immediate needs and they may only take a week or three days to respond to, but the needs are the same no matter how big or how small.”

Fortunately, because military training is such a great complement to disaster response skills, Team Rubicon seems to handle any size or type of disaster with speed, skill and ease.

“My Army training goes hand-in-hand with the things we do in Team Rubicon,”

said Pam Gieselman, Team Rubicon’s region V communications manager and an Army National Guard veteran. As a communications manager, Gieselman oversees the team’s communications activities and promotion in six states in addition to her full-time job with the Department of Defense. “Team Rubicon has a command structure I’m comfortable with, and in the military you are trained to function in chaos. There is no bigger chaos than a disaster area. That is where we thrive.”

Gieselman first connected with Team Rubicon when she saw a story about the organization in *People* magazine.

“I signed up and they reached out and asked me to help during Hurricane Sandy — it was quite the whirlwind,” she said. “I knew next to nothing about the organization, and I had never met anyone in

person. My mom was kind of freaking out and telling me, ‘You can’t get in a van with random strangers and drive to New York!’”

But Gieselman went and spent 10 days cleaning out flooded homes alongside fellow veterans. Since then, she’s been involved with flood recovery projects in Illinois and Michigan and tornado cleanup in Washington, Ill.

“Team Rubicon is a huge family,” Gieselman said. “If you’re volunteering with Team Rubicon, I know you are a person I can trust because people don’t commit their free time to things like this unless they are a really great person. I think that makes a huge difference for people struggling after coming back from a tour of duty. We are there for each other, no matter what.” +

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Playing Defense

Paul Stockton, the former assistant secretary of defense for Homeland Defense and Americas' Security Affairs, offers strategies for defending the border and protecting critical infrastructure.

Paul Stockton is the former assistant secretary of defense for Homeland Defense and Americas' Security Affairs, where he served as the DOD's domestic crisis manager and was responsible for supervising the department's homeland defense activities, including critical infrastructure protection, domestic crisis management, defense support of civil authorities and Western Hemisphere security matters. He led the department's response to Superstorm Sandy and other disasters. Stockton is an internationally recognized leader in infrastructure resilience and U.S. national security and foreign policy. He is currently the managing director of economic analysis firm Sonecon.

By Jim McKay | Editor

⊕ You suggested recently that there is a better use of National Guard troops than stationing them at the border with Mexico, and you discuss a strategy of “security in depth.” Can you explain what you mean?

We're asking our customs and border patrol and our state and local law enforcement and other members of the border team to play defense on our 1-yard line. That is we're allowing adversaries too much freedom to come up to the border and have our own folks on the last line of defense. Instead we ought to play football further down the field and take the security fight further toward its source and partner with Mexico, Guatemala, Honduras and countries in the region to go after the transnational criminal organizations (TCOs) close to their basing, and begin to intensify intelligence-led operations in cooperation with our partners well before illicit flows get to our border.

⊕ You describe putting National Guard troops at the border in football terms as a goal-line stand. That would suggest there is not much hope of success?

We can use our resources much more effectively if in addition to continuing our capabilities right at the border, or if you will, goal-line defense, that we also move to the south even more strongly than we currently are and together with the nations with whom we can partner, do much more to conduct intelligence-led operations and take down the transnational criminal

organizations before they can bring their illicit trafficking to the U.S. border.

We also need to prioritize the way we think about the threats posed by transnational crime organizations. We know that TCOs are interested potentially in trafficking not only unaccompanied children but much more severe challenges to the U.S. The commander of Southern Command, Gen. John Kelly, has argued that the United States faces potentially existential threats from transnational criminal organizations attempting to move terrorists or even weapons of mass destruction to the U.S. We need to focus on the threats to the U.S. that TCOs pose that are of greater significance to U.S. security and build an intelligence-led security system in partnership with nations in the region that focuses on those most severe challenges.

⊕ I sense in your response that we're not focusing enough on potentially catastrophic threats.

I believe we ought to prioritize the way we deal with illicit flows toward the U.S. and concentrate our efforts on the threats that are most severe and take seriously the risk that in the future these transnational criminal organizations will not only traffic in minors but traffic in terrorists and even potentially, weapons of mass destruction.

There is some very important progress that isn't getting the attention it needs and that I hope will be sustained. There are

three particular opportunities for progress. First of all, Secretary for Homeland Security Jeh Johnson has under development what he calls Southern Border and Approaches Campaign Planning. It's very important that progress in that planning effort be sustained because it provides a framework for much greater emphasis on dealing with transnational criminal organizations at their home bases rather than at the U.S. border.

Second, one of the important and really valuable parts of both House and Senate bills in Congress is an emphasis on the need for improved metrics for understanding whether our investment in security is paying off. Building such metrics will be especially important if we are going to shift toward security in depth so that we can assess the degree to which assisting foreign countries in Central America and Mexico on its southern border are making effective use of our support to them.

Last, we need to ensure that we're fully leveraging technology, especially for detection and monitoring of illicit flows and to be able to understand how we can bring together multiple data sources to provide for intelligence-led operations. Just like our military conducts intelligence-led operations abroad, I think we can use technology much more effectively in partnership with nations in the region to focus our security assets and take down these TCOs in a much more efficient way than would otherwise be possible. Technology, sensors, data integration — these are the keys to progress.

⊕ I want to switch to cybersecurity. Will you discuss how government and industry can and should work together to strengthen the resilience of the power grid and what should develop from these partnerships?

These partnerships between industry and government, all levels of government, are advancing very rapidly. There is extensive collaboration under way, and I believe that voluntary collaboration is the best way, the most rapid way, to make progress against nontraditional hazards — the cyberthreat, electromagnetic threats, all of these less familiar hazards that the grid was never designed to be able to survive. My concern is that the threat is growing just as rapidly, maybe even more rapidly, and that we need to avoid congratulating



Stockton says a lesson from Hurricane Sandy is that we should anticipate worse events than Sandy and build plans and collaborative mechanisms for a black sky event.

LUZ ROLL/FEMA

ourselves prematurely but reinforce the collaborative efforts that are under way to take on what I call “black sky challenges.”

Today we have a grid that has been optimized for reliability purposes around functioning on a blue sky day. Events much worse than Sandy could strike and we could be facing hazards that would create bigger power outages, [for a] much greater geographic scope and potentially for a much longer duration. Building resilience against these extraordinary black sky hazards needs to become a special focus of government/industry collaboration.

⊕ And part of that is getting industry to invest in resilience?

Industry is investing heavily in resilience. The electric power companies are ramping up their investment against these nontraditional hazards very rapidly. The challenge lies in reaching consensus by public utility commissioners, industry and other stake-

holders and what kinds of investments have the greatest value for building resilience and what kinds of investments are generally prudent and necessary in an environment where keeping rates low is an imperative, especially for the poorest ratepayers.

⊕ You mentioned Superstorm Sandy. What did you take away from that in terms of our ability to become resilient to a similar or worse incident?

Two key lessons came out of Sandy for me. First, the ability of the government to innovate under fire and build new mechanisms to support the electric industry for restoring power is terrific. We were able to work with the leadership of the Department of Energy, with FEMA and above all, the electric power industry to build new kinds of support missions to assist industry in restoring power. For example, flying utility trucks across the nation from California and the state of Washington to

New York to support utility power restoration on transport aircraft. That mission had never been executed. We were able to glue it together, building the airplane while it was flying. That’s my first takeaway — that government can partner very effectively with industry under fire.

The second lesson is that we shouldn’t have to do that. That’s the hard way of doing business. It’s important now that we not only learn the lessons of Sandy and institutionalize the best practices that we developed in the heat of that crisis, but that we also anticipate even worse events than Sandy and begin to build the plans and capabilities and collaborative mechanisms. So when industry needs assistance in a black sky event, one worse than Sandy, the government will already have the plans and capabilities to collaborate with industry so that government support will be most effective. ⊕

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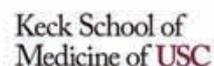
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NG911: Perseverance Pays

Policy and legal issues prove more challenging than technological ones but southern Illinois counties prevail.

By David Raths | Contributing Writer

Ken Smith, the 911 coordinator for Williamson County in Herrin, Ill., remembers the state officials' response when he and his southern Illinois colleagues wanted to explore a next-generation 911 system that would accept text messages, automatic crash notification data, pictures and streaming video.

"They looked at us like we were crazy," he said.

The state had no plans to put in an Emergency Services IP network (ESInet), and the phone companies said they had no such plans either. That's when Smith and his colleagues realized they'd have to figure out how to do it themselves. It was no easy task.

Jackson County, one of 15 southern Illinois counties that formed an association for the project, was prepared to go live with the new system on Sept. 23, followed by the other 14 by the end of the year. Smith, the group's chairman, can look back over the past eight years with a mix of pride in the group's persistence, anticipation of the new features it promises, and disbelief that the policy and regulatory issues took so long to resolve.

The existing 911 systems face difficulties in supporting text or multimedia messaging, and lack the capability to interconnect with other systems and databases such as building plans and electronic medical records. Beyond receiving and sending multimedia, there are other benefits to newer Internet

protocol (IP)-based networks. Public safety answering points (PSAPs) will be able to transfer calls and activate alternative routing to share the burden during an emergency or when PSAPs are closed by disaster.

Unwilling to wait for the state government to take charge and develop a solution, the 15 counties formed an association, called the Counties of Southern Illinois (CSI), to begin researching one. "We educated ourselves on what we were going to need and started the process of trying to find funding," Smith said.

The organization got three grants. It received a \$600,000 COPS grant from the Department of Justice and \$100,000 from the Lower Mississippi Delta Development Commission. Its major funding was part of the



Next-generation 911 systems have the potential to improve emergency response and call-taking — but PSAPs have to get past the barriers to implementation first.

FLICKR/ANTHONY RUPPERT

To cut back on project costs, the CSI team decided not to pay an outside consultant. “All the work a consulting firm would have done the executive board of CSI did itself,” said Smith, who has been Williamson County’s 911 coordinator for 20 years and serves as a regional vice president of NENA’s Illinois chapter.

until all 15 counties are up and running,” he said. “It is like the Little Red Hen. We baked the bread. They weren’t interested when there was work involved. They were happy to sit back, watch and see how it goes.”

Hixson said CSI “stuck it out” and that’s the kind of commitment it takes. “You can’t just decide you want to do it, you have to be

“The next-gen stuff is wonderful, but I am more excited about the capability to have an interconnected system.”

It took three years for technology partner Clearwave to build out the network. “There were times when we thought that was going to be the biggest delay,” Smith said, “but it turned out the regulatory issues were the bigger hurdle.”

With no statewide 911 authority, the local 911 programs are overseen by the Illinois Commerce Commission, which told CSI that the law on the books said the telephone company has to provide these services.

“We were trying to say that no, the phone company doesn’t have to do it. We can do it for ourselves,” Smith said. “We got legislation passed that allowed us to do a pilot project as CSI, and so we went through a long legal battle with the state and phone companies to try to become our own provider.”

CSI bought all the equipment and assembled the expertise. After a year and \$25,000 in legal fees, the commerce commission said it wasn’t going to allow the project to go forward. So CSI had to take a new approach and have its vendor become its official service provider. The company went through the process of becoming a systems service provider in Illinois and thus the Sept. 23 launch date.

But Smith still sounded incredulous about the hoops CSI had to jump through to achieve its goals. “We have been paying to maintain a million dollars’ worth of equipment that we haven’t been able to use for two years,” he said. “We had the ESInet in place and didn’t have permission to use it. The phone company has a much more powerful lobby than fifteen 911 systems.”

Smith said three counties that were part of the initial group dropped out because their officials were worried about the cost. But some adjacent counties have contacted CSI about joining. “I am not interested in talking to them

committed to doing it.” He said the regulatory and legislative issues can make the challenge daunting. “In some states, if you go by what the letter of the law says you can’t do NG911 ever. Legislation is going to have to change in terms of policy and technology.”

As far as Smith knows, CSI is the only association of counties that has formed and made as much progress on NG911. “There are statewide systems where the state is pushing from the top, and in those states the process should go much faster,” he said. In fact, Pat Lustig, who was CSI’s project manager, recently moved to Oregon, where he is going to run a statewide effort.

“There have been other cases of local areas banding together for 911 services, but regarding NG911 itself, I don’t know of any other examples of counties joining in a coordinated effort like CSI did,” Hixson said. There are examples of counties acting as seeds and hoping to draw surrounding counties, and other, state-oriented projects in California, Massachusetts and Vermont.

As in other regions, the first of CSI’s NG911 services will be text-to-911, but Smith is more interested in talking about flexibility and interoperability. “We are a bunch of small counties with one PSAP each. If a tornado comes through, they are wiped out.” (In fact, that did happen in 2009, when 911 in three counties went down during a tornado.)

“With this new system, we have connected 21 PSAPs and two sets of data center equipment that are identical. So if one gets wiped out by a tornado, the other is going to be up and running,” Smith said. “The next-gen stuff is wonderful, but I am more excited about the capability to have an interconnected system, where we can all back each other up.”

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Broadband Technology Opportunities Program. CSI also received \$31 million in partnership with competitive local exchange carrier Clearwave Communications. That amount was matched by \$12 million in state funding and \$400,000 from the 911 boards themselves.

“Without that grant money,” Smith said bluntly, “we would still be sitting back doing nothing.”

While CSI was thinking through its deployment, the National Emergency Number Association (NENA) was developing the i3 architecture standard that vendors will follow. “We wanted this to be fully i3 and do things the way NENA envisioned it,” Smith said. “So they made us a national pilot project, and that recognition helped us get the federal grant.”

Roger Hixson, technical issues director for NENA, said there were just a few groups interested in owning and operating a system themselves and that NENA wanted to see someone try the approach, thus the support for CSI.

“They wanted to be able to own the core system and operate it themselves, rather than leasing it based on tariffs,” Hixson said. “The vast majority of 911 groups will probably not do it that way.”



Signing up the Public

Incentives and opting out can be effective ways to get public buy-in for alert notifications.

By Jim McKay | Editor

One challenge of developing a community's resilience to disaster is getting citizens to sign up for alert notifications. For example, a year after Itawamba County, Miss., deployed an emergency notification system, 25 percent of households had signed up to receive the alerts. That's considered really good.

In fact, getting residents to sign up for any number of emergency services is difficult for many reasons. Some people are averse because of the privacy and security implications and are afraid to share personal information. And some of it is that people just tune out when it comes to the gruesome idea of preparing for a disaster.

But there are strategies to maximize the buy-in from residents. Ana-Marie Jones, executive director of the nonprofit agency Collaborating Agencies Responding

to Disasters (CARD), shared her favorite ways for getting buy-in from the public:

Lose the scary message

"Fear isn't a sustainable emotion," she said. "You can scare people into doing simple things, but it doesn't last very long." A better strategy is to make people feel as if they are included in something important.

Jones said it's important to remember you're trying to sign up people to receive bad news, something they don't really want to think about. Using the message that "You'd better sign up for this or bad things will happen" is counterproductive. "We spend so much money on blasting to everyone the scattergun message basically saying horrible things are going to happen, find out about it soon," she said. "It's really not as compelling as you might think."

Go for empowerment, said Jones. "Picture people who are feeling as if they are connected, smart and wise is so much better than fear-based messaging."

Offer incentives

Incentivize preparedness actions during meetings. "Anytime there is a community gathering and you can get people to step up and [sign up] give them a prize for doing it," Jones said. And it doesn't have to be an expensive prize; people just like getting things. "You'd be astounded at the things people are willing to do if they got a prize." At certain preparedness functions, agencies that CARD has worked with have had people program preparedness messages into their phones on the spot for the prize of a whistle.

Allow opting out

When possible, give people the option of opting out, instead of having to opt in. When it comes to organ donation in other countries, those given the option of declining will do so less than 20 percent of the time. On the other hand, when it's an opt-in strategy, just a few sign up.

Jones recommended the book, *Nudge: Improving Decisions About Health, Wealth and Happiness*, which talks about strategies for getting people to do what's healthy for them.

Share success stories

Shamelessly share some success stories, and make them specific and clear. "Things like, 'Wow, this person got a notification and was able to do such and such. This many residents got the message and no one was left behind; everyone evacuated successfully.'" In other words, give people something they can visualize as having been a success.

Normalize it, socialize it

Getting a trusted partner to work with on outreach can help. For example, have an agency that works with the elderly sign up seniors for notifications as part of its intake process, Jones said. "I can't even begin to express the difference it would make if we just looked at that as a primary mechanism for how we engage our communities. It would be a safe and trusted person helping someone to do these things that are beneficial." +

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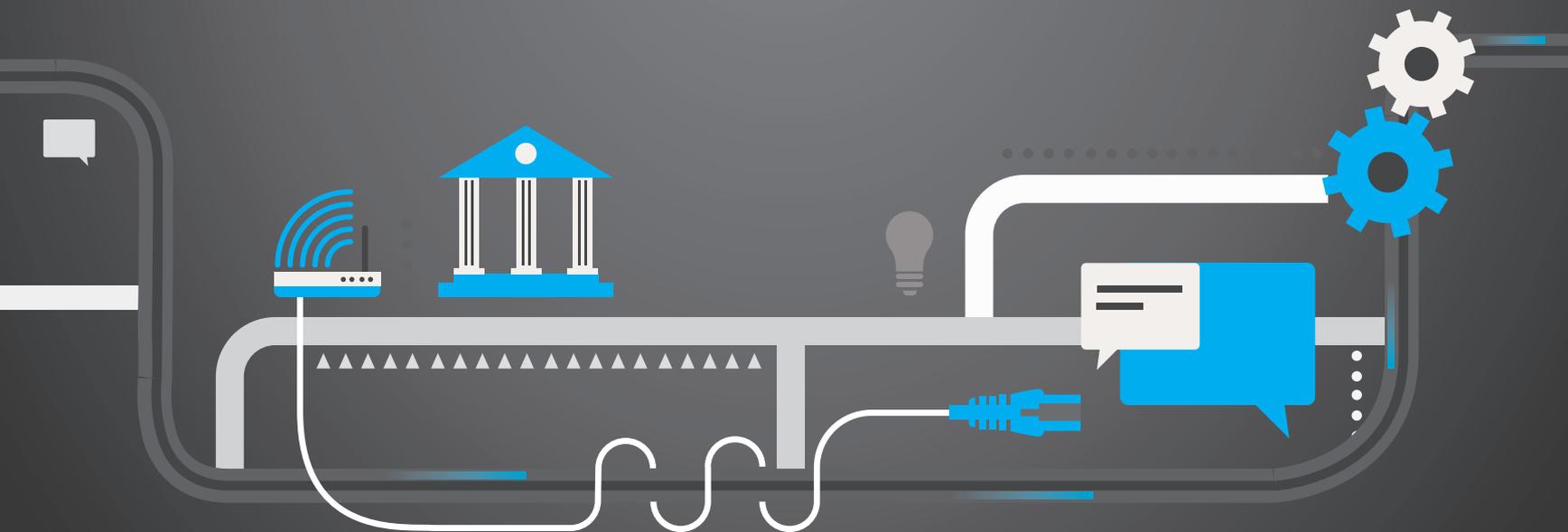
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After a slow start, FirstNet has gotten better at consulting with the agencies that will actually be using the system.



Finally Seeing Some Light on FirstNet

The first responders who will use the first nationwide public safety wireless communications network are now in on its direction.

By **Tod Newcombe** | Contributing Editor

Nobody said it was going to be easy. After Sept. 11 exposed huge holes in the country's public safety communications capabilities, Congress passed a law on Feb. 22, 2012, creating the First Responder Network Authority (better known as FirstNet) to build a nationwide wireless broadband network dedicated to public safety and emergency response. The nation's 5.4 million first responders would no longer have to rely on commercial carriers to communicate and transmit critical information during major emergencies.

It didn't work out so well.

To fund the project, the FCC auctioned off some of the surplus radio frequencies currently held by TV broadcasters to cover the estimated \$7 billion in startup costs. Ongoing operations of FirstNet are funded by fees charged to the public safety agencies expected to use the network. While FirstNet is considered an independent agency with its own board of directors that consists of 15 members from public safety and private industry, it's actually part of the National Telecommunications and Information Administration, which is housed in the U.S. Department of Commerce, and is subject to all federal personnel and procurement regulations, including competitive bidding for consulting contracts.

The board's first chair, Samuel Ginn, a longtime industry executive with experience at Vodafone and AirTouch Communications, faced two problems: first, how to staff FirstNet with enough expertise to build a reliable nationwide wireless broadband network using the latest technology; and second, how to do it fast.

The project has been a problem from the start. Ginn's troubles highlight a major concern of those trying to integrate technology into government: It's hard for public and private stakeholders to work together well. The needs of tech innovators — to quickly staff up with high-quality workers and then demand round-the-clock work from them — rapidly run into problems with government staffing, which is traditionally a drawn-out, rule-based process to secure dedicated, long-term workers.

Ginn, who hadn't worked in government before, did what many in industry do: He turned to people he knew in wireless communications, including his associate on the board, Craig Farrill. With the board's

permission, Farrill bypassed the competitive bidding process and quickly hired 35 technical consultants under sole source contracts with huge salaries — as much as \$300 per hour, with annual compensation topping out at \$600,000. Almost all of the contract staff were former acquaintances and co-workers of Ginn and Farrill, according to a blog by Bill Schrier, the primary point of contact for FirstNet in Washington state and a senior policy adviser in the state's CIO office.

In April 2013, FirstNet board member Sheriff Ed FitzGerald criticized the consulting contracts and raised the possibility of “conflicts of interest” in the hiring process. In September of this year, an investigative article by Greg Gordon of McClatchy News Service raised serious questions about FirstNet's hiring process and whether the authority broke rules or violated laws. One thing was clear: In the board's rush to find technical expertise, it ignored the most important constituency: the EMTs, firefighters and police officers who are actually supposed to use the system.

FitzGerald — who has since left the board — decried the lack of consultation between the board and the Public Safety Advisory Committee during the hiring process, suggesting that the board's industry members had sidelined the public safety members in their rush to try to put together a good team of consultants.

What's unclear is why Ginn and his associates didn't consult more with the public safety members. Corporate culture, where Ginn was used to making decisions and having them carried out, is a far cry from the give and take and consensus-building that often occurs among public safety officials. Perhaps Ginn's lack of experience with government played a role. At the very least, the public safety community wasn't happy with being left out of the picture.

“Police, fire, first responders and mayors are used to being consulted, being active participants,” said Schrier. “When Ginn and Farrill didn't consult with the members of the committee, it led to a significant amount of opposition among public safety officials. In other words, the potential customers of FirstNet weren't happy.”

That's important because public safety agencies aren't mandated to use the network. “Once the network is stood up, there's no requirement in the law that any public safety agency has to use it,” Schrier said.

In the board's rush to find technical expertise, it ignored the most important constituency: the EMTs, firefighters and police officers who were actually supposed to use the system.

“If FirstNet doesn't consult with its anchor customers at the beginning, it's going to be harder to market later on.” And if too few public safety agencies use the network, it becomes less effective and more costly to run.

Today, FirstNet appears to be moving in a new direction. Several members of the original team, including Ginn and Farrill, have resigned. The project is now under the direction of Acting General Manager T.J. Kennedy, a former cop and firefighter.

Since Kennedy took over as GM, according to Schrier, he has continued to build up FirstNet's staff, hiring competent and experienced workers who have the technical background to design a wireless network. Harlin McEwen, a former Ithaca, N.Y., police chief, who is chair of the Public Safety Advisory Committee, said that after a slow start, FirstNet has gotten better about consulting agencies.

“FirstNet promises to be a more reliable and secure network than what we have now,” McEwen said. Once the network is

operational, “public safety will be in charge of bandwidth and able to manage priority access in accordance to its needs. Right now, we can't get that [level of priority access] from commercial carriers.”

Since 9/11, the ability of public safety officials to communicate across jurisdictions during emergencies has been tested several times by events like Hurricane Sandy, the Boston Marathon bombing and the Washington Navy Yard shooting. Public safety needs a strong wireless broadband network to respond to these complicated, fast-moving events. But it will take involvement from all parties — public and private, state and local — in order to succeed. For that to happen, FirstNet needs good leadership. That didn't happen during its critical early stages. But with any luck, FirstNet has learned from the mistakes its early leadership made, because it can't afford to fail again. +

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Maryland is preparing to be more energy resilient for when a future storm knocks out the power grid.

Maryland Powers Up

A Midwest derecho and Hurricane Sandy prompt the state to develop energy resilience programs.

By Jessica Hughes | Contributing Writer

In June 2012, the Mid-Atlantic and Midwest derecho, a severe and fast-moving thunderstorm, moved through Maryland and left more than 1 million households without power in hot, humid conditions for up to a week in some places.

Although some changes were quickly made in response, Hurricane Sandy came quick on the derecho's heels and knocked out power again. These two events triggered Maryland to focus on its energy resilience, prompting new programs, including backup generator initiatives and requirements, and a move toward microgrids to make the state more resilient.

One of the state's new energy resilience programs, which ended this summer, was a grant to gas stations to purchase backup generators so that fuels are available when power is down. The Fuel Up Maryland program offered grants up to \$25,000 per gas station to offset 70 percent of the purchasing and pre-wire costs of backup power generation.

The state narrowly escaped Hurricane Sandy's worst effects, though its neighbor, New Jersey, experienced severe fuel shortages and hours-long waits at gas stations, according to Abigail Hopper, director of the Maryland Energy Administration, who replied by email. "The Fuel Up Maryland program is designed to prevent this type of scenario by ensuring that gas stations have electricity to power their pumps."

Keeping Schools Running

In addition to providing incentives for generator purchases, the state now requires new schools and those under construction to install generators to enable the schools themselves to be sheltering places. Although the requirement has been in the works for several years, it went into effect this year.

"[The requirement] does things for our sheltering, but at the same time it's a resilience program because it would allow schools to get back up and running as schools in the event of a loss of power," said Brendan McCluskey, preparedness director of the Maryland Emergency Management Agency (MEMA).

Under the state's Emergency Shelter Compliance Process, new schools or those undergoing significant renovations are required to install either a generator or transfer switch to accommodate a portable generator, with schools being allowed to decide how to comply.



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Although most schools have generators to keep elevators and fire detection systems running, those generators aren't enough to keep a large space humming for days, as is required in a mass sheltering environment, said David Lever, executive director of the Maryland Public School Construction Program.

Cost has been a concern throughout the process since there is no dedicated funding stream for the requirement. However, most schools are on board now, Lever said, realizing the potential benefits of having a generator, and much of the work happens within the context of existing state-funded projects, including the Capital Improvement Program, which funds about \$500 million in projects every year.

The Interagency Committee on School Construction approved the final procedures in the spring, which were developed collaboratively with MEMA and the Maryland Department of Human Resources.

Keeping Track of Generators

In addition to its requirements and incentives to get generators in place before the next disaster, Maryland has a program to collect location data and other specifics regarding its generator fleet.

This program is especially helpful as an inventory of the state's portable generators to bring power to critical infrastructures during outages, McCluskey said. For example, this knowledge helped the state bring power to pumping stations after a 2014 snowstorm. "We were able to go in and locate a generator that was within a short distance that had all the attributes we needed to power those water stations temporarily," he said.

And to solve previous issues of inconsistent data collection, the state is looking to move from Excel and go forward with a Web-based tool from the U.S. Army Corps of Engineers, called the Emergency Power Facility Assessment Tool, or EPFAT.

The tool offers a permanent repository for generator information and meets the

state's requirements, including the ability to integrate with its Web-mapping application.

The U.S. Army Corps of Engineers collaborated with federal, state and local entities and the private sector to create EPFAT to expedite the installation of generators after a disaster. EPFAT allows emergency managers to review information that is owned by users. And it speeds the time-taking process of assessing both impact to critical facilities and availability of generators to match facility needs, according to the U.S. Army Corps of Engineers.

"It's really a way for us to keep all the information in a single location that has all the fields we need," McCluskey said. "And it's secure and online."

Resilience Through Microgrids

Even as the state works to promote resilience via generators, it is pursuing the idea of microgrids to power public facilities during a disaster. A microgrid is a small-scale power grid that can operate in conjunction with a local electrical system.

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The microgrids would remain in operation even when the wider grid is down, providing more resilience in the future. "Specific communities or areas of Maryland would have the ability to come up on a microgrid where they are powering that small area and can operate independent of the larger power grid," McCluskey said.

Although the state has microgrids that serve single buildings or university campuses, there was a question about whether Maryland could legally power multiple facilities through microgrids.

Because these public-purpose microgrids serve critical community assets — like grocery stores and gas stations — across property lines, there was a question of whether they would encroach on the legal franchises of existing utilities, Hopper said. This issue exists on the national level as well.

To better understand this topic, Gov. Martin O'Malley directed Hopper in February to lead a task force, which brought together experts from across the U.S. and

representatives from sister states who explored statutory, regulatory and other barriers to deployment of microgrids in Maryland, and to develop a "road map for action."

According to the task force's report, released in June, public purpose microgrids can be deployed by existing utilities, but not yet by third parties unless there is a change to law.

Hopper said this provides an excellent opportunity to test the concept of a public-purpose microgrid in the short term, providing benefits to residents in the shortest possible timeframe. The task force has proposed that the Maryland Public Service Commission begin accepting applications from utilities for microgrid project pre-approval.

In the long term, the task force recommends the state address legal barriers to third-party operation of public-purpose microgrids, though this would be limited in scope, said Hopper. Other Eastern Seaboard states have joined the

microgrid movement, including New York, Massachusetts, Connecticut and New Jersey, each pursuing its own microgrid initiative.

Resilient Maryland

MEMA is also making its own operations increasingly energy resilient by having more power company representation when it activates the state EOC, and by getting direct feeds from power companies into its GIS.

The governor has also led initiatives to harden the electric grid, increasing Maryland's ability to withstand major storms, Hopper said.

According to McCluskey, the state has made strides toward resilience, but the word has different meanings depending on the person or circumstance.

"We've focused on a number of things, from citizen preparedness, to improving our plans and systems, to partnering with the private sector and power companies," said McCluskey. "We still have a ways to go." +

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By Eric Holdeman

Redundancy vs. Duplication

Many people use the terms “redundancy” and “duplication” synonymously. They are not synonymous, especially when it comes to how we should use them to describe actions that increase our disaster resilience.

The real problem we face is that modern business practices have sought to save money by wringing every dime out of the cost of doing business by eliminating what’s seen as duplicative processes and capabilities.

These changes have been manifested in a number of ways.

LEAN MANUFACTURING: Seeks to eliminate any type of function that does not contribute to the manufacturing process to achieve the maximum efficiency from people and equipment. Overhead is kept to the absolute minimum.

JUST-IN-TIME INVENTORY: Not long ago, there were warehouses with supplies that varied from raw materials to finished subsystems and components that were used in manufacturing. This is no longer the case. Now your inventory system is located on ships, trains and trucks that arrive just in time to be used in the next production cycle.

REDUCTION IN CAPACITY: Excess capacity is something that takes away from the bottom line. Supply should meet demand and only when demand exceeds the existing capacity and running three shifts, seven days a week might you consider adding more capacity.

The Internet and globalization have enabled and accelerated many of the above factors, allowing the off-shoring of supply chains, and in some cases, manufacturing.

The interdependent nature of how systems operate today is often invisible to those who depend on others to provide basic services. It may require a bit of digging, but a cascading impact of system failures outside your control should be an element of one’s

planning. What might you be able to do to absorb a loss and continue operating?

In doing the above, people and organizations have unwittingly been winnowing out levels of redundancy across the board.

I’ll agree that duplication can be called a waste of resources. However, redundancy is the built-in capability to continue operations when people and systems are stressed and begin to fail. Business continuity planning and continuity of operations planning are the essential elements of figuring out where potential points of failure are located and to identify options for either replacing a system or process with another existing or alternative one that allows operations to continue.

Sometimes we as emergency managers see an event happen in another locality and see how those events are directly transferable to our jurisdictional and organizational settings. That transferability is not always clearly evident to decision-makers who are more interested in the bottom line. It may be terrible to watch on television, but the invincibility factor of individuals is a strong element when it comes to allocating resources that could be directed to what are considered more productive and income-producing investments.

Previous minor events that have been called “disasters” can give people a false sense of security. “We survived that event; what do we have to worry about?”

I recommend that you listen for people using the words “duplication” and “redundancy.” Verify what they mean when using these words and then suggest that while duplication might be bad, redundancy is a value we need more of in this increasingly dangerous world.

Disaster-resilient organizations will have a level of redundancy that others don’t have. Now there is a competitive advantage waiting to be harnessed. 



ERIC HOLDEMAN IS THE FORMER DIRECTOR OF THE KING COUNTY, WASH., OFFICE OF EMERGENCY MANAGEMENT. HIS BLOG IS LOCATED AT WWW.DISASTER-ZONE.COM.

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1. Outside County Paid/Requested Mail Subscriptions Stated on PS Form 3541	34,089	31,326
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3. Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid or Requested Distribution Outside USPS	0	0
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F. Total Distribution	43,157	43,469
G. Copies not Distributed	1,944	2,165
H. Total	45,101	45,634
I. Percent Paid and/or Requested Circulation	78.99%	72.07%

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Noelle Knell, Managing Editor

INSTANT WATER PURITY

Water is the most sought-after commodity in a catastrophe. EcoloBlue's All Contained Emergency solution provides a means for bringing safe drinking water to the public during a disaster. EcoloBlue's A.C.E. Container is a self-contained, powered water generation and bottling system that provides up to 2,000 liters of drinking water daily from the humidity in the air. The container is designed for onsite emergency management at hospitals or other facilities and disaster relief operations.

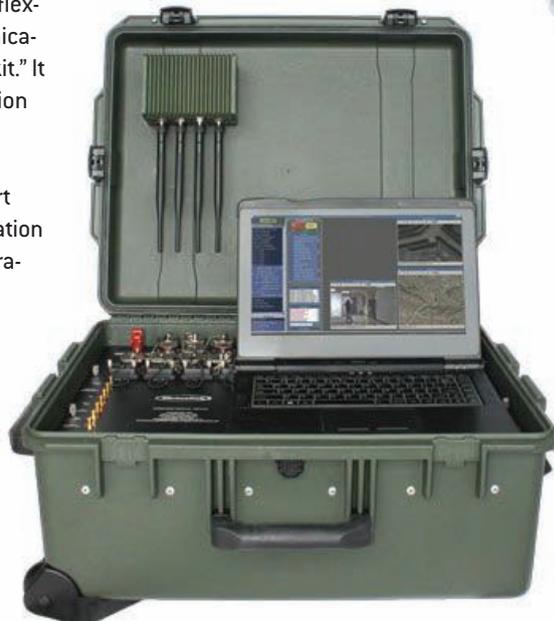
www.ecoloblue.com



Interoperability Kit

Mutualink announced the new mobile operations fusion kit (OFK) for use by military personnel, coalition partners and first responders in the field. The kit, known as OFK 2.0, enables users to connect anywhere and anytime with a flexible, agile and secure communications and interoperability "go kit." It enables secure voice, full-motion video and information sharing on a global, real-time basis. The OFK can be used to support either a fully meshed collaboration or an autonomous fielded operation by way of an independent and covert enclave. Easily deployed in minutes, the OFK is an instant operations center, providing situational awareness with multiple radio net connectivity, in and out video, ISR sharing and information sharing.

www.mutualink.net



RAIL SECURITY

SightSensor video analytic thermal cameras from SightLogix have been deployed to increase security of the nation's rail system for a major Class 1 railroad. The advanced video detection technology is being funded through FEMA's 2011 Freight Rail Security Grant Program. Funds are allocated to freight railroad carriers that own railways to strengthen their ability to protect against threats, and to maintain the security of critical surface rail infrastructure such as bridges and tunnels.

www.sightlogix.com

MOBILE DOCUMENTATION PLATFORM

SceneDoc is a mobile investigation and field documentation platform that provides public safety personnel with a secure,

accurate and consistent means to document scenes or events. The mobile platform provides the capability to unify how

agencies document, collect, share and collaborate in the moments that matter most. SceneDoc helps reduce risk and improve

personal safety by allowing users to clear scenes faster and reduce the paperwork they contend with daily.

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By David Jones

A Game-Changer

Next-generation 911 (NG911) arguably is the most important technological advancement in public safety communications since mobile radios first were implemented in emergency response vehicles nearly a century ago. This technology truly is a game-changer for the first response community.

Many emergency managers think of NG911 only in terms of text-to-911, which will greatly benefit the deaf, hard-of-hearing and speech-impaired community. But there's much more to NG911 than the ability to send emergency texts. This technology will enable:

- streaming video to and from first responders in the field;
- transmission of data-intensive files, such as building floor plans, to incident commanders;
- monitoring first responders' biometric data;
- the ability to reroute calls to a neighboring public safety answering point (PSAP) when necessary; and
- sharing information between PSAPs.

All of this is designed to help first responders do their jobs better and keep them safer. However, as exciting as these capabilities are, it is vital that emergency managers understand that NG911 also is a game-changer in terms of how they think and operate. The implementation of NG911 technology will require a wholesale change in the way that emergency calls are processed and administered.

For example, let's consider how 911 calls are routed. In the legacy environment, location information that tells the selective router where to send the 911 call is provided by the wireline or wireless commercial carriers. In the case of wireline carriers, the information is generated by billing data. In the case of wireless carriers, location information is generated primarily by the GPS chipsets contained in wireless handsets. While some may believe that the accuracy of location information is less than it should be,

what is clear is that this is not something that emergency managers traditionally have needed to be concerned about — it has been the sole responsibility of the commercial carriers.

That's going to change. In the future, NG911 location data will be generated by GIS technology that leverages numerous databases, all of which will be the responsibility of the PSAP. This means that emergency managers will face an important decision as they contemplate a transition to NG911: implement GIS technology in-house and manage the databases themselves, or outsource this task to a third party. If agencies choose the former, they will control their destiny. However, most have little to no experience in managing databases, which will make the task much more challenging. While choosing the latter option will remove this responsibility from the agency, it will create another of critical importance, as selecting the wrong vendor could have dire consequences, including the loss of life.

None of this should dissuade any agency from migrating to NG911 technology, which represents a huge leap forward in public safety communications. Indeed, the transition to the next generation of 911 may be inevitable for most agencies, largely because the legacy circuit-switched equipment used by wireline carriers to provision 911 service is being phased out in favor of IP technology. Why is this happening? Because IP technologies are standards-based and provide reliability, redundancy and resiliency that legacy technologies can't offer.

While agencies may be able to put off the NG911 migration for the short term, they likely won't be able to avoid it forever. The sooner they begin the migration, the sooner first responders and citizens will benefit from this advanced technology. Change can be scary, but it also can pay great dividends. In the world of public safety communications, NG911 truly is a game-changer. +



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