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Quest for Interoperability Applies to Talk, Not Just Technology

By Rob Margetta, CQ Staff

Here's the scenario: you're a police officer and a call of "10-24" crackles over your radio. It's another officer, from the next town over, and according to the coding language you use, he's just called for emergency backup.

Unfortunately, in his own language, he just said he was stopping for a burger.

The situation might sound absurd, but such mix-ups have been a very real part of emergency service radio communications for years.

"We had localities where the 10-code for taking a break were right next to other localities where the same code meant armed robbery," said Chris Essid, director of the Office of Emergency Communications at the Department of Homeland Security, speaking of the four years he spent as interoperability coordinator in the Virginia governor's office.

While on television, police and rescue workers all seem to talk with the same "10 codes," in reality, there is no standard set of codes. They vary by jurisdiction and town, and even in some cases by different emergency services working for the same municipality.

"Police officers might have a code that firefighters and EMS don't understand," said Tom Johnson, interoperability program manager for the state of Minnesota. He added that in some situations, that language barrier could be a deadly serious matter. "It could be a matter of life and death if you're looking for supplies or materials and the person who could provide them can't understand them."

Codes and a Catch Phrase

Interoperability is a word that's been thrown around a lot in homeland security circles since Sept. 11, 2001. The inability of firefighters, police and other emergency responders at the World Trade Center site to communicate smoothly via radio due to technological and coordination issues thrust the issue onto the national stage.

Since then, the federal government has spent more than $1 billion boosting local first responder interoperability across the country. Much of the focus has been on finding ways to plug gaps in equipment — replacing limited-band, analog equipment with multiband digital radios, or hubs that can connect otherwise incompatible gear.

Progress on that front has been slower than many experts would like. Although the 9/11 commission included improving interoperable communications as part of the report it released in 2004, former members said this year that they were disappointed with the pace of improvements.

But technology is only half of the interoperability issue — or much less, depending on who you ask.

"This interoperability problem is 10 percent technology and 90 percent organization," Essid said.

During a forum on interoperability earlier this month, former Homeland Security Secretary Michael Chertoff said 10-codes and their ilk have historically put a cramp in communications organization.

"All of the groups that need to talk to each other have to have an agreement on things like what is the language you use," he said.

And all of the high-tech radios in the world can't solve that kind of a coding issue, Chertoff said.

But organization is one area of interoperability where a significant amount of progress has been made, according to both Chertoff and Essid.

English Without Tears

The past few years have seen the emergence of state and national communication plans, and coordinators at various levels of government. The solution that they've come to on the coding issue is almost glaringly obvious: according to current National Institute of Standards and Technology guidance, emergency responders in a mutual aid or multi-jurisdiction situations should simply use what experts (and pretty much everyone else) refer to as "plain English"

Plain English has been creeping into emergency communications for some time now. In 2005, during the response to Hurricane Katrina, responders were advised to stay away from using codes.

While 9/11 and Katrina both faced criticism for communications issues, both inside and outside observers say that the 2007 I-35 Mississippi River bridge collapse played out as an ideal example of multi-jurisdictional coordination. Johnson said the majority of radio chatter that day used plain language — nearly two years before the state set a policy mandating plain language use in such situations.

Even in everyday situations, the use of coding has been on the decline, according to Essid.

"A lot of the emergency response community across the country, mostly public safety, have migrated from 10 codes to plan language," he said.

Aside from the language barriers coding creates, many of the advantages it once offered have disappeared. In one instance, the codes were originally promoted because police radios in the 1930s and 1940s often clipped parts of transmissions, making the codes easier to understand. Better radios have helped solve that issue.

Codes at one time also gave police and other responders a method of communicating that any members of the public listening in couldn't understand. Essid said that, too, is a thing of the past, thanks to the spread of information through the Internet and other new technology.

"I have an application on my iPhone that will tell me what the 10-codes are for any city, and I can hear the radio right over a scanner," Essid said. "If people know what they are anyway, why bother using them?"

Johnson said one of the supposed benefits to 10-codes was likely overstated.

"It's perceived to be faster, especially for the dispatchers," he said. "You don't have to decipher speech patterns. You have the numbers. But I'm just not sure based on my experience if that's the case."

In fact, he said, the codes take time to learn, and can be easy to confuse in stressful situations.

"You wouldn't want to be the person who used the wrong code in a deadly situation," he said.

Like other states that now require plain language in multi-jurisdictional settings, Minnesota is planning to hold regional exercises to make sure first responders are used to using it. Johnson said the state authorities are actually depending on department dispatchers to help remind officers to avoid the use of codes.

"We know it's a learning curve, and it's not something we're going to be very critical of, but it's something we want to see adopted, especially by our incident commanders," he said. "It's not something you re-learn overnight."

Still, both he and Essid said that considering the guidance against using coding when departments collaborate, and the diminished need for them, they expect that police and other first responders will abandon the 10-codes and other systems altogether.

"I think it will evolve, just like many things in public safety evolve," he said. "I think you'll eventually see everybody switch to plain language."

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