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Fast Track

Multitasking fireground radios deliver more than just communications, replacing the white board for instant personnel accountability. **By Bryant Krizik**



Any fire district would want to provide quality service to the people and make sure firefighters were safe in doing so. Instant accountability is certainly a component in both. So is a strong incident command system that allows the firefighters to focus on their job rather than worry about their safety.

The Orland Fire Protection District, in a suburb of Chicago, is one of the largest in Illinois, covering 33 square miles and more than 75,000 residents. The district has large homes and retail buildings.

“The construction is new so it’s very lightweight, and because of that the fire will burn faster, hotter, quicker,” says Firefighter/Paramedic Larry Wishba.

The department had been relying on a tag-and-status-board system to track on-scene personnel but switched to a portable radio-based system with incident command software, a ruggedized command terminal and an enhanced digital RF modem.

“The safety of our firefighters is first and foremost. I always want to make sure we have state-of-the-art equipment for our firefighters,” says Chief Donald Bettenhausen.

Necessary changes

The department made the switch to address several challenges. One was that not all firefighters carried a portable radio. The other was that accountability procedures weren’t standardized.

“With the radio, wherever you are, whatever goes on, you have access to people who can help you,” says Wishba. “The chief, he’s on our shoulder like our guardian. If he can’t see us, he can still watch over us through the radio system.”

The features included in the mission-critical radios are ideal for firefighters. The fireground system radios have special features for emergency calls and include evacuation tones.

“The radios have a channel announcement so when we change the channel it gives us a voice announcement so we don’t have to fumble in the dark and look for a number on the channel selector,” says Lt. Dan Smith. “We have the volume control on the outside of our coats so we don’t have to dig inside of our coats. We can change the channels and adjust the volume, which are the two most important things that we do on the fireground.”

Multiple radio channels allow departments to assign different channels for different tasks such as interior operations, search and ventilation. The department initially tried this approach but it didn’t work for them.

“We found that once our firefighters set the channel it didn’t get changed,” says Dan Smith. “We re-evaluated. Now radios are assigned to a station, and the firefighter uses the channel selector to indicate what apparatus he’s riding on. So we were able to adapt the system to what we felt comfortable with.”

When a firefighter turns the radio to a fireground channel, he or she becomes part of the fireground communications system and has instant accountability.

“In the morning you check out your radio and make sure it’s functioning properly and you know now that you are a proactive part of the accountability system,” says Jerry Bohne, IT manager and an engineer with the fire district. “You’re not just a nametag on a Velcro board. It’s an added level of comfort knowing that you’ve done your part to make sure you’re going to be safe.”

Air management is another important element of the incident command software. Once firefighters snap on their air supply, they have a limited time to work in. The incident command software allows for timers on multiple air supply units at multiple times. Instead of having 10 or 12 stopwatches in the commander’s car, monitoring is done at the command terminal.

"I definitely feel safer knowing that my battalion chief is monitoring me as soon as I turn my radio to a fireground channel," Dan Smith says. "I know that I'm on his screen and I know that it's not just the failure of a person to go around and collect the tags or my failure to take the tags to the incident commander or the safety officer. I have instant accountability."

Put to the test

The accountability feature is simple to use and very beneficial from the incident commander's perspective.

"It's really easy to use," says Bttm. Chief Steve Smith. "In the morning I program the computer with everybody's name and what company they're on, so when I get to the fire I can just hit 'accountability' and it pops right up."

The commander continues to run the operation the same as in the past, but with a system to help account for the personnel on scene. The commander also can use the electronic tactical worksheet to set benchmarks, file incident action plans and standardize those plans across three shifts independent of who the incident commander is that day.

"I oversee 33 firefighter/paramedics within six stations," says Bttm. Chief Nick Cinquepalmi. "The new system has improved the safety ... by allowing me to keep track of them visibly on a screen. That has come a long way since pen and paper."

He recalls a responding to a call at a 4-story multifamily dwelling. Companies arrived, and firefighters switched to the Fireground White channel, which implemented the system. Instantly, the name and apparatus of each firefighter appeared on Cinquepalmi's mobile computer. The IC software provided task lists and objective lists to guide the chief in making assignments.

"I'm keeping better track of my personnel when I put this program into motion," says Cinquepalmi.

The department started training on the radios right away, and initial response was positive. "Once they saw the benefits of the radios, they quickly wanted to get onboard with this system," says Bohne. "We let the firefighters see exactly what was happening at the commander's laptop so they could see how the accountability system worked. We also explained that we would like their input and we would make changes to make it work better for our department. When we've gotten new ideas, we implement them, and that brings the guys closer to using the radios to their full potential."

The new system was put to the test last December during a fire in a 1-story slab construction building. The fire was in one room and looked like it might travel to the attic. As companies advanced, the smoke conditions worsened. The firefighters had trouble reaching the seat of the fire because it was in the furnace room, which was only accessible through the rear of the building.

"As smoke conditions deteriorated, I changed from aggressive attack to defensive," says Steve Smith. "I hit the evacuation button, and everybody was able to hear it and evacuate in a timely fashion. At our critique, a lot of the guys said that the reason they heard and evacuated so quickly was the button feature that we have on the radios."

When the department has a multi-unit response, firefighters switch their radios from the dispatch channel to a fireground channel. Immediately, each firefighter's name and apparatus appear on the commander's mobile computer screen, and the system begins tracking his or her location.

"What has improved the most comes down to organization," says Bettenhausen. "There are humans behind those radios and sometimes they forget. Having this upgraded technology reminds us of things we may have forgotten about. I think it all comes back to accountability and safety on the fireground."

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Outside support

The support of the fire district's board of trustees was critical to the implementation of the system.

"Communication is a firefighter's lifeline. If they don't have adequate communication, our first responders can't do their job," says Cynthia Nelson-Katsenes, trustee and treasurer of the board for the Orland Fire Protection District. "It is very important that we as elected officials do all we can to enhance firefighter safety because that in turn enhances our community's safety."

The district obtained a grant to cover most of the initial costs of the system. One of the keys to obtaining funding would be to follow the directions in the program. The other is to have a project that coincides with the grant's purpose. The grant program was written to improve firefighter safety, and the district's proposal emphasized firefighter safety.

"Our funding is very, very limited," Nelson-Katsenes says. "Does the cost outweigh the benefits? We've seen time and time again throughout the country what happens when you don't have that communication: Nobody is really safe. So for us as a board, it was a very easy decision. If a firefighter isn't safe, our residents aren't safe. That was a huge priority and it was well worth every penny."

The district has been able to provide training on the system with the help of the manufacturer. Every year, the district takes a group of personnel from Motorola to the University of Illinois Fire Training Institute. Firefighters accompany them and help train engineers and other Motorola personnel in how they operate on the fireground.

"We enlisted the help of people who did have a working knowledge of computers and portable radios to get them to work with those firefighters who didn't have as much knowledge, as a one-on-one basis as part of their crew, so everyone becomes more comfortable with the radios and computers," says Dan Smith.

That training has paid off in firefighter comfort, and inevitably will make firefighters safer.

"You have to mentally prepare for changes in radio communications," says Bettenhausen. "From my standpoint as the chief officer, I have to say as new technology comes out there's a little resistance. Once it's implemented and it's properly trained on, then firefighters are more comfortable with it."

[FC]

Bryant Krizik is a battalion chief for the Orland Fire Protection District in Orland Park, Ill.

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