

“9/11 Can You Hear Me Now Act”

Sponsored by Reps. Carolyn Maloney and Chris Shays

The need for a new communications system for the FDNY

Q. What does this bill do?

A. It directs the Department of Homeland Security (DHS) to provide the FDNY with a communication system that must be capable of operating in all locations in New York City and under all foreseeable circumstances we know firefighters face and will continue to face when responding to an emergency or attack in New York City.

Under the bill, a communication system including three components - radios, dispatch system and a supplemental communication device -- would be required to work in all buildings and in all parts of the city -- something that the radios -- unbelievably -- do not now do. The supplemental communication device would allow firefighters to transmit an audible emergency distress signal when a firefighter is in need of immediate assistance, and DHS would work with the City of New York in their planned upgrades of the emergency 911 system and any interoperability initiatives with other public safety communication systems.

Q. Why is this needed? I thought the needed communications upgrades have been made for the FDNY?

A. As the members of the Uniformed Fire Officers Association of New York City can verify, some of the communication problems that existed on 9/11 still exist today. That is not to say there have not been dramatic improvements, but more needs to be done.

The FDNY still lacks the communications infrastructure to communicate in high-rise buildings, subway tunnels and during catastrophic events that require a large response from the fire department. The dispatch system that they use was purchased in the 1970's and can only relay 80 characters of text to responding firefighters. This forces the FDNY to have its own unique coded system to communicate critical information about an emergency.

The limitations of the communication system leads the dispatch center to send out information to the firefighters responding to calls in three separate ways – over the dispatch channel via voice, through the dispatch system via a text display of 80 characters, and through a tickertape machine.

Q. What does the FDNY use now for a communications system?

The FDNY has only one central radio transmitter site per borough compared to the 300 sites citywide for the NYPD. When the FDNY responds to a call, they bring portable radios to the scene with a signal strength of approximately 100 yards. All radios at the scene then work off each other and the chief has the ability to change channels to communicate on the dispatch channel. This works in most cases but it has certain limitations. Due to the lack of an infrastructure to support these radios, firefighters are often unable to transmit into the higher levels of high-rise buildings, down into subways and in tunnels. These devices are also prone to congestion during large-scale responses because, again, they work off each other and not off of an infrastructure that can distribute the use over a series of transmitter sites. One improvement to this system since 9/11 is that firefighters responding to fires can bring a suitcase size repeater to the scene to amplify and retransmit the radio signal to improve coverage. While this can improve on-scene communication, the lack of infrastructure still can lead to areas of high-rise buildings, subways and tunnels without coverage and does nothing to prevent congestion during large-scale responses.

In 1993 and again on September 11, 2001, this system was used. Because of the enormity of the event, the transmitters suffered from congestion and messages were not able to get through. The Police Department, on the other hand, had a network of transmitters to use and were able to spread out the congestion over a number of transmitters. Their communication system on 9/11 allowed them to communicate with their officers and order an evacuation of Tower I after Tower II collapsed. There are conflicting reports as to what exactly happened, but all indications maintain that the firefighters in Tower I never received word over their radios that Tower II had collapsed and to evacuate. The McKinsey Report approved by the City of New York estimates 121 firefighters lives could have been saved if they had been given the time to evacuate from Tower I.

Q. I have heard that the FDNY needs repeaters to be installed in high-rise buildings, subways and tunnels. Can you explain what a repeater is and if it would be helpful?

Discussing the need of improved communications in high-rise buildings, the McKinsey Report writes the following regarding repeaters:

“High-rise communications gaps can be addressed with the deployment of repeating infrastructure that receives, amplifies and retransmits radio communication signals to improve coverage. Repeaters that are portable, mobile (e.g., truck-mounted), or air-based (e.g., on a deployable balloon) may help mitigate in-building communications difficulties, but do not provide full coverage for high-rises. Stationary repeating infrastructure can support reliable communications in most cases if it is designed, installed and maintained properly. This kind of infrastructure can be installed inside or outside a building. We propose the Department pursue all of these options, but do it along two parallel and complementary paths.”

Many building, subways and tunnels still lack permanent repeaters which could hamper emergency communication in the event of an emergency. Of the repeaters installed, many do not have back-up power – something last August’s blackout highlighted. The repeater that was installed after the 1993 bombing of the WTC apparently did not work properly. It is believed that it was destroyed soon after the attacks.

The proposed legislation is silent on the issue of repeaters. If the Department of Homeland Security felt it was the best technology available and was tested to perform reliably, it certainly would be an option they could use. What the proposed legislation does require is that firefighters are able to communicate in all locations in New York City and under all conditions that they are reasonably expected to respond.

Q. So do we have any information about what individual firefighters think about their communications system?

In April, a workplace study by Cornell University revealed that firefighters believe major communications problems continue to exist. The survey asked participants how often in the past month they had difficulty communicating and sharing information while working at fires and emergencies. 61% of respondents indicated that occasions arise when they are unable to communicate with colleagues despite a critical need to do so, 3/4 reported receiving incorrect or inadequate information regarding the location or magnitude of a fire, and nearly 2/3 were unable to hear/read instructions from other firefighter or officers.

Cornell Survey on the web: <http://www.news.cornell.edu/releases/April04/FirefighterStress.pdf>

Q. What were the problems with the communications system during last August’s blackout?

It was reported that during the August 2003 blackout, back-up power on the City’s repeaters installed since 9/11 drained their back-up power faster than expected and car batteries had to be hooked-up to the repeaters to keep them running. The back-up generators meant to recharge the batteries did not function reliably and the E-911 system went down three times, once for 14 minutes. Thankfully, the blackout was not part of a terrorist attack, but there are lessons that must be learned should another blackout occur.

Q. How much is this going to cost?

A. The cost of not doing this is far greater than the cost of doing nothing. We appreciate all of the work New York has done upgrading the radios since 1993, but much more still needs to be done.

The terrorist attacks of 1993 and 2001 were not only attacks on New York City, but on the nation. Because New York is a top terrorist target, the protection of New York City is becoming a national responsibility. The lack of functional radios is a threat not only to FDNY and New York residents' lives but to all those who visit here.

Q. What is CIDS and why is it so important to NYC firefighters?

CIDS stands for Critical Information Dispatch System. It is a database containing specific information about particular "significant" buildings and locations in NYC that can be given to firefighters responding to these structures and areas. The problem is that the existing antiquated system - developed in the early 1970's - is totally inadequate for the task, giving firefighters a limited amount of information. Firefighters need much more detailed information to allow them to make quick decisions about how to handle a particular incident, especially a terrorist attack.

The proposed legislation calls for a much larger and robust system, giving firefighters all the information they need to know when they need to know it. Such information includes a variety of details such as building systems including elevators and air-handling equipment, evacuation paths including stairwell locations and the layout of egress doors, as well as details about specific hazardous materials that may be stored on the site. Such a modern, robust computer-based system will allow firefighters to do their jobs safely and much more effectively.

Q. Why does your bill just address the FDNY's radios and no other cities?

A. New York City is repeatedly mentioned as a top terrorist target and the radios that failed the FDNY in 1993, 2001, and 2003 still do not work the way they need to. The lack of fully-functional communication systems is a threat not only to FDNY and New York residents lives but to all those who visit here. It is not a question of if, but of when, terrorists will again launch an attack on the city.

The terrorist attacks were not only attacks on New York City, but on the nation. With New York a continuing top terrorist target, the protection of New York City is becoming a national responsibility.

Not only that, other cities with tall buildings throughout the country face the same challenges with their radio systems -- and therefore need the same upgrades. We will be able to take the lessons we learn in upgrading New York's radios and use that information in other cities.

Q. How does your bill coordinate with other efforts to upgrade the radios and emergency coordination?

A. Our bill is very clear in that the Department of Homeland Security must coordinate with the City of New York in their plans to upgrade the Emergency 911 system. It also mandates coordination with efforts for interoperable communications with other public safety communications system.

We realize that there are plans that have been discussed throughout the city and state for upgrades to emergency communication systems and we applaud these efforts. Any plans to fix

the radios for the FDNY must be coordinated with all other efforts.

Q. It was recently reported that New York State has awarded a contract to Tyco to build towers for an emergency network. How will this relate to what you are proposing today?

A. According to reports, a series of towers will be built across the state to enhance emergency communication between jurisdictions, but is not envisioned to be something used on a daily basis and does nothing to provide the FDNY with the infrastructure they need to communicate effectively. If our legislation passes, the new communications system would have a positive daily impact on the FDNY. We certainly need a system for cataclysmic events, but first we need a fully operational system for daily use. Also, please note that our proposed legislation would require coordination with the State's proposal and any other initiative to enhance emergency communication.

Excerpt from a *New York Times* Article on the network

"Experts said that New York City fire and police commanders could tap into the system, though it was not envisioned that the more than 35,000 uniformed police officers in the city would use the system on a daily basis."

<http://www.nytimes.com/2004/05/01/nyregion/01NETW.html>

Excerpts and articles from various sources on FDNY's Communications System

Today many high-rise buildings in New York City do not have repeaters. Those who have repeaters, do not have back-ups for the repeaters.

The dispatch system that the FDNY uses today was purchased in the 1970's and limits the ability of the department to send information to responding firefighters.

The supplemental communication devices available to firefighters only send audible alarms and do not send a radio signal about their identification and location. The current Mayday signal only lasts for 7 seconds.

- Information Provided by the Uniformed Fire Officers Association of New York City

"The fire department's radios didn't work inside the twin towers during the bombing of the World Trade Center in 1993, and they rarely worked in any of New York's thousands of high-rise buildings. According to a recent review of New York City emergency communication systems during the August blackout, fire and police department radios still don't perform reliably during emergency situations or in tall buildings.

“Lack of compatibility and capability was the cause of much of the communication failures on Sept. 11. The police department's radio system was fully operational. But the police had no way of communicating information to the firefighters using radio, since one department's system wasn't capable of picking up transmissions from the other.

“At 10:09 another pilot said: "Not too long to go now, evacuate everyone in the area of the second tower.”

“This information was relayed to the police inside the north tower 21 minutes before the building collapsed. Official reports indicate the police received these warnings and many managed to escape.

“But according to two analyses performed by consulting firm [McKinsey & Company](#) and *The New York Times*, 121 firefighters whose lives could have been saved had they evacuated in time died when the north tower crumbled.

"The police and the firefighters could not work together on 9/11, they simply couldn't communicate," said Edward Hayes, a Manhattan attorney who has handled many of the victim-compensation lawsuits.”

**- Excerpts from a Wired.com article “Military Racing to Fix Radio Mess”
September 11, 2003. <http://www.wired.com/news/print/0,1294,60320,00.html>**

Incident Communication:

Being able to communicate and having adequate information are critical factors for firefighters. These factors affect how quickly and effectively firefighting teams are able to do their job. We asked survey participants to indicate, during the past month, how often they had difficulty communicating and sharing information while working at fires and emergencies. As shown in the following figures, 61% of respondents indicate that occasions arise when they are unable to communicate with colleagues despite some critical need to do so. Similarly, three-quarters of those surveyed reported receiving incorrect or inadequate information regarding the location or magnitude of a fire, and nearly two thirds of the survey participants reported being unable to hear/read instructions from other firefighters or officers.

Cornell Study April 2004 - <http://www.news.cornell.edu/releases/April04/FirefighterStress.pdf>

Story on Communications System Failures During 2003 Blackout

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BYLINE: DAVID SEIFMAN, BRAD HAMILTON and ADAM MILLER

BODY:

In an eerie echo of Sept. 11, radio communications among city cops, firefighters and EMS workers were crippled on several occasions during the Great Blackout of 2003, officials said yesterday.

And the city's 911 phone system was down for 32 minutes after the power outage started because of a problem with phone giant Verizon.

But there was no indication the problems resulted in any injuries or fatalities. Five people died in blackout-related incidents across the city.

And emergency workers were widely praised for their performance.

On three occasions totaling about 30 minutes, the Emergency Medical Service radio system was shut down, and its computer system collapsed once for 15 minutes, said spokesman Robert Ungar.

"The fact that we were unable to contact our units and assign them caused tremendous delays in our response times," he said.

The NYPD and FDNY both reported problems with their handheld radios.

Firefighters, plagued by communication trouble on Sept. 11, 2001, have been phasing in new digital radios.

Cops still use the same analog radios they had during the World Trade Center terror attacks.

As the blackout continued late Thursday night, one Manhattan cop complained that several precincts ended up sharing one frequency - and even that one went dead.

Afterward, there was no radio transmission for several hours, said the officer, who asked not to be identified.

As of Friday morning, he said, he still had no channels working.

"It was very frustrating," he said.

A top police official blamed the transmission problems on weakened repeaters, the electronic boosters that relay radio calls and help cops keep in contact with each other.

In areas of Queens and Brooklyn, communications failed after repeaters that were running on backup batteries ran out of juice earlier than cops expected, sources said.

The FDNY also experienced radio problems, which they attributed to a failed communications link provided by Verizon.

FDNY spokesman Francis Gribbon said the link, "allows our dispatchers to transmit an over-the-air radio frequency to the field units."

He said they failed on three occasions - for 14 minutes, 11 minutes and seven minutes.

The firefighters union did not return a call seeking further explanation.

In the wake of communications problems on Sept. 11, the city put out a report saying Port Authority repeaters malfunctioned during the rescue efforts, preventing firefighters from contacting each other in the Twin Towers.

Mayor Bloomberg then vowed to make improvements in technology used by emergency workers, proposing the installation of signal boosters on city high-rise buildings.

But last November, the Port Authority issued its own report that claimed 78 minutes of talk among The Bravest proved its repeaters were working properly.

Meanwhile, the Big Apple yesterday returned to near normal after the biggest power failure in history.

The subways were back on track just a few hours after power was officially restored to the entire city at 9:03 p.m. Friday.

Metro-North and the Long Island Rail Road were both up to speed, as well as the Port Authority Bus Terminal.

"I'm happy to report that pretty much everything is back to normal after the power outage," the mayor said yesterday.

Bloomberg also announced Rockaway Beach will reopen today, but other city beaches will remain closed due to potential contamination from discharged sewage.

Additional reporting by Larry Celona, Kenneth Lovett, Jennifer Fermino and Stefan C. Friedman

"Fire fighters and EMS personnel were hindered in their response on September 11 by multiple failures of communications systems. Communications were sporadic. We recommend . . . revamp communications systems, protocols and technology."

August 2002 McKinsey & Co. report into 9/11

Why radios Failed . . . again

- * Radio signals, which can be blocked by tall buildings in the city, need a boost to get through.
- * The boost is provided by electronic **repeaters** stationed atop Manhattan high-rises. The **repeaters** take the signal and transmit it like an FM radio broadcast.
- * During the blackout, repeaters lost power, but then worked off back-up batteries. When the batteries' power faded, **repeaters** shut down and transmissions were lost.
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Steps taken since 9/11

- * Following 911, the city commissioned a study to see why more firefighters and cops didn't get out of the World Trade Center.
- * In August 2002, consultant McKinsey & Company released its report blasting FDNY radio problems. It cited failed Port Authority signal boosters - called repeaters.
- * Mayor Bloomberg then vowed to change how the city responds to emergencies, including putting more radio repeaters on high-rise buildings.
- * Some repeaters have been installed, but it's unclear how many are up or where they are.
- * Port Authority released its own report last November, saying repeaters worked just fine during 911.

GRAPHIC: NYPD officer on cellphone. NY Post: Bolivar Arellano

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