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### Buildout of Nationwide First Responder Broadband Network Could Drive ARES Changes

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The First Responder Network Authority (**FirstNet**) — a nationwide wireless broadband network for first responders — could change the complexion of how the Amateur Radio Emergency Service® (ARES®) functions to support communication for responders during disasters and emergencies. As an independent authority within the US Department of Commerce’s National Telecommunication and Information Administration (**NTIA**), FirstNet’s mission is to build out, deploy, and operate an interoperable nationwide broadband network dedicated to first responders. Ralph Haller, N4RH, the chairman of the National Public Safety Telecommunications Council (**NPSTC**), told ARRL that the advent of FirstNet “will likely be as significant as when public safety first began using radio.”

“The nationwide network will be hardened, so that it will be more likely that many of today’s public safety systems remain operational in emergencies,” Haller said, pointing out that Amateur Radio should not expect to have access to FirstNet. He cautioned, “The endurance of Amateur Radio systems in disasters has been a big selling point in the past for incorporating amateur operators in emergency plans, but perhaps not so much in the future.”

NPSTC is a federation of organizations that work toward improving public safety communication and interoperability, and ARRL has a seat on NPSTC’s Governing Board. Haller predicted that Amateur Radio’s role in emergencies will not disappear. “There is no substitute for eyes and ears on the ground in an emergency,” he said, adding that radio amateurs “can and should continue to play an important part” in supporting emergency communication.

“Amateur operators can continue to provide valuable information to emergency operations centers in the recovery phase of disasters,” he said. “Whether that intelligence gathering is reporting on storm clouds, power outages, or road closures, amateurs can help provide critical, real-time information about conditions over a vast area. While first responders are treating the injured or protecting life and property, the amateur community can concentrate on assessing the overall picture.”

On March 30, FirstNet and the Commerce Department announced a 25-year partnership with AT&T as the primary contractor to make FirstNet a reality. “The ability to communicate seamlessly across jurisdictions is critical for law enforcement, fire, and emergency medical services (EMS) when securing large events or responding to emergencies and disasters,” a Commerce Department news release said. “In those instances, networks can become overloaded and

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inaccessible, limiting responders' use of vital communication technologies, such as smartphones and applications dedicated to public safety services.”

Public safety agencies already use commercial wireless networks, such as AT&T and Verizon, to supplement their own radio systems and networks, although such communication is not point to point. FirstNet is initially targeted primarily to provide video and data, with mission-critical voice communication at least a decade away. EMS is likely to become a heavy user of the network, which will employ voice command functions a la Siri or Alexa.

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“Be sure the public safety organizations never forget how valuable the amateurs are!” — *NPSTC Chairman Ralph Haller, N4RH*

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Inevitably there will be coverage gaps, and the development of “deployables” is critical. These devices can expand the network to areas it doesn't cover but where it may be needed for a specific incident. Deployables could include satellites — Inmarsat is a member of the AT&T team. Network security and encryption is a high priority. The Military Auxiliary Radio System (MARS) now uses encryption on its data nets.

While images in the form of digital Amateur Radio television (DATV) and a plethora of digital modes are available to ARES, FirstNet could nudge ARES to more quickly adopt a similar approach. A new generation of radio amateurs steeped in data, image, and video technology is likely to drive ARES to think beyond analog.

Haller advised that the Amateur Radio community should continue to work closely with public safety organizations at all levels to assure that they remain a part of emergency plans.

“The hype about broadband should not result in amateurs inadvertently being swept under the rug,” Haller stressed. “Be sure the public safety organizations never forget how valuable the amateurs are!”

FirstNet will use spectrum at 700 MHz — no immediate threat to Amateur Radio allocations, although there is no guarantee that this won't change as the network approaches the shift to 5th generation (5G) technology. Amateur Radio has access to significant spectrum above 700 MHz.

The expectation is that within a couple of years, a nationwide “core” network will be ready to roll out, and the first public safety users will be on board. Some regional networks have been set up for proof-of-concept purposes and to work out wrinkles. — *Thanks to Mike Corey, K11U, and Ralph Haller, N4RH*

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