



INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS®

HAROLD A. SCHAITBERGER
General President

THOMAS H. MILLER
General Secretary-Treasurer

October 31, 2012

National Telecommunications and Information Administration
U.S. Department of Commerce
Attention: Uzoma Onyeije, Senior Advisor for Public Safety
FirstNet Board of Directors
1401 Constitution Avenue, NW, Room 7324
Washington, DC 20230
Telephone: (202) 482-0016
Email: uonyeije@ntia.doc.gov

Response to: Notice of Inquiry on FirstNet Conceptual Network Architecture

The International Association of Fire Fighters, a labor union representing over 300,000 men and women professional fire fighters and emergency medical personnel is pleased to provide the following comments on the proposed FirstNet Nationwide Network (FNN) architecture.

Events as recent as Hurricane Sandy emphasize the needs for effective communication systems through which emergency responders can coordinate emergency activities on a large scale. But it is also important to remember that the “boots on the ground” need to be able to communicate with each other in the worst of conditions on-scene, in real time, as they have done using traditional analog and newer digital mobile radio technologies. These day-to-day mission critical communications are the backbone of response and the safety net for responders across the country. For these reasons we urge the architects of the FNN to apply three critical tests to whatever engineering and system planning is used to build out the system.

- 1) While the transmission of large amounts of data is the focus of the FNN it is important to remember that voice communication is essential for coordinating ALL incidents. There are no public safety operations that can be accomplished without being able to speak to the responders during emergency activities. Because voice communication is so critical for performance in the most severe conditions (i.e. emergency response system overload, weather, power tools, crowds, structural interference, etc) the **intelligibility** of the voice transmissions is key. In this case, there is no room for failed conversion of voice to digital signals through the many available technologies. Since it is understood that digital voice conversion can provide crystal clear communication when the signal can be received and decoded without error, the IAFF urges FirstNet to test and select or develop the appropriate digital voice communications performance

standards and technologies under the worst field conditions to ensure voice communications will be intelligible in those situations as well.

- 2) The proposed system must be reliable. As this comment is being prepared, the City of New York and a significant portion of the NY and NJ metropolitan region, still suffers from a lack of power, landline, and cellular and broadband wireless signals. It is the existing 'legacy' VHF and UHF analog and digital radio systems that continue to allow the responders to receive dispatch information, coordinate incident activities, and communicate between team members. In the September 25, 2012 presentation by FirstNet Board Member Craig Farrill there were essentially three network implementation options discussed; use a stand-alone network, utilize a single wireless operator, or depend on a diverse multiple wireless network system. FirstNet should apply a "Sandy Test" to the network implementation selection. Of these options which one would most likely still be 100% functional on the east coast today. The architects of the FNN must make this level of reliability the target for the new network. Without reliable communications performance, the new network will be unacceptable and responders will be at risk.
- 3) The proposed architecture of the FNN as provided in the presentation appears robust and attentive to the data and voice needs of all the parties desiring to use it. The systems and devices must meet the unique demands of the job of fire fighting and of course the needs of all other responders. Fire fighters must be able to communicate in cold and hot temperature extremes, in wet and humid atmospheres full of combustion byproducts and dust, while under or above ground, inside and below buildings and in rubble piles. Other environmental challenges include loud noise from apparatus, warning devices, tools, as well as the fire or other emergency event itself. The actual devices used to deliver all these services to field providers operating in these environments are yet to be developed. When they are it is likely that they will be in short supply and at first expensive to own and maintain. However, we strongly believe that the economies of scale resulting from allowing only devices and systems that work under these conditions on the market will make these systems affordable to all. We must also note that handheld devices based on today's cell phone engineering and consumer use will not be effective or even useful for first responders. To that end, the rugged and reliable end user devices must be available and accessible. While it is possible to leverage favorable contracts with wireless carriers that may be part of the final solution, the device in the responders hand must be uniform and affordable or they will not be deployed as intended. In fact, the legacy systems that perform well today will remain for some time until the accessibility of the devices and networks is assured.

Everyone concurs that ultimately a complete transition to digital communications will occur. However, until we can assure that reliable digital voice communications are universally accessible and affordable to all first responders, we must preserve our legacy networks.

The IAFF looks forward to being directly involved and contributing to the development of the FNN going forward in an effort to assure that the emergent and time critical communications needs of our members, the end users of the proposed system, can have a network that provides intelligible voice communications, on a reliable system, that is accessible to each of them.

Sincerely,

A handwritten signature in blue ink that reads "Harold A. Schaitberger". The signature is written in a cursive style with a large initial 'H' and a long, sweeping underline.

Harold A. Schaitberger
General President