

November 1, 2012

Via Electronic Filing

Lawrence E. Strickling, Assistant Secretary for Communications and Information and
Uzoma Onyeije, Senior Advisor for Public Safety and FirstNet Secretary
Federal Communications Commission - National Telecommunications and Information Administration
1401 Constitution Avenue, NW, HCHB Room 7324, Washington, DC 20230.

Re: Notice of Inquiry (NOI) on behalf of the First Responder Network Authority (FirstNet)

Docket No: 120928505-2505-01 RIN: 0660-XC002

Dear Messrs. Strickling and Onyeije:

Pursuant with the request for the Notice of Inquiry (NOI) on behalf of the First Responder Network Authority (FirstNet) Docket No: 120928505-2505-01, Roy J Hebert & Associates (RJH & Assoc.) *offers the following comments:*

1. **The FirstNet Board (Board) has a thorough understanding and willingness to meet the objectives of The FCC's National Broadband Plan¹ and Middle Class Tax Relief and Job Creation Act of 2012².** It has been demonstrated through the Board member selection, the issuance of the NOI by the NTIA on behalf of FirstNet, the comments made during the September 25, 2012 Board meeting and the FirstNet actions to-date.³

¹ Development of the Nationwide Interoperable Public Safety Broadband Network Released: March 16, 2010

² Middle Class Tax Relief and Job Creation Act of 2012 Middle Class Tax Relief and Job Creation Act of 2012 Pub. L. No. 112-96, 126 Stat. 156 (2012) (Act).

³ <http://www.ntia.doc.gov/other-publication/2012/9252012-firstnet-meeting-transcript-and-archived-webcast>

2. **RJH & Assoc. fully supports of the FirstNet Network (FNN) Conceptual Plan** to utilize existing Private and Public site assets⁴ and

3. **The Board comprises experts from the Wireless Industry and First Responder Users.**

The Board (et al.⁵), must use their vast industry experience and First Responder knowledge to establish a “top-down” approach creating policies, guidelines and commercial interest to effectively and timely implement the Nationwide Interoperable Public Safety Broadband Network (a.k.a. FNN).

FirstNet should focus on leadership, policy creation and the tenets of implementing the FNN. The Board needs to enable the Users, Technologist and the other Stakeholders to answer the key questions of What, How, When and Why. This is the group that will enjoy the commercial interest and therefore, should be responsible to identify solutions to meet the NTIA’s criteria⁶ to:

- i. Meet Public Safety requirements for priority, quality of service and preemption features,
- ii. Use existing Commercial Mobile Operators radio access network and core network infrastructure to maximize the coverage and performance, while minimizing the capital expenditures,
- iii. Reaches operational capability as quickly as possible and
- iv. Enables voice services (cellular telephony and push-to-talk (PTT)) both within the FirstNet network as well as to/from other commercial networks, including the public switched telephone network (PSTN).

The inputs from these Stakeholders, numerous working groups and committees, as well as, the

⁴ Craig Farrill presentation outlining a possible network architecture for the FirstNet Nationwide Network (FNN) that leverages existing resources and infrastructure.

⁵ Federal contributors, e.g. NTIA, Justice Department, OMB, OS&T, US Attorney General and Dept. of Homeland Security

⁶ NTIA’s NOI issued 9/28/2012

request for future comments needs to be in support of FirstNet's policies and guidelines and most importantly, Business Plan.

Suggestions for consideration:

A. A critical step is the creation of a Business Plan.

It outlines a Business Case and identifies the Commercial Interests for all stakeholders currently involved or required. Federal Mandates, even those as important as FNN, require a comprehensive Business Plan. The Business Plan is the Project architecture that launches and validated throughout the Project. The Project success depends heavily on the effort to construct and a thorough Business Plan.

The Wireless Industry would not have grown to 285,561 Sites, 321.7 Million Subscribers, annualized incremental Capital Investment of \$25.4 Billion and Revenue of \$178.4 Billion⁷ without thorough Business Plans that included commercial interests.

- Why would Commercial Wireless Carriers care about coverage to rural and tribal areas?
- Why would Commercial Wireless Carriers provide priority access and unique/stringent Mission Critical requirements to a Subscriber base of ~ 4.5M Users?
- Why would Equipment developers invest in such a small market?
- Will it cost First Responders, who are suffering from budget reductions, more money to move exclusively to an Operational expenses model?

The answer is - only when it results in a positive financial impact to all the required Stakeholders. This is the reality. FirstNet need not look far and wide for examples. One of the biggest impediments to the response of First Responder during the 9/11 terrorist attacks was communications. 11 years later, not much has improved and little Interoperability exists.

This is far less complicated, with significantly fewer Stakeholders and one dominant vendor. No Interoperability Business Plan was created to outline commercial interests. Unless commercial interest can be demonstrated for the major Stakeholders,

Interoperability may never exist without FNN. FirstNet has the opportunity to solve this issue and dramatically improve the FNN chance for success.

To identify Commercial Interests, FirstNet and the Stakeholders need to be open minded and creative. To achieve this critical success factor, FirstNet may consider the following:

⁷ CTIA June 2012 Wireless Quick Facts

- i. Equitable Spectrum reallocations, where appropriate,
- ii. New Spectrum auctions without Reserve Pricing for Commercial Carriers,
- iii. Cost based pricing to achieve First Responders operating expenses,
- iv. Phased transition for First Responder applications and
- v. Inclusion of Public, Private, Partnerships (PPP)⁸ Companies.

Critical State and Federal Infrastructure Projects have been funded, implemented, operated and maintained on a regional and national scale through PPP relationships. As Private equity is becoming more available, FirstNet may want to consider an experienced PPP company as strategic partners to the Board or as an additional Stakeholder.

B. Concerns over Broadband Voice.

Mission Critical voice is a unique set of complex requirements having evolved over the past 82 years, when Motorola sold the first police radios in November 1930, to customers in State of Illinois.⁹ There are too many unknowns, differences in opinions and complexities about when the technology will be available to support the requirements of Public Safety Voice in mission-critical situations.¹⁰ Municipalities, Counties and States are struggling with budgets cut. This financial hardship is exacerbated by the Narrowband Mandate, funding requirements of existing outdated land mobile radio systems/equipment and 24/7/365 operational performance. For these stakeholders, Mission Critical Voice over Broadband has not shown any legitimate technical, economical or equivalent performance solutions. At the Federal level, hurdles and misconceptions remain:

- i. False claims that Public Safety has a lot of unneeded, valuable spectrum that could be auctioned to help reduce the national debt,

⁸ PPP defined by wikipedia at http://en.wikipedia.org/wiki/Public%E2%80%93private_partnership

⁹ Motorola CEO Galvin - Manufacturing records

¹⁰ Andrew M. Seybold: Voice over Public Safety Broadband - The Politics and the Technology

- ii. The spectrum Public Safety was asking for (worth about \$3 billion) and the funding Public Safety was asking for (\$12 billion) should both be used to help reduce the national debt and
- iii. The spectrum in question is not well suited for conversion to Broadband use. The spectrum now occupied by Public Safety for voice is intermingled with other users including businesses, industry, taxi cabs, and alarm companies.

The thoughts of reductions in budgets and manpower, potential Public Safety spectrum reallocations and the compromises of existing performance is something first responders cannot afford to have happen and potentially compromise them or the citizens they are sworn to protect. FirstNet would be well advised to launch the Nationwide Public Safety Broadband Network with data and video Equipment and Applications initially and prepare for a seamless transition to Mission Critical Voice over well hardened and secure Packet-based Networks. During this transition, Mission Critical Voice applications and Band 14 ruggedized LTE devices currently in development, will mature.

C. Cyber-security and the protection of a Broadband Infrastructure Network are critical.

Random acts of violence, terrorist threats and natural emergencies are now commonplace.

FirstNet must plan for new vulnerabilities to information and network security as Federal, State and Local First Responders move to one Network. It may be another potential reason to forego putting all voice, data and video reliance on a new network technology and architecture.

FirstNet should:

- i. Mandate network resilience and preparedness,
- ii. Create a cyber-security roadmap and compliance/certification plan,

- iii. Establish an information reporting system and
- iv. Endorse the cyber-security suggestions stated by the FCC's Broadband Plan¹¹.

D. First Responder Applications.

FirstNet asked specifically to comment on First Responder Applications. In comparison to the other comments and suggestions herein, this relatively easy and uncomplicated. The Wireless Market enjoys: 2.4 Million Apps over 11 different operating systems, 519,000 application developers and related jobs and almost \$10 Billion dollars in App revenue.¹² Some of these Applications were designed specifically for First Responders.

FirstNet should:

- i. Enable Users and Developers to continue to use free enterprise to plan, develop and price Applications.
- ii. Support continued development and allow the market to solve the “economies of scale” demand and “delivery” models.
- iii. Create Application Programming Interfaces (API's) and a Certification program that ensures uniformity and security of the data/information flow.

E. Guidelines need to be established for the deployment and integration of Next Generation 911 (NG 911), Emergency Alert systems and the use of Social Networking.

FirstNet has the opportunity to dramatically improve First Responder's ability to provide comprehensive outreach Program and community policing to the Public it serves. A three pronged approach is suggested that includes: NG911, Emergency Alert systems and Social Networking. NG911 and Emergency Alert systems; these are not novel ideas. However, the integration of

¹¹ FCC Broadband Plan issued 3/16/2012 Sec. 16.2 PROMOTING CYBERSECURITY AND PROTECTING CRITICAL INFRASTRUCTURE

¹² CTIA October 4, 2012

enhanced capabilities of NG911 and Emergency Alert systems with the use of Social Networking can establish a unique and powerful outreach program.

The U.S. Department of Transportation (DOT) has published a new technical architecture and a transition plan that integrates the core functions and capabilities of 911.¹³ These enhanced NG911 capabilities will be delivered in multiple formats, such as texting, photos, video and e-mail. The transition from legacy 911 system to NG911 has begun. FirstNet can leverage these enhanced 911 capabilities into FNN.

The enhancements to the Emergency Alert system are not as well developed as NG911.

FEMA has taken steps to develop an Integrated the next-generation of Public Alert Warning System (IPAWS).¹⁴ However, a number of challenges have been identified: Lack of support, Technical issues, User coordination and ill-defined Project plan without firm solutions. FirstNet needs to emphasize the importance of integrating a robust and secure Emergency Alert system and assign the appropriate Stakeholders to develop a roadmap of achievable and consequential solutions.

Lastly, one of the most misunderstood and an overlooked tool is the use of Social Networking.

Just the mention, generally conjures up a negative connotation of Facebook, Twitter and unsecure network concerns. It is important to breakdown the meaning and definition Social Networking in this context: Social (relating to the way in which people in groups behave and interact)¹⁵

Networking (the act of linking communicating devices to exchange and share information)¹⁶.

Social Networking is defined as a social structure made up of individuals or organizations and the dyadic ties between them.¹⁷ As the average age of First Responders continues move downward, the notion and using of Social Networking is less alarming. The Social Networking suggested

¹³ DOT NG911 Study - System Initiative, Final Analysis of Cost, Value, and Risk (Mar. 5, 2009)

¹⁴ IPAWS- <http://www.fema.gov/emergency/ipaws>

¹⁵ Encarta Dictionary adapted by RJH & Assoc.

¹⁶ Encarta definition adapted by RJH & Assoc.

¹⁷ Wikipedia definition adapted by RJH & Assoc.

here is simply another opportunity for outreach and is beginning to gain acceptance and traction.

The Dept. of Justice has funded a Center for Social Media under the International Association of Police Chiefs (IACP). The IACP conducted a survey¹⁸ and found:

- i. 9 out of 10 Law Enforcement Agencies surveyed are using some form of social media, to support investigations, notifying the public of crime problems, community outreach, intelligence, public relations, and a host of other applications,
- ii. The number of agencies with a written social media policies has grown to 61.9%,
- iii. Social media tools are helping agencies solve 74% of crimes. This has almost doubled in two years in greater numbers and
- iv. The number of agencies citing that social media has helped to improve police community relations has increased to 64.1%.

Why is an outreach program and community policing so important to First Responders and to the FNN objectives?

The reason is simple, discussions of crime prevention, outreach programs and community policing usually begins and ends with the solution of hiring more “feet on the street”. RJH & Associates

research indicates that this solution is anything but conclusive. Phil Gasper, Chair of the Philosophy Dept. at Notre Dame, writes that there is no correlation between the number of police in a city and its crime rate.¹⁹ This is the prevailing sentiment by sociologists who have studied this question. On the other hand, elected officials and Law enforcement generally believe that more police means fewer crimes.²⁰

What is conclusive from the research is that reaching a consensus for more Police is a moot point because of budget cuts and personnel downsizing. First Responder Chiefs and Dept. Heads have been more creative with their outreach programs and more aggressive with their community policing efforts. This not only helps in crime prevention, but also improves the relations with the local administrations and community. The research also noted a direct correlation between the adequacy of

¹⁸ August 2012 IACP survey regarding trends in Social Media

¹⁹ Socialist Worker - Phil Gasper May 7, 2008 | Issue 671

²⁰ Professional Issues in Criminal Justice Vol 5(2 & 3), 2010 31

the outreach and community policing to operating and capital budget approvals.

F. Summary

RJH & Assoc. has provided comments, suggestions and research findings in response to the NTIA's NOI Docket No. 120928505-2505-0. They are summarized below:

- The FirstNet Board (Board) has a thorough understanding and willingness to meet the objectives of The FCC's National Broadband Plan²¹ and Middle Class Tax Relief and Job Creation Act of 2012.
- RJH & Assoc. fully supports of the FirstNet Network (FNN) Conceptual Plan to utilize existing Private and Public site assets.
- The Board comprises experts from the Wireless Industry and First Responder Users. The Board should establish a "top-down" approach providing leadership and the creation of a Business Plan, policies and guidelines to effectively and timely implement a First Responder Broadband Network. In addition the Board should enable the Users, Technologist and the other Stakeholders to answer the questions of What, How, When and Why and identify solutions to meet the NTIA's (4) criteria outlined in the NOI.²²
- The most critical and often overlooked requirement is the creation of a Business Plan that includes commercial interests for all of the required Stakeholders.
- Concerns over Broadband Voice remain. A phased approach to cutover may overcome the political and technical hurdles and objections.

²¹ Development of the Nationwide Interoperable Public Safety Broadband Network Released: March 16, 2010

²² NTIA proposals submission that address the following criteria: Meet Public Safety voice requirements, Use existing Commercial Mobile Operators RAN & Core infrastructure, Reach operational capability quickly and Enable telephony and PTT voice services.

- Cyber-security and the protection of a Broadband Infrastructure Network are critical.
FirstNet needs to incorporate the suggestions of the FCC Broadband Plan, and create a roadmap of compliance and certification process.
- First Responder Applications should be left to the free enterprise market which can best achieve FNN's objectives.
- A three pronged approach is recommended to provide an effective outreach, community policing and a deterrent to crime program. Guidelines need to be established for the deployment and integration of Next Generation 911 (NG 911), Emergency Alert systems and the use of Social Networking.

At this point the most important recommendation and action for the FirstNet Board is the Generation of a Business Plan that provides a commercial interest to all required Stakeholders.

Should you have questions or requests for additional details, please Email RJH@RJHAssociates.info.
or visit www.rjhassociates.info.

Respectfully Submitted,

_____/s/_____

Roy J Hebert, President
Roy J Hebert & Associates, LLC

Roy J Hebert & Associates has over 30 years of Global Wireless industry experience. The practice was established to provide consulting to small and medium sized companies that need help in developing and/or executing Strategic Business Development and Technology Marketing. RJH offers services in the four major elements of Strategic Business Development: Creating Strategies, Launching new Markets, Products and Businesses, Developing Brand Optimization and Social Networking and Executing Mergers & Acquisitions and Strategic Partnerships. Market focus - Wireless Telecom Public and Private Networks. Additional Markets served – Defense communications, Medical devices, Enterprise networking and Automotive Telematics.