FirstNet®

Information for New Hampshire's Public Safety Practitioner

About FirstNet

The Middle Class Tax Relief and Job Creation Act of 2012 (Act) created the First Responder Network Authority (FirstNet) after years of Congressional advocacy by public safety. The law gives FirstNet the mission to ensure the building, deployment, and operation of the first high-speed, nationwide wireless broadband network with spectrum dedicated to public safety. FirstNet will provide a single, interoperable platform for emergency and daily public safety communications. This broadband network will fulfill a fundamental need of the public safety community as well as the last remaining recommendation of the 9/11 Commission. FirstNet will bring 21st century tools to tens of thousands of organizations that respond to emergencies at the local, state/territory, tribal and federal levels.

The Consultation Process with New Hampshire

FirstNet held its initial consultation meeting with New Hampshire in June 2015. Officials from New Hampshire are well versed in FirstNet's goals and have been coordinating closely with FirstNet staff. As a state with many rural areas and diverse terrain, having a reliable public safety broadband network will ensure communications to all areas of the state.

Going forward, FirstNet will continue our outreach efforts with New Hampshire. We look forward to continuing our open dialogue and collaboration with New Hampshire as we move towards network deployment.

FirstNet Business Plan

The FirstNet network will provide quality of service, priority and pre-emption capabilities to public safety entities (PSEs). FirstNet has 20 MHz of nationwide spectrum with which to deploy the FirstNet network. To cover part of the costs of building and maintaining the network, it is expected that PSE users will be charged subscription fees as per the Act. Additional revenues necessary

to cover the full cost of the network will be generated from the commercial use of excess spectrum capacity under covered leasing agreements as authorized by the Act. All revenue generated from these fees must be reinvested into the nationwide network to be used for constructing, maintaining, operating, or improving the network. No revenue can be redistributed in the state for any other uses. Revenues generated in states assuming responsibility for the Radio Access Network (RAN) in excess of the reasonable costs of the RAN deployment and operation in those respective states must be reinvested back into the nationwide network. Costs of network usage, devices and services will be determined following award of a contract.

Network Policies

Policies addressing the management, operation, and use of the network including, but not limited to, cybersecurity, quality of service, priority and pre-emption, will be established and administered by FirstNet throughout the lifecycle of the network. FirstNet is collecting information from local, state/territory, tribal, and federal agencies throughout 2016 to inform and adapt these policies to current/standard operating procedures and public safety industry best practices. Examples include:

- **Cybersecurity:** The FirstNet network cybersecurity solution will include a dedicated cybersecurity program that considers all source threats; constructs a dynamic threat profile; generates cybersecurity architecture; builds in proactive forensics; and establishes incident response capabilities that ensure the ability to operate and deliver crucial services as needed during a national, state, territorial, or local incident. The solution will deploy an ecosystem-wide approach to cybersecurity that includes the network, devices, and applications. The state's role in cybersecurity will be to ensure that PSE users are compliant with usage policies.
- **Quality of Service (QoS), Priority and Pre-emption (QPP):** FirstNet requested proposals from offerors that shall ensure public safety users can access network services during emergencies in spite of network congestion, including a detailed description of the systems, interfaces, and settings of its QPP solution for the FirstNet network. In addition, FirstNet has consulted with the Public Safety Advisory Committee (PSAC) and will be consulting with state identified consultation task teams on our conceptual QPP framework for the various states of the network.
- **Local control:** This means different things to different constituencies. The FirstNet CTO team has worked to synthesize a variety of sources on the subject into the Request for Proposals (RFP). The framework sets the stage for FirstNet, the Public Safety Communications Research (PSCR) program, and the PSAC to continue investigating specific areas of local control and develop answers to key questions in preparation for working with the Awardee.

Coverage Objectives

As a result of FirstNet's data collection effort in 2015, information and data were gathered from various national databases and state/territory, local, and tribal agency inputs to inform each state/territory's coverage objectives. This was a collaborative and data-driven exercise for states and territories to identify public safety's needs for coverage. In our enabling legislation, measures were put in place to ensure the FirstNet network covered rural areas. Recognizing that important need, FirstNet included benchmarks in the RFP for substantial rural deployments for each phase of network deployment as well as ensuring rural partnerships are included. Although the opportunity to leverage long-term evolution (LTE) technology is high in all geographies in which public safety operates within a state/territory, terrestrial coverage and deployment will be practically constrained by fiscal and operational factors. It is for this reason that states and territories performed the data collection and were asked to prioritize their coverage objectives, and it is also why the RFP seeks to leverage synergies with existing LTE infrastructure and services. In New Hampshire, the solutions may not always be terrestrial and will be dependent on the future partner's proposal. In some cases, there may be temporary on-demand aerial or vehicular solutions deployed to provide coverage and capacity when it's needed.

Infrastructure and Security

Consultation Task Teams (CTTs) are state and territory task teams formed around subjects on which FirstNet stakeholder input. Teams are topic-specific and meet over a short period of time. The first CTT will be on the conceptual QPP Framework FirstNet developed with the support of the PSAC. It will provide a formal opportunity for stakeholders with operational and technical expertise to provide meaningful input to inform FirstNet network policies and operations on QPP. FirstNet recommends that Single Points of Contact (SPOCs) select a wide range of knowledgeable and dedicated stakeholders as QPP CTT members.

Interoperability

FirstNet network devices will be inherently interoperable and able to communicate, exchange, and receive Internet Protocol (IP) data using FirstNet's dedicated 700 MHz spectrum, also referred to as Band 14. Upload/Download speeds on a network device will be dependent upon the deployed architecture and LTE coverage footprint. FirstNet recognizes that application compatibility and data exchange standards for interoperability need to be closely monitored as they continue to develop. All public safety users who leverage the FirstNet network will be using the same spectrum and all state RANs, whether in an opt-in or opt-out deployment (more info on that below), will connect to the FirstNet Core. These factors allow for nationwide interoperability of the FirstNet network.

Bring Your Own Device (BYOD)

Throughout the course of our consultation and outreach efforts, including feedback on the Special Notice and Draft Request for Proposals (RFP) documents, many of our stakeholders have asked a recurring question: "Will FirstNet allow personal devices on the FirstNet network?" Recognizing that the public safety user community will demand support for personal devices on the FirstNet network, FirstNet is taking steps to develop and implement an effective BYOD policy. The BYOD policy must provide adequate security and control of the device, while still providing an acceptable user experience when accessing the FirstNet network. It must also operate in real time to analyze BYOD access and identify anomalies. To address these and other device scenarios, FirstNet is planning to support personal devices on the FirstNet network through a BYOD policy that is being developed as part of the overall network architecture.

Future Build Out & NextGen-911

The FirstNet network design and phased deployment plan will be determined following award of a contract. At this point in time, future build out scenarios beyond full operational capability of the network are not measurable and therefore have not been contemplated. FirstNet understands the importance of integrating the network with Public Safety Answering Points (PSAPs) or their equivalent. Although it has not been determined how PSAP network integration will take place, it remains a topic for further discussion and was identified in our RFP.

The "Internet of Things"

The "Internet of Things" holds enormous potential for communities across America. Connecting data-rich items – such as computing devices, machines, and grids – stands to improve efficiencies and enhance productivity in the public and private sectors. This concept also holds much promise for our nation's first responders, who often operate in a mobile environment and can benefit from having real-time, actionable information at their fingertips when they are responding to an emergency. However, despite advancements in consumer-based technologies, today citizens with a smartphone may have more advanced communication capabilities than many police officers or firefighters have on their work-issued devices. That is a key driver behind the creation of FirstNet.

Once operational, the FirstNet network stands to transform the way first responders communicate, providing them with access to high-speed voice, video, and data over a prioritized, reliable, and hardened

mobile connection. Importantly, FirstNet's network will be interoperable across disciplines and state lines, addressing a long-time communications challenge affecting first responders from different jurisdictions and agencies.

Further, just as more items are being connected through the "Internet of Things," the FirstNet network stands to link more first responder data sources, such as their gear, emergency vehicles, fingerprint scanners, databases, and more. This will enable them to share real-time data and process the information for instantaneous viewing and improved situational awareness in the field. We should think of this as the "Internet of First Responder Things (IoFRT)."

The possibilities are endless for public safety personnel with access to a reliable and prioritized broadband network. The FirstNet network will be a force multiplier, bringing state-of-the art technology to law enforcement officers, firefighters and paramedics across the country.

Governor's Decision

Our objective through consultation is to work together to deliver the best plan possible for New Hampshire. To achieve that, we want to identify and incorporate New Hampshire's needs while leveraging FirstNet's nationwide buying power and economies of scale benefits. FirstNet's goal is to provide a comprehensive State Plan strategy – minimizing time and cost for each state/territory as well as ensuring interoperability of the FirstNet network. The Governor may "opt out" of FirstNet's plan for the RAN deployment within the state/territory, but the Governor will assume responsibility for deployment and operation of the state's/territory's RAN at that point and be required to get FCC and NTIA approval, as well as negotiate a spectrum lease with FirstNet, before beginning to deploy the RAN within the respective state/territory.

As prescribed by the Act, this decision happens at the state/territory level, and there is no carve out for counties, cities, regions or tribes within a state/territory boundary. The state/territory will also be responsible for related maintenance and future upgrades should they choose to "opt-out." This decision, however, does not commit PSE users to subscribe to or use the FirstNet service. For more information about the opt-in or opt-out decision, please refer to the FirstNet document titled, "Key Factors to Consider for the Governor to Opt-In or Opt-Out of the FirstNet Plan."

Social Media

https://www.linkedin.com/company/first-responder-network-authority-firstnet-

https://twitter.com/FirstNetGov

https://www.youtube.com/user/FirstNetGov

https://www.flickr.com/photos/firstnetgov/albums

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