Written Testimony to the House Committee on Energy and Commerce Subcommittee on Communications and Technology

Darryl Ackley – State of New Mexico – 21 November 2013

Synopsis

- New Mexico is executing a holistic plan to modernize Public Safety communications statewide, including infrastructure, land-mobile radio, and digital broadband.
- New Mexico has been actively involved as an early-adopter in the area of Public Safety broadband in the 700MHz spectrum, both before and after the creation of FirstNet.
- As a BTOP recipient, New Mexico remains actively involved in steering the evolution of Public Safety Broadband in the 700MHz spectrum, and represents a sparse, rural State with many unique challenges that must be addressed as part of any nation-wide roll out.
- Subsequent to the passage of the Spectrum Act, New Mexico negotiated a statewide lease in the FirstNet 700MHz spectrum to begin work on a pilot project.

Introduction

My name is Darryl Ackley. I am the State Chief Information Officer for the State of New Mexico. I was appointed by Governor Susana Martinez in February of 2011 as the Secretary of the New Mexico Department of Information Technology. The Department is the Enterprise Information Technology (IT) service provider for the State, to include an oversight and strategic planning component. Among our many duties, we also provide Public Safety Communications in the form of tower infrastructure, backhaul, Land Mobile Radio (LMR) repeaters and radios, and application support. My Deputy Secretary, Jacqueline Miller, also serves as the Statewide Interoperability Coordinator (SWIC), which provides New Mexico with a leadership structure well-suited to supporting Public Safety communications both technically and in terms of governance.

New Mexico has been working with the FirstNet board and with the National Telecommunications and Information Administration (NTIA) on implementing a pilot public-safety broadband network in the 700Mhz spectrum. Prior to FirstNet, the State was deeply involved with early-builder activities in this arena. Presented below is a narrative describing the State's interaction with the FirstNet board to date, and a brief overview of public-safety initiatives within the State.

Background

New Mexico, the "Land of Enchantment", is one of the most rural states in the country. It is home to some the oldest free-standing structures in the Nation. The State's capital city,

Santa Fe, recently celebrated its 400th anniversary. New Mexico has a rich cultural heritage, home to more twenty than Native American tribes and pueblos. Additionally, New Mexico has a rich heritage in the areas of national security, public safety, and defense. New Mexico is host to two National Labs, White Sands Missile Range, three major research universities, and numerous other research development activities and associated industry.

Operating within such a rich cultural, technical, economic, and public fabric requires a truly comprehensive approach. Providing the communication fabric that the State's first responders utilize day-to-day is no different. As the 5th largest geographically, and the 6th least densely populated state in the union, with an incredible geographic diversity, providing the requisite communication infrastructure can be challenging. New Mexico is also prone to disruptive weather events, with several large-scale forest-fire and flooding events this year alone, often in areas with little or no commercial communication infrastructure. As a Southwest border State, New Mexico also operates in a multi-jurisdictional and multi-national environment along the hundreds of miles of international border we share with Mexico.

And yet, New Mexico is working to embrace modernization in the arena of Public Safety communications. There are a number of initiatives underway which are helping drive this modernization, including but not limited to:

- Smart Policing program in the City of Albuquerque;

- Efforts by the State IT Department to better consolidate digital programs such as E911, NG-911, and Victim Notification;
- The Broadband Planning and Mapping initiative being led by the State IT Department; and,
- The Department of Transportation NM Roads Program.

Since 2009, the State of New Mexico has been actively involved in Public Safety Broadband since the initial 10 MHz of spectrum in the 700MHz band was made available via the Public Safety Spectrum Trust. As part of the Broadband Technology Opportunity Program (BTOP), New Mexico was also one of a handful of states to have both funding and authorization to build out a pilot public-safety broadband network. In May of 2010, New Mexico became an FCC approved early builder waiver recipient. The state then received a $55M BTOP grant from the NTIA. This grant, which included a $17M state funded match, was for completing a digital upgrade of a statewide microwave backbone, as well as the initial deployment of 700MHz public safety broadband service in the state.

In 2011, and under the leadership of Governor Susana Martinez, my department adopted a holistic strategy for approving and modernizing public safety, as well as beginning the work under the BTOP grant in earnest. This strategy is aimed at modernizing public safety communication in three related areas:

- **Infrastructure:** Providing a robust and resilient tower and backhaul network for the purposes of supporting reliable public-safety communication, both voice and data.
- **Land-Mobile Radio:** Upgrading and modernizing legacy repeater and radio systems, to include both technical upgrades as well as improvements to governance and interoperability
- **Broadband:** Providing a digital microwave data network for public safety, in addition to helping drive applications and ecosystem.

Additionally, the State has seen this as a strong driver for re-evaluating the manner in which it can provide leadership in terms of interoperability and the provision of shared services to the benefit of all stakeholders.

FirstNet

With the passage of the Spectrum Act in February of 2012, the paradigm was changed nation-wide. A significant victory was the opening of the 'D' block, providing a full 20MHz for a nationwide network. Most significant, however, was the creation of the FirstNet board, a quasi-governmental entity tasked with completing the build out of a nationwide network. For BTOP licensees, this represented an abrupt change. The public safety broadband component of the State's grant was suspended while the FirstNet board was stood up and organized. During this time, New Mexico continued to advocate from its position as an early adopter for the ability to deploy a pilot system.

FirstNet board members Jeff Johnson and Sue Swenson visited New Mexico in the winter of 2012. An in-depth review of the BTOP program to date was performed, along with a discussion around proposed pilot projects. At that meeting, the parties involved agreed that a pilot project along the Southwest border would be worth pursuing pending: the approval of the Board; a favorable ruling in regards to the BTOP funding; and, a successful lease negotiation between the State and the Board for the 700Mhz spectrum. Through strenuous effort, all three of these issues were addressed successfully. New Mexico was granted a non-exclusive statewide lease for operations within the FirstNet spectrum.

With respect to the lease, the process was intense at times and required a substantial amount of iteration. For both parties, the process wasn't without obstacles, though many of these were the result of negotiating with a nascent Federal entity for which the very parameters for negotiation were being pioneered as they were encountered. The State's position was centered around negotiating a lease that accomplished the goals of FirstNet without impinging on the State's ability to drive adoption and operability within the scope and limits of State law. A significant portion of the negotiations were centered on Key Learning Conditions, which were mutually agreed upon, are listed below (as adjusted for readability):

- Utilize the Harris County, Texas, Evolved Packet Core (EPC) to support the New Mexico deployment to address issues arising in connection with sharing a single EPC among multiple States, including governance, technical, user, authentication, backhaul, and other issues.

- Deploy Long Term Evolution (LTE) capability within the U.S./Mexico border area to address spectrum management and use issues arising in the context of limited spectrum availability due to a portion of the available spectrum being allocated on a primary basis to Mexico, including technical, interoperability, interference, application functionality, and other issues.
- Anticipate a significant number of Federal users among its network subscribers, and address issues arising in the context of shared use among Federal and State organizations, including governance, technical, infrastructure, application and other issues

Beyond these minimal learning conditions, the State sees significant value in terms of helping elucidate some of the more subtle and/or practical aspects that FirstNet will face as they work towards their deployment. For one, these are issues that the State would need to address in any circumstance, whether building out such a communication network on its own, or under the auspices of a pilot project in conjunction with FirstNet. Additionally, the State's IT department is already operating land-mobile radio systems as a chargeback agency, under the federal guidelines found in OMB A-87. Best practices and procedures for functions such as rate development, asset capitalization, and governance will need to be evaluated, adapted, and extended as the project develops.

Probably the most significant challenge faced by FirstNet in building out a truly interoperable nationwide public safety broadband network will be designing a means to bring service and coverage to rural and underpopulated areas contemporaneously with

building out in urban areas, as required by the Spectrum Act. From a financial standpoint, there are greater opportunities in urban areas than exist in rural areas for generating revenues to justify a buildout as well as opportunities for sharing existing commercial and public safety assets to help defray the cost of buildout. And yet it is in the vast rural areas of our nation where commercial broadband alternatives are not available that FirstNet's efforts may arguably be most needed. It is a longstanding principle of our nationwide communications network that citizens living in rural areas should have access to the same communications technologies that are available to citizens in urban areas, and this principle is appropriately embodied at the very heart of the implementing legislation establishing FirstNet. As one of the most rural states in our nation, having a population density of about 16 persons per square mile, New Mexico's efforts as an early builder will provide critical information and guidance to FirstNet in achieving a truly ubiquitous, nationwide, interoperable public safety broadband network.

At this point, the State continues to work closely with the FirstNet board and with the NTIA to begin its pilot build out, and is participating in the State and Local Implementation Grant Program (SLIGP) grant process. Again, the State sees Public Safety Broadband as one aspect of a comprehensive modernization effort, as it has since before the inception of FirstNet.

Conclusion

In conclusion, the State of New Mexico considers Public Safety Broadband as one of three pillars in a comprehensive modernization effort. The State is proud of its efforts, both in

working internally to achieve this modernization, as well as externally. Indeed, the State recognizes the importance of the effort that is underway via FirstNet, and feels strongly that remaining actively involved is the best way to achieve an outcome that is mutually beneficial and acceptable. While there are likely to be challenges moving forward, both for the State and for FirstNet, those challenges will ultimately serve to push both public safety officials and technologists to a modern convergence.