REQUEST FOR INFORMATION (PHASE ONE)
700 MHz Public Safety Broadband Network

The State of Delaware, on behalf of the Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications ("MACINAC") Initiative, issues this Request for Information ("RFI" or "MACINAC RFI") for broad dissemination and urges creative, thoughtful, and responsive submissions from qualified market participants.

I. Purpose

The MACINAC Initiative's purpose in releasing this RFI is three-fold. The first purpose is to support FirstNet's efforts to deploy the nationwide public safety broadband network ("NPSBN"). The information requested here will be of great value to FirstNet as it considers the most effective approach to deployment in the mid-Atlantic region.

The second purpose is to provide information to the chief executives of the MACINAC Initiative member states (collectively, the "States" or "MACINAC Initiative States").[1] Each governor will require a firm basis for informed decisions about the State's role in planning, deploying and operating the network.

Finally, the MACINAC Initiative's third purpose in releasing this RFI is to focus the market on the MACINAC Initiative's States as a single region working together to ensure the most cost-effective, workable solution for the region. The multi-state approach will facilitate the nationwide public safety wireless broadband initiative and provide ease of coordination and an assurance of interoperability for both the market as well as FirstNet.

II. Introduction

A. The MACINAC Initiative

On March 4, 2011, the States of Delaware, Maryland, and West Virginia, the Commonwealths of Pennsylvania and Virginia, and the District of Columbia, working through their Statewide Interoperability Coordinators ("SWICs"), began an initiative to facilitate the design, deployment and operation of the nationwide public safety wireless broadband network in the mid-Atlantic region. The Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications ("MACINAC") Initiative serves a coordinating function for its member States, helping them collect data, procure goods and services, and make decisions regarding the nationwide public safety wireless broadband network in a concerted, cooperative fashion, thereby realizing benefits in both efficiency and interoperability within the region.

In addition to developing its governing charter, the MACINAC Initiative has held education and requirements-gathering events for stakeholders, developed an asset inventory template, begun

[1] As of the date of publication, the District of Columbia is in the process of considering its endorsement of the MACINAC Initiative charter and this RFI. The District expects to complete that process within the next month.

collecting asset inventory data, submitted comments to NTIA regarding the requirements for the State and Local Implementation Grant Program and in response to its September 28, 2012 Notice of Inquiry on behalf of FirstNet, and (prior to the passage of the Act and the establishment of FirstNet) identified and documented a procurement process by which all MACINAC Initiative States could purchase from a single contractual arrangement goods and services to deploy and support the portion of the nationwide network within their own geographies.

B. The New Law, FirstNet, and This RFI

Title VI of the Middle Class Tax Relief and Job Creation Act of 2012 ("Act") establishes the First Responder Network Authority ("FirstNet") to ensure the construction and operation of a single nationwide public safety wireless broadband network.[2] In meeting its mission, FirstNet will need to work closely with the States to obtain information critical to deployment: data such as user requirements and site availability and condition. Though the Act also provides the opportunity for each State to control the deployment and operation of the radio access network ("RAN") within the State,[3] certain goods and services will be necessary regardless of whether the State takes advantage of that opportunity. Thus, both FirstNet and the States will benefit from the information provided in response to this RFI.

The Acting Secretary of the Department of Commerce named the 15 members of FirstNet's Board on August 20, 2012. The Board held its first meeting on September 25, 2012. Recognizing the potential value of this RFI to the nationwide effort, MACINAC shared this RFI with FirstNet prior to publication.

C. Two-Phase RFI Process

This RFI process includes two separate phases. The first phase, initiated through this document, focuses upon aspects of the network that are less likely to be impacted by FirstNet's subsequent technical decisions. Both NTIA and FEMA have adopted this distinction, suspending grant-funded spending on all but "low-risk" activities until FirstNet's direction is clarified. Such activities include, for example, conducting assessments of existing assets, needs assessment and coverage/capacity planning, business model development (including public-private partnerships), site preparation, and backhaul planning and deployment.

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[2] Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156, Sec. 6204 and 6206 (2012).

[3] Act, Sec. 6302(e)(2).

In addition, NTIA issued on August 21, 2012 a notice describing its expectations with regard to the requirements for the State and Local Implementation Grant Program ("SLIGP").[4] In that notice, NTIA expressed its intent to permit States to use SLIGP funds to cover costs related to many of the "low-risk" activities described in this RFI. As a result, the market information provided in response to this first phase of the RFI will be of value in ensuring the effective and efficient use of SLIGP awards when they become available.

The MACINAC Initiative intends the second phase of this RFI process to begin after FirstNet has convened and provides direction regarding technical specifications. The second RFI phase would focus on the remaining aspects of the network, *i.e.* those that deal with the remainder of the radio access network. Such aspects would include LTE (Long-Term Evolution) equipment, maintenance, operations and end-user devices.

Following review of the second phase responses and close consultation with FirstNet, the MACINAC Initiative intends to determine whether to issue an RFP to implementing a cooperative procurement process to cover its member States.

III. Scope

A. Phase One

Though the MACINAC Initiative intends that the RFI will solicit information related to almost all aspects of planning, design, deployment, operation, and maintenance of the RAN within the combined geography of its member States,[5] this document requests information only under the first phase of the MACINAC Initiative RFI. This first phase requests information the accuracy and relevance of which is unlikely to be impacted by future FirstNet decisions. For example, Phase One includes information related to those activities defined as "low risk" in NTIA's Fact Sheet released in conjunction with its partial suspension of grant funds awarded under the Broadband Technology Opportunities Program ("BTOP") for public safety wireless broadband projects.[6] NTIA stated in the Fact Sheet that it

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[4] *Notice,* Development of Programmatic Requirements for the State and Local Implementation Grant Program To Assist in Planning for the Nationwide Public Safety Broadband Network, 77 Fed. Reg. 50,481 (Aug. 21, 2012).

[5] Unless requested by FirstNet, the MACINAC Initiative does not expect the RFI to request information related to the planning, design, construction, operation and maintenance of the core network.

[6] Fact Sheet, *Broadband Technology Opportunities Program Public Safety – 700 MHz Projects "Low Risk" Project List,* National Telecommunications and Information Administration (May 11, 2012) ("Fact Sheet"), *available at* http://www2.ntia.doc.gov/files/btop_public_safety_700_mhz_low_risk_project_list_05112012.pdf.

wants to avoid investments that would need to be replaced if they are incompatible with the nationwide network. NTIA has created a list of "low risk" project investments for the public safety 700 MHz waiver recipients that have BTOP funding. This list outlines investments that are likely to be at a lower risk of being incompatible with the ultimate nationwide network.

Below is the list of "low risk" activities provided in the Fact Sheet.

Categories	Potential "Low Risk" Activities
Backhaul	▪ Documenting and/or upgrading connectivity capabilities for public safety broadband ▪ Documenting existing wireline/wireless backhaul resources to determine what is already in place and not used/underused (e.g., existing Public Safety Answering Points' fiber capacity) ▪ Analyzing existing Internet Protocol (IP) backbone to determine gaps in supporting high bandwidth NPSBN ▪ Planning and modeling network capacity to ensure backhaul links and aggregation points are appropriately provisioned ▪ Upgrading existing backbone upgrades to support advanced capabilities [i.e., Multiprotocol Label Switching (MPLS)] ▪ Installing fiber-optic connections to support high-bandwidth data capabilities ▪ Installing sufficient microwave connectivity to support high-bandwidth data capabilities
Site Upgrade	▪ Documenting and/or upgrading existing site capabilities ▪ Installing/expanding battery backup systems and/or generators to support additional broadband hardware ▪ Expanding or enhancing existing shelters for broadband equipment ▪ Conducting tower analyses to determine feasibility of supporting 700 MHz antennas for broadband ▪ Documenting and analyzing site power/grounding to determine upgrades needed to support additional eNodeB and routing hardware
Ancillary Equipment	▪ Acquiring Long Term Evolution (LTE) test equipment - handheld spectrum analyzers, cable testers, or drive test tools ▪ Analyzing existing cell on wheel/cell on light truck (COW/COLT) capabilities

In addition to the items identified in the NTIA Fact Sheet, Phase One also includes information related to coverage planning and business model development, including approaches to public-private partnerships.

This Phase One does not include information specifically related to LTE technical specifications, including eNodeBs, end-user devices, core equipment, or other LTE-specific aspects of the network. The MACINAC Initiative intends to request such information in Phase Two of the RFI after consultation with FirstNet.

IV. Current State

A. Geography

The combined area encompassed by the five MACINAC Initiative States and the District of Columbia comprises a total of 128,000 square miles, ranging from 68 square miles for Washington, D.C. to over

46,000 square miles for the Commonwealth of Pennsylvania. The region includes very dense urban areas along the I-95 corridor, which includes Washington, D.C., Baltimore and Philadelphia, as well as extensive rural areas in the western parts of Pennsylvania, Maryland, Virginia and West Virginia.

The elevation of the area extends from sea level on the shore of the Atlantic Ocean, to over 5,700 feet above sea level for Mount Rogers in Virginia. The Blue Ridge and Appalachian Mountains along the Virginia and West Virginia borders, as well as the Poconos in Pennsylvania create some very challenging terrain.

The region contains a number of major highways and interstates, including I-95, I-80, I-81, I-64, I-77, I-79 and which require extensive coverage and capacity.

A number of critical infrastructure facilities are also distributed across the region. These include major electrical generation and distribution plants, coal and nuclear plants, and petroleum refining. Pennsylvania alone is home to a total of 5 nuclear power plants.

An area of the MACINAC Initiative region in the western portion of Virginia and the eastern portion of West Virginia falls within the geographic area known as the "radio quiet zone." The 13,000 square mile quiet zone is the area surrounding the observation location for the National Radio Astronomy Observatory (NRAO). The NRAO provides radio telescope facilities for use by the international scientific community. Within the quiet zone area, radio transmissions and noise levels are tightly controlled in order to prevent interference with the scientific observations. Therefore, the Federal Communications Commission (FCC) requires that the NRAO be notified of all radio frequency license applications that fall within the quiet zone. The FCC generally will not grant a license within the quiet zone unless the NRAO has reviewed and agrees with the application. This restriction makes it very difficult to deploy wireless communications systems within this area and must be taken into consideration when planning the NPSBN within this region.

B. Public Safety Agencies and Other Potential Users in the Region

As explained earlier, the MACINAC Initiative States consist of five states, and perhaps Washington, D.C., which expects to conclude its consideration of its participation shortly. Of the five "states," two of them, Pennsylvania and Virginia are "commonwealths," which often include a larger number of municipal governmental entities than do states. There are over 800 law enforcement, and over 3,000 fire protection and emergency medical services agencies at the local, county and state level within the MACINAC region that would be potential users of the NPSBN. Agencies within each of the following municipal entities are expected to be users of the network:

- State of Delaware, plus three counties and local municipal agencies,
- State of Maryland, plus 23 counties, the City of Baltimore and 157 municipal agencies,
- Commonwealth of Pennsylvania, plus 67 counties and numerous local municipal agencies,

- Commonwealth of Virginia, plus 95 counties, 39 independent cites and other local municipal agencies,
- State of West Virginia, plus 55 counties and local municipal agencies

In addition to the state and local agencies listed above, the MACINAC region includes over 50 federal agencies headquartered in the national capital area, as well as distributed throughout the States.[7]

Beyond the traditional law enforcement, fire and EMS first responders described above, the NPSBN will likely also support non-traditional agencies such as transportation, public works, and utilities. These agencies may be permitted to use the network on a secondary basis and would contribute to emergency response in the event of an incident that required their services, such as the clearing of roads or restoration of power.

C. Existing Assets

The MACINAC States have begun to collect information on a state-by-state basis on their communications assets and facilities that may be useful toward the build-out of the NPSBN. The initial information collected includes the location, structure type, and height of the structure. Additional information to be collected will include: available space on the structure, ground space, existing users, site connectivity, back-up generators and capacity.

D. Current Wireless Data Applications

Many of the agencies in the MACINAC States use data applications today via vehicle mounted mobile data devices, ruggedized computers, as well as some handheld devices and smartphones. Some of these applications operate over legacy private Land Mobile Radio (LMR) networks, while others utilize commercial 3G and 4G services. Applications in use today include:

- Internet access,
- Automatic Vehicle Location (AVL),
- Access to local networks via a Virtual Private Network (VPN),
- Computer Aided Dispatch and Records Management Systems,
- Patient Status, Heart Monitoring (EKGs),
- Sharing of reports and photos,
- Access to criminal data bases (via applications such as PocketCop in Maryland or the Justice Department IP Database in Pennsylvania, for example),

[7] For example, there are currently ten federal agencies using the West Virginia Statewide Interoperable Radio Network ("SIRN"), with others expected to join soon. *See* http://www.sirn.wv.gov/information/participation/Pages/county-details.aspx?County=Federal%20Agencies.

- Automotive license checks,
- Critical Infrastructure Surveillance,
- Weather Reports,
- River-Level Monitoring,
- Aerial Video,
- Support of the Incident Command System (ICS),
- Incident Action Plan Documentation/Dissemination,
- Intelligent Transportation System (ITS) applications such as Traffic Cameras and Road Signage Messaging.

In addition to the vehicle-mounted devices, users also anticipate using handheld and tablet devices to access these types of applications as well as messaging services, video services, group communications and others.

E. Current Broadband Services

Currently, public safety agencies in the MACINAC States are using broadband data services from various commercial service providers including AT&T, Sprint and Verizon. The monthly cost of the plans range from about $40 to $60 per user based on the specific location and the amount of data included in the plan. Particularly in rural areas, these commercial services do not always provide coverage that meets public safety requirements.

F. Current Narrowband Systems

Each of the MACINAC States currently utilize narrowband LMR systems to support their mission critical voice needs. These systems are expected to remain even as the NPSBN is deployed, as the broadband network will enhance public safety communications by supplementing, but not replacing the narrowband systems for the foreseeable future.

While the narrowband and broadband networks will serve different purposes, there are common elements of the networks that may be shared in order to most effectively use existing assets, such as site locations, towers, generators, network backhaul, etc.

A brief description of the primary narrowband networks in use in each of the MACINAC States is provided below.

Delaware:

In 2002 the State of Delaware granted acceptance for a Statewide 800 MHz Digital Simulcast Trunked Radio System to provide statewide communications for state, county and municipal government agencies, fire and emergency medical services, and a select number of federal agencies. The 42-site

system provides 95% in-building coverage using a portable radio. An additional project added BDA (bi-directional amplifiers) to buildings that were identified as critical.

The system currently supports approximately 14,000 users and is sub-divided into three geographic regions, which corresponds to the three counties in the State, with fourteen channels in New Castle County, and ten channels each in Kent and Sussex Counties. The system design incorporates a high capacity digital microwave (6 & 10 GHz) infrastructure, which links the three sub-systems and the intra-county system sites together. To enhance operational capabilities, the City of Wilmington's 800 MHz system was integrated into the State's system to provide seamless interoperability. There are three primary dispatch control points, one at each of the three 911 dispatch centers. The 911 dispatch center in Kent is connected to the system via fiber optics, while the others use microwave.

In 2008 the State of Delaware initiated a project to deploy a 700 MHz P25 Digital Trunked Radio System to provide 95% in-street coverage using a portable radio. The original intent was to move DelDOT off the 800 MHz system onto the 700 MHz system to reduce loading. After the project was started a greater need for the system was expressed by the Department of Corrections. Two additional sites were added to provide better building penetration, expanding the system to 13 sites. This system uses geographically separated redundant Network Switching Servers – one located in NCC and the other in Sussex County.

Maryland:

The State of Maryland is building a Statewide 700 MHz Digital P25 Trunked Radio System that will serve all State agencies as well as local jurisdictions that choose to partner for the highest level of interoperability in emergency communications. The system is known as the Maryland First Responders Interoperable Radio System Team (Maryland FiRST).

A phased approach is being used to develop the statewide system. The first phase is being built in Region 1-A, an area that represents the service area of the Maryland Transportation Authority Police as well as the JFK Maryland State Police Barracks in Cecil County. This system will be built using existing State infrastructure (towers). Maryland has 175 towers available for the 700 MHz system across the state.

The State is also working with local jurisdictions to collaborate on MD FiRST. It is anticipated that many local jurisdiction will join the State system. Kent County has signed on as the first local user and began operating on the system in December 2012. Phase II of the project will be the Eastern Shore (Region 2). The build-out plan provides for additional Regions to be built as part of the State's Capital program over the next four years. It is estimated that MD FiRST will have 36,000 users when completed.

Pennsylvania:

The Commonwealth of Pennsylvania operates a Statewide 800 MHz Digital Trunked Radio System called PA-STARNet. PA-STARNet provides both voice and data communications throughout every county in the Commonwealth and is interconnected via a digital microwave network. Key features of PA-STARNet include:

- 240 high-profile voice and data communication sites and 690 low cost and unobtrusive microcell stations providing supplementary coverage across the State,
- System network backbone linking sites through a statewide high-availability microwave network using Multi-Protocol Label Switching (MPLS), with secure network access both at a primary gateway and at a remotely-located alternative gateway,
- Seven Regional Operations Centers and Network Operations Center providing voice and data communications control and network monitoring and administration; remotely located backup Network Operations Center for recovery and continuity,
- Voice and data traffic freely mixed in an Internet Protocol (IP)-based statewide intranet,
- Over-the-air update of subscriber device software and configurations, relieving the need for physical access to radios for individual update through cable connections,
- In-band vehicular repeaters provide automatic licensed channel selection across the State,
- Greater than 100 interoperable gateways for non-800 MHz interoperations,
- 50 sites equipped with P25 overlay on UHF and VHF,

PA-STARNet provides dispatch, voice and data communications for public safety and emergency response for over 17,000 users across 22 agencies of commonwealth government, a large electric utility company, organizations under agency sponsorship such as RTFs, as well as local government agencies.

Virginia:

Virginia's Statewide Agencies Radio System (STARS) provides multi-channel trunked digital voice and data wireless communications specifically designed for public safety and service requirements, based on P25 technology. The existing State Police microwave radio network has been upgraded to over 120 sites to provide digital capability, additional capacity and redundant paths. The STARS system provides for essential public safety grade communications that can operate seamlessly throughout the Commonwealth for a total of 21 state agencies and facilitate interoperability with local governments and federal agencies.

The STARS system employs an Integrated Voice and Data (IV&D) land mobile radio architecture, which uses the same mobile radio for both voice and law enforcement computer communications. The IV&D infrastructure also provides Over-the-Air Re-Keying (OTAR) of the radio encryption keys.

The VHF digital trunking technology also provides additional capability for the agencies that use portables while away from their vehicles. STARS includes a Digital Vehicular Repeater System (DVRS), which translates the VHF signal used between the tower and vehicle, into a 700 MHz signal used for vehicle-to-portable communications. Use of the DVRS allows communications to be encrypted and secure over the entire radio circuit from the originator to the recipient.

West Virginia:

The State of West Virginia operates a Statewide UHF Digital P25 Trunked Radio System known as the West Virginia Statewide Interoperable Radio Network (SIRN). Currently SIRN has over 70 sites operational and is awaiting frequency authorization on 18 sites; expansion of the network continues. SIRN provides mobile and portable coverage for 28 State agencies, ten Federal agencies, and numerous county and local agencies throughout the State. There are currently approximately 17,000 users on SIRN.

Additionally, an ongoing Broadband Technology Opportunities Program (BTOP) project that will deploy a high-speed data backbone consisting of both microwave and fiber assets across the State is in progress within West Virginia. The West Virginia Statewide Broadband Infrastructure Project will upgrade the backhaul connectivity to the SIRN sites, as well as bring high-speed Internet access to underserved regions by expanding the State's existing microwave Public Safety network and adding about 2,400 miles of fiber. The network consists of 127 broadband sites, included 12 new tower sites and will consist of both Time Division Multiplex (TDM) and IP capable microwave.

The expanded statewide network expects to directly connect more than 1,000 anchor institutions, including Public Safety agencies, public libraries, schools, government offices, and other critical community facilities. Nearly 800 additional law enforcement offices and fire departments are expected to benefit from the enhanced broadband capabilities and services offered by last-mile providers who take advantage of the network's capability.

V. Desired Future State

FirstNet will likely adopt technical specifications for the nationwide network based upon the requirements data it collects from prospective public safety users at the State, local, tribal and federal levels.[8] The MACINAC States will develop coverage requirements for their geographies and operational requirements that meet their users' needs. Given the extent to which future developments will drive the parameters of the network, MACINAC at this early date sets out only the broad outline of its vision for the future network.

[8] In setting these requirements, FirstNet will be guided by the Recommendations of the Technical Advisory Board for First Responder Interoperability as transmitted to FirstNet by the Federal Communications Commission. Order of Transmittal, *In the Matter of Recommendations of the Technical Advisory Board for First Responder Interoperability,* PS Dkt. 12-74 (June 21, 2012).

A. Service Cost

The MACINAC States desire a network that meets state, local, tribal and federal requirements at a cost that state and local first responders can afford. Until the broadband network is capable of carrying mission-critical voice with all the required functionalities of current narrowband voice systems, public safety agencies will not be able to divert resources from the current voice systems to support the future broadband network. They will, however, likely be able to divert funds they currently use for wireless broadband data services. As a result, the desired future state includes a public safety wireless broadband service that first responders can use at costs comparable to what they will then be paying for commercial wireless broadband service.

B. Business Model for Completion and Sustainment

Recognizing that the funds provided by the Act likely will be insufficient to cover the costs of deploying the NPSBN nationwide and sustaining its operations and maintenance, MACINAC desires a business model that will provide for the completion of deployment, as well as operations and maintenance of the network within its multi-state geography. Recognizing that network sustainability can benefit from a broad base of subscribers across which to spread sustainment costs, MACINAC expects that entities that are not traditional first responder agencies may become partners in the network. For example, business models may well include the participation of non-public safety government entities and critical infrastructure industries ("CII") in the network, as well as private sector entities loosely related to public safety.

Further, to minimize sustainment costs and facilitate deployment, the desired future state includes the most economical and workable sharing of existing government-owned and commercial assets, such as towers and backhaul resources. Commercial assets need not be those offered by traditional suppliers of such assets, but also those owned by other commercial entities for historically private use, such as a tower owned and operated by an electric utility as part of its own private network.

C. Priority Public Safety Network

Though the business model may require broad use of the network, it must be a public safety network that puts the mission of public safety agencies first. Within the parameters established by FirstNet, MACINAC desires a network in which state, local and tribal first responders are able to set priority access to the network and bandwidth allocations within their own discretion.

D. Coverage and Capacity

The future state desired by MACINAC includes a FirstNet-compliant RAN, integrated to the FirstNet core network, that provides coverage throughout the MACINAC States' combined geographies. Given financial constraints, coverage will have to evolve over time, but the desired future state is full coverage in both rural and urban areas. Capacity will be subject to similar constraints and evolution, but the

desired future state is adequate capacity to meet public safety requirements in each given area throughout the States' combined geographies, as determined by the public safety applications that will run on the network.

VI. Questions for Respondents

Respondents are urged to respond thoughtfully and creatively to the below questions. Respondents need not address each of the questions: they should address only those questions to which they have relevant, constructive answers that provide information that will be of value to MACINAC and FirstNet in planning, deploying, operating and maintaining the NPSBN in the MACINAC States. Useful answers will help illustrate the state of the market for the provision of required goods and services, as well as provide detail and documentation of creative sustainment and funding approaches that may be included in a strong business model.

A. Technical

As described in Section III above, the scope of Phase One of the MACINAC RFI is limited to information the accuracy and relevance of which is unlikely to be impacted by future FirstNet decisions, such as those items identified in the NTIA Fact Sheet as "low risk." Thus, responses to the technical questions in this subsection should not include information related to LTE equipment or technical specifications, including eNodeBs, end-user devices, core equipment, or other LTE-specific aspects of the network.

Q1. What information would the respondent like to see concerning available assets that could be utilized for the NPSBN (*i.e.* government-owned sites, backhaul (microwave, fiber), etc.)?

Q2. What is a typical loading requirement for an LTE site?

Q3. What are the anticipated backhaul requirements for an LTE site (type, capacity, etc.)?

Q4. What information does the respondent require concerning coverage and capacity needs that determine the LTE system design?

Q5. What process and tools would the respondent recommend for state and local agencies to assist them with design of a broadband system to meet their needs? Who can perform these services?

Q6. What options exist for rapidly deployable assets to increase/augment coverage and capacity during an incident?

Q7. What actions (and related costs) are implicated in ensuring that battery and generator power backup for LTE sites is comparable to that of today's public safety LMR sites?

B. Business Model/Partnerships

Discussion of the business model necessarily touches on all aspects of the NPSBN. Accordingly, responses to the questions in this subsection are not restricted in scope and should contemplate a fully deployed network consistent with the desired future state described above.

Q8. What benefits does the respondent wish to realize for itself as a result of its involvement in the NPSBN within the MACINAC States?

a. Does the respondent wish to be a subscriber to services on the NPSBN in the MACINAC States? What types of services does it wish to use, and what types of subscribers would it bring to those services?

b. Does the respondent wish to use elements of the network—such as tower infrastructure, backhaul or spectrum—separate from any use of the network as a service subscriber? Which separate elements would it use, how would it use them, and for what purpose?

c. In what other ways does the respondent wish to participate in and benefit from the planning, construction, operations, maintenance or use of any aspects of the NPSBN in the MACINAC States? Specifically, what benefit would respondent realize from such participation?

Q9. What benefits would public safety realize as a result of the respondent's involvement in the NPSBN in the MACINAC States, as described above?

a. Would public safety agencies gain the use of assets to which they otherwise would not have access, whether as part of the NPSBN or otherwise? For example, would respondent provide tower infrastructure, backhaul, spectrum, or even an end-to-end communications service for public safety use? If so, what items would it provide for public safety use, and how (and under what terms) would it expect public safety to use them? In what states or areas of the MACINAC region are these items located?

b. Would respondent provide funding to support the construction and/or sustainment of the NPSBN in the MACINAC States? What would be the mechanism for providing such funding (*e.g.*, lease payments, subscriber fees)?

c. In what other ways might public safety benefit from the respondent's involvement in the NPSBN? What other ideas does the respondent have for potential partnerships not already described that would benefit public safety's efforts to obtain and maintain a public safety-grade wireless broadband capability in the MACINAC States?

d. If respondent envisions using network capacity, what measures would it recommend the network take to ensure that public safety personnel have immediate access to needed network capacity—even to the extent of the network's full capacity—in an emergency?

Q10. What other ideas (partnerships, plans, etc.) or information related to the business model for the NPSBN in the MACINAC States does the respondent wish to provide outside the "benefits for respondent / benefits for public safety" structure of the above questions?

C. The MACINAC Approach

Q11. What changes, if any, does the respondent recommend MACINAC make to its approach to achieving the desired future state?

Q12. Does the respondent believe that MACINAC should pursue a phased approach to achieving its desired future state? If so, what ideas and information can the respondent provide to describe those phases and their timing?

D. Qualifications of Respondent

Q13. What are the respondent's qualifications supporting its response to the above questions? Please explain the respondent's business experience as it relates to the information provided in response to this RFI Phase One.

VII. Response Procedure and Review Process

A. Response Procedure

Responsive submissions only. All submissions in response to this RFI Phase One must be responsive to the questions posed in Section VI above. Any non-responsive material may be disregarded.

Qualified submissions only. All respondents must be qualified to provide the information in their submission. Each respondent's qualifications will be determined based on the respondent's response to Question 12, above. Submitted information with regard to which the respondent is not qualified may be disregarded.

Partial responses permitted. Submissions need not address all questions posed above. Respondents should provide only information that will be of value to MACINAC and FirstNet in planning, deploying, operating and maintaining the NPSBN in the MACINAC States.

Page limits. Submissions may not exceed 20 pages in length, excluding cover page and table of contents. Pages beyond the 20-page limit may be disregarded. Documentation of case studies, prior experience, or customer references may be included in an addendum and will not be included in the page count.

Information may be shared with FirstNet. Responses should not contain any information that is proprietary in nature. Respondents are advised that after responses are received and reviewed, the contents will become public record and nothing contained in the response will be deemed to be confidential. Respondents are further advised that any information submitted in response to this RFI may be shared with FirstNet.

Submission Method. Responses must be submitted by email in Microsoft Word-readable, PDF, and/or Microsoft Excel-readable formats to Mark Grubb, Delaware SWIC and Director of the Division of Communications, Delaware Department of Safety & Homeland Security, at mark.grubb@state.de.us.

Submission Deadline. All submissions must be received no later than 11:59 p.m. on May 27, 2013.

RFI Questions. Any questions related to this RFI should be sent via email to Mark Grubb, Delaware SWIC and Director of the Division of Communications, Delaware Department of Safety & Homeland Security, at mark.grubb@state.de.us.

B. Review Procedure

On behalf of the MACINAC States, the Delaware Office of Management and Budget, Government Support Services ("OMB/GSS") will review all responses for responsiveness and for the qualifications of the respondent. OMB/GSS will forward the responses to the other MACINAC States with its views as to responsiveness and qualifications.

As noted above, respondents are on notice, however, that MACINAC may share any information submitted in response to this RFI, including confidential information, with FirstNet subject to FirstNet's agreement to protect any confidential information.

VIII. Process After RFI Phase One

MACINAC intends to issue a Phase Two of this RFI following evaluation of the Phase One responses and consultation with FirstNet. Phase Two will request information excluded from the scope of this RFI Phase One, such as LTE-related goods and services.

After reviewing responses to the RFI and consulting with FirstNet, MACINAC will determine whether to issue one or more Requests for Proposals ("RFPs") as part of a cooperative, multi-state procurement process.

IX. Disclaimer

This RFI is being issued to obtain information only and is not intended to result in contracts or vendor agreements with any respondent. No organization will be excluded from eligibility to participate in any future RFP based on its decision to respond to the RFI (or not) or the content of its response to this RFI. Responses to the RFI will not be returned. Respondents are solely responsible for all expenses associated with responding to this RFI.