FIRSTNET RECORD OF DECISION

Establishment of a Nationwide Public Safety Broadband Network
In the Non-Contiguous U.S. Region

1. SUMMARY

The Middle Class Tax Relief and Job Creation Act of 2012 (Pub. L. No. 112-96, Title VI, 126 Stat. 156 (codified at 47 U.S.C. §§ 1401 *et seq.*)) (the "Act") created and authorized the First Responder Network Authority ("FirstNet") to ensure the establishment of a nationwide public safety broadband network (NPSBN) based on a single, national network architecture.[1] The Act meets a long-standing and critical national infrastructure need to create a nationwide broadband network that would, for the first time, allow police officers, firefighters, emergency medical service professionals, and other public safety officials to effectively communicate with each other across agencies and jurisdictions. FirstNet is an independent authority within the United States (U.S.) Department of Commerce's National Telecommunications and Information Administration.

Five Final Programmatic Environmental Impact Statements (PEISs) cover the geography of the 50 states, the 5 territories, the District of Columbia, and 567 tribal nations.[2] This document records FirstNet's selection of its Preferred Alternative to establish the NPSBN in the non-contiguous U.S. region, which includes the states of Alaska and Hawaii, the Commonwealths of the Northern Mariana Islands and Puerto Rico, and the territories of American Samoa, Guam, and the U.S. Virgin Islands.

FirstNet was the lead agency for the environmental review in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321 *et seq.),* the National Historic Preservation Act (54 U.S.C. §§ 100101 *et seq.*), and the Endangered Species Act (16 U.S.C. §§ 1531 *et seq.*). As the lead agency, FirstNet coordinated with cooperating agencies to ensure compliance with the laws, regulations, and Executive Orders.

2. CONTACT INFORMATION

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www.regulations.gov (FIRSTNET-2017-0003-0001)

[1] 47 U.S.C. § 1422.

[2] The term "Tribal Land" is defined as, "any land or interests in land owned by a tribe or tribes, title to which is held in trust by the United States, or is subject to a restriction against alienation under the laws of the United States." *See* 25 C.F.R. § 224.30.

3. SUPPLEMENTARY INFORMATION

3.1. PURPOSE AND NEED

The purpose of the Proposed Action is to design, deploy, and operate the NPSBN—a dedicated public safety communications network to provide first responders with the tools they need to do their jobs more effectively and to minimize the loss of life in the event of any future natural or manmade disasters or emergencies. FirstNet envisions the use of rugged, easy-to-use devices and plans to provide a set of applications and services on a single, interoperable platform built to open, non-proprietary, commercially available standards for emergency and daily public safety communications. These applications and services are intended to enhance the ability of the public safety community to perform more reliably, effectively, and safely. The NPSBN would also provide a backbone to allow for improved communications by carrying high-speed data, location information, images, and streaming video. This capability is envisioned to increase situational awareness during an emergency, thereby improving the ability of the public safety community to effectively engage and respond.

The FirstNet network would be "hardened" from the physical, user access, and cyber security perspectives to be resilient to impacts from natural and manmade disasters and emergencies. Hardening refers to a variety of methods that may be used to make a structure more resistant to failure, whether through physical reinforcement of a structure, redundant sources of emergency power, or additional firewalls and cybersecurity measures. These efforts would be designed not only to ensure that the network has greater resistance to system failure, but also that it could recover more rapidly should failure occur at any point in the system. The goal would be to provide not only interoperability, but also improved operability in the event of a natural or manmade disaster or emergency. The network operating standards are also envisioned to provide local control to public safety agencies, allowing for more control over the configuration, deployment, and management of multiple types of information technology resources, as well as device features and reporting.

The Proposed Action is needed to address existing deficiencies in public safety communications interoperability, durability, and resiliency that have been highlighted in recent years. These deficiencies have hindered response activities in high-profile natural and manmade disasters and emergencies. Today, first responders often rely solely on numerous, separate, incompatible, and often proprietary land mobile radio networks. This makes it difficult, and at times impossible, for emergency responders from different jurisdictions to communicate, especially during major emergencies that require a multi-jurisdictional response (*National Task Force on Interoperability 2005*).

The lack of interoperability in public safety communications and the hazards associated with it have been known within the public safety community and the telecommunications industry for quite some time. A 1996 report on the state of public safety wireless communications (*Public Safety Wireless Advisory Committee 1996*) identified interoperability issues that hampered emergency response activities in the 1993 World Trade Center bombing in New York City and the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City.

Interoperability problems arose again during the terrorist attacks on September 11, 2001. Members of the multiple police, fire, and emergency medical services agencies were unable to communicate with each other on radio systems operating on different, incompatible frequencies. Additionally, emergency messages often could not reach first responders as wireless and wire-line networks were overwhelmed with traffic. The lack of interoperable and resilient communications capability hampered rescue efforts and in many cases likely led to an increased loss of life, both among members of the public and within the first responder community itself. Hundreds of police officers and firefighters, including off-duty personnel who reported to the scene to engage in rescue efforts, lost their lives in the line of duty; this amounted to the largest loss of first responders in a single event anywhere in U.S. history (*National Commission on Terrorist Attacks upon the United States 2004*).

In the years that followed these events, the federal government provided billions of dollars and valuable radio spectrum to promote interoperability and improve operations (*CRS 2011*). Subsequent disasters and emergencies, however, have shown that public safety response is still often compromised by an inability to communicate due to radio systems operating on different, incompatible frequencies. This is largely the result of the fragmented initial design and uncoordinated upgrades of public safety communications. Most upgrades were planned and executed at the local level rather than the national level, without an overarching plan to connect all first responders under one dedicated interoperable system.

Four years after September 11, the Hurricane Katrina disaster response in August 2005 highlighted the equally fundamental challenge of operability. The collapse of critical infrastructure proved challenging throughout most of the affected region, as failures in one sector led to failures in others. The physical communications infrastructure in Louisiana, Mississippi, and Alabama was devastated, with more than 3 million customer telephone lines destroyed; in New Orleans, only two FM and two AM radio stations out of 41 survived the storm and subsequent flooding. Almost 2,000 cell towers were knocked out, which severely degraded land mobile radio communications. At one time, more than 35 public safety answering points were out of service, which resulted in a weeks-long, sustained loss of 911 services in some parts of the region (*Miller 2006*). This rendered the issue of interoperability moot, since the equipment and infrastructure on which the system relied were not operable to begin with (*U.S. House of Representatives 2005*).

Many of these same challenges presented themselves again in October 2013 when Hurricane Sandy battered the northeast U.S. At the peak of the storm, approximately 25 percent of all cell sites across 10 states and the District of Columbia were out of service, resulting in the same loss of basic operability seen in previous events (*Hurricane Sandy Rebuilding Task Force 2013*). The loss of power and loss of backhaul capacity[3] significantly impacted the functionality of the telecommunications infrastructure in the affected regions; one of the recommendations of the Hurricane Sandy Rebuilding Task Force was to "develop a resilient power strategy for wireless and data communications infrastructure and consumer equipment" (*Hurricane Sandy Rebuilding*

[3] Backhaul capacity is the ability of a network to transfer data from a radio base station or cell site to a larger core network. These connections are typically made via fiber optic cable and microwave technology.

Task Force 2013). This underscored the need for a disaster-resistant network that could continue to function in an emergency, and that could recover quickly from a failure at a single point somewhere in the system without that failure causing a ripple effect of other failures throughout the system.

In May 2014, the National Public Safety Telecommunications Council published its final report, *Defining Public Safety Grade Systems and Facilities*, which provides information and recommendations for resiliency and durability in a communications system designed to resist failures due to manmade or natural disasters and emergencies (*National Public Safety Telecommunications Council 2014*). The NPSBN intends to have a higher level of redundancy and resiliency than current commercial networks in order to support the public safety community effectively.

3.2. DESCRIPTION OF THE PROPOSED ACTION

The FirstNet Proposed Action area would cover the geography of the 50 states, the 5 territories, the District of Columbia, and 567 tribal nations. The FirstNet Proposed Action will ensure the establishment of the NPSBN by entering into a public-private arrangement(s) with a private sector entity or entities to construct, manage, and operate the NPSBN[4] and/or by entering into agreements with states choosing to conduct their own radio access network deployment within such state.[5] In carrying out its duties and responsibilities under the Act, FirstNet, among other things, must:

- Ensure the safety, security, and resiliency of the network, including requirements for protecting and monitoring against cyberattack;
- Promote integration of the network with public safety answering points or their equivalent;
- Include substantial rural coverage milestones as part of each phase of deployment;
- Require equipment used on the network adhere to open, non-proprietary, commercially available standards; and
- Leverage existing infrastructure to the maximum extent economically desirable.[6]

The NPSBN will be initially comprised of two components: the core network and the radio access network (RAN).[7] The core network is a key component for ensuring that users have a single interoperable platform nationwide, and would consist of a wide range of telecommunications infrastructure including fiber optic cable, towers, data centers, microwave technology, and others. The core is envisioned to have six primary functions: it switches data, processes and reformats information, stores and maintains data, and keeps it secure. The core network would interface with local, tribal, state, and federal networks, including 911 services and the internet, thereby serving as the backbone connecting the 50 states, 5 territories, and the

[4] *See* 47 U.S.C. § 1428(a)(2)..
[5] *See* 47 U.S.C. § 1442(e).
[6] *See generally* 47 U.S.C. § 1426(b).
[7] 47 U.S.C. § 1422(b).

District of Columbia. The core network would be constructed and maintained to the most up-to-date technological standards, comprised of all standard Evolved Packet Core (EPC) elements under the 3rd Generation Partnership Project. The EPC is the collection of systems that manages the connection of all voice calls, data sessions, messaging, and video services in a wireless network. Since the EPC is responsible for the management of all services, it is the central "brain" of the network. The RAN would consist of all radio base station infrastructure that would connect user devices. This infrastructure could include communication towers, cell site equipment, antennas, deployable mobile hotspots, and backhaul equipment required to enable wireless communications with devices using the public safety broadband spectrum. As currently envisioned, the FirstNet network would be based on the minimum technical requirements of the commercial standards for Long Term Evolution (LTE) service, a proven upgradeable technology now in its fourth generation. Finally, the Act states that FirstNet must continue to maintain, operate, and improve the NPSBN, including to account for new and evolving technologies.[8]

FirstNet, as the spectrum licensee, may enter into agreements to lease spectrum capacity, including with states that choose to opt-out of the FirstNet proposed network and seek to conduct their own deployment of a RAN within such state. However, as NEPA applies equally across the network, the range of methods that would be employed by opt-out states to connect their RAN to the FirstNet core network are expected to include methods described and analyzed in the various alternatives listed below.

3.3. ALTERNATIVES ANALYZED

In accordance with NEPA, FirstNet examined a range of reasonable alternatives to design, construct/deploy, and operate the NPSBN. The White House Council on Environmental Quality defines reasonable alternatives as those that are economically and technically feasible ways to meet the purpose and need. NEPA also requires the analysis of a No Action Alternative. The No Action Alternative describes what would happen if FirstNet did not construct the NPSBN, and is used as a baseline against which the potential impacts, at the programmatic level, of the action alternatives can be compared.

FirstNet carried forward two alternatives (the Preferred Alternative and the Deployable Technologies Alternative) plus the No Action Alternative for analysis. Furthermore, FirstNet considered three additional alternatives and dismissed them from additional consideration as they would not satisfy the requirements set forth in the Act or were not feasible due to the excessive costs and/or time to construct. The alternatives reviewed and dismissed were the All New Construction Only Alternative, New Satellite Alternative, and Collocation-Only Alternative.

3.3.1.Preferred Alternative

Under the Preferred Alternative, FirstNet and/or its partners would construct a nationwide broadband LTE network using a combination of wired, wireless, deployable, and satellite technologies. This may include, but is not limited to, the following methods: collocation of the network equipment on existing towers, poles, and structures; construction of new communication

[8] *See* 47 U.S.C. § 1426(c)(4).

towers, poles, and associated structures to include generators, equipment sheds, fencing, and concrete pads; use of existing fiber facilities, including lighting up dark fiber and installation of new fiber on existing poles and in existing conduit; installation of new conduit and fiber using trenching (including vibratory plowing) or directional boring (including horizontal directional drilling); deployment of satellite phones and other portable satellite technology; deployment of equipment on new satellites being launched for other purposes; installation of microwave facilities for cell-site backhaul communication; and the utilization of deployable technologies.

At the programmatic level, and based on the impact significance ratings developed and explained in the Final PEIS, the Preferred Alternative would not have any *potentially significant* impacts on the human or natural environment.[9] Potential impacts associated with the Preferred Alternative at the programmatic level would range from *no impact* to *less than significant with best management practices (BMPs) and mitigation measures incorporated.*

3.3.2.Deployable Technologies Alternative

Under the Deployable Technologies Alternative, FirstNet would procure, deploy, and maintain a nationwide fleet of mobile communications systems, including ground-based and aerial deployable technologies, to provide temporary coverage in areas not covered by existing, usable infrastructure. There would be no collocation of equipment or new construction associated with wired or wireless projects discussed above under the Preferred Alternative. Generally, these units would be deployed to an affected area during either planned or unplanned incidents or events. Equipment is envisioned to be stationed in every state and territory, often at multiple locations in each state or territory, to facilitate suitable response. These mobile communication units would be temporarily installed and may use existing satellite, microwave, or radio systems for backhaul. In general, some limited construction could be associated with the implementation of deployable technologies such as land clearing or paving for parking or staging areas. However, these construction activities would be minimal in comparison to the combination of project types associated with the Preferred Alternative as described above.

At the programmatic level, and based on the impact significance ratings developed and explained in the Final PEIS, there would be no *potentially significant* impacts as a result of the Deployable Technologies Alternative. These potential impacts at the programmatic level would range from *no impact* to *less than significant with BMPs and mitigation measures incorporated.*

3.3.3.No Action Alternative

Under the No Action Alternative, the NPSBN would not be constructed; there would be no nationwide, coordinated system dedicated to interoperable public safety communications. The existing multiplicity of communications networks would remain in place, as would the current, known limitations and problems of existing communication networks during times of emergency or disaster. This alternative would not achieve the Project's stated purpose or meet the project

[9] Climate change could have *potentially significant* impacts on the Preferred Alternative due to the potential effects of climate changes, such as temperature, precipitation, sea level, and weather events on Preferred Alternative facilities.

need as required by the Act and as such, it would require an act of Congress for the No Action Alternative to take place.

The No Action Alternative would have *no impacts*, since by definition no system would be deployed and existing conditions would not change.

3.3.4.Comparison of Alternatives

For each state and territory, the Final PEIS provided an overview of the affected environment (i.e., existing conditions), and then discussed the potential impacts of the Proposed Action at the programmatic level in an environmental consequences section. The programmatic approach created a comprehensive analytical framework that assessed potential impacts expected from the program as a whole. It will also support any subsequent site-specific environmental analyses that may be required for individual actions at specific locations, once they are identified.

Table 1 below presents impact ratings at the programmatic level of the preferred and remaining alternatives in summary form. Numerical ratings represent whole number averages of ratings across states and territories, rounded conservatively to err on the side of greater potential impact significance. Evaluation of potential impacts was determined at the programmatic level by the nature of both the deployment and operation of the infrastructure associated with the Preferred Alternative and the Deployable Technologies Alternative.

Potential impacts associated with the two Proposed Action alternatives are generally similar, although the Preferred Alternative could have somewhat greater potential impacts than the Deployable Technologies Alternative to certain resources such as floodplains, birds and bats, land use, nighttime lighting, and real estate values. Conversely, the Deployable Technologies Alternative would have somewhat greater potential impacts than the Preferred Alternative to air quality. However, none of these impacts resulting from either alternative are anticipated to be *potentially significant*, although there are likely to be fewer climate change impacts on the Deployable Technologies Alternative as the architecture is not fixed and could be moved to accommodate changing climatic conditions.

The specific infrastructure associated with the Deployable Technologies Alternative would be the same as the deployable technologies implemented as part of the Preferred Alternative but would likely be implemented in greater numbers, deployed over a larger geographic extent, and used with greater frequency and duration. This alternative would not include fixed infrastructure such as towers or buried or aerial fiber. Potential impacts associated with the two project alternatives are generally similar for many resources (such as infrastructure, soils, vegetation, environmental justice, and cultural resources), but the Deployable Technologies Alternative has fewer overall impacts as compared to the Preferred Alternative. As a result, the Deployable Technologies Alternative is considered the environmentally preferable alternative. However, it is unlikely that the Deployable Technologies Alternative would satisfy all of the objectives of the Proposed Action. The number of deployables required, along with staging them such that they would readily be available anywhere in the country on short notice, makes the Deployable Technologies Alternative less desirable than the Preferred Alternative, which includes deployables accompanied by numerous other technologies.

Although Table 1 below focuses primarily on potential adverse impacts at the programmatic level, it is important to note that the ultimate outcome of the NPSBN would provide first responders with the tools they need to do their jobs more effectively and minimize the loss of life, including in the event of any future natural or manmade disasters or emergencies. In addition, beneficial impacts associated with the NPSBN could occur as a result of the creation of direct, indirect, and induced employment. This could occur through new jobs associated with the Proposed Action (direct), its contractors and subcontractors (indirect), and other business that serve the Proposed Action employees, contractors, or subcontractors (induced). The Proposed Action could also positively affect economic conditions through equipment purchases and changes in tax revenue, wages, and spending. However, these beneficial impacts are expected to be *less than significant* at the programmatic level.

For ease of reference, each impact category in Table 1 is assigned a color and a corresponding number, as shown below:

1	**Potentially significant**
1-2	**Range of potentially significant to less than significant with BMPs and mitigation measures incorporated**
2	**Less than significant with BMPs and mitigation measures incorporated**
3	**Less than significant**
4	**No impact**

The impact ratings and colors used for the evaluation of cultural resources as well as Threatened and Endangered Species and Species of Conservation Concern are slightly different (see the notes below Table 1).

Table 1: Comparison of Alternatives by Resource Area and Type of Effect[10]

Resource Area/Type of Effect	Preferred Alternative		Deployable Technologies Alternative		No Action Alternative
	Deployment	Operations	Deployment	Operations	
Infrastructure					
Transportation system capacity and safety	3	3	3	3	4
Strain on capacity of local health, public safety, and emergency response services	3	3	3	3	4
Modifies existing public safety response telecommunication practices, physical infrastructure, or level of service in a manner that directly affects public safety communication capabilities and response times	3	3	3	3	4
Effects to commercial telecommunication systems, communications, or level of service	3	3	3	3	4
Effects to utilities, including electric power transmission facilities and water and sewer facilities	3	3	3	3	4
Soils					
Soil erosion	3	3	3	3	4
Topsoil mixing	3	3	3	3	4
Soil compaction and rutting	3	3	3	3	4
Geology					
Potential Impacts of the Project					
Surface geology, bedrock, topography, physiography, and geomorphology	3	3	3	3	4
Mineral and fossil fuel resource impacts	3	3	3	3	4
Paleontological resources impacts	3	3	3	3	4

[10] While the analysis indicates that certain locations could have higher or lower impact ratings, this table is evaluating the potential regional impacts (not state- or territory-specific) associated with the Proposed Action. Site-specific analysis may be required depending on the site conditions, the type of deployment, or any other permits or permissions necessary to perform the work

Resource Area/Type of Effect	Preferred Alternative		Deployable Technologies Alternative		No Action Alternative
	Deployment	Operations	Deployment	Operations	
Potential Impacts to the Project					
Seismic hazard	3	3	3	3	4
Volcanic activity	3	3	3	3	4
Landslide	3	3	3	3	4
Land subsidence	3	3	3	3	4
Water Resources					
Water Quality (groundwater and surface water) - sedimentation, pollutants, water temperature	3	3	3	3	4
Floodplain degradation[a]	3	3	3	4	4
Drainage pattern alteration	3	3	3	4	4
Flow alteration	4	4	4	4	4
Changes in groundwater or aquifer characteristics	3	3	3	4	4
Wetlands[11]					
Direct wetland loss (fill or conversion to non-wetland), other direct and indirect effects[b]	3	3	3	3	4
Biological Resources					
Vegetation					
Vegetation and habitat loss, alteration, or fragmentation	3	3	3	3	4
Invasive species effects	3	3	3	3	4
Wildlife					
Amphibians and reptiles	3	3	3	3	4
Terrestrial mammals	3	3	3	3	4
Marine mammals	3	3	3	3	4
Bats (radio frequency emissions)	3	2	3	3	4
Birds (radio frequency emissions, tower collisions)	3	2	3	3	4
Invertebrates	3	3	3	3	4

[11] Potential wetland impacts in American Samoa would be *less that significant with BMPs and mitigation measures incorporated* since wetlands comprise less than 1 percent of the area on American Samoa and are a rare habitat type.

Resource Area/Type of Effect	Preferred Alternative		Deployable Technologies Alternative		No Action Alternative
	Deployment	Operations	Deployment	Operations	
Fisheries					
Direct injury/mortality	3	3	3	3	4
Vegetation and habitat loss	3	3	3	3	4
Indirect injury	3	3	3	3	4
Migration effects	3	3	3	3	4
Reproductive effects	3	3	3	3	4
Effects of invasive species	3	3	3	3	4
Threatened and Endangered Species and Species of Conservation Concern[12]					
Marine mammals	2	2	2	2	4
Terrestrial mammals	2	2	2	2	4
Birds	2	2	2	2	4
Reptiles	2	2	2	2	4
Fish	2	2	2	2	4
Invertebrates	2	2	2	2	4
Plants	2	2	2	2	4
Land Use, Airspace, and Recreation					
Direct land use change (site of FirstNet facility installation or deployable base)	3	3	4	3	4
Indirect land use change (site of FirstNet facility installation or deployable base)	3	3	4	3	4
Use of airspace (at and near site of FirstNet facility installation or deployable base)	3	3	3	3	4
Loss of access to public or private recreation land	3	3	4	3	4
Loss of enjoyment of public or private recreation land (due to visual, noise, or other impacts that make recreational activity less desirable)	3	3	4	3	4

[12] Categories of impacts are defined as: *may affect, likely to adversely affect; may affect, not likely to adversely affect;* and *no effect*. These impact categories are comparable to those defined in the *Endangered Species Consultation Handbook* (*USFWS and NMFS 1998*).

Resource Area/Type of Effect	Preferred Alternative		Deployable Technologies Alternative		No Action Alternative
	Deployment	Operations	Deployment	Operations	
Visual Resources					
Adverse change in aesthetic character	3	3[13]	3	3	4
Nighttime lighting (overall)	3	3	3	3	4
Nighttime lighting (isolated rural areas or if sited near a national park)	3	2	3	3	4
Socioeconomics					
Potential impacts to real estate	3	3	4	3	4
Potential economic benefits or adverse impacts related to changes in tax revenues, wages, or direct spending (could be beneficial or adverse)	3	3	3	3	4
Employment	3	3	3	3	4
Increased pressure on existing public services	3	3	4	4	4
Diminished social cohesion/disruption related to influx	3	3	4	4	4
Reduced opportunities for subsistence practices	3	3	4	3	4
Environmental Justice					
Effects associated with other resource areas (e.g., cultural resources) that have environmental justice implications due to the affected parties (as defined by *EO 12898*).	3[14]	3	3	3	4

[13] Additional BMPs and mitigation measures may be implemented for towers.

[14] Since environmental justice impacts occur at the site-specific level, site-specific analysis may be required depending on the site conditions, the type of deployment, or any other permits or permissions necessary to perform the work. BMPs and mitigation measures may be required to address potential impacts to environmental justice communities at the site-specific level.

Resource Area/Type of Effect	Preferred Alternative		Deployable Technologies Alternative		No Action Alternative
	Deployment	Operations	Deployment	Operations	
Cultural Resources[15]					
Direct effects to historic properties[c]	3	3	3	3	4
Indirect effects to historic properties (i.e., visual, noise, vibration, atmospheric)	3	3	3	3	4
Loss of access to historic properties	3	3	3	3	4
Air Quality					
Increased air emissions	3	3	3	3	4
Noise and Vibrations					
Increased noise and vibration levels	3	3	3	3	4
Climate Change					
Contribution to climate change through GHG emissions	3	3	3	3	4
Effect of climate change on Proposed Action-related impacts	4	1-2	4	4	4
Human Health and Safety					
Potential exposure to hazardous materials	3	3	3	4	4
Accidents and Injuries	3	3	3	3	4
Exposure to Noise	3	3	3	3	4
Communicable Disease	3	3	3	3	4

EO = Executive Order; GHG = greenhouse gas

Note: Impact ratings and colors are as follows:

1. (Red) *Potentially significant*

1-2. (White) Range of *potentially significant to less than significant with BMPs and mitigations measures incorporated*

2. (Orange) *Less than significant with BMPs and mitigations measures incorporated*
3. (Yellow) *Less than significant*
4. (Green) *No impact*

Note: The impact ratings used for the evaluation of Threatened and Endangered Species and Species of Conservation Concern are as follows:

1. (Red) *May affect, likely to adversely affect*
2. (Orange) *May affect, not likely to adversely affect*
4. (Green) *No effect*

[15] Categories of impacts defined as an *adverse effect; mitigated adverse effect; effect, but not adverse;* and *no effect* are comparable to those defined in *36 CFR § 800, Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation* (*NPS 1983*), and the U.S. National Park Service's *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (*NPS 2002*).

Note: Impact ratings for the evaluation of cultural resources are as follows:

1. (Red) *Adverse effect*
2. (Orange) *Mitigated adverse effect*
3. (Yellow) *Effect, but not adverse*
4. (Green) *No effect*

[a] Because public safety infrastructure is considered a critical facility, Proposed Action activities should avoid the 500-year floodplain wherever practicable per the Executive Orders on Floodplain Management (*EO 11988* and *EO 13690*).

[b] Indirect effects are effects that occur elsewhere in space and/or time.

[c] Per the National Historic Preservation Act, a historic property is defined as any district, archaeological site, building, structure, or object that is either listed or eligible for listing in the National Register of Historic Places (NRHP). Cultural resources present within an individual project's Area of Potential Effect are not historic properties if they do not meet the eligibility requirements for listing in the NRHP. Sites of religious and/or cultural significance refer to areas of concern to Indian tribes and other consulting parties that, in consultation with the respective party or parties, may or may not be eligible for listing in the NRHP. These sites may also be considered traditional cultural property (TCP). Therefore, by definition, these significance criteria only apply to cultural resources that are historic properties, significant sites of religious and/or cultural significance, or TCPs. For the purposes of brevity, the term "historic property" is used here to refer to either historic properties, significant sites of religious and/or cultural significance, or TCPs.

3.4. SELECTION OF THE PREFERRED ALTERNATIVE

FirstNet has selected a combination of technologies as its Preferred Alternative to establish the NPSBN in the non-contiguous U.S. region, as described in the Final PEIS for the non-contiguous region published on June 30, 2017. Due to the fundamental need of the NPSBN to address variation in existing coverage, infrastructure, and geography across the non-contiguous region, a variety of technologies will be needed to establish the NPSBN. Although the Preferred Alternative was not determined to be the environmentally preferable alternative at the programmatic level, it will best meet FirstNet's mission in developing the NPSBN considering relevant technical factors. The Preferred Alternative is technically feasible to deploy and operate, while significant technical feasibility challenges are presented by the Deployable Technologies Alternative given the magnitude and geographic scope of the NPSBN. As such, the Preferred Alternative best meets the project's purpose and need as presented in this Record of Decision.

3.4.1.Tiered Site Specific Analysis

FirstNet is still developing its site-specific review process, incorporating comments received from cooperating and consulting agencies. Once the process, including roles and responsibilities, has been determined, FirstNet will release a Supplemental PEIS. Agencies will also have the opportunity to provide input on the Supplemental PEIS, which is anticipated to address, at a minimum, the following:

- An outline and/or process for conducting analyses of the potential impacts within each region using a resource-appropriate framework, as practicable and feasible;
- Specific guidance on how FirstNet will comply with NEPA requirements at the site-specific level; and
- An explanation of the roles and responsibilities and the management and oversight process that will be used by FirstNet to ensure that all applicable Council on Environmental Quality guidance are incorporated into decision making.

3.5. MITIGATION MEASURES AND BMPS

Mitigation measures and BMPs could help avoid or minimize potential impacts to various resources, as well as potential impacts to deployed infrastructure from various hazards. FirstNet and/or their partners would be required to implement mitigation measures, as defined through permitting and/or consultation with appropriate resource agencies. In addition, BMPs would be applied as practicable or feasible during deployment and operation of the Proposed Action.

FirstNet has identified three areas with the potential to have significant impacts if BMPs and mitigation measures are not implemented. The specific BMPs and mitigation measures needed would be determined at the site-specific level. These potential impacts, and sample BMPs and mitigation measures that may be implemented, as practicable and feasible, are described below. A more extensive list of mitigation measures and BMPs is provided in Chapter 11, BMPs and Mitigation Measures, of the Final PEIS.

First, preliminary studies have indicated that radio frequency (RF) emissions exposure has the potential to adversely impact wildlife, particularly birds and bats that nest, roost, forage, or otherwise spend considerable time in areas with RF exposure. Experts emphasize that targeted field research needs to be conducted to more fully document the nature and extent of effects of RF exposure on wildlife and the implications of those effects on wildlife populations over the long term. FirstNet concurs with the need for further research. In addition, and as a precaution, FirstNet and/or their partners would implement BMPs and mitigation measures, as practicable or feasible, that focus on siting towers away from known high bird or bat use areas.

Second, nighttime lighting in rural areas could also have a potential adverse impact as a result of deployment and operation of the Proposed Action. Taller aboveground facilities, such as towers, would likely require nighttime and possibly daytime lighting. The potential visual impacts of that lighting would generally not be significant in more developed areas where new light sources would be less noticeable, but this lighting could have a greater impact in rural areas or near remote parks or other natural areas where the new light sources might interfere with enjoyment of the night sky. As a precaution, FirstNet would implement BMPs and mitigation measures, as practicable or feasible, such as selecting deployable designs that minimize the use of nighttime lighting, that include shielded or directional nighttime lighting, and/or that use the minimum nighttime lighting required for safe operations.

Finally, FirstNet would implement BMPs and mitigation measures, as practicable or feasible, that minimize impacts associated with climate change. These measures could reduce impacts to project infrastructure from climate change events, such as ensuring that the design of aboveground structures and equipment has included allowances for maximum temperature, precipitation, and sea level changes.

The BMPs and mitigation measures described in the Final PEIS have been developed based on consultation with other agencies as well as independent research by FirstNet and their environmental contractors. It is possible that other or additional site-specific BMPs and mitigation measures not included in the Final PEIS may be recommended or required to be implemented as a result of consultation with resource agencies and tribes, permits, and/or additional environmental reviews.

3.6. Monitoring and Enforcement

The mitigation measures discussed in the section above will be subject to various monitoring and enforcement procedures. It is anticipated that such measures will be required to varying degrees during each of the design, deployment, and operations phases of the project. All mitigation and monitoring measures required by law or resulting from formal consultation with federal agencies will be followed, such as consultation under Section 7 of the Endangered Species Act. In addition, FirstNet and/or their partners will comply with monitoring and enforcement provisions in any memoranda of agreement or programmatic agreements resulting from consultation activities under Section 106 of the National Historic Preservation Act. Monitoring and enforcement actions may also be required as the result of additional, site-specific analyses, which

may be necessary depending on site conditions, the type of deployment, or any other permits or permissions necessary to perform the work.

3.7. PUBLIC INVOLVEMENT

Public engagement began with publication of a Notice of Intent in the *Federal Register* to prepare five coordinated PEISs.[16] The Notice of Intent kicked off a 45-day public comment period for the scoping process, which ended on December 29, 2014, although FirstNet continued to accept comments received after the close of the formal comment period. Publication of the Draft PEIS for the non-contiguous region on March 4, 2016, initiated a 60-day public comment period ending on May 3, 2016.[17] As with the scoping period, comments were solicited from cooperating agencies, state Single Points of Contact, elected officials, American Indian tribes and Native Hawaiian Organizations, and the general public. FirstNet again accepted comments received after the close of the formal comment period.

Over the course of the two public comment periods, members of the public were invited to submit comments to FirstNet via traditional mail, e-mail, and the regulations.gov website. In addition, public meetings were held in each of the seven non-contiguous states and territories where participants had the opportunity to learn about the Proposed Action, talk directly with FirstNet environmental staff and its contractors, and to provide input both verbally and on comment cards. The Draft PEIS, Final PEIS, and this Record of Decision were developed taking into account public and agency input received through these public involvement processes.

[16] Notice of Intent To Prepare Programmatic Environmental Impact Statements and Conduct Scoping for the Nationwide Public Safety Broadband Network, 79 Fed. Reg. 67156 (November 12, 2014).
[17] Notice of Availability of a Draft Programmatic Environmental Impact Statement for the Non-Contiguous Region of the Nationwide Public Safety Broadband Network and Notice of Public Meetings, 81 Fed. Reg. 11511 (March 4, 2016).

4. DECISION

I have taken into consideration the information presented here and in the referenced documents and find that the recommendations are consistent with the analysis and findings contained in the PEIS for the non-contiguous U.S. region. After careful evaluation of the issues outlined above and consideration of public and agency concerns, I have decided to implement the Preferred Alternative as the selected plan for moving forward with the NPSBN.

Issued in Reston, VA, September 20, 2017.

Michael Poth

Chief Executive Officer

FirstNet

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