Nationwide Public Safety Broadband Network
Draft Programmatic Environmental Impact Statement for the Non-Contiguous United States

FirstNet®

First Responder Network Authority

Volume 1 - Chapters 1, 2, & 3

Alaska
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American Samoa
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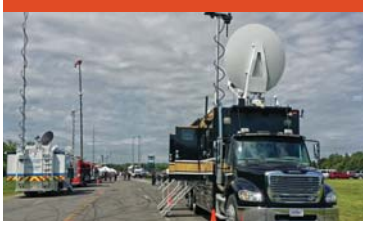
March 2016



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First Responder Network Authority

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Draft Programmatic Environmental Impact Statement
for the Non-Contiguous United States

Volume 1

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Cooperating Agencies
Federal Communications Commission
General Services Administration
U.S. Department of Agriculture—Rural Utilities Service
U.S. Department of Agriculture—U.S. Forest Service
U.S. Department of Agriculture—Natural Resource Conservation Service
U.S. Department of Defense—Department of the Air Force
U.S. Department of Energy
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Map Service. 2015. *OpenStreetMap*. ArcGIS Map Image Layer by Esri. Sourced from: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.

NOAA (National Oceanic and Atmospheric Administration). 2016. *Polar bear (Ursus maritimus)*. Uncredited Marine Mammal Commission Photograph. Accessed: January 2016. Retrieved from: http://search.noaa.gov/search/images?utf8=%E2%9C%93&sc=0&query=Polar+bear+%28Ursus+maritimus%29&m=&affiliate=noaa.gov&commit=Search

NPS (National Park Service). 2016. *Fruit Bat [White-necked Flying Fox (Pteropus tonganus)]*. Uncredited NPS Photograph. Accessed: January 2016. Retrieved from: http://www.nps.gov/npsa/learn/education/fruit-bats-are-our-friends.htm

USFWS (U.S. Fish and Wildlife Service). 2013a. *Mariana Fruit Bat Pteropus mariannus / Fanihi*. Uncredited USFWS Photograph. Accessed: January 2016. Retrieved from: http://www.fws.gov/refuge/guam/wildlife_and_habitat/mariana_fruit_bat.html

_____. 2013b. *Nēnē Branta sandvicensis / Hawaiian Goose*. Photograph by Laura Beauregard, USFWS. Accessed: January 2016. Retrieved from: http://www.fws.gov/refuge/Hakalau_Forest/wildlife_and_habitat/nene.html

_____. 2015. *Rota blue damselfly (Ischura luta)*. Photograph by A. Asquith, USFWS. Accessed: January 2016. Retrieved from: https://www.fws.gov/news/ShowNews.cfm?ID=4DA36523-E516-A820-414BB2B0165E7461

_____. 2016. *West Indian Manatee.* Photograph by Keith Ramos, USFWS. Accessed: January 2016. Retrieved from: http://www.fws.gov/southeast/wildlife/mammal/manatee/

USFWS Alaska (Alaska Region U.S. Fish and Wildlife Service). 2004. *Walrus Cows and Yearlings on Ice*. Photograph by Joel Garlich-Miller, USFWS. Accessed: January 2016. Retrieved from: https://www.flickr.com/photos/usfws_alaska/5390772958/

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ACRONYMS AND ABBREVIATIONS

°F	degree Fahrenheit
°N	degrees north
µg/m^3	microgram(s) per cubic meter
µPa	micro Pascal
%	percent
A	attained
AAC	Alaska Administrative Code
AAFIS	Alaska Public Safety Identification System
AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey (U.S. Census Bureau)
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
AGL	above ground level
AIRFA	American Indian Religious Freedom Act
AJRCCM	American Journal of Respiratory and Critical Care Medicine
AKNHP	Alaska National Heritage Program
AKOSH	Alaska Occupational Safety and Health
AKWAS	Alaska Warning System
ALMR	Alaska Land Mobile Radio
ANFIRS	Alaska Fire Incident Reporting System
ANSCA	Alaska Native Claims Settlement Act
ANSI	American National Standards Institute
APE	Area of Potential Effect
APLIC	Avian Power Line Interaction Committee
APSIN	Alaska Public Safety Information Network
AQCR	air quality control region
ARFF	Aircraft Rescue and Firefighting
ARMS	Alaska Records Management System
ARPA	Archaeological Resources Protection Act of 1979
AS	Alaska Statute
A.S.A.C.	American Samoa Administrative Code
ASCA	American Samoa Code Annotated
ASCMP	American Samoa Coastal Management Program
ASDMWR	American Samoa Department of Marine and Wildlife Resources
ASEPA	American Samoa Environmental Protection Agency
ASHPO	American Samoa Historic Preservation Office
ASPA	American Samoa Power Authority
ATO	Air Traffic Organization
ATWC	Alaska Tsunami Warning Center
AURORA	Alaska Uniform Response Online Reporting Access
BACT	best available control technology
BCE	before Common Era
BCR	Bird Conservation Regions
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BLS	U.S. Bureau of Labor Statistics
BMP	best management practice
BRFSS	Behavioral Risk Factor Surveillance System
BSAI	Bering Sea/Aleutian Island
BWG	BioInitiative Working Group
CAA	Clean Air Act
CAB	Clean Air Branch
CARB	California Air Resources Board
CBIA	Coastal Barrier Improvement Act of 1990
CBRA	Coastal Barrier Resources Act of 1982
CCP	Comprehensive Conservation Plan
CDC	Center for Disease Control
CDLNR	Commonwealth Department of Lands and Natural Resources
CE	Common Era
CELCP	Coastal and Estuarine Land Conservation Program
CEPD	Caribbean Environmental Protection Division
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFMC	Caribbean Fisheries Management Council
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	methane
CHC	Commonwealth Health Center
CIA	Central Intelligence Agency
CMIP3	Coupled Model Intercomparison Project phase 3
CNMI	Commonwealth of Northern Mariana Islands
CNMIAC	Commonwealth of Northern Mariana Islands Administrative Code
CO	carbon monoxide
CO_2	carbon dioxide
CO_{2e}	carbon dioxide equivalents
COMAR	Committee on Man and Radiation
CPA	Commonwealth Ports Authority

CRMP	Coastal Resources Management Program
CSP	Central South Pacific
CUC	Commonwealth Utilities Corporation
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DACA	Deployable Airborne Communications Architecture
DAR	Division of Aquatic Resources (Hawaii)
DAWR	Division of Aquatic and Wildlife Resources (Guam)
dB	decibel(s)
dBA	A-weighted decibel(s)
DBCP	1,2-dibromo-3-chloropropane
dBZ	Z-weighted decibel(s)
DCP	1,2-dichloropropane
DEC	Department of Environmental Conservation
DHHL	Department of Hawaiian Homelands
DLNR	Department of Land and Natural Resources (Hawaii)
DMA	Disaster Mitigation Act of 2000
DNER	Department of Natural and Environmental Resources of Puerto Rico
DOA	Department of Agriculture
DOD	Department of Defense
DOE	U.S. Department of Energy
DOH	Department of Health
DOH-CAB	Hawaii Department of Health, Clean Air Branch
DOT	U.S. Department of Transportation
DPNR	Department of Planning and Natural Resources (U.S. Virgin Islands)
DPS	Department of Public Safety
EA	Environmental Assessment
EAS	Emergency Alert System
EBS	Emergency Broadcast System
EDB	ethylene dibromide
EFH	essential fish habitat
EMS	emergency medical services
ENSO	El Niño/Southern Oscillation
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	effective radiated power
ESA	Endangered Species Act
ESI	Environmental Sensitivity Index
FAA	Federal Aviation Administration
FAD	Fish Aggregating Device
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FirstNet	First Responder Network Authority
FMP	Fishery Management Plan
FPPA	Farmland Protection Policy Act of 1981
FR	Federal Register
ft	feet
g/hp-hr	grams per horsepower-hour
g/mi	grams per mile
GAP	Gap Analysis Program
GCA	Guam Code Annotated
GDA	Guam Department of Agriculture
GEPA	Guam Environmental Protection Agency
GHG	greenhouse gas
GIS	geographic information system
GMP	General Management Plan
GOA	Gulf of Alaska
GRHP	Guam Register of Historic Places
GWP	global warming potential
H_2S	hydrogen sulfide
HDOH	Hawaii Department of Health
HEI	Health Effects Institute
HHCA	Hawaiian Homes Commission Act of 1920
HIANG	Hawaii Air National Guard
HIARNG	Hawaii Army National Guard
HIHWNMS	Hawaiian Islands Humpback Whale National Marine Sanctuary
HIOSH	Hawaii Occupational Safety and Health Division
hp	horsepower
HRD	(Guam) Historic Resources Division
HRHP	Hawaii Register of Historic Places
HRS	Hawaii Administrative Rules, Revised Statute
HTA	Hawai'i Tourism Authority
HUC	hydrologic unit code
I/M	Inspection/Maintenance
IARC	International Agency for Research on Cancer
IBA	Important Bird Area
IEEE	Institute of Electrical and Electronics Engineers
IFC	International Finance Corporation
in	inches
IPCC	Intergovernmental Panel on Climate Change
IR	ionizing radiation
ITCZ	Intertropical Convergence Zone
IUCN	International Union for Conservation of Nature
kg/gal	kilograms per gallon
KIRC	Kaho'olawe Island Reserve Commission
LAER	lowest achievable emission rate
lb/day	pounds per day
lb/hp-hr	pounds per horsepower-hour

LBJ	Lyndon B. Johnson
Ldn	day-night average sound level
Leq	equivalent noise levels
LNG	liquefied natural gas
LTE	Long Term Evolution
µg/m^3	microgram(s) per cubic meter
µPa	micro Pascal
m/s	meter per second
MBTA	Migratory Bird Treaty Act
mg/m^3	Milligram(s) per cubic meter
mgd	million gallons per day
MHz	megahertz
MLRA	Major Land Resource Area
mm/s	millimeters per second
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MPA	Marine Protected Area
mph	miles per hour
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MTR	Military Training Route
MUID	Map Unit Identification Data
MW	megawatt
mW/cm^2	milliwatts per centimeter squared
N	north; not attained
N_2O	nitrous oxide
NA	not applicable; not assessed
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NANSR	Nonattainment New Source Review
NAWAS	National Warning System
NCA	National Climate Assessment
NCD	non-communicable disease
NCDC	National Climatic Data Center
NCN	no common name
NCRP	National Council on Radiation Protection and Measurements
ND	no data
NE	northeast
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFIRS	National Fire Incident Reporting System
NHPA	National Historic Preservation Act
NIR	non-ionizing radiation
NMFS	National Marine Fisheries Service
NMHC	non-methane hydrocarbon compounds
NMOG	non-methane organic compounds
NNE	north-northeast
NOAA	National Oceanic and Atmospheric Administration
NOx	nitrogen oxides
NP	National Park
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NPSBN	nationwide public safety broadband network
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NTIA	National Telecommunications and Information Administration
NVSR	National Vital Statistics Report
NWI	National Wetland Inventory
NWR	National Wildlife Refuge
NWWS	National Weather Wire Satellite System
OHA	Office of History and Archaeology
OIA	Office of Insular Affairs (USDI)
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PAG	Port Authority of Guam
PAHO	Pan American Health Organization
PCB	polychlorinated biphenyl
PCP	pentachlorophenol
PDO	Pacific Decadal Oscillation
PEIS	Programmatic Environmental Impact Statement
PL	Public Law
PM	particulate matter
PM_{10}	particulate matter up to 10 micrometers in diameter
$PM_{2.5}$	particulate matter up to 2.5 micrometers in diameter
POPs	points of presence
ppm	parts per million
PRDNER	Puerto Rico Department of Natural and Environmental Resources
PREQB	Puerto Rico Environmental Quality Board
PR OSHA	The Puerto Rico Occupational Safety and Health Administration
PRASA	Puerto Rico Aqueduct and Sew Authority
PREPA	Puerto Rico Electric Power Authority
PRSHPO	Puerto Rico State Historic Preservation Office
PSD	Prevention of Significant Deterioration
PUAG	Public Utility Agency of Guam
PV	photovoltaic
RAN	radio access network
RCP	Representative Concentration Pathway
RCRA	Resource Conservation and Recovery Act

RF	radio frequency
RIN	Regulation Identification Number
rms	root mean square
ROW	right-of-way
SAAQS	State Air Quality Standards
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SARA	Superfund Amendments and Reauthorization Act of 1986
SCD	State Civil Defense
SE	Standard of Error
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SLR	sea level rise
SMA	Special Management Area
SMS	Scenery Management System
SO_2	sulfur dioxide
SOx	sulfur oxides
SPCZ	South Pacific Convergence Zone
SPOC	Single Point of Contact
SRES	Special Report on Emission Scenarios
SSA	sole source aquifer
STATSGO2	State Soil Geographic [Database]
SW	southwest
TAAQS	Territory Ambient Air Quality Standards
TCP	traditional cultural property
TEMCO	Territorial Emergency Management Coordinating Office
TMDL	Total Maximum Daily Load
TOC	total organic compound
tpy	tons per year
TRI	Toxic Release Inventory
TSCA	Toxic Substances Control Act
U.S.	United States
UAMES	University of Alaska Museum Earth Sciences
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Climate Change Research Program
USGS	U.S. Geological Survey
USVIDOH	U.S. Virgin Islands Department of Health
USVIPD	U.S. Virgin Islands Police Department
UVA	University of Virginia
VIC	Virgin Islands Code
VIPA	Virgin Islands Port Authority
VISHPO	Virgin Islands State Historic Preservation Office
VOC	volatile organic compound
vog	volcanic smog
VRM	Visual Resource Management
W	watt(s)
W/m^2	watts per meters squared
WAPA	Water and Power Authority
WHO	World Health Organization
WIMARCS	West Indies Marine Animal Research and Conservation Science
WNP	Western North Pacific
WNW	west-northwest
WPC	watts per channel
WPRFMC	Western Pacific Regional Fishery Management Council

1. INTRODUCTION

1.1. OVERVIEW AND BACKGROUND

Title VI of the Middle Class Tax Relief and Job Creation Act of 2012 (*Pub. L. No. 112-96, Title VI, 126 Stat. 156* (*codified at 47 USC 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 (*47 USC § 1422(b)*). FirstNet was created as an independent authority within the United States (U.S.) Department of Commerce's National Telecommunications and Information Administration (NTIA), the Executive Branch agency that is principally responsible for advising the president on telecommunications and information policy issues.

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, fire fighters, emergency medical service professionals, and other public safety officials to effectively communicate with each other across agencies and jurisdictions. The NPSBN (i.e., the Proposed Action) is intended to cover all 50 states, 5 territories, and the District of Columbia.

The Act charges FirstNet with taking all actions necessary to ensure the building, deployment, and operation of NPSBN, by, at a minimum:

- Ensuring nationwide standards for use and access to the network (*47 USC § 1426(b)(1)(A)*);
- Issuing open, transparent, and competitive requests for proposals to the private sector (*47 USC § 1426(b)(1)(B)*);
- Encouraging use of existing commercial wireless infrastructure to speed deployment, (*47 USC § 1426(b)(1)(C)*); and
- Managing and overseeing private sector entities that build, operate, and maintain the network (*47 USC § 1426(b)(1)(D)*).

In addition to these requirements, the Act mandates careful consideration of rural areas. This includes requiring FirstNet, to the maximum extent economically desirable, to include deployment phases with substantial rural coverage milestones as part of each construction and deployment phase of the network (*47 USC § 1426(b)(3)*).

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. In 1996, the Public Safety Wireless Advisory Committee, which was established by the Federal Communications Commission (FCC) and NTIA in 1995, published a report on the current state of public safety wireless communications (*Public Safety Wireless Advisory Committee 1996*).

The report identified three major problems:

1. The radio frequencies allocated to public safety were congested and growing more so;
2. The ability of officials from different public safety agencies to communicate with each other was limited due to multiple frequency bands, incompatible equipment, and a lack of standardization in repeater spacing and transmission formats; and
3. Public safety officials were unable to effectively pursue their missions because they were not able to take advantage of cutting-edge communications technologies that would make their job performance safer and more efficient.

The report concluded that "unless immediate measures are taken to alleviate spectrum shortfalls and promote interoperability, Public Safety agencies will not be able to adequately discharge their obligation to protect life and property in a safe, efficient, and cost effective manner" (*Public Safety Wireless Advisory Committee 1996*). The report went on to describe interoperability issues that hampered emergency response activities in the 1993 World Trade Center bombing in New York City and the 1995 Oklahoma City bombing of the Alfred P. Murrah Federal Building. It further emphasized that these concerns also applied to more routine, day-to-day emergency response activities, and that the needs of the public safety community – with regard to security, resilience, redundancy, and coverage – were unique and mission-critical.

Although these communications challenge that face the public safety community were known, the true genesis of the NPSBN lies with *The 9/11 Commission Report* (the Report), published on July 22, 2004 (*National Commission on Terrorist Attacks upon the United States 2004*). The Report analyzed the terrorist attacks of September 11, 2001 and sought to provide recommendations and new paths forward to ensure greater public safety based on the events that transpired on that day. The Commission interviewed more than 1,200 individuals and reviewed millions of pages of documents in an effort to understand how the attacks were possible and how to best attempt to prevent such a tragedy from recurring.

The Report identified a critical need for improved communications capabilities for the public safety community through the "expedited and increased assignment of radio spectrum for public safety purposes" (*National Commission on Terrorist Attacks upon the United States 2004*). As numerous onsite reports from public safety personnel at the World Trade Center, the Pentagon, and Somerset County, Pennsylvania, indicated, the lack of interoperable communications capability among the multiple police, fire, and emergency medical services personnel hampered rescue efforts and in many cases likely led to an increased loss of life. Hundreds of police officers and fire fighters, including off-duty personnel who reported to the scene to engage in rescue efforts upon learning of the events that were unfolding, were killed in the line of duty; this amounted to the largest loss of first responders in a single event anywhere in history (*National Commission on Terrorist Attacks upon the United States 2004*). In 2012, the Act created FirstNet with the primary purpose of designing, building, and operating 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 emergencies or disasters.

The Act also establishes a process allowing states and territories to determine whether to participate in the FirstNet proposed network for that state or conduct their own deployment of a radio access network (RAN) in their respective states (*47 USC § 1442(e)*). A state that chooses to deploy its own RAN is required by the Act to follow certain procedural requirements, including submitting an alternative plan to the FCC for deployment/construction, maintenance, and operation of the RAN within that state. If the FCC approves the alternative plan, the state could apply to NTIA for a grant to construct the RAN within the state, and must apply to NTIA to lease spectrum capacity from FirstNet (*47 USC § 1442(e)(3)(C)*).

The Act establishes in the U.S. Department of the Treasury a fund known as a "Network Construction Fund." This fund must be used by FirstNet to carry out its statutory mission. The source of the funds to be deposited came from the proceeds of incentive auctions that are authorized under the Act. Prior to the deposit of proceeds from the incentive auctions, Congress authorized NTIA to borrow up to $2 billion from the Treasury in order for FirstNet to carry out its responsibilities under the Act (*47 USC § 1427(a)(3)*). However, NTIA is required to reimburse the Treasury, without interest, for any of the funds borrowed with the proceeds it receives from the incentive auctions (*47 USC § 1427(a)(3)*).

As a federal entity, FirstNet is required to comply with the National Environmental Policy Act (NEPA) of 1969 (*42 USC 4321 et seq*.), which requires that the government examine the environmental, social, historic, and cultural impacts of its Proposed Actions before it irretrievably commits resources to undertake them. Furthermore, FirstNet must comply with its own NEPA implementing instructions, which were finalized and published in the *Federal Register* (*79 FR 23945 [April 29, 2014]*). FirstNet published a Notice of Intent in the *Federal Register* to prepare five coordinated Programmatic Environmental Impact Statements (PEISs) (*79 FR 67156 [November 12, 2014]*). The PEISs analyze the potential direct, indirect, and cumulative impacts of the Proposed Action as well as alternative approaches to the deployment/construction, operation, and maintenance of the NPSBN on natural, cultural, and social resources. Each of the five PEISs analyzes potential impacts in a particular region of the country.

1.2. PROGRAMMATIC APPROACH AND TIERING

A programmatic environmental document, such as the five coordinated PEISs being developed for the Proposed Action, is prepared when an agency is proposing to carry out a broad action, program, or policy. FirstNet has determined that the design, deployment/construction, and operation of the NPSBN is a broad action with nationwide implications. This approach, which considers the full planning area, provides for the broadest and most extensive NEPA analysis in order to support the balancing of different considerations, including social, economic, historic, and environmental issues. Furthermore, the programmatic approach creates a comprehensive analytical framework that assesses potential impacts expected from the program as a whole. It also supports any subsequent site-specific environmental analyses that may be required for individual actions at specific locations, once they are identified. Finally, and as discussed in the introduction to each of the Environmental Consequences sections, the programmatic approach

allows FirstNet to identify and define four categories of actions and associated levels of potential impact as described below:

- *Potentially significant,* where there is substantial evidence that an effect may be significant;
- *Less than significant with best management practices (BMPs) and mitigation measures incorporated,* where the use of mitigation measures reduce an effect from a *potentially significant* impact to a *less than significant* impact;
- *Less than significant,* where the action creates impacts but no significant impacts; or
- *No impact,* which applies where an action does not create an impact.

To streamline the NEPA process and avoid repetition, the White House Council on Environmental Quality (CEQ) regulations encourage federal agencies to develop a tiered approach to their analyses (*40 Code of Federal Regulations [CFR] 1502.20*), by working from broad, general NEPA documents addressing large-scale program-level impacts and decisions down to site-specific documents. The PEISs are intended to provide broad analysis and direction regarding the overall potential impacts of the NPSBN. When a proposed network design is ready, and specific sites are proposed for deployment, the decision to deploy the NPSBN would not be revisited; instead, subsequent memoranda, Categorical Exclusions, Environmental Assessments (EAs), or EISs would be "tiered" off of the PEISs, and would summarize, or incorporate by reference, much of the detailed analyses presented in the PEISs as a means of streamlining the NEPA process (*40 CFR 1500.4[I]*). To satisfy NEPA, a Record of Environmental Consideration would be prepared for activities associated with the design, deployment/construction, and operation of the NPSBN that fall within the range of activities analyzed in the PEISs and do not have any extraordinary circumstances that would require further study. Site-specific actions, once defined, would be evaluated against the analyses presented in the programmatic review for future NEPA compliance, and the appropriate level of NEPA review would be determined by FirstNet and developed accordingly.

1.3. PROJECT REGIONS AND DESCRIPTION OF THE PROPOSED ACTION AREA

FirstNet, in consultation with CEQ, decided to analyze the potential impacts of the NPSBN in five regions, as shown in Figure 1.3-1.

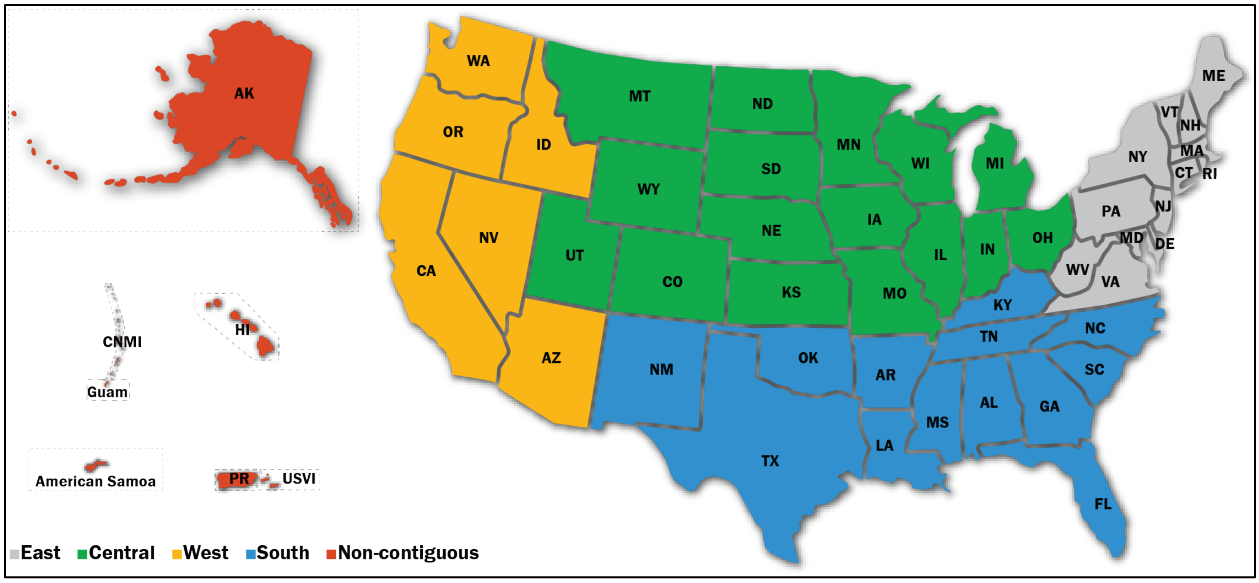

Figure 1.3-1: FirstNet Programmatic Environmental Impact Statement Regions of Analysis

The single, unified analysis for the entire NPSBN has been divided into the five regions as illustrated in Figure 1.3-1 in order to provide a greater depth of information and to more efficiently support FirstNet's mission objectives. The FirstNet PEIS Proposed Action area would cover the geography of the 50 states, the 5 territories, the District of Columbia, and 567 tribal nations.

This Draft PEIS focuses on the non-contiguous region encompassing two states and five territories. The states/territories reviewed in the non-contiguous region PEIS include Alaska, Hawaii, American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands. This region includes both rural and wilderness areas (e.g., Alaska) and more densely populated areas (e.g., Puerto Rico). To aid the reader, the existing environment and environmental consequences are compiled into state/territory-specific chapters.

1.4. Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to develop the NPSBN. The NPSBN is intended to facilitate the use of rugged, easy-to-use devices and 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 would 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, eventually, streaming video. This capability would 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 layer, user access, and cyber security perspectives to be more resilient to impacts from natural and manmade disasters. 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 than what is currently available, but also that it can 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. The network operating standards would also provide local control to public safety agencies, allowing for more control over the configuration, deployment, and management of multiple types of Information Technology resources, referred to as provisioning, 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 for the ways in which they have hindered response activities in high profile natural and manmade disasters. Today, first responders rely 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*).

During the September 11 attacks, members of the public safety community, who risked their own safety on behalf of others, were unable to communicate with each other on radio systems operating on different, incompatible frequencies. Additionally, emergency messages could not reach first responders as wireless and wire-line networks were overwhelmed with traffic. At the Pentagon, commanders had to resort to sending runners with paper messages to forward instructions to those trying to save as many lives as possible.

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, 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; what was lacking was 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 region affected, 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[1] significantly impacted the functionality of the telecommunications infrastructure in the affected regions; one of the recommendations of the Hurricane Sandy Recovery Task Force was to "develop a resilient power strategy for wireless and data communications infrastructure and consumer equipment" (*Hurricane Sandy Rebuilding 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 point failure causing a ripple effect of 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 (*National Public Safety Telecommunications Council 2014*). The NPSBN is intended to have a higher level of redundancy and resiliency than current commercial networks in order to support the public safety community effectively.

1.5. FEDERAL AGENCY PARTICIPATION

1.5.1. Lead Agency

As noted in Section 1.1, Overview and Background, FirstNet is the lead agency for the environmental review consistent with NEPA, the National Historic Preservation Act (NHPA) of 1966 Section 106 consultation process, and the Endangered Species Act (ESA) Section 7 consultation process for the Proposed Action. As the lead agency, FirstNet is directing the development of the five PEISs, the tribal consultation process, and has initiated consultation with the U.S. Fish and Wildlife Service (USFWS) to determine the likelihood of potential effects on listed species and migratory birds. FirstNet is also coordinating with cooperating agencies to ensure compliance with the laws, regulations, and Executive Orders (EOs) discussed in Section 1.8, Overview of Relevant Laws and Executive Orders.

1.5.2. Cooperating Agencies

Lead agencies, such as FirstNet, that are preparing a NEPA document are required to do so in cooperation with other federal, state, and/or local agencies with jurisdiction by law or with special expertise with respect to an environmental impact involved in the proposal (*40 CFR 1508.5*). Outside of the scoping process, this cooperation can be formalized between the lead

[1] Backhaul capacity refers to 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.

agency and another agency with a Memorandum of Understanding that formalizes the cooperating agency status and responsibilities.

In letters dated January 16, 2015, FirstNet invited 37 federal agencies to participate in the development of the PEISs as cooperating agencies. Eight agencies accepted the invitation: the FCC; the General Services Administration; the U.S. Department of Agriculture's (USDA) Rural Utilities Service; the USDA's U.S. Forest Service; the USDA's Natural Resources Conservation Service; the U.S. Air Force; the U.S. Department of Energy; and the U.S. Department of Homeland Security, which includes the Federal Emergency Management Agency, the U.S. Coast Guard, and the U.S. Customs and Border Protection. Appendix A, *Cooperating Agencies*, contains a complete list of those agencies invited to become cooperating agencies.

1.5.3. Consulting Parties

Under the Act, FirstNet is required to conduct all consultation and network planning activities in a given state or territory through a governor-appointed state Single Point of Contact (SPOC) (*47 USC § 1442(d)*). In a letter dated April 29, 2015, FirstNet invited all 56 SPOCs to be consulting parties on the development of the PEISs in order to promote transparency and partnership. As of the date of publication, 13 SPOCs accepted the invitation, which afforded them the opportunity to review and comment on draft documents prior to public release.

1.6. CULTURAL RESOURCES CONSULTATION

As a federal entity, FirstNet has obligations under the NHPA to understand and address the potential impacts of its proposed undertakings on historic properties; one of the ways in which this is accomplished is through consultation with State Historic Preservation Offices and government-to-government consultation with federally recognized American Indian tribes. As the lead agency for compliance with Section 106 of the NHPA, FirstNet is committed to meaningful engagement with Tribal Nations. In a letter dated January 30, 2015, FirstNet contacted tribal leaders and Tribal Historic Preservation Officers, where applicable, to initiate formal, government-to-government consultation with all 567 federally recognized American Indian tribes. In a subsequent letter dated May 15, 2015, FirstNet initiated consultation with 17 Native Hawaiian Organizations. As of the date of publication, FirstNet received responses from 38 tribes with requests to consult on the Proposed Action. FirstNet anticipates consulting with Pacific Islanders on American Samoa, Guam, and the Northern Mariana Islands as well as the communities in Puerto Rico and the U.S. Virgin Islands.

1.7. THE NEPA PROCESS AND PUBLIC INVOLVEMENT

Under NEPA, the primary objectives of each PEIS are to:

- Identify and assess potential impacts on the natural and human environment that would result from implementation of the Proposed Action;
- Describe and evaluate reasonable alternatives, including the Preferred Alternative, a No Action alternative, and other alternatives that would avoid or minimize adverse effects to the environment;

- Identify and recommend specific BMPs and mitigation measures, as necessary, to avoid or minimize potential environmental, social, historic, and cultural impacts; and
- Facilitate public, tribal, and agency involvement in identifying significant environmental impacts.

This section provides an overview of the overall PEIS public involvement process (see Section 1.7.1) and, more specifically, the scoping process for the Draft PEISs (see Section 1.7.2).

1.7.1. Public Involvement

NEPA requires draft and final versions of a PEIS to be published, fostering public involvement through two public opportunities: the scoping public comment period prior to the preparation and publication of the Draft PEIS, and the Draft PEIS public comment period prior to the preparation and publication of the Final PEIS. FirstNet has engaged with the public to provide opportunities for comment in full compliance with the letter and spirit of the law.

The content of a Draft PEIS is based on a process called "scoping." The regulations implementing NEPA require that scoping be included in the environmental analysis process (*40 CFR 1501.7*). Scoping for the Draft PEIS included several key elements: 1) gathering information and ideas from the public and key stakeholder groups, such as the public safety community, about the analytical issues related to the NPSBN; 2) making determinations about which issues should be analyzed; and, 3) identifying alternatives to the Proposed Action that warranted analysis. The scoping process is ongoing and critical to informing agency actions in that it begins before the PEIS analyses are initiated and continues throughout document development.

1.7.2. Scoping

On November 12, 2014, FirstNet published a Notice of Intent in the *Federal Register* to prepare five coordinated PEISs (*79 FR 67156 [November 12, 2014]*). This publication kicked off a 45-day public comment period wherein members of the public were able to submit comments to FirstNet via traditional mail or via e-mail. A series of public meetings were also held where participants had the opportunity to learn about the Proposed Action, talk directly with FirstNet environmental staff, and provide input regarding the scope and analysis of the Proposed Action. The public meetings were held in the following locations:

- Washington, D.C.—Tuesday, November 25, 2014 (4-8 p.m.);
- Honolulu, HI—Tuesday, December 2, 2014 (4-8 p.m.);
- San Francisco, CA—Thursday, December 4, 2014 (4-8 p.m.);
- Tucson, AZ—Thursday, December 4, 2014 (4-8 p.m.);
- Kansas City, MO - Tuesday, December 9, 2014 (4-8 p.m.);
- New Orleans, LA—Thursday, December 11, 2014 (5-9 p.m.); and
- New York, NY—Monday, December 15, 2014 (4-8 p.m.).

The Scoping Summary Report can be found in Appendix B, *First Responder Network Authority Nationwide Public Safety Broadband Network Programmatic Environmental Impact Statement Scoping Summary Report*. The following major items were identified during the formal scoping comment period and in public meetings:

- Potential impacts of the NPSBN on sensitive natural resources;
- Concerns regarding the potential impacts of tower placement on culturally and ecologically sensitive areas, such as Tumamoc Hill in Tucson, Arizona; and
- The potential impact of the NPSBN on existing public safety communications infrastructure and operations.

FirstNet continued to accept comments after the close of the formal scoping period in order to allow the public as many opportunities as possible to provide input. Additional comments were received on the topics mentioned above, as well as on the topic of potential impacts of radio frequency radiation.

1.8. Overview of Relevant Federal Laws and Executive Orders

This section provides a brief explanation of major federal laws and EOs that are relevant to the Proposed Action. Given the expected nature and extent of the proposed NPSBN, it is likely that a wide range of diverse resources could be potentially impacted to varying degrees, including wetlands, coastal areas, farmland, wildlife, marine areas, migratory birds, and social or cultural resources, among others. Therefore, there are multiple laws and EOs that FirstNet is obliged to consider as part of this analysis. This is not intended to be a comprehensive list of all applicable laws and EOs, instead it provides context with regard to those laws and EOs that are most likely to be directly triggered by the Proposed Action. Appendix C, *Environmental Laws and Regulations,* provides a comprehensive list of applicable laws and regulations that were considered as part of the Proposed Action.

1.8.1. National Environmental Policy Act

NEPA (*42 USC 4321 et seq*.) requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their Proposed Actions and reasonable alternatives to those actions. NEPA also established CEQ. As part of the Executive Office of the President, CEQ coordinates federal environmental efforts and is responsible for advising the president on environmental policy matters. CEQ has also promulgated regulations implementing NEPA, which are binding on all federal agencies. These regulations address the procedural provisions of NEPA and the administration of the NEPA process, including preparation of EISs.

NEPA is applicable to all "major" federal actions affecting the quality of the human environment. A major federal action is an action with effects that may be major and which are potentially subject to federal control and responsibility. These actions may include new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies; new or revised agency rules, regulations,

plans, policies, or procedures; and legislative proposals. FirstNet has determined the deployment/construction, operation, and maintenance of the NPSBN qualifies as a major federal action under these criteria and therefore requires a review under NEPA.

1.8.2. National Historic Preservation Act

The goal of the NHPA (formerly *16 USC § 470 et seq*., now *54 USC § 100101 et seq*.) is to empower federal agencies to act as responsible stewards of cultural resources when agency actions affect historic properties. The NHPA established the Advisory Council on Historic Preservation, an independent federal agency that promotes the preservation, enhancement, and productive use of our nation's historic resources, and advises the President and Congress on national historic preservation policy. The NHPA also authorizes the Secretary of the Interior to expand and maintain a National Register of Historic Places composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture.

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. In carrying out their responsibilities under Section 106, the NHPA requires that federal agencies consult with federally-recognized Indian tribes and Native Hawaiian Organizations that attach traditional religious and cultural significance to eligible or listed historic properties that could potentially be affected by the agency's actions. The intent of the consultation is to identify historic properties potentially affected by the undertaking and to seek ways to avoid, minimize, or mitigate any adverse effects on those properties.

The NHPA details a 4-step process for Section 106 consultation that requires each federal agency to: 1) initiate a review process to evaluate any proposed action; 2) identify historic properties that could be affected by the proposed federal, or federally-licensed, permitted or funded, action; 3) assess whether the action has the potential to affect properties that are listed in or are eligible for listing in the National Register of Historic Places; and, 4) resolve the adverse effects. FirstNet has determined that the deployment/construction, operation, and maintenance of the NPSBN qualifies as an undertaking under Section 106, and will, therefore, require analysis under NHPA.

1.8.3. Endangered Species Act

The ESA (*16 USC § l53l et seq*.) was established to conserve and protect threatened and endangered species. Under most circumstances, the ESA prohibits take, which is defined as harming, up to and including loss of life, or harassing a listed species. Section 2 of the ESA sets forth the purposes and policy of the Act, which include providing a means to conserve endangered and threatened species' ecosystems and providing programs for the conservation of such species. The ESA requires federal agencies to conserve threatened and endangered species, and use their authorities to further the purposes of the ESA.

Accordingly, Section 7 of the ESA requires each federal agency to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of critical

habitat for such species. Federal agencies are further required to consult with the appropriate federal agency, either the USFWS or the National Marine Fisheries Service (NMFS), for federal actions that "may affect" a listed species or adversely modify critical habitat. Federal agencies must use the best scientific and commercial data available when making an effect determination relating to the impact of their actions. Given the likely extent of the NPSBN, FirstNet has determined that consultation under the ESA is required to determine whether there are any expected impacts to endangered and threatened species or their critical habitat.

1.8.4. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) (*16 USC § 1801 et seq.*) is the primary law governing fisheries management in U.S. federal waters. The MSA is intended to foster long-term biological and economic sustainability of U.S. marine fisheries through the prevention of overfishing, the rebuilding of overfished stocks, and increasing long-term economic and social benefits to ensure a safe and sustainable supply of seafood. The MSA extended U.S. jurisdiction from 12 nautical miles to 200 nautical miles and established eight regional fisheries management councils to develop Fishery Management Plans (FMPs), which must comply with conservation and management standards to promote sustainable fisheries management. The FMPs also define essential fish habitat, which is the aquatic habitat where fish spawn, breed, feed, and grow through various life stages; this habitat includes marine waters, wetlands, coral reefs, seagrasses, and rivers. The FMPs further define habitat areas of particular concern, which are high-priority areas that are rare, particularly sensitive, or critical to overall ecosystem functions. FirstNet could encounter marine resources in the deployment/construction and operation of the NPSBN, particularly for those parts of the network intended to provide coverage and service to coastal areas.

1.8.5. Marine Mammal Protection Act

The Marine Mammal Protection Act (*16 USC § 1361 et seq*.) prohibits takes of all marine mammals in the U.S. (including territorial seas) with few exceptions. Permits for scientific research on marine mammals and permits to enhance the survival or recovery of a species, issued under Section 104 of the Marine Mammal Protection Act, are two such exceptions, neither of which would likely be pursued by FirstNet as part of the Proposed Action. For threatened and endangered marine mammals, any activities that could affect ESA-listed species must be consistent with the ESA as well. Deployment/construction and operation of the NPSBN could include activities that occur in or adjacent to marine areas for those parts of the network intended to provide coverage to coastal areas, including mainland and island coastlines.

1.8.6. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (*16 USC § 703-712*) was enacted to ensure protection of migratory bird resources that are shared among the U.S., Canada, Mexico, Japan, and Russia. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, of any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit. The responsibilities of federal agencies to protect migratory

birds are set forth in EO 13186 (see below). USFWS is the lead agency for migratory birds. The USFWS issues permits for takes of migratory birds for activities such as scientific research, education, and depredation control, but does not issue permits for incidental take[2] of migratory birds. FirstNet activities, such as tower construction, would have the potential to impact migratory bird species; therefore, FirstNet is obliged under the MBTA and EO 13186 to analyze the potential impacts of such actions.

1.8.7. Clean Water Act

The Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA) (*33 USC § 1251 et seq*.), establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. The CWA defines waters of the U.S. to include all interstate waters, lakes, rivers, streams, territorial seas, tributaries to navigable waters, interstate wetlands, wetlands that could affect interstate or foreign commerce, and wetlands adjacent to other waters of the U.S. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, without a permit. Under Sections 303 and 305 of the CWA, states must review all "existing and readily available" state surface water quality data to compare against their water quality standards and determine whether waterbodies will be classified as higher quality (Category 1 or 2) or lower quality (Categories 3, 4, or 5). A water pollution reduction plan, or total maximum daily load, may be required for waterbodies that are classified as lower quality. The total maximum daily load defines the upper threshold of a given pollutant that a waterbody can contain and still meet water quality standards

Under Section 401 of the CWA, discharges of pollutants, such as storm water from point or nonpoint sources[3] into waters of the U.S. are authorized through the National Pollutant Discharge Elimination System (NPDES) permitting program. The U.S. Environmental Protection Agency and delegated states and territories administer the NPDES permitting program. As part of this program, general NPDES permits are required to regulate storm water discharges associated with deployment/construction activities that disturb one or more acres of land. Section 404 of the CWA established a program to regulate the discharge of dredged or fill material into waters of the U.S. Under the CWA, if FirstNet intends to carry out ground disturbing activity in or adjacent to waters of the U.S., then permits and analyses may be required.

[2] Section 704 of the MBTA describes a take as "hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any such bird, or any part, nest, or egg thereof" (*33 USC § 1251 et seq.*).

[3] Section 502 (14) of the CWA defines point source pollution as pollution that comes from "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." Nonpoint source pollution is defined as any source of water pollution that does not meet the legal definition of "point source," and includes runoff from rain or snowmelt that picks up natural and manmade pollutants, such as fertilizers, oils, salt, bacteria, and others that are eventually deposited into lakes, rivers, streams, wetlands, coastal water, and groundwater (*33 USC § 1251 et seq.*).

1.8.8. Coastal Zone Management Act

Congress enacted the Coastal Zone Management Act (*16 USC § 1451 et seq*.) to protect the coastal environment from growing demands associated with residential, recreational, commercial and industrial uses (such as, state and federal offshore oil and gas development). Coastal states with an approved Coastal Zone Management Plan, which defines permissible land and water use within the state's coastal zone, can review federal actions (such as deployment/construction and operation of the Proposed Action), licenses or permits for federal consistency. Federal consistency is the requirement that those federal permits and licenses likely to affect any land/water use or natural resources of the coastal zone be consistent with the state program's enforceable policies. Deployment/construction of the NPSBN is likely to occur in coastal areas; therefore, consistency determinations under Coastal Zone Management Act may be required.

1.8.9. Occupational Safety and Health Act

The Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration (OSHA) for the purpose of ensuring safe and healthful working conditions. OSHA pursues this mission by setting and enforcing standards in the workplace to create an environment free from hazards that include exposure to toxic substances, excessive noise, unsanitary conditions, and other physical hazards such as mechanical dangers and heat or cold stress. The Occupational Safety and Health Act covers most private sector and some public sector employers and their workers either directly at the federal level, through OSHA, or through an OSHA-approved state plan that defines and implements state-level worker health and safety programs and enforcement standards. Currently, 22 states and territories have OSHA-approved state plans. Deployment/construction activities required for the implementation of the NPSBN would be required to comply with OSHA standards, or OSHA-approved state plans.

1.8.10. Executive Order 11988 – Floodplain Management

EO 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, "each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities" for the following actions:

- Acquiring, managing, and disposing of federal lands and facilities;
- Providing federally undertaken, financed, or assisted construction and improvements; and
- Conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

The guidelines address an 8-step process that agencies should carry out as part of their decision-making on projects that have potential impacts to or within the floodplain. This 8-step process can be addressed as part of the NEPA compliance process if an EA or EIS, such as this PEIS, is

developed. Aspects of EO 11988 have been updated in EO 13690 (see Section 1.8.14, Executive Order 13690 – Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input).

1.8.11. Executive Order 11990 – Protection of Wetlands

The purpose of EO 11990 is to "minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands." To meet these objectives, federal agencies are required, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided. The EO applies to the following:

- Acquisition, management, and disposition of federal lands and facilities construction and improvement projects that are undertaken, financed, or assisted by federal agencies; and
- Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

The procedures require the determination of whether or not the proposed project would be in, or would affect, wetlands. If so, a wetlands assessment must be prepared that describes the alternatives considered. The procedures include a requirement for public review of assessments. The evaluation process follows the same eight steps as for EO 11988, Floodplain Management. As with EO 11988, this 8-step process can be addressed as part of the NEPA compliance process if an EA or EIS, such as this PEIS, is developed.

1.8.12. Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The purpose of EO 12898 is to ensure that federal agencies avoid taking actions that have a disproportionately high and adverse impact on low-income populations or minority populations. Each federal agency must make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health, environmental, economic, and social effects of its programs, policies, and activities on minority and low-income populations, particularly when such analysis is required by NEPA. The EO emphasizes the importance of NEPA's public participation process, directing that each federal agency shall provide opportunities for community input in the NEPA process. Agencies are further directed to identify potential effects as well as BMPs and mitigation measures in consultation with affected communities.

1.8.13. Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds

The purpose of EO 13186 is to direct federal agencies to take certain actions to further implement the MBTA. Several international, bilateral conventions on migratory birds, of which the U.S. is a co-signatory, impose substantive obligations on the U.S. for the conservation of migratory birds and their habitats. Through the MBTA, the U.S. has implemented these migratory bird conventions with respect to this country. The EO directs each federal agency

whose actions are likely to create a measurable, negative effect on migratory bird populations to enter into a Memorandum of Understanding with the USFWS to promote the conservation and mitigation of impacts to migratory birds. Furthermore, the EO established the interagency Council for the Conservation of Migratory Birds to enhance coordination and communication among federal agencies regarding their responsibilities under the four bilateral treaties on the conservation of migratory birds.

1.8.14. Executive Order 13690 – Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input

The purpose of EO 13690 is to implement the Federal Flood Risk Management Standard as part of a national policy on resilience and risk reduction, consistent with the President's Climate Action Plan. The EO amends EO 11988, and emphasizes consideration by agencies of ecosystem-based alternatives and long-term resilience and risk reduction when managing flood risks. The order further establishes a process for further solicitation and consideration of public input and a climate science-based approach to defining floodplains and flood hazard areas.

1.9. PEIS ORGANIZATION

This Draft PEIS includes descriptions of the affected environment, potential impacts, and alternatives of the Proposed Action, including potential cumulative impacts, in each of the seven states and territories that make up the Non-contiguous region. The structure and contents of this document have been developed consistent with NEPA requirements. The main organization of this document is as follows:

- Chapter 1: Introduction
- Chapter 2: Description of the Proposed Action and Alternatives
- Chapters 3 through 9: Each chapter contains a state-by-state analysis of the affected environment (including descriptions of the portions of the environment that could be affected by the Proposed Action), environmental consequences (including descriptions of the potential environmental, social, historic, and cultural impacts of the Proposed Action), and references
- Chapter 10: Cumulative Effects
- Chapter 11: BMPs and Mitigation Measures
- Chapter 12: Comparison of Alternatives
- Chapter 13: Other Required Analyses
- Chapter 14: List of Preparers and Contributors
- Chapter 15: Distribution List
- Chapter 16: Index
- Chapter 17: Glossary
- Appendices

1.10. REFERENCES

CRS (Congressional Research Service). 2011. *Congressional Distribution Memo: Federal Funding of State and Local Emergency Communications Projects*. From Linda K. Moore, Specialist in Telecommunications Policy, 7-5853. March 18, 2011. Accessed: January 2016. Retrieved from: http://www.npstc.org/download.jsp?tableId=37&column=217&id=1828&file=CRS-PS%20Funding.pdf

Hurricane Sandy Rebuilding Task Force. 2013. *Hurricane Sandy Rebuillding Strategy.* Washington, DC: U.S. Department of Housing and Urban Development.

Miller, Robert. 2006. *Hurricane Katrina: Communications & Infrastructure Impacts. Threats at Our Threshold.* Washington, DC: Center for Strategic and International Studies. 191-203.

National Commission on Terrorist Attacks upon the United States. 2004. *The 9/11 Commission Report*. July 22. W. W. Norton & Company. New York.

National Public Safety Telecommunications Council. 2014. *Defining Public Safety Grade Systems.* Littleton, CO: NPSTC.

National Task Force on Interoperability. 2005. *Why Can't We Talk? Working Together to Bridge the Communications Gap to Save Lives.* U.S. Department of Justice. Washington, DC.

Public Safety Wireless Advisory Committee. 1996. *National Telecommunications and Information Administration*. September 11. Accessed: June 6, 2015. Retrieved from: http://www.ntia.doc.gov/legacy/osmhome/pubsafe/PSWAC_AL.pdf

U.S. House of Representatives. 2005. *Ensuring Operability during Catastrophic Events*. Hearing before the Subcommittee on Emergency Preparedness, Science, and Technology of the Committee on Homeland Security. Edited by 1st Session 109th Congress. GPO, Serial No. 109-49. October 26, 2005. Accessed: June 6, 2015. Retrieved from: http://www.gpo.gov/fdsys/pkg/CHRG-109hhrg34529/pdf/CHRG-109hhrg34529.pdf

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