

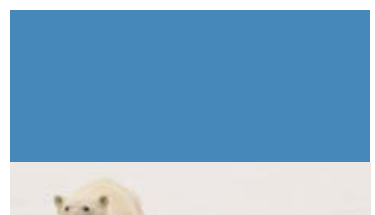
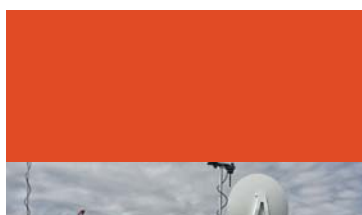
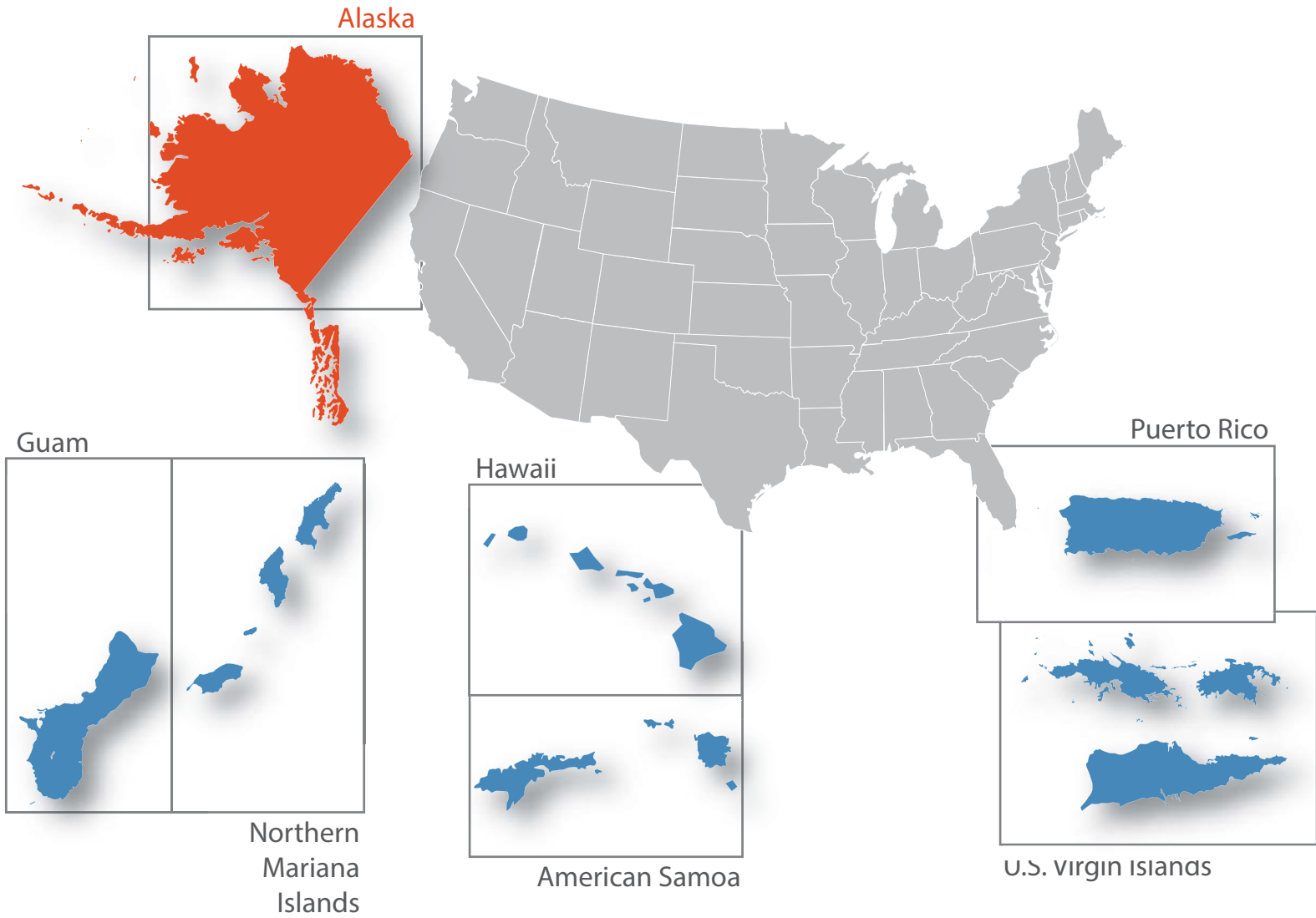
# Nationwide Public Safety Broadband Network Final Programmatic Environmental Impact Statement for the Non-Contiguous United States



## First Responder Network Authority

Volume 1 - Chapters 1, 2, & 3

- Alaska
- Hawaii
- American Samoa
- Guam
- Northern Mariana Islands
- Puerto Rico
- U.S. Virgin Islands



May 2017

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# First Responder Network Authority



## Nationwide Public Safety Broadband Network Final 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—Natural Resource Conservation Service  
U.S. Department of Agriculture—Rural Utilities Service  
U.S. Department of Agriculture—U.S. Forest Service  
U.S. Department of Commerce—National Telecommunications and  
Information Administration  
U.S. Department of Defense—Department of the Air Force  
U.S. Department of Energy  
U.S. Department of Homeland Security

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## TABLE OF CONTENTS

<b>1. Introduction.....</b>	<b>1-1</b>
1.1. Overview and Background .....	1-1
1.2. Programmatic Approach and Tiering.....	1-3
1.3. Project Regions and Description of the Proposed Action Area .....	1-5
1.4. Purpose and Need for the Proposed Action .....	1-6
1.5. Federal Agency Participation.....	1-8
1.5.1. Lead Agency .....	1-8
1.5.2. Cooperating Agencies .....	1-8
1.5.3. Consulting Parties .....	1-8
1.6. Cultural Resources Consultation.....	1-9
1.7. The NEPA Process and Public Involvement .....	1-9
1.7.1. Public Involvement .....	1-9
1.7.2. Scoping .....	1-9
1.7.3. Public Comment on the Draft PEIS .....	1-10
1.8. Overview of Relevant Federal Laws and Executive Orders.....	1-11
1.8.1. National Environmental Policy Act .....	1-11
1.8.2. National Historic Preservation Act .....	1-12
1.8.3. Endangered Species Act .....	1-13
1.8.4. Magnuson-Stevens Fishery Conservation and Management Act .....	1-13
1.8.5. Marine Mammal Protection Act .....	1-14
1.8.6. Migratory Bird Treaty Act.....	1-14
1.8.7. Clean Water Act.....	1-14
1.8.8. Coastal Zone Management Act.....	1-15
1.8.9. Occupational Safety and Health Act.....	1-15
1.8.10. Executive Order 11988 (as Amended by EO 13690) – Floodplain Management.....	1-16
1.8.11. Executive Order 11990 – Protection of Wetlands .....	1-16
1.8.12. Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations .....	1-17
1.8.13. Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds .....	1-17
1.8.14. Executive Order 13693 – Planning for Federal Sustainability in the Next Decade.....	1-18
1.9. PEIS Organization .....	1-18
1.10. References.....	1-19

<b>2.</b>	<b>Description of the Proposed Action and Alternatives .....</b>	<b>2-1</b>
2.1.	Proposed Action.....	2-1
2.1.1.	Characteristics of the NPSBN.....	2-2
2.1.2.	Proposed Action Infrastructure.....	2-2
2.2.	Description of Alternatives.....	2-5
2.2.1.	Preferred Alternative.....	2-6
2.2.2.	Deployable Technologies Alternative.....	2-6
2.2.3.	No Action Alternative.....	2-6
2.3.	Alternatives Considered but not Carried Forward.....	2-7
2.3.1.	New Construction Only Alternative.....	2-7
2.3.2.	New Satellite Alternative.....	2-7
2.3.3.	Collocation-Only Alternative.....	2-7
2.4.	Radio Frequency Emissions.....	2-7
2.4.1.	Introduction.....	2-7
2.4.2.	RF Emissions and Humans.....	2-10
2.4.3.	RF Emissions and Non-Human Species.....	2-18
2.4.4.	Summary.....	2-21
2.5.	References.....	2-22
<b>3.</b>	<b>Alaska.....</b>	<b>3-1</b>
3.1.	Affected Environment.....	3.1-1
3.1.1.	Infrastructure.....	3.1.1-1
3.1.2.	Soils.....	3.1.2-1
3.1.3.	Geology.....	3.1.3-1
3.1.4.	Water Resources.....	3.1.4-1
3.1.5.	Wetlands.....	3.1.5-1
3.1.6.	Biological Resources.....	3.1.6-1
3.1.6.1.	Introduction.....	3.1.6-1
3.1.6.2.	Specific Regulatory Considerations.....	3.1.6-1
3.1.6.3.	Terrestrial Vegetation.....	3.1.6-2
3.1.6.4.	Wildlife.....	3.1.6-11
3.1.6.5.	Fisheries and Aquatic Habitats.....	3.1.6-38
3.1.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	3.1.6-48
3.1.7.	Land Use, Airspace, and Recreation.....	3.1.7-1
3.1.8.	Visual Resources.....	3.1.8-1
3.1.9.	Socioeconomics.....	3.1.9-1
3.1.10.	Environmental Justice.....	3.1.10-1
3.1.11.	Cultural Resources.....	3.1.11-1
3.1.12.	Air Quality.....	3.1.12-1
3.1.13.	Noise and Vibrations.....	3.1.13-1
3.1.14.	Climate Change.....	3.1.14-1
3.1.15.	Human Health and Safety.....	3.1.15-1

3.2.	Environmental Consequences .....	3.2-1
3.2.1.	Infrastructure .....	3.2.1-1
3.2.2.	Soils .....	3.2.2-1
3.2.3.	Geology .....	3.2.3-1
3.2.4.	Water Resources .....	3.2.4-1
3.2.5.	Wetlands .....	3.2.5-1
3.2.6.	Biological Resources .....	3.2.6-1
3.2.6.1.	Introduction .....	3.2.6-1
3.2.6.2.	Impact Assessment Methodology and Significance Criteria .....	3.2.6-1
3.2.6.3.	Terrestrial Vegetation .....	3.2.6-9
3.2.6.4.	Wildlife .....	3.2.6-18
3.2.6.5.	Fisheries and Aquatic Habitats .....	3.2.6-44
3.2.6.6.	Threatened and Endangered Species and Species of Conservation Concern .....	3.2.6-58
3.2.7.	Land Use, Airspace, and Recreation .....	3.2.7-1
3.2.8.	Visual Resources .....	3.2.8-1
3.2.9.	Socioeconomics .....	3.2.9-1
3.2.10.	Environmental Justice .....	3.2.10-1
3.2.11.	Cultural Resources .....	3.2.11-1
3.2.12.	Air Quality .....	3.2.12-1
3.2.13.	Noise and Vibrations .....	3.2.13-1
3.2.14.	Climate Change .....	3.2.14-1
3.2.15.	Human Health and Safety .....	3.2.15-1
3.3.	References .....	3.3-1
3.3.1.	Introduction .....	3.3-1
3.3.2.	Affected Environment .....	3.3-2
3.3.3.	Environmental Consequences .....	3.3-34
<b>4.</b>	<b>Hawaii .....</b>	<b>4-1</b>
4.1.	Affected Environment .....	4.1-1
4.1.1.	Infrastructure .....	4.1.1-1
4.1.2.	Soils .....	4.1.2-1
4.1.3.	Geology .....	4.1.3-1
4.1.4.	Water Resources .....	4.1.4-1
4.1.5.	Wetlands .....	4.1.5-1
4.1.6.	Biological Resources .....	4.1.6-1
4.1.6.1.	Introduction .....	4.1.6-1
4.1.6.2.	Specific Regulatory Considerations .....	4.1.6-1
4.1.6.3.	Terrestrial Vegetation .....	4.1.6-2
4.1.6.4.	Wildlife .....	4.1.6-8
4.1.6.5.	Fisheries and Aquatic Habitats .....	4.1.6-19

4.1.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	4.1.6-27
4.1.7.	Land Use, Airspace, and Recreation.....	4.1.7-1
4.1.8.	Visual Resources.....	4.1.8-1
4.1.9.	Socioeconomics .....	4.1.9-1
4.1.10.	Environmental Justice.....	4.1.10-1
4.1.11.	Cultural Resources .....	4.1.11-1
4.1.12.	Air Quality .....	4.1.12-1
4.1.13.	Noise and Vibrations.....	4.1.13-1
4.1.14.	Climate Change.....	4.1.14-1
4.1.15.	Human Health and Safety .....	4.1.15-1
4.2.	Environmental Consequences.....	4.2-1
4.2.1.	Infrastructure.....	4.2.1-1
4.2.2.	Soils.....	4.2.2-1
4.2.3.	Geology.....	4.2.3-1
4.2.4.	Water Resources .....	4.2.4-1
4.2.5.	Wetlands .....	4.2.5-1
4.2.6.	Biological Resources .....	4.2.6-1
4.2.6.1.	Introduction.....	4.2.6-1
4.2.6.2.	Impact Assessment Methodology and Significance Criteria .....	4.2.6-1
4.2.6.3.	Terrestrial Vegetation .....	4.2.6-9
4.2.6.4.	Wildlife .....	4.2.6-18
4.2.6.5.	Fisheries and Aquatic Habitats .....	4.2.6-42
4.2.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	4.2.6-57
4.2.7.	Land Use, Airspace, and Recreation.....	4.2.7-1
4.2.8.	Visual Resources.....	4.2.8-1
4.2.9.	Socioeconomics .....	4.2.9-1
4.2.10.	Environmental Justice.....	4.2.10-1
4.2.11.	Cultural Resources .....	4.2.11-1
4.2.12.	Air Quality .....	4.2.12-1
4.2.13.	Noise and Vibrations.....	4.2.13-1
4.2.14.	Climate Change.....	4.2.14-1
4.2.15.	Human Health and Safety .....	4.2.15-1
4.3.	References.....	4.3-1
4.3.1.	Introduction.....	4.3-1
4.3.2.	Affected Environment.....	4.3-3
4.3.3.	Environmental Consequences.....	4.3-29



<b>5. American Samoa</b>	<b>5-1</b>
5.1. Affected Environment	5.1-1
5.1.1. Infrastructure	5.1.1-1
5.1.2. Soils	5.1.2-1
5.1.3. Geology	5.1.3-1
5.1.4. Water Resources	5.1.4-1
5.1.5. Wetlands	5.1.5-1
5.1.6. Biological Resources	5.1.6-1
5.1.6.1. Introduction	5.1.6-1
5.1.6.2. Specific Regulatory Considerations	5.1.6-1
5.1.6.3. Terrestrial Vegetation	5.1.6-2
5.1.6.4. Wildlife	5.1.6-10
5.1.6.5. Fisheries and Aquatic Habitats	5.1.6-20
5.1.6.6. Threatened and Endangered Species and Species of Conservation Concern	5.1.6-30
5.1.7. Land Use, Airspace, and Recreation	5.1.7-1
5.1.8. Visual Resources	5.1.8-1
5.1.9. Socioeconomics	5.1.9-1
5.1.10. Environmental Justice	5.1.10-1
5.1.11. Cultural Resources	5.1.11-1
5.1.12. Air Quality	5.1.12-1
5.1.13. Noise and Vibrations	5.1.13-1
5.1.14. Climate Change	5.1.14-1
5.1.15. Human Health and Safety	5.1.15-1
5.2. Environmental Consequences	5.2-1
5.2.1. Infrastructure	5.2.1-1
5.2.2. Soils	5.2.2-1
5.2.3. Geology	5.2.3-1
5.2.4. Water Resources	5.2.4-1
5.2.5. Wetlands	5.2.5-1
5.2.6. Biological Resources	5.2.6-1
5.2.6.1. Introduction	5.2.6-1
5.2.6.2. Impact Assessment Methodology and Significance Criteria	5.2.6-1
5.2.6.3. Terrestrial Vegetation	5.2.6-9
5.2.6.4. Wildlife	5.2.6-18
5.2.6.5. Fisheries and Aquatic Habitats	5.2.6-42
5.2.6.6. Threatened and Endangered Species and Species of Conservation Concern	5.2.6-57
5.2.7. Land Use, Airspace, and Recreation	5.2.7-1
5.2.8. Visual Resources	5.2.8-1
5.2.9. Socioeconomics	5.2.9-1

5.2.10.	Environmental Justice .....	5.2.10-1
5.2.11.	Cultural Resources .....	5.2.11-1
5.2.12.	Air Quality .....	5.2.12-1
5.2.13.	Noise .....	5.2.13-1
5.2.14.	Climate Change.....	5.2.14-1
5.2.15.	Human Health and Safety .....	5.2.15-1
5.3.	References.....	5.3-1
5.3.1.	Introduction.....	5.3-1
5.3.2.	Affected Environment.....	5.3-2
5.3.3.	Environmental Consequences.....	5.3-28
<b>6.</b>	<b>Guam.....</b>	<b>6-1</b>
6.1.	Affected Environment.....	6.1-1
6.1.1.	Infrastructure.....	6.1.1-1
6.1.2.	Soils.....	6.1.2-1
6.1.3.	Geology.....	6.1.3-1
6.1.4.	Water Resources .....	6.1.4-1
6.1.5.	Wetlands .....	6.1.5-1
6.1.6.	Biological Resources .....	6.1.6-1
6.1.6.1.	Introduction.....	6.1.6-1
6.1.6.2.	Specific Regulatory Considerations.....	6.1.6-1
6.1.6.3.	Terrestrial Vegetation .....	6.1.6-2
6.1.6.4.	Wildlife .....	6.1.6-7
6.1.6.5.	Fisheries and Aquatic Habitats .....	6.1.6-18
6.1.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	6.1.6-26
6.1.7.	Land Use, Airspace, and Recreation.....	6.1.7-1
6.1.8.	Visual Resources.....	6.1.8-1
6.1.9.	Socioeconomics .....	6.1.9-1
6.1.10.	Environmental Justice.....	6.1.10-1
6.1.11.	Cultural Resources.....	6.1.11-1
6.1.12.	Air Quality .....	6.1.12-1
6.1.13.	Noise and Vibrations.....	6.1.13-1
6.1.14.	Climate Change.....	6.1.14-1
6.1.15.	Human Health and Safety .....	6.1.15-1
6.2.	Environmental Consequences.....	6.2-1
6.2.1.	Infrastructure.....	6.2.1-1
6.2.2.	Soils.....	6.2.2-1
6.2.3.	Geology.....	6.2.3-1
6.2.4.	Water Resources .....	6.2.4-1
6.2.5.	Wetlands .....	6.2.5-1

6.2.6.	Biological Resources .....	6.2.6-1
6.2.6.1.	Introduction.....	6.2.6-1
6.2.6.2.	Impact Assessment Methodology and Significance Criteria .....	6.2.6-1
6.2.6.3.	Terrestrial Vegetation .....	6.2.6-9
6.2.6.4.	Wildlife .....	6.2.6-18
6.2.6.5.	Fisheries and Aquatic Habitats .....	6.2.6-42
6.2.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	6.2.6-56
6.2.7.	Land Use, Airspace, and Recreation.....	6.2.7-1
6.2.8.	Visual Resources.....	6.2.8-1
6.2.9.	Socioeconomics .....	6.2.9-1
6.2.10.	Environmental Justice.....	6.2.10-1
6.2.11.	Cultural Resources .....	6.2.11-1
6.2.12.	Air Quality .....	6.2.12-1
6.2.13.	Noise and Vibrations.....	6.2.13-1
6.2.14.	Climate Change.....	6.2.14-1
6.3.	References.....	6.3-1
6.3.1.	Introduction.....	6.3-1
6.3.2.	Affected Environment.....	6.3-2
6.3.3.	Environmental Consequences .....	6.3-25
<b>7.</b>	<b>Northern Mariana Islands .....</b>	<b>7-1</b>
7.1.	Affected Environment.....	7.1-1
7.1.1.	Infrastructure.....	7.1.1-1
7.1.2.	Soils.....	7.1.2-1
7.1.3.	Geology.....	7.1.3-1
7.1.4.	Water Resources .....	7.1.4-1
7.1.5.	Wetlands .....	7.1.5-1
7.1.6.	Biological Resources .....	7.1.6-1
7.1.6.1.	Introduction.....	7.1.6-1
7.1.6.2.	Specific Regulatory Considerations.....	7.1.6-1
7.1.6.3.	Terrestrial Vegetation .....	7.1.6-2
7.1.6.4.	Wildlife .....	7.1.6-8
7.1.6.5.	Fisheries and Aquatic Habitats .....	7.1.6-18
7.1.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	7.1.6-26
7.1.7.	Land Use, Airspace, and Recreation.....	7.1.7-1
7.1.8.	Visual Resources.....	7.1.8-1
7.1.9.	Socioeconomics .....	7.1.9-1
7.1.10.	Environmental Justice.....	7.1.10-1
7.1.11.	Cultural Resources .....	7.1.11-1
7.1.12.	Air Quality .....	7.1.12-1

7.1.13.	Noise and Vibrations.....	7.1.13-1
7.1.14.	Climate Change.....	7.1.14-1
7.1.15.	Human Health and Safety .....	7.1.15-1
7.2.	Environmental Consequences.....	7.2-1
7.2.1.	Infrastructure.....	7.2.1-1
7.2.2.	Soils.....	7.2.2-1
7.2.3.	Geology.....	7.2.3-1
7.2.4.	Water Resources .....	7.2.4-1
7.2.5.	Wetlands .....	7.2.5-1
7.2.6.	Biological Resources .....	7.2.6-1
7.2.6.1.	Introduction.....	7.2.6-1
7.2.6.2.	Impact Assessment Methodology and Significance Criteria .....	7.2.6-1
7.2.6.3.	Terrestrial Vegetation .....	7.2.6-9
7.2.6.4.	Wildlife .....	7.2.6-18
7.2.6.5.	Fisheries and Aquatic Habitats .....	7.2.6-42
7.2.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	7.2.6-57
7.2.7.	Land Use, Airspace, and Recreation.....	7.2.7-1
7.2.8.	Visual Resources.....	7.2.8-1
7.2.9.	Socioeconomics .....	7.2.9-1
7.2.10.	Environmental Justice.....	7.2.10-1
7.2.11.	Cultural Resources .....	7.2.11-1
7.2.12.	Air Quality .....	7.2.12-1
7.2.13.	Noise and Vibrations .....	7.2.13-1
7.2.14.	Climate Change.....	7.2.14-1
7.2.15.	Human Health and Safety .....	7.2.15-1
7.3.	References.....	7.3-1
7.3.1.	Introduction.....	7.3-1
7.3.2.	Affected Environment.....	7.3-2
7.3.3.	Environmental Consequences.....	7.3-24
<b>8.</b>	<b>Puerto Rico .....</b>	<b>8-1</b>
8.1.	Affected Environment.....	8.1-1
8.1.1.	Infrastructure.....	8.1.1-1
8.1.2.	Soils.....	8.1.2-1
8.1.3.	Geology.....	8.1.3-1
8.1.4.	Water Resources .....	8.1.4-1
8.1.5.	Wetlands .....	8.1.5-1
8.1.6.	Biological Resources .....	8.1.6-1
8.1.6.1.	Introduction.....	8.1.6-1
8.1.6.2.	Specific Regulatory Considerations.....	8.1.6-1
8.1.6.3.	Terrestrial Vegetation .....	8.1.6-2

8.1.6.4.	Wildlife .....	8.1.6-6
8.1.6.5.	Fisheries and Aquatic Habitats .....	8.1.6-21
8.1.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	8.1.6-28
8.1.7.	Land Use, Airspace, and Recreation.....	8.1.7-1
8.1.8.	Visual Resources.....	8.1.8-1
8.1.9.	Socioeconomics .....	8.1.9-1
8.1.10.	Environmental Justice.....	8.1.10-1
8.1.11.	Cultural Resources .....	8.1.11-1
8.1.12.	Air Quality .....	8.1.12-1
8.1.13.	Noise and Vibrations.....	8.1.13-1
8.1.14.	Climate Change.....	8.1.14-1
8.1.15.	Human Health and Safety .....	8.1.15-1
8.2.	Environmental Consequences.....	8.2-1
8.2.1.	Infrastructure.....	8.2.1-1
8.2.2.	Soils.....	8.2.2-1
8.2.3.	Geology.....	8.2.3-1
8.2.4.	Water Resources .....	8.2.4-1
8.2.5.	Wetlands .....	8.2.5-1
8.2.6.	Biological Resources .....	8.2.6-1
8.2.6.1.	Introduction.....	8.2.6-1
8.2.6.2.	Impact Assessment Methodology and Significance Criteria .....	8.2.6-1
8.2.6.3.	Terrestrial Vegetation .....	8.2.6-9
8.2.6.4.	Wildlife .....	8.2.6-18
8.2.6.5.	Fisheries and Aquatic Habitats .....	8.2.6-42
8.2.6.6.	Threatened and Endangered Species and Species of Conservation Concern.....	8.2.6-56
8.2.7.	Land Use, Airspace, and Recreation.....	8.2.7-1
8.2.8.	Visual Resources.....	8.2.8-1
8.2.9.	Socioeconomics .....	8.2.9-1
8.2.10.	Environmental Justice.....	8.2.10-1
8.2.11.	Cultural Resources .....	8.2.11-1
8.2.12.	Air Quality .....	8.2.12-1
8.2.13.	Noise and Vibrations.....	8.2.13-1
8.2.14.	Climate Change.....	8.2.14-1
8.2.15.	Human Health and Safety .....	8.2.15-1
8.3.	References.....	8.3-1
8.3.1.	Introduction.....	8.3-1
8.3.2.	Affected Environment.....	8.3-2
8.3.3.	Environmental Consequences .....	8.3-29

<b>9. U.S. Virgin Islands</b> .....	<b>9-1</b>
9.1. Affected Environment.....	9.1-1
9.1.1. Infrastructure.....	9.1.1-1
9.1.2. Soils.....	9.1.2-1
9.1.3. Geology.....	9.1.3-1
9.1.4. Water Resources .....	9.1.4-1
9.1.5. Wetlands .....	9.1.5-1
9.1.6. Biological Resources .....	9.1.6-1
9.1.6.1. Introduction.....	9.1.6-1
9.1.6.2. Specific Regulatory Considerations.....	9.1.6-1
9.1.6.3. Terrestrial Vegetation .....	9.1.6-2
9.1.6.4. Wildlife.....	9.1.6-7
9.1.6.5. Fisheries and Aquatic Habitats .....	9.1.6-20
9.1.6.6. Threatened and Endangered Species and Species of Conservation Concern.....	9.1.6-28
9.1.7. Land Use, Airspace, and Recreation.....	9.1.7-1
9.1.8. Visual Resources.....	9.1.8-1
9.1.9. Socioeconomics .....	9.1.9-1
9.1.10. Environmental Justice.....	9.1.10-1
9.1.11. Cultural Resources.....	9.1.11-1
9.1.13. Noise and Vibrations.....	9.1.13-1
9.1.14. Climate Change.....	9.1.14-1
9.1.15. Human Health and Safety .....	9.1.15-1
9.2. Environmental Consequences.....	9.2-1
9.2.1. Infrastructure.....	9.2.1-1
9.2.2. Soils.....	9.2.2-1
9.2.3. Geology.....	9.2.3-1
9.2.4. Water Resources .....	9.2.4-1
9.2.5. Wetlands .....	9.2.5-1
9.2.6. Biological Resources .....	9.2.6-1
9.2.6.1. Introduction.....	9.2.6-1
9.2.6.2. Impact Assessment Methodology and Significance Criteria .....	9.2.6-1
9.2.6.3. Terrestrial Vegetation .....	9.2.6-9
9.2.6.4. Wildlife.....	9.2.6-18
9.2.6.5. Fisheries and Aquatic Habitats .....	9.2.6-42
9.2.6.6. Threatened and Endangered Species and Species of Conservation Concern.....	9.2.6-56
9.2.7. Land Use, Airspace, and Recreation.....	9.2.7-1
9.2.8. Visual Resources.....	9.2.8-1
9.2.9. Socioeconomics .....	9.2.9-1
9.2.10. Environmental Justice.....	9.2.10-1

9.2.11.	Cultural Resources .....	9.2.11-1
9.2.12.	Air Quality .....	9.2.12-1
9.2.13.	Noise and Vibrations.....	9.2.13-1
9.2.14.	Climate Change.....	9.2.14-1
9.2.15.	Human Health and Safety .....	9.2.15-1
9.3.	References.....	9.3-1
9.3.1.	Introduction.....	9.3-1
9.3.2.	Affected Environment.....	9.3-2
9.3.3.	Environmental Consequences.....	9.3-28
<b>10.</b>	<b>Cumulative Effects.....</b>	<b>10-1</b>
<b>11.</b>	<b>BMPs and Mitigation Measures .....</b>	<b>11-1</b>
11.1.	Infrastructure.....	11-2
11.1.1.	BMPs and Mitigation Measures for All Project Types.....	11-2
11.1.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-3
11.2.	Soils.....	11-3
11.2.1.	BMPs and Mitigation Measures for All Project Types.....	11-3
11.2.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-4
11.3.	Geology.....	11-4
11.3.1.	BMPs and Mitigation Measures for All Project Types.....	11-4
11.3.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-5
11.4.	Water Resources .....	11-6
11.4.1.	BMPs and Mitigation Measures for All Project Types.....	11-6
11.4.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-9
11.5.	Wetlands .....	11-9
11.5.1.	BMPs and Mitigation Measures for All Project Types.....	11-9
11.5.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-11
11.6.	Biological Resources .....	11-12
11.6.1.	Terrestrial Vegetation .....	11-12
11.6.1.1.	BMPs and Mitigation Measures for All Project Types.....	11-12
11.6.1.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-14
11.6.2.	Wildlife .....	11-14
11.6.2.1.	BMPs and Mitigation Measures for All Project Types.....	11-14
11.6.2.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-20
11.6.3.	Fisheries and Aquatic Habitats .....	11-21
11.6.3.1.	BMPs and Mitigation Measures for All Project Types.....	11-21
11.6.3.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-23
11.6.4.	Threatened and Endangered Species and Species of Conservation Concern .....	11-23
11.6.4.1.	BMPs and Mitigation Measures for All Project Types.....	11-23
11.6.4.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-25

11.7.	Land Use, Airspace, and Recreation.....	11-26
11.7.1.	BMPs and Mitigation Measures for All Project Types.....	11-26
11.7.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-27
11.8.	Visual Resources.....	11-27
11.8.1.	BMPs and Mitigation Measures for All Project Types.....	11-27
11.8.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-28
11.9.	Socioeconomics .....	11-29
11.9.1.	BMPs and Mitigation Measures for All Project Types.....	11-29
11.9.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-30
11.10.	Environmental Justice.....	11-30
11.10.1.	BMPs and Mitigation Measures for All Project Types.....	11-30
11.10.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-31
11.11.	Cultural Resources .....	11-31
11.11.1.	BMPs and Mitigation Measures for All Project Types.....	11-31
11.11.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-32
11.12.	Air Quality .....	11-32
11.12.1.	BMPs and Mitigation Measures for All Project Types.....	11-32
11.12.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-33
11.13.	Noise and Vibrations.....	11-34
11.13.1.	BMPs and Mitigation Measures for All Project Types.....	11-34
11.13.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-35
11.14.	Climate Change.....	11-35
11.14.1.	BMPs and Mitigation Measures for All Project Types.....	11-35
11.14.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-36
11.15.	Human Health and Safety .....	11-36
11.15.1.	BMPs and Mitigation Measures for All Project Types.....	11-36
11.15.2.	Project-Type Specific BMPs and Mitigation Measures.....	11-38
11.16.	References.....	11-38
11.16.1.	Wildlife .....	11-38
11.16.2.	Fisheries and Aquatic Habitats .....	11-40
11.16.3.	Threatened and Endangered Species and Species of Conservation Concern .....	11-41
11.16.4.	Land Use, Airspace, and Recreation.....	11-41
11.16.5.	Socioeconomics .....	11-41
11.16.6.	Environmental Justice.....	11-41
11.16.7.	Human Health and Safety .....	11-41
<b>12.</b>	<b>Comparison of Alternatives .....</b>	<b>12-1</b>
12.1.	Introduction.....	12-1
12.2.	Comparison of Alternatives .....	12-2
12.3.	References.....	12-10



<b>13. Other Required Analyses .....</b>	<b>13-1</b>
13.1. Unavoidable Adverse Impacts .....	13-1
13.2. Irreversible or Irrecoverable Commitment of Resources .....	13-1
13.3. Relationship Between Short-term and Long-term Productivity .....	13-3
<b>14. Draft PEIS Public Comments .....</b>	<b>14-1</b>
<b>15. List of Preparers and Contributors.....</b>	<b>15-1</b>
<b>16. Distribution List.....</b>	<b>16-1</b>
<b>17. Index.....</b>	<b>17-1</b>
<b>18. Glossary .....</b>	<b>18-1</b>

## APPENDICES

- A Invited Cooperating Agencies
- B First Responder Network Authority Nationwide Public Safety Broadband Network  
Programmatic Environmental Impact Statement Scoping Summary Report
- C Environmental Laws and Regulations
- D Threatened and Endangered Species
- E Environmental Justice Demographic Data
- F Climate Change Sources and Models
- G Hawaii Register of Historic Places
- H Radio Frequency Emissions Comments Received—All Regions

## LIST OF TABLES

Table 2.4.1-1:	FCC Regulatory Levels .....	2-10
Table 3.1.1-1:	Public Safety Communications System.....	3.1.1-7
Table 3.1.1-2:	Other Communication Systems .....	3.1.1-7
Table 3.1.2-1:	Major Land Resource Areas in Alaska.....	3.1.2-4
Table 3.1.2-2:	General Characteristics of Soil Suborders Found in Alaska.....	3.1.2-6
Table 3.1.4-1:	Total Surface Waters for Alaska.....	3.1.4-2
Table 3.1.4-2:	Water Quality Summary for Alaska Waterbodies .....	3.1.4-6
Table 3.1.4-3:	Alaska Groundwater Withdrawals in 2005.....	3.1.4-9
Table 3.1.5-1:	Acres, Types, and Descriptions of Wetlands in Alaska .....	3.1.5-5
Table 3.1.6.3-1:	Vegetation Types/ Land Cover Classes in Alaska.....	3.1.6-4
Table 3.1.6.3-2:	Biophysical Settings and Plant Associations of Concern in Alaska .....	3.1.6-5
Table 3.1.6.6-1:	Federal- and State-listed Threatened and Endangered and Candidate Species Known to Occur in Alaska .....	3.1.6-51
Table 3.1.7-1:	Land Use/Land Cover in Alaska.....	3.1.7-4
Table 3.1.7-2:	Major Land Owners in Alaska.....	3.1.7-5
Table 3.1.7-3:	Acreage of Recreational Lands in Alaska, by Type .....	3.1.7-9
Table 3.1.9-1:	National, State, and Borough Population, Population Density, and Growth Rates .....	3.1.9-5
Table 3.1.9-2:	Population Projections .....	3.1.9-7
Table 3.1.9-3:	Select Economic Indicators .....	3.1.9-8
Table 3.1.9-4:	Housing Units, Occupancy, and Tenure .....	3.1.9-12
Table 3.1.9-5:	Housing Costs.....	3.1.9-13
Table 3.1.9-6:	Median Value of Owner Occupied Single Family Homes, 2009 to 2013 American Community Survey .....	3.1.9-14
Table 3.1.9-7:	Real Estate Taxes, Owner-Occupied Units with a Mortgage, 2013 .....	3.1.9-16
Table 3.1.10-1:	Race and Ethnicity, Alaska.....	3.1.10-3
Table 3.1.11-1:	Historic Properties Listed on the NRHP.....	3.1.11-8
Table 3.1.12-1:	Ambient Air Quality Standards in Alaska.....	3.1.12-2
Table 3.1.12-2:	Nonattainment and Maintenance Areas in Alaska.....	3.1.12-4
Table 3.1.12-3:	PSD Allowable Increase Increments .....	3.1.12-6
Table 3.1.12-4:	Alaska Class I Areas.....	3.1.12-6
Table 3.1.12-5:	General Conformity Emissions Thresholds in Alaska.....	3.1.12-8
Table 3.1.13-1:	Allowable Noise Levels by Receiving Land Use in Anchorage, Alaska .....	3.1.13-2
Table 3.1.13-2:	Typical Noise Levels and Possible Human Effects .....	3.1.13-2
Table 3.1.13-3:	Typical Outdoor Sound Levels by Land Use Category .....	3.1.13-3
Table 3.1.13-4:	Vibration Source Levels for Select Construction Equipment (VdB).....	3.1.13-4
Table 3.1.14-1:	Climatic Regions of Alaska .....	3.1.14-7
Table 3.1.14-2:	Annual Average Temperature, Humidity, Precipitation, and Wind Speed Data for Anchorage, Barrow, Fairbanks, Juneau, and Kodiak, Alaska .....	3.1.14-8

Table 3.1.14-3:	Recorded Severe Weather Occurrences for Alaskan Boroughs/Census Zones (1996-2014) .....	3.1.14-9
Table 3.1.15-1:	Key Health Indicators for Alaska .....	3.1.15-2
Table 3.1.15-2:	Health Conditions Affected by Air Pollution .....	3.1.15-4
Table 3.1.15-3:	Alaska Active Superfund Sites .....	3.1.15-6
Table 3.2.1-1:	Impact Significance Rating Criteria for Infrastructure .....	3.2.1-2
Table 3.2.2-1:	Impact Significance Rating Criteria for Soils .....	3.2.2-2
Table 3.2.3-1:	Impact Significance Rating Criteria for Geology .....	3.2.3-2
Table 3.2.4-1:	Impact Significance Rating Criteria for Water Resources.....	3.2.4-2
Table 3.2.5-1:	Impact Significance Rating Criteria for Wetlands.....	3.2.5-2
Table 3.2.6.2-1:	Impact Significance Rating Criteria for Terrestrial Vegetation, Wildlife, and Fisheries and Aquatic Habitats .....	3.2.6-3
Table 3.2.6.6-1:	Impact Significance Rating Criteria for Listed Species and Critical Habitats....	3.2.6-59
Table 3.2.6.6-2:	Summary of Information on Federally and State-Listed Species and Critical Habitats.....	3.2.6-62
Table 3.2.6.6-3:	Determination of Impact Significance for Listed Species as a Result of the Preferred Alternative .....	3.2.6-75
Table 3.2.6.6-4:	Determination of Impact Significance for Listed Species and Critical Habitats as a Result of the Deployable Technologies Alternative .....	3.2.6-77
Table 3.2.7-1:	Impact Significance Rating Criteria for Land Use, Airspace, and Recreation .....	3.2.7-2
Table 3.2.8-1:	Impact Significance Rating Criteria for Visual Resources .....	3.2.8-2
Table 3.2.9-1:	Impact Significance Rating Criteria for Socioeconomics.....	3.2.9-2
Table 3.2.10-1:	Impact Significance Rating Criteria for Environmental Justice .....	3.2.10-2
Table 3.2.11-1:	Impact Significance Rating Criteria for Cultural Resources .....	3.2.11-2
Table 3.2.12-1:	Impact Significance Rating Criteria for Air Quality .....	3.2.12-2
Table 3.2.12-2:	Combustion Emission Estimates (Monthly) from New Buried Wired Project Deployment .....	3.2.12-7
Table 3.2.12-3:	Combustion Emission Estimates (Monthly) from New Aerial Wired Project Deployment .....	3.2.12-8
Table 3.2.12-4:	Combustion Emission Estimates (Monthly) from Tower, Structure, and Transmission Equipment Delivery and Installation.....	3.2.12-8
Table 3.2.12-5:	Dust Emission Estimates (Monthly) from Excavation/Filling and Grading/Earth Moving Activities .....	3.2.12-9
Table 3.2.12-6:	Combustion Emission Estimates from Heavy-Duty Vehicles .....	3.2.12-12
Table 3.2.12-7:	Combustion Emission Estimates from Light-Duty Trucks.....	3.2.12-12
Table 3.2.12-8:	Combustion Emission Estimates from Diesel Backup Power Generators at Wireless Communication Towers.....	3.2.12-16
Table 3.2.12-9:	Combustion Emission Estimates from Diesel Generators on On-Road Vehicles Stationed On-Site.....	3.2.12-17
Table 3.2.13-1:	Impact Significance Rating Criteria for Noise and Vibrations.....	3.2.13-2
Table 3.2.13-2:	Limiting Distances for Maximum Noise Levels Associated with New Buried Wired Activities such as Plowing, Wire Installation, and Construction of Points of Presence and Fiber Huts .....	3.2.13-6

Table 3.2.13-3:	Limiting Distances for Maximum Noise Levels Associated with New Aerial Wired Activities such as Excavation, Grading, and Pole Delivery and Installation .....	3.2.13-7
Table 3.2.13-4:	Limiting Distances for Maximum Noise Levels Associated with Tower, Structure, and Transmission Equipment Delivery and Installation .....	3.2.13-8
Table 3.2.13-5:	Limiting Distances for Maximum Noise Levels Associated with Collocation on Existing Wireless Tower, Structure, or Building.....	3.2.13-11
Table 3.2.13-6:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation—Short-Term.....	3.2.13-12
Table 3.2.13-7:	Limiting Distances for Maximum Noise Levels Associated with Power Generators and Ventilation Fans at Fiber Huts or Central Offices.....	3.2.13-17
Table 3.2.13-8:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Long-Term .....	3.2.13-18
Table 3.2.14-1:	Impact Significance Rating Criteria for Climate Change.....	3.2.14-2
Table 3.2.14-2:	Projected Temperature and Precipitation Changes.....	3.2.14-4
Table 3.2.14-3:	Projected Global Sea Level Rise Relative to 1992.....	3.2.14-6
Table 3.2.14-4:	GHG Emission Estimates from Buried Wired Project Deployment.....	3.2.14-11
Table 3.2.14-5:	GHG Emission Estimates from New Aerial Wired Project Deployment.....	3.2.14-12
Table 3.2.14-6:	GHG Emissions Estimates from Tower, Structure, and Transmission Equipment Delivery and Installation .....	3.2.14-13
Table 3.2.14-7:	GHG Emissions Estimates from Heavy and Light Duty Vehicles .....	3.2.14-14
Table 3.2.14-8:	GHG Emissions from Back-up Diesel Power Generators for Wireless Projects .....	3.2.14-16
Table 3.2.14-9:	GHG Emissions from Power Generators for Deployable Technologies .....	3.2.14-17
Table 3.2.15-1:	Impact Significance Rating Criteria for Human Health and Safety .....	3.2.15-2
Table 4.1.1-1:	Airport Distribution by Island in the State of Hawaii.....	4.1.1-7
Table 4.1.1-2:	Hospitals by County in the State of Hawaii.....	4.1.1-11
Table 4.1.1-3:	Public Safety Communications System.....	4.1.1-14
Table 4.1.1-4:	Other Communication Systems .....	4.1.1-15
Table 4.1.2-1:	Major Land Resource Areas in Hawaii .....	4.1.2-4
Table 4.1.2-2:	General Characteristics of Soil Suborders Found in Hawaii .....	4.1.2-5
Table 4.1.3-1:	Volcanoes in Hawaii.....	4.1.3-7
Table 4.1.4-1:	Total Surface Waters for Hawaii .....	4.1.4-2
Table 4.1.4-2:	Summary of Impaired and Attaining Marine Waterbodies in Hawaii.....	4.1.4-10
Table 4.1.5-1:	Acreages, Types, and Descriptions of Wetlands in Hawaii.....	4.1.5-5
Table 4.1.6.3-1:	Vegetation Types/Land Cover Classes in Hawaii .....	4.1.6-4
Table 4.1.6.6-1:	Federal- and State-listed Threatened and Endangered Species Known to Occur in Hawaii.....	4.1.6-29
Table 4.1.7-1:	Land Use/Land Cover in Hawaii .....	4.1.7-6
Table 4.1.7-2:	State Land Use Districts .....	4.1.7-8
Table 4.1.7-3:	Major Land Owners in Hawaii .....	4.1.7-9
Table 4.1.7-4:	Acreage of Recreational Lands in Hawaii, by Type.....	4.1.7-14

Table 4.1.9-1:	National, State, and County Population, Population Density, and Growth Rates .....	4.1.9-3
Table 4.1.9-2:	Population Projections .....	4.1.9-4
Table 4.1.9-3:	Select Economic Indicators .....	4.1.9-4
Table 4.1.9-4:	Housing Units, Occupancy, and Tenure .....	4.1.9-6
Table 4.1.9-5:	Housing Costs .....	4.1.9-7
Table 4.1.9-6:	Median Value of Owner Occupied Single Family Homes, 2009 to 2013 American Community Survey .....	4.1.9-7
Table 4.1.9-7:	Real Estate Taxes, Owner-Occupied Units with a Mortgage .....	4.1.9-8
Table 4.1.10-1:	Race and Ethnicity .....	4.1.10-4
Table 4.1.11-1:	Historic Properties Listed on the NRHP .....	4.1.11-6
Table 4.1.12-1:	Ambient Air Quality Standards in Hawaii .....	4.1.12-2
Table 4.1.12-2:	PSD Allowable Increase Increments .....	4.1.12-5
Table 4.1.12-3:	Hawaii Class I Areas .....	4.1.12-5
Table 4.1.13-1:	Maximum Permissible Sound Levels (dBA) in Hawaii .....	4.1.13-2
Table 4.1.13-2:	Maximum Permissible Sound Levels per Octave Band Center Frequency for Intensive Industrial and Waterfront Districts in Honolulu .....	4.1.13-2
Table 4.1.13-3:	Typical Noise Levels and Possible Human Effects .....	4.1.13-3
Table 4.1.13-4:	Typical Outdoor Sound Levels by Land Use Category .....	4.1.13-4
Table 4.1.13-5:	Vibration Source Levels for Select Construction Equipment (VdB) .....	4.1.13-5
Table 4.1.14-1:	Annual Average Temperature, Humidity, Precipitation, and Wind Speed Data for Hawaii .....	4.1.14-6
Table 4.1.14-2:	Hawaii Severe Weather System Characteristics .....	4.1.14-7
Table 4.1.14-3:	Severe Weather Data for Hawaii (1996-2014) .....	4.1.14-7
Table 4.1.15-1:	Key Health Indicators for Hawaii .....	4.1.15-2
Table 4.1.15-2:	Health Conditions Affected by Air Pollution .....	4.1.15-4
Table 4.1.15-3:	Hawaii Active Superfund Sites .....	4.1.15-6
Table 4.2.1-1:	Impact Significance Rating Criteria for Infrastructure .....	4.2.1-2
Table 4.2.2-1:	Impact Significance Rating Criteria for Soils .....	4.2.2-2
Table 4.2.3-1:	Impact Significance Rating Criteria for Geology .....	4.2.3-2
Table 4.2.4-1:	Impact Significance Rating Criteria for Water Resources .....	4.2.4-2
Table 4.2.5-1:	Impact Significance Rating Criteria for Wetlands .....	4.2.5-2
Table 4.2.6.2-1:	Impact Significance Rating Criteria for Terrestrial Vegetation, Wildlife, and Fisheries and Aquatic Habitats .....	4.2.6-3
Table 4.2.6.6-1:	Impact Significance Rating Criteria for Listed Species and Critical Habitats .....	4.2.6-58
Table 4.2.6.6-2:	Summary of Information on Federally and State-Listed Species in Hawaii .....	4.2.6-61
Table 4.2.6.6-3:	Determination of Impact Significance for Listed Species as a Result of the Preferred Alternative .....	4.2.6-73
Table 4.2.6.6-4:	Determination of Impact Significance for Listed Species as a Result of the Deployable Technologies Alternative .....	4.2.6-76
Table 4.2.7-1:	Impact Significance Rating Criteria for Land Use, Airspace, and Recreation .....	4.2.7-2
Table 4.2.8-1:	Impact Significance Rating Criteria for Visual Resources .....	4.2.8-2
Table 4.2.9-1:	Impact Significance Rating Criteria for Socioeconomics .....	4.2.9-2

Table 4.2.10-1:	Impact Significance Rating Criteria for Environmental Justice .....	4.2.10-2
Table 4.2.11-1:	Impact Significance Rating Criteria for Cultural Resources .....	4.2.11-2
Table 4.2.12-1:	Impact Significance Rating Criteria for Air Quality .....	4.2.12-2
Table 4.2.12-2:	Combustion Emission Estimates (Monthly) from New Buried Wired Project Deployment .....	4.2.12-7
Table 4.2.12-3:	Combustion Emission Estimates (Monthly) from New Aerial Wired Project Deployment .....	4.2.12-8
Table 4.2.12-4:	Combustion Emission Estimates (Monthly) from Tower, Structure, and Transmission Equipment Delivery and Installation.....	4.2.12-8
Table 4.2.12-5:	Dust Emission Estimates (Monthly) from Excavation/Filling and Grading/ Earth Moving Activities .....	4.2.12-9
Table 4.2.12-6:	Combustion Emission Estimates from Heavy-Duty Vehicles .....	4.2.12-11
Table 4.2.12-7:	Combustion Emission Estimates from Light-Duty Trucks.....	4.2.12-12
Table 4.2.12-8:	Combustion Emission Estimates from Diesel Backup Power Generators at Wireless Communication Towers.....	4.2.12-15
Table 4.2.12-9:	Combustion Emission Estimates from Diesel Generators on On-Road Vehicles Stationed On-site .....	4.2.12-16
Table 4.2.13-1:	Impact Significance Rating Criteria for Noise and Vibrations.....	4.2.13-2
Table 4.2.13-2:	Limiting Distances for Maximum Noise Levels Associated with New Buried Wired Activities such as Plowing, Wire Installation, and Construction of Points of Presence and Fiber Huts .....	4.2.13-6
Table 4.2.13-3:	Limiting Distances for Maximum Noise Levels Associated with New Aerial Wired Activities such as Excavation, Grading, and Pole Delivery and Installation .....	4.2.13-7
Table 4.2.13-4:	Limiting Distances for Maximum Noise Levels Associated with Tower, Structure, and Transmission Equipment Delivery and Installation .....	4.2.13-8
Table 4.2.13-5:	Limiting Distances for Maximum Noise Levels Associated with Collocation on Existing Wireless Tower, Structure, or Building.....	4.2.13-11
Table 4.2.13-6:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Short-Term.....	4.2.13-12
Table 4.2.13-7:	Limiting Distances for Maximum Noise Levels Associated with Power Generators and Ventilation Fans at Fiber Huts or Central Offices.....	4.2.13-17
Table 4.2.13-8:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Long-Term .....	4.2.13-18
Table 4.2.14-1:	Impact Significance Rating Criteria for Climate Change .....	4.2.14-2
Table 4.2.14-2:	Projected Temperature Changes .....	4.2.14-4
Table 4.2.14-3:	Projected Global Sea Level Rise Relative to 1992.....	4.2.14-6
Table 4.2.14-4:	GHG Emission Estimates from Buried Wired Project Deployment.....	4.2.14-10
Table 4.2.14-5:	GHG Emission Estimates from New Aerial Wired Project Deployment.....	4.2.14-10
Table 4.2.14-6:	GHG Emissions Estimates from Tower, Structure, and Transmission Equipment Delivery and Installation .....	4.2.14-12
Table 4.2.14-7:	GHG Emissions Estimates from Heavy and Light Duty Vehicles .....	4.2.14-13

Table 4.2.14-8:	GHG Emissions from Back-up Diesel Power Generators for Wireless Projects .....	4.2.14-15
Table 4.2.14-9:	GHG Emissions from Power Generators for Deployable Technologies .....	4.2.14-16
Table 4.2.15-1:	Impact Significance Rating Criteria for Human Health and Safety .....	4.2.15-2
Table 5.1.2-1:	Major Characteristics of MUIDs and Soil Types Found in American Samoa .....	5.1.2-3
Table 5.1.4-1:	Total Surface Waters for American Samoa .....	5.1.4-2
Table 5.1.5-1:	Acreages, Types, and Descriptions of Wetlands in the islands of Tutuila and Aunu'u, American Samoa .....	5.1.5-5
Table 5.1.6.3-1:	Vegetation Types/ Land Cover Classes in American Samoa .....	5.1.6-4
Table 5.1.6.3-2:	Endemic Plant Species in American Samoa .....	5.1.6-7
Table 5.1.6.6-1:	Federal- and Territory-listed Threatened and Endangered Species Known to Occur in American Samoa .....	5.1.6-32
Table 5.1.7-1:	Land Use/Land Cover in American Samoa .....	5.1.7-4
Table 5.1.7-2:	Major Land Owners in American Samoa .....	5.1.7-6
Table 5.1.7-3:	Acreage of Recreational Lands in American Samoa, by Type .....	5.1.7-9
Table 5.1.9-1:	National, Territory, and District Population, Population Density, and Growth Rates .....	5.1.9-2
Table 5.1.9-2:	Population Projections .....	5.1.9-3
Table 5.1.9-3:	Select Economic Indicators, 2010 .....	5.1.9-4
Table 5.1.9-4:	Housing Units, Occupancy, and Tenure, 2010 .....	5.1.9-4
Table 5.1.9-5:	Housing Costs .....	5.1.9-5
Table 5.1.9-6:	Median Value of Owner Occupied Single Family Homes .....	5.1.9-5
Table 5.1.10-1:	Race and Ethnicity, American Samoa, 2010 .....	5.1.10-3
Table 5.1.11-1:	Historic Properties Listed on the NRHP .....	5.1.11-6
Table 5.1.12-1:	Ambient Air Quality Standards in American Samoa .....	5.1.12-2
Table 5.1.12-2:	PSD Allowable Increase Increments .....	5.1.12-5
Table 5.1.13-1:	Typical Noise Levels and Possible Human Effects .....	5.1.13-2
Table 5.1.13-2:	Typical Outdoor Sound Levels by Land Use Category .....	5.1.13-3
Table 5.1.13-3:	Vibration Source Levels for Select Construction Equipment (VdB) .....	5.1.13-4
Table 5.1.14-1:	Annual Average Temperature, Humidity, Precipitation, and Wind Speed Data for American Samoa .....	5.1.14-6
Table 5.1.14-2:	Severe Weather Data for Inhabited Islands in American Samoa (1996-2014) .....	5.1.14-6
Table 5.1.15-1:	Key Health Indicators for American Samoa .....	5.1.15-2
Table 5.1.15-2:	Health Conditions Affected by Air Pollution .....	5.1.15-4
Table 5.2.1-1:	Impact Significance Rating Criteria for Infrastructure .....	5.2.1-2
Table 5.2.2-1:	Impact Significance Rating Criteria for Soils .....	5.2.2-2
Table 5.2.3-1:	Impact Significance Rating Criteria for Geology .....	5.2.3-2
Table 5.2.4-1:	Impact Significance Rating Criteria for Water Resources .....	5.2.4-2
Table 5.2.5-1:	Impact Significance Rating Criteria for Wetlands .....	5.2.5-2
Table 5.2.6.2-1:	Impact Significance Rating Criteria for Terrestrial Vegetation, Wildlife, and Fisheries and Aquatic Habitats .....	5.2.6-3
Table 5.2.6.6-1:	Impact Significance Rating Criteria for Listed Species and Critical Habitats .....	5.2.6-58

Table 5.2.6.6-2:	Summary of Information on Federally and Territory-Listed Species in American Samoa.....	5.2.6-61
Table 5.2.6.6-3:	Determination of Impact Significance for Listed Species as a Result of the Preferred Alternative .....	5.2.6-74
Table 5.2.6.6-4:	Determination of Impact Significance for Listed Species as a Result of the Deployable Technologies Alternative .....	5.2.6-76
Table 5.2.7-1:	Impact Significance Rating Criteria for Land Use, Airspace, and Recreation .....	5.2.7-2
Table 5.2.8-1:	Impact Significance Rating Criteria for Visual Resources.....	5.2.8-2
Table 5.2.9-1:	Impact Significance Rating Criteria for Socioeconomics.....	5.2.9-2
Table 5.2.10-1:	Impact Significance Rating Criteria for Environmental Justice .....	5.2.10-2
Table 5.2.11-1:	Impact Significance Rating Criteria for Cultural Resources .....	5.2.11-2
Table 5.2.12-1:	Impact Significance Rating Criteria for Air Quality .....	5.2.12-2
Table 5.2.12-2:	Combustion Emission Estimates (Monthly) from New Buried Wired Project Deployment .....	5.2.12-7
Table 5.2.12-3:	Combustion Emission Estimates (Monthly) from New Aerial Wired Project Deployment .....	5.2.12-8
Table 5.2.12-4:	Combustion Emission Estimates (Monthly) from Tower, Structure, and Transmission Equipment Delivery and Installation.....	5.2.12-8
Table 5.2.12-5:	Dust Emission Estimates (Monthly) from Excavation/Filling and Grading/Earth Moving Activities .....	5.2.12-9
Table 5.2.12-6:	Combustion Emission Estimates from Heavy-Duty Vehicles.....	5.2.12-11
Table 5.2.12-7:	Combustion Emission Estimates from Light-Duty Trucks.....	5.2.12-12
Table 5.2.12-8:	Combustion Emission Estimates from Diesel Backup Power Generators at Wireless Communication Towers.....	5.2.12-15
Table 5.2.12-9:	Combustion Emission Estimates from Diesel Power Generators on On-Road Vehicles Stationed On-Site.....	5.2.12-16
Table 5.2.13-1:	Impact Significance Rating Criteria for Noise and Vibrations.....	5.2.13-2
Table 5.2.13-2:	Limiting Distances for Maximum Noise Levels Associated with New Buried Wired Activities such as Plowing, Wire Installation, and Construction of Points of Presence and Fiber Huts.....	5.2.13-6
Table 5.2.13-3:	Limiting Distances for Maximum Noise Levels Associated with New Aerial Wired Activities such as Excavation, Grading, and Pole Delivery and Installation .....	5.2.13-7
Table 5.2.13-4:	Limiting Distances for Maximum Noise Levels Associated with Tower, Structure, and Transmission Equipment Delivery and Installation .....	5.2.13-7
Table 5.2.13-5:	Limiting Distances for Maximum Noise Levels Associated with Collocation on Existing Wireless Tower, Structure, or Building.....	5.2.13-10
Table 5.2.13-6:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Short-Term.....	5.2.13-11
Table 5.2.13-7:	Limiting Distances for Maximum Noise Levels Associated with Power Generators and Ventilation Fans at Fiber Huts or Central Offices.....	5.2.13-17
Table 5.2.13-8:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Long-Term .....	5.2.13-18



Table 5.2.14-1:	Impact Significance Rating Criteria for Climate Change.....	5.2.14-2
Table 5.2.14-2:	Projected Average Annual Temperature Changes.....	5.2.14-4
Table 5.2.14-3:	Projected Global Sea Level Rise Relative to 1992.....	5.2.14-5
Table 5.2.14-4:	GHG Emission Estimates from Buried Wired Project Deployment.....	5.2.14-10
Table 5.2.14-5:	GHG Emission Estimates from New Aerial Wired Project Deployment.....	5.2.14-10
Table 5.2.14-6:	GHG Emissions Estimates from Tower, Structure, and Transmission Equipment Delivery and Installation.....	5.2.14-12
Table 5.2.14-7:	GHG Emissions Estimates from Heavy and Light Duty Vehicles.....	5.2.14-13
Table 5.2.14-8:	GHG Emissions from Back-up Diesel Power Generators for Wireless Projects.....	5.2.14-15
Table 5.2.14-9:	GHG Emissions from Power Generators for Deployable Technologies.....	5.2.14-16
Table 5.2.15-1:	Impact Significance Rating Criteria for Human Health and Safety.....	5.2.15-2
Table 6.1.2-1:	Major Characteristics of MUIDs and Soil Types Found in Guam.....	6.1.2-5
Table 6.1.3-1:	Geologic Rock Unit Ages in Guam.....	6.1.3-3
Table 6.1.4-1:	Total Surface Waters for Guam.....	6.1.4-2
Table 6.1.5-1:	Acreages, Types, and Descriptions of Wetlands in Guam.....	6.1.5-5
Table 6.1.6.3-1:	Vegetation Types/ Land Cover Classes in Guam.....	6.1.6-4
Table 6.1.6.6-1:	Federal- and Territory-listed Threatened and Endangered Species Known to Occur in Guam.....	6.1.6-28
Table 6.1.7-1:	Land Use/Land Cover in Guam.....	6.1.7-6
Table 6.1.7-2:	Major Land Owners in Guam.....	6.1.7-6
Table 6.1.7-3:	Acreage of Recreational Lands in Guam, by Type.....	6.1.7-9
Table 6.1.9-1:	National and Territory Population, Population Density, and Growth Rates.....	6.1.9-2
Table 6.1.9-2:	Population Projections.....	6.1.9-3
Table 6.1.9-3:	Select Economic Indicators, 2010.....	6.1.9-4
Table 6.1.9-4:	Housing Units, Occupancy, and Tenure, 2010.....	6.1.9-4
Table 6.1.9-5:	Housing Costs.....	6.1.9-4
Table 6.1.9-6:	Median Value of Owner-Occupied Single Family Homes, 2010.....	6.1.9-4
Table 6.1.10-1:	Race and Ethnicity, Guam, 2010.....	6.1.10-3
Table 6.1.11-1:	Historic Properties Listed on the GRHP and NRHP.....	6.1.11-7
Table 6.1.12-1:	Ambient Air Quality Standards in Guam.....	6.1.12-2
Table 6.1.12-2:	Nonattainment Areas in Guam.....	6.1.12-4
Table 6.1.12-3:	PSD Allowable Increase Increments.....	6.1.12-5
Table 6.1.12-4:	General Conformity Emissions Threshold in Guam.....	6.1.12-6
Table 6.1.13-1:	Typical Noise Levels and Possible Human Effects.....	6.1.13-2
Table 6.1.13-2:	Typical Outdoor Sound Levels by Land Use Category.....	6.1.13-3
Table 6.1.13-3:	Vibration Source Levels for Select Construction Equipment (VdB).....	6.1.13-4
Table 6.1.14-1:	Annual Average Temperature, Humidity, Precipitation, and Wind Speed Data for Guam.....	6.1.14-6
Table 6.1.14-2:	Severe Weather Data for Guam (1996-2014).....	6.1.14-6
Table 6.1.15-1:	Key Health Indicators for Guam.....	6.1.15-2
Table 6.1.15-2:	Health Conditions Affected by Air Pollution.....	6.1.15-5
Table 6.2.1-1:	Impact Significance Rating Criteria for Infrastructure.....	6.2.1-2

Table 6.2.2-1:	Impact Significance Rating Criteria for Soils.....	6.2.2-2
Table 6.2.3-1:	Impact Significance Rating Criteria for Geology.....	6.2.3-2
Table 6.2.4-1:	Impact Significance Rating Criteria for Water Resources.....	6.2.4-2
Table 6.2.5-1:	Impact Significance Rating Criteria for Wetlands.....	6.2.5-2
Table 6.2.6.2-1:	Impact Significance Rating Criteria for Terrestrial Vegetation, Wildlife, and Fisheries and Aquatic Habitats .....	6.2.6-3
Table 6.2.6.6-1:	Impact Significance Rating Criteria for Listed Species and Critical Habitats....	6.2.6-57
Table 6.2.6.6-2:	Summary of Information on Federally and Territory-Listed Species in Guam..	6.2.6-60
Table 6.2.6.6-3:	Determination of Impact Significance for Listed Species as a Result of the Preferred Alternative .....	6.2.6-74
Table 6.2.6.6-4:	Determination of Impact Significance for Listed Species as a Result of the Deployable Technologies Alternative .....	6.2.6-76
Table 6.2.7-1:	Impact Significance Rating Criteria for Land Use, Airspace, and Recreation .....	6.2.7-2
Table 6.2.8-1:	Impact Significance Rating Criteria for Visual Resources.....	6.2.8-2
Table 6.2.9-1:	Impact Significance Rating Criteria for Socioeconomics.....	6.2.9-2
Table 6.2.10-1:	Impact Significance Rating Criteria for Environmental Justice .....	6.2.10-2
Table 6.2.11-1:	Impact Significance Rating Criteria for Cultural Resources .....	6.2.11-2
Table 6.2.12-1:	Impact Significance Rating Criteria for Air Quality .....	6.2.12-2
Table 6.2.12-2:	Combustion Emission Estimates (Monthly) from New Buried Wired Project Deployment .....	6.2.12-7
Table 6.2.12-3:	Combustion Emission Estimates (Monthly) from New Aerial Wired Project Deployment .....	6.2.12-8
Table 6.2.12-4:	Combustion Emission Estimates (Monthly) from Tower, Structure, and Transmission Equipment Delivery and Installation.....	6.2.12-8
Table 6.2.12-5:	Dust Emission Estimates (Monthly) from Excavation/Filling and Grading/Earth Moving Activities .....	6.2.12-9
Table 6.2.12-6:	Combustion Emission Estimates from Heavy-Duty Vehicles.....	6.2.12-12
Table 6.2.12-7:	Combustion Emission Estimates from Light-Duty Trucks.....	6.2.12-12
Table 6.2.12-8:	Combustion Emission Estimates from Diesel Backup Power Generators at Wireless Communication Towers.....	6.2.12-15
Table 6.2.12-9:	Combustion Emission Estimates from Diesel Generators on On-Road Vehicles Stationed On-Site.....	6.2.12-16
Table 6.2.13-1:	Impact Significance Rating Criteria for Noise and Vibrations.....	6.2.13-2
Table 6.2.13-2:	Limiting Distances for Maximum Noise Levels Associated with New Buried Wired Activities such as Plowing, Wire Installation, and Construction of Points of Presence and Fiber Huts .....	6.2.13-6
Table 6.2.13-3:	Limiting Distances for Maximum Noise Levels Associated with New Aerial Wired Activities such as Excavation, Grading, and Pole Delivery and Installation .....	6.2.13-7
Table 6.2.13-4:	Limiting Distances for Maximum Noise Levels Associated with Tower, Structure, and Transmission Equipment Delivery and Installation .....	6.2.13-8
Table 6.2.13-5:	Limiting Distances for Maximum Noise Levels Associated with Collocation on Existing Wireless Tower, Structure, or Building.....	6.2.13-11

Table 6.2.13-6:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Short-Term.....	6.2.13-12
Table 6.2.13-7:	Limiting Distances for Maximum Noise Levels Associated with Power Generators and Ventilation Fans at Fiber Huts or Central Offices.....	6.2.13-17
Table 6.2.13-8:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Long-Term.....	6.2.13-18
Table 6.2.14-1:	Impact Significance Rating Criteria for Climate Change.....	6.2.14-2
Table 6.2.14-2:	Projected Average Annual Temperature Changes.....	6.2.14-4
Table 6.2.14-3:	Projected Global Sea Level Rise Relative to 1992.....	6.2.14-5
Table 6.2.14-4:	GHG Emission Estimates from Buried Wired Project Deployment.....	6.2.14-10
Table 6.2.14-5:	GHG Emission Estimates from New Aerial Wired Project Deployment.....	6.2.14-10
Table 6.2.14-6:	GHG Emissions Estimates from Tower, Structure, and Transmission Equipment Delivery and Installation.....	6.2.14-12
Table 6.2.14-7:	GHG Emissions Estimates from Heavy and Light Duty Vehicles.....	6.2.14-13
Table 6.2.14-8:	GHG Emissions from Back-up Diesel Power Generators for Wireless Projects.....	6.2.14-15
Table 6.2.14-9:	GHG Emissions from Power Generators for Deployable Technologies.....	6.2.14-16
Table 6.2.15-1:	Impact Significance Rating Criteria for Human Health and Safety.....	6.2.15-2
Table 7.1.2-1:	Major Characteristics of MUIDs and Soil Types Found in the Northern Mariana Islands.....	7.1.2-5
Table 7.1.4-1:	Total Surface Waters for the Northern Mariana Islands.....	7.1.4-2
Table 7.1.5-1:	Acreages, Types, and Descriptions of Wetlands on the Northern Mariana Islands.....	7.1.5-5
Table 7.1.6.3-1:	Vegetation Types/Land Cover Classes in the Northern Mariana Islands.....	7.1.6-4
Table 7.1.6.6-1:	Federal- and Commonwealth-listed Threatened and Endangered Species Known to Occur in the Northern Mariana Islands.....	7.1.6-28
Table 7.1.7-1:	Land Use/Land Cover in the Northern Mariana Islands.....	7.1.7-5
Table 7.1.7-2:	Major Land Owners in the Northern Mariana Islands.....	7.1.7-7
Table 7.1.7-3:	Acreage of Recreational Lands in the Northern Mariana Islands, by Type.....	7.1.7-9
Table 7.1.9-1:	National, Territory, and Municipality Population, Population Density, and Growth Rates.....	7.1.9-3
Table 7.1.9-2:	Population Projections.....	7.1.9-3
Table 7.1.9-3:	Select Economic Indicators, 2010.....	7.1.9-4
Table 7.1.9-4:	Housing Units, Occupancy, and Tenure, 2010.....	7.1.9-4
Table 7.1.9-5:	Housing Costs.....	7.1.9-5
Table 7.1.9-6:	Median Value of Owner Occupied Single Family Homes.....	7.1.9-5
Table 7.1.10-1:	Race and Ethnicity, Northern Mariana Islands, 2010.....	7.1.10-3
Table 7.1.11-1:	Historic Properties Listed on the NRHP.....	7.1.11-7
Table 7.1.12-1:	Ambient Air Quality Standards in the Northern Mariana Islands.....	7.1.12-2
Table 7.1.12-2:	PSD Allowable Increase Increments.....	7.1.12-5
Table 7.1.13-1:	Typical Noise Levels and Possible Human Effects.....	7.1.13-2
Table 7.1.13-2:	Typical Outdoor Sound Levels by Land Use Category.....	7.1.13-3
Table 7.1.13-3:	Vibration Source Levels for Select Construction Equipment (VdB).....	7.1.13-4

Table 7.1.14-1:	Annual Average Temperature, Humidity, Precipitation, and Wind Speed Data for Guam (representative of the Northern Mariana Islands) .....	7.1.14-6
Table 7.1.14-2:	Severe Weather Data for the Northern Mariana Islands (1996-2014) .....	7.1.14-6
Table 7.1.15-1:	Key Health Indicators for Northern Mariana Islands .....	7.1.15-2
Table 7.1.15-2:	Health Conditions Affected by Air Pollution .....	7.1.15-4
Table 7.2.1-1:	Impact Significance Rating Criteria for Infrastructure .....	7.2.1-2
Table 7.2.2-1:	Impact Significance Rating Criteria for Soils .....	7.2.2-2
Table 7.2.3-1:	Impact Significance Rating Criteria for Geology .....	7.2.3-2
Table 7.2.4-1:	Impact Significance Rating Criteria for Water Resources .....	7.2.4-2
Table 7.2.5-1:	Impact Significance Rating Criteria for Wetlands .....	7.2.5-2
Table 7.2.6.2-1:	Impact Significance Rating Criteria for Terrestrial Vegetation, Wildlife, and Fisheries and Aquatic Habitats .....	7.2.6-3
Table 7.2.6.6-1:	Impact Significance Rating Criteria for Listed Species and Critical Habitats .....	7.2.6-58
Table 7.2.6.6-2:	Summary of Information on Federally and Territory-Listed Species in the Northern Mariana Islands .....	7.2.6-61
Table 7.2.6.6-3:	Determination of Impact Significance for Listed Species as a Result of the Preferred Alternative .....	7.2.6-74
Table 7.2.6.6-4:	Determination of Impact Significance for Listed Species as a Result of the Deployable Technologies Alternative .....	7.2.6-76
Table 7.2.7-1:	Impact Significance Rating Criteria for Land Use, Airspace, and Recreation .....	7.2.7-2
Table 7.2.8-1:	Impact Significance Rating Criteria for Visual Resources .....	7.2.8-2
Table 7.2.9-1:	Impact Significance Rating Criteria for Socioeconomics .....	7.2.9-2
Table 7.2.10-1:	Impact Significance Rating Criteria for Environmental Justice .....	7.2.10-2
Table 7.2.11-1:	Impact Significance Rating Criteria for Cultural Resources .....	7.2.11-2
Table 7.2.12-1:	Impact Significance Rating Criteria for Air Quality .....	7.2.12-2
Table 7.2.12-2:	Combustion Emission Estimates (Monthly) from New Buried Wired Project Deployment .....	7.2.12-7
Table 7.2.12-3:	Combustion Emission Estimates (Monthly) from New Aerial Wired Project Deployment .....	7.2.12-8
Table 7.2.12-4:	Combustion Emission Estimates (Monthly) from Tower, Structure, and Transmission Equipment Delivery and Installation .....	7.2.12-8
Table 7.2.12-5:	Dust Emission Estimates (Monthly) from Excavation/Filling and Grading/Earth Moving Activities .....	7.2.12-9
Table 7.2.12-6:	Combustion Emission Estimates from Heavy-Duty Vehicles .....	7.2.12-11
Table 7.2.12-7:	Combustion Emission Estimates from Light-Duty Trucks .....	7.2.12-12
Table 7.2.12-8:	Combustion Emission Estimates from Diesel Backup Generators at Wireless Communication Towers .....	7.2.12-15
Table 7.2.12-9:	Combustion Emission Estimates from Diesel Generators on On-Road Vehicles Stationed On-Site .....	7.2.12-16
Table 7.2.13-1:	Impact Significance Rating Criteria for Noise and Vibrations .....	7.2.13-2
Table 7.2.13-2:	Limiting Distances for Maximum Noise Levels Associated with New Buried Wired Activities such as Plowing, Wire Installation, and Construction of Points of Presence and Fiber Huts .....	7.2.13-6

Table 7.2.13-3:	Limiting Distances for Maximum Noise Levels Associated with New Aerial Wired Activities such as Excavation, Grading, and Pole Delivery and Installation .....	7.2.13-7
Table 7.2.13-4:	Limiting Distances for Maximum Noise Levels Associated with Tower, Structure, and Transmission Equipment Delivery and Installation .....	7.2.13-8
Table 7.2.13-5:	Limiting Distances for Maximum Noise Levels Associated with Collocation on Existing Wireless Tower, Structure, or Building.....	7.2.13-11
Table 7.2.13-6:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Short-Term.....	7.2.13-12
Table 7.2.13-7:	Limiting Distances for Maximum Noise Levels Associated with Power Generators and Ventilation Fans at Fiber Huts or Central Offices.....	7.2.13-17
Table 7.2.13-8:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Long-Term.....	7.2.13-18
Table 7.2.14-1:	Impact Significance Rating Criteria for Climate Change.....	7.2.14-2
Table 7.2.14-2:	Projected Average Annual Temperature Changes.....	7.2.14-4
Table 7.2.14-3:	Projected Global Sea Level Rise Relative to 1992.....	7.2.14-5
Table 7.2.14-4:	GHG Emission Estimates from Buried Wired Project Deployment.....	7.2.14-10
Table 7.2.14-5:	GHG Emission Estimates from New Aerial Wired Project Deployment.....	7.2.14-10
Table 7.2.14-6:	GHG Emissions Estimates from Tower, Structure, and Transmission Equipment Delivery and Installation .....	7.2.14-12
Table 7.2.14-7:	GHG Emissions Estimates from Heavy and Light Duty Vehicles .....	7.2.14-13
Table 7.2.14-8:	GHG Emissions from Back-up Diesel Power Generators for Wireless Projects .....	7.2.14-15
Table 7.2.14-9:	GHG Emissions from Power Generators for Deployable Technologies .....	7.2.14-16
Table 7.2.15-1:	Impact Significance Rating Criteria for Human Health and Safety .....	7.2.15-2
Table 8.1.2-1:	General Characteristics of Soil Suborders Found in Puerto Rico.....	8.1.2-5
Table 8.1.3-1:	Large Earthquakes Recorded Near Puerto Rico and the U.S. Virgin Islands.....	8.1.3-5
Table 8.1.4-1:	Total Surface Waters for Puerto Rico.....	8.1.4-2
Table 8.1.5-1:	Acreages, Types, and Descriptions of Wetlands in Puerto Rico .....	8.1.5-5
Table 8.1.6.3-1:	Vegetation Types/Land Cover Classes in Puerto Rico.....	8.1.6-4
Table 8.1.6.6-1:	Federal- and Territory-listed Threatened and Endangered Species Known to Occur in Puerto Rico .....	8.1.6-30
Table 8.1.7-1:	Land Use/Land Cover in Puerto Rico.....	8.1.7-5
Table 8.1.7-2:	Major Land Owners in Puerto Rico.....	8.1.7-7
Table 8.1.7-3:	Acreage of Recreational Lands in Puerto Rico, by Type .....	8.1.7-12
Table 8.1.9-1:	National and Territory Population, Population Density, and Growth Rates.....	8.1.9-2
Table 8.1.9-2:	Population Projections.....	8.1.9-4
Table 8.1.9-3:	Select Economic Indicators, 2013 .....	8.1.9-4
Table 8.1.9-4:	Housing Units, Occupancy, and Tenure .....	8.1.9-8
Table 8.1.9-5:	Housing Costs.....	8.1.9-9
Table 8.1.9-6:	Median Value of Owner-Occupied Single Family Homes, 2013.....	8.1.9-9
Table 8.1.9-7:	Real Estate Taxes, Owner-Occupied Units with a Mortgage, 2013 .....	8.1.9-9
Table 8.1.10-1:	Race and Ethnicity, Puerto Rico.....	8.1.10-3

Table 8.1.11-1:	Historic Properties Listed on the NRHP.....	8.1.11-5
Table 8.1.12-1:	Ambient Air Quality Standards in Puerto Rico.....	8.1.12-2
Table 8.1.12-2:	Nonattainment and Maintenance Areas in Puerto Rico.....	8.1.12-4
Table 8.1.12-3:	PSD Allowable Increase Increments.....	8.1.12-5
Table 8.1.12-4:	General Conformity Emissions Thresholds in Puerto Rico.....	8.1.12-6
Table 8.1.13-1:	Noise Level Limits.....	8.1.13-2
Table 8.1.13-2:	Typical Noise Levels and Possible Human Effects.....	8.1.13-2
Table 8.1.13-3:	Typical Outdoor Sound Levels by Land Use Category.....	8.1.13-3
Table 8.1.13-4:	Vibration Source Levels for Select Construction Equipment (VdB).....	8.1.13-4
Table 8.1.14-1:	Annual Average Temperature, Humidity, Precipitation, and Wind Speed Data for Puerto Rico.....	8.1.14-6
Table 8.1.14-2:	Severe Weather Data for Puerto Rico (1996-2014).....	8.1.14-6
Table 8.1.15-1:	Key Health Indicators for Puerto Rico.....	8.1.15-2
Table 8.1.15-2:	Health Conditions Affected by Air Pollution.....	8.1.15-4
Table 8.2.1-1:	Impact Significance Rating Criteria for Infrastructure.....	8.2.1-2
Table 8.2.2-1:	Impact Significance Rating Criteria for Soils.....	8.2.2-2
Table 8.2.3-1:	Impact Significance Rating Criteria for Geology.....	8.2.3-2
Table 8.2.4-1:	Impact Significance Rating Criteria for Water Resources.....	8.2.4-2
Table 8.2.5-1:	Impact Significance Rating Criteria for Wetlands.....	8.2.5-2
Table 8.2.6.2-1:	Impact Significance Rating Criteria for Terrestrial Vegetation, Wildlife, and Fisheries and Aquatic Habitats.....	8.2.6-3
Table 8.2.6.6-1:	Impact Significance Rating Criteria for Listed Species and Critical Habitats....	8.2.6-57
Table 8.2.6.6-2:	Summary of Information on Federally and Territory-Listed Species in Puerto Rico.....	8.2.6-59
Table 8.2.6.6-3:	Determination of Impact Significance for Listed Species as a Result of the Preferred Alternative.....	8.2.6-74
Table 8.2.6.6-4:	Determination of Impact Significance for Listed Species as a Result of the Deployable Technologies Alternative.....	8.2.6-76
Table 8.2.7-1:	Impact Significance Rating Criteria for Land Use, Airspace, and Recreation.....	8.2.7-2
Table 8.2.8-1:	Impact Significance Rating Criteria for Visual Resources.....	8.2.8-2
Table 8.2.9-1:	Impact Significance Rating Criteria for Socioeconomics.....	8.2.9-2
Table 8.2.10-1:	Impact Significance Rating Criteria for Environmental Justice.....	8.2.10-2
Table 8.2.11-1:	Impact Significance Rating Criteria for Cultural Resources.....	8.2.11-2
Table 8.2.12-1:	Impact Significance Rating Criteria for Air Quality.....	8.2.12-2
Table 8.2.12-2:	Combustion Emission Estimates (Monthly) from New Buried Wired Project Deployment.....	8.2.12-7
Table 8.2.12-3:	Combustion Emission Estimates (Monthly) from New Aerial Wired Project Deployment.....	8.2.12-8
Table 8.2.12-4:	Combustion Emission Estimates (Monthly) from Tower, Structure, and Transmission Equipment Delivery and Installation.....	8.2.12-8
Table 8.2.12-5:	Dust Emission Estimates (Monthly) from Excavation/Filling and Grading/ Earth Moving Activities.....	8.2.12-9
Table 8.2.12-6:	Combustion Emission Estimates from Heavy-Duty Vehicles.....	8.2.12-11

Table 8.2.12-7:	Combustion Emission Estimates from Light-Duty Trucks.....	8.2.12-12
Table 8.2.12-8:	Combustion Emission Estimates from Diesel Backup Power Generators at Wireless Communication Towers.....	8.2.12-15
Table 8.2.12-9:	Combustion Emission Estimates from Diesel Generators on On-Road Vehicles .....	8.2.12-16
Table 8.2.13-1:	Impact Significance Rating Criteria for Noise and Vibrations.....	8.2.13-2
Table 8.2.13-2:	Limiting Distances for Maximum Noise Levels Associated with New Buried Wired Activities such as Plowing, Wire Installation, and Construction of Points of Presence and Fiber Huts .....	8.2.13-6
Table 8.2.13-3:	Limiting Distances for Maximum Noise Levels Associated with New Aerial Wired Activities such as Excavation, Grading, and Pole Delivery and Installation .....	8.2.13-7
Table 8.2.13-4:	Limiting Distances for Maximum Noise Levels Associated with Tower, Structure, and Transmission Equipment Delivery and Installation .....	8.2.13-8
Table 8.2.13-5:	Limiting Distances for Maximum Noise Levels Associated with Collocation on Existing Wireless Tower, Structure, or Building.....	8.2.13-11
Table 8.2.13-6:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Short-Term .....	8.2.13-12
Table 8.2.13-7:	Limiting Distances for Maximum Noise Levels Associated with Power Generators and Ventilation Fans at Fiber Huts or Central Offices.....	8.2.13-17
Table 8.2.13-8:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Long-Term .....	8.2.13-18
Table 8.2.14-1:	Impact Significance Rating Criteria for Climate Change.....	8.2.14-2
Table 8.2.14-2:	Projected Global Sea Level Rise Relative to 1992.....	8.2.14-5
Table 8.2.14-3:	GHG Emission Estimates from Buried Wired Project Deployment.....	8.2.14-9
Table 8.2.14-4:	GHG Emission Estimates from New Aerial Wired Project Deployment.....	8.2.14-9
Table 8.2.14-5:	GHG Emissions Estimates from Tower, Structure, and Transmission Equipment Delivery and Installation .....	8.2.14-11
Table 8.2.14-6:	GHG Emissions Estimates from Heavy and Light Duty Vehicles .....	8.2.14-12
Table 8.2.14-7:	GHG Emissions from Back-up Diesel Power Generators for Wireless Projects .....	8.2.14-14
Table 8.2.14-8:	GHG Emissions from Power Generators for Deployable Technologies .....	8.2.14-15
Table 8.2.15-1:	Impact Significance Rating Criteria for Human Health and Safety .....	8.2.15-2
Table 9.1.2-1:	Major Characteristics of MUIDs and Soil Types Found in U.S. Virgin Islands ..	9.1.2-5
Table 9.1.3-1:	Large Earthquakes Recorded Near U.S. Virgin Islands and Puerto Rico.....	9.1.3-4
Table 9.1.5-1:	Acreages, Types, and Descriptions of Wetlands in the U.S. Virgin Islands.....	9.1.5-5
Table 9.1.6.3-1:	Vegetation Types/Land Cover Classes in the U.S. Virgin Islands.....	9.1.6-4
Table 9.1.6.6-1:	Federal- and Territory-listed Threatened and Endangered Species Known to Occur in the U.S. Virgin Islands.....	9.1.6-30
Table 9.1.7-1:	Land Use/Land Cover in U.S. Virgin Islands.....	9.1.7-4
Table 9.1.7-2:	Major Land Owners in U.S. Virgin Islands.....	9.1.7-7
Table 9.1.7-3:	Acreage of Recreational Lands in U.S. Virgin Islands, by Type.....	9.1.7-9
Table 9.1.9-1:	National and Territory Population, Population Density, and Growth Rates.....	9.1.9-2

Table 9.1.9-2:	Population Projections .....	9.1.9-3
Table 9.1.9-3:	Select Economic Indicators, 2010 .....	9.1.9-4
Table 9.1.9-4:	Housing Units, Occupancy, and Tenure, 2010 .....	9.1.9-5
Table 9.1.9-5:	Housing Costs, 2010 .....	9.1.9-6
Table 9.1.9-6:	Value of Owner Occupied Single Family Homes, 2010 U.S. Census .....	9.1.9-6
Table 9.1.10-1:	Race and Ethnicity, U.S. Virgin Islands, 2010 .....	9.1.10-3
Table 9.1.11-1:	Historic Properties Listed on the NRHP .....	9.1.11-5
Table 9.1.12-1:	Ambient Air Quality Standards in the U.S. Virgin Islands .....	9.1.12-2
Table 9.1.12-2:	PSD Allowable Increase Increments .....	9.1.12-5
Table 9.1.12-3:	U.S. Virgin Islands Class I Area .....	9.1.12-5
Table 9.1.13-1:	Typical Noise Levels and Possible Human Response .....	9.1.13-2
Table 9.1.13-2:	Typical Outdoor Sound Levels by Land Use Category .....	9.1.13-3
Table 9.1.13-3:	Vibration Source Levels for Select Construction Equipment (VdB) .....	9.1.13-4
Table 9.1.14-1:	Annual Average Temperature, Humidity, Precipitation, and Wind Speed Data for the U.S. Virgin Islands .....	9.1.14-6
Table 9.1.14-2:	Severe Weather Data for the U.S. Virgin Islands (1996-2014) .....	9.1.14-6
Table 9.1.15-1:	Key Health Indicators for U.S. Virgin Islands .....	9.1.15-2
Table 9.1.15-2:	Health Conditions Affected by Air Pollution .....	9.1.15-4
Table 9.1.15-3:	U.S. Virgin Islands Active Superfund Sites .....	9.1.15-5
Table 9.2.1-1:	Impact Significance Rating Criteria for Infrastructure .....	9.2.1-2
Table 9.2.2-1:	Impact Significance Rating Criteria for Soils .....	9.2.2-2
Table 9.2.3-1:	Impact Significance Rating Criteria for Geology .....	9.2.3-2
Table 9.2.4-1:	Impact Significance Rating Criteria for Water Resources .....	9.2.4-2
Table 9.2.5-1:	Impact Significance Rating Criteria for Wetlands .....	9.2.5-2
Table 9.2.6.2-1:	Impact Significance Rating Criteria for Terrestrial Vegetation, Wildlife, and Fisheries and Aquatic Habitats .....	9.2.6-3
Table 9.2.6.6-1:	Impact Significance Rating Criteria for Listed Species and Critical Habitats .....	9.2.6-57
Table 9.2.6.6-2:	Summary of Information on Federally and Territory-Listed Species in the U.S. Virgin Islands .....	9.2.6-60
Table 9.2.6.6-3:	Determination of Impact Significance for Listed Species as a Result of the Preferred Alternative .....	9.2.6-72
Table 9.2.6.6-4:	Determination of Impact Significance for Listed Species as a Result of the Deployable Technologies Alternative .....	9.2.6-75
Table 9.2.7-1:	Impact Significance Rating Criteria for Land Use, Airspace, and Recreation .....	9.2.7-2
Table 9.2.8-1:	Impact Significance Rating Criteria for Visual Resources .....	9.2.8-2
Table 9.2.9-1:	Impact Significance Rating Criteria for Socioeconomics .....	9.2.9-2
Table 9.2.10-1:	Impact Significance Rating Criteria for Environmental Justice .....	9.2.10-2
Table 9.2.11-1:	Impact Significance Rating Criteria for Cultural Resources .....	9.2.11-2
Table 9.2.12-1:	Impact Significance Rating Criteria for Air Quality .....	9.2.12-2
Table 9.2.12-2:	Combustion Emission Estimates (Monthly) from New Buried Wired Project Deployment .....	9.2.12-7
Table 9.2.12-3:	Combustion Emission Estimates (Monthly) from New Aerial Wired Project Deployment .....	9.2.12-8



Table 9.2.12-4:	Combustion Emission Estimates (Monthly) from Tower, Structure, and Transmission Equipment Delivery and Installation.....	9.2.12-8
Table 9.2.12-5:	Dust Emission Estimates (Monthly) from Excavation/Filling and Grading/Earth Moving Activities .....	9.2.12-9
Table 9.2.12-6:	Combustion Emission Estimates from Heavy-Duty Vehicles.....	9.2.12-11
Table 9.2.12-7:	Combustion Emission Estimates from Light-Duty Trucks.....	9.2.12-12
Table 9.2.12-8:	Combustion Emission Estimates from Diesel Backup Power Generators at Wireless Communication Towers.....	9.2.12-15
Table 9.2.12-9:	Combustion Emission Estimates from Diesel Power Generators on On-Road Vehicles Stationed On-Site.....	9.2.12-16
Table 9.2.13-1:	Impact Significance Rating Criteria for Noise and Vibrations.....	9.2.13-2
Table 9.2.13-2:	Limiting Distances for Maximum Noise Levels Associated with New Buried Wired Activities such as Plowing, Wire Installation, and Construction of Points of Presence and Fiber Huts.....	9.2.13-7
Table 9.2.13-3:	Limiting Distances for Maximum Noise Levels Associated with New Aerial Wired Activities such as Excavation, Grading, and Pole Delivery and Installation .....	9.2.13-8
Table 9.2.13-4:	Limiting Distances for Maximum Noise Levels Associated with Tower, Structure, and Transmission Equipment Delivery and Installation .....	9.2.13-7
Table 9.2.13-5:	Limiting Distances for Maximum Noise Levels Associated with Collocation on Existing Wireless Tower, Structure, or Building.....	9.2.13-11
Table 9.2.13-6:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Short-Term.....	9.2.13-12
Table 9.2.13-7:	Limiting Distances for Maximum Noise Levels Associated with Power Generators and Ventilation Fans at Fiber Huts or Central Offices.....	9.2.13-17
Table 9.2.13-8:	Limiting Distances for Maximum Noise Levels Associated with Deployable Technologies Implementation – Long-Term .....	9.2.13-18
Table 9.2.14-1:	Impact Significance Rating Criteria for Climate Change.....	9.2.14-2
Table 9.2.14-2:	Projected Global Sea Level Rise Relative to 1992.....	9.2.14-5
Table 9.2.14-3:	GHG Emission Estimates from Buried Wired Project Deployment.....	9.2.14-9
Table 9.2.14-4:	GHG Emission Estimates from New Aerial Wired Project Deployment.....	9.2.14-9
Table 9.2.14-5:	GHG Emissions Estimates from Tower, Structure, and Transmission Equipment Delivery and Installation .....	9.2.14-11
Table 9.2.14-6:	GHG Emissions Estimates from Heavy and Light Duty Vehicles.....	9.2.14-12
Table 9.2.14-7:	GHG Emissions from Back-up Diesel Power Generators for Wireless Projects .....	9.2.14-14
Table 9.2.14-8:	GHG Emissions from Power Generators for Deployable Technologies .....	9.2.14-15
Table 9.2.15-1:	Impact Significance Rating Criteria for Human Health and Safety .....	9.2.15-2
Table 10-1:	Additional Broadband Infrastructure Projects .....	10-2
Table 12.2-1:	Comparison of Alternatives by Resource Area and Type of Effect .....	12-4
Table 13.2-1:	Summary of Irreversible and Irrecoverable Commitment of Resources by Resource Area.....	13-2

Table 14-1: Draft PEIS Comment Response Matrix..... 14-3  
Table 14-2: Comments on Other Reports Applicable to this Final PEIS..... 14-37

## LIST OF FIGURES

Figure 1.3-1: FirstNet Programmatic Environmental Impact Statement Regions of Analysis ..... 1-5  
Figure 2.4.1-1: The Electromagnetic Spectrum..... 2-9  
Figure 2.4.2-1: Lattice Cell Tower with Multiple Panel Antennas ..... 2-14  
Figure 2.4.2-2: Depiction of Primary Radiation Lobe of a Panel Antenna Attached to a 200-foot  
(61-meter) Cell Tower ..... 2-14  
Figure 2.4.2-3: 60-W Antenna (780 MHz) - Power Intensity vs Distance with Respect to FCC  
Guidelines for Limiting Thermal Radiation ..... 2-15  
Figure 3-1: Alaska Geography ..... 3-4  
Figure 3.1.1-1: Ports, Railroads, and Roads in Alaska by Location..... 3.1.1-3  
Figure 3.1.1-2: Alaska State Trooper Detachment Boundaries and Post Locations..... 3.1.1-5  
Figure 3.1.1-3: Rural Alaska Water and Sewer System Types ..... 3.1.1-8  
Figure 3.1.2-1: Major Land Resources Areas of Alaska ..... 3.1.2-3  
Figure 3.1.2-2: Soil Suborder Map of Alaska ..... 3.1.2-13  
Figure 3.1.3-1: Primary Mineral Production Areas in Alaska..... 3.1.3-3  
Figure 3.1.3-2: General Seismic Hazard Map of Alaska..... 3.1.3-6  
Figure 3.1.3-3: Active and Dormant Volcanoes in Alaska..... 3.1.3-7  
Figure 3.1.4-1: Spatial Distribution of Alaska’s Perennial Streams..... 3.1.4-3  
Figure 3.1.4-2: Major Watersheds in Alaska..... 3.1.4-5  
Figure 3.1.4-3: Example Map of Alaska Floodplains ..... 3.1.4-8  
Figure 3.1.5-1: Alaska Wetland Types..... 3.1.5-4  
Figure 3.1.5-2: Palustrine Vegetated Wetland in Alaska ..... 3.1.5-7  
Figure 3.1.5-3: Estuarine Vegetated Wetland in Alaska ..... 3.1.5-7  
Figure 3.1.5-4: Marine Intertidal Wetland in Alaska ..... 3.1.5-8  
Figure 3.1.6.3-1: Vegetation Types and Land Cover Classes in Alaska ..... 3.1.6-3  
Figure 3.1.6.3-2: Canada Thistle ..... 3.1.6-6  
Figure 3.1.6.3-3: European Bird Cherry..... 3.1.6-7  
Figure 3.1.6.3-4: Giant Hogweed..... 3.1.6-7  
Figure 3.1.6.3-5: Leafy Spurge..... 3.1.6-8  
Figure 3.1.6.3-6: Purple Loosestrife..... 3.1.6-8  
Figure 3.1.6.3-7: Smooth Cordgrass..... 3.1.6-9  
Figure 3.1.6.3-8: Spotted Knapweed..... 3.1.6-9  
Figure 3.1.6.4-1: ADFG Game Management Regions ..... 3.1.6-12  
Figure 3.1.6.4-2: Distribution of Alaska Caribou Herds ..... 3.1.6-20

Figure 3.1.6.4-3:	Dall Sheep, Bison, and Muskox Distributions in Alaska .....	3.1.6-22
Figure 3.1.6.4-4:	Distribution of Pacific Walrus in Alaska.....	3.1.6-26
Figure 3.1.6.4-5:	Distribution of Beluga Whales in Alaska .....	3.1.6-28
Figure 3.1.6.4-6:	Bird Conservation Regions in Alaska.....	3.1.6-29
Figure 3.1.6.4-7:	Protected Areas in Alaska.....	3.1.6-34
Figure 3.1.6.4-8:	Important Bird Areas in Alaska.....	3.1.6-35
Figure 3.1.6.5-1:	Spatial Distribution of Alaska Fisheries Regions.....	3.1.6-39
Figure 3.1.6.5-2:	Fisheries Regions of Alaska .....	3.1.6-40
Figure 3.1.6.6-1:	Designated Critical Habitats in Alaska.....	3.1.6-64
Figure 3.1.7-1:	Land Use/Land Cover in Alaska.....	3.1.7-6
Figure 3.1.7-2:	Alaska Airspace.....	3.1.7-8
Figure 3.1.7-3:	Recreational Areas.....	3.1.7-10
Figure 3.1.8-1:	Areas in Alaska Managed for Visual Resources .....	3.1.8-2
Figure 3.1.9-1:	Nonsubsistence Use Areas in Alaska .....	3.1.9-3
Figure 3.1.9-2:	Population Distribution and Density .....	3.1.9-6
Figure 3.1.9-3:	Median Household Income.....	3.1.9-9
Figure 3.1.9-4:	Unemployment .....	3.1.9-10
Figure 3.1.9-5:	Property Values .....	3.1.9-15
Figure 3.1.9-6:	Alaska Subsistence Harvest.....	3.1.9-17
Figure 3.1.10-1:	Potential for Environmental Justice Populations.....	3.1.10-7
Figure 3.1.11-1:	Historic Properties Listed on the NRHP.....	3.1.11-21
Figure 3.1.12-1:	Alaska Class I Areas.....	3.1.12-7
Figure 3.1.12-2:	Nonattainment and Maintenance Areas in Alaska.....	3.1.12-9
Figure 3.1.12-3:	Alaska Fuel Distribution and Rural/Urban Transportation Areas .....	3.1.12-10
Figure 3.1.14-1:	The Greenhouse Gas Effect.....	3.1.14-2
Figure 3.1.14-2:	Map of Climatic Regions in Alaska.....	3.1.14-6
Figure 3.2.14-1:	Projected Temperature and Precipitation Changes for Alaska .....	3.2.14-5
Figure 3.2.14-2:	Projected Annual Mean Ground Temperatures at 1-Meter Depth for High (A2) and Low (B1) Scenarios.....	3.2.14-7
Figure 4-1:	Hawaii Geography.....	4-3
Figure 4.1.1-1:	Hawaii Road Transportation Systems .....	4.1.1-4
Figure 4.1.1-2:	Honolulu Rail Transit Route Map .....	4.1.1-5
Figure 4.1.1-3:	Hawaii Port and Airport Transportation Systems .....	4.1.1-6
Figure 4.1.1-4:	Hawaii Hospitals.....	4.1.1-12
Figure 4.1.2-1:	Major Land Resource Areas of Hawaii .....	4.1.2-3
Figure 4.1.2-2:	Soil Suborder Map Hawaii .....	4.1.2-10
Figure 4.1.3-1:	Simplified Geologic Map of Hawaii.....	4.1.3-3
Figure 4.1.3-2:	Primary Mineral Production Areas in Hawaii .....	4.1.3-4
Figure 4.1.3-3:	General Seismic Hazard Map of Hawaii .....	4.1.3-6
Figure 4.1.3-4:	Active and Dormant Volcanoes in Hawaii .....	4.1.3-8
Figure 4.1.4-1:	Spatial Distribution of Hawaii Watersheds .....	4.1.4-3
Figure 4.1.4-2:	Perennial Streams in Hawaii by Island.....	4.1.4-4
Figure 4.1.4-3:	Spatial Distribution of Hawaii Streams .....	4.1.4-5

Figure 4.1.4-4:	Number of Impaired Inland Waterbodies in Hawaii .....	4.1.4-7
Figure 4.1.4-5:	Example Map of Hawaii Floodplains .....	4.1.4-9
Figure 4.1.4-6:	Spatial Distribution of Hawaii Basal and High-Level Aquifers .....	4.1.4-12
Figure 4.1.5-1:	Hawaii Wetland Types .....	4.1.5-4
Figure 4.1.5-2:	Marine Intertidal Wetland on Hawaii .....	4.1.5-4
Figure 4.1.5-3:	Anchialine Pool on Hawaii .....	4.1.5-7
Figure 4.1.5-4:	Estuarine Wetland Along Stream, with Invasive Mangroves on Hawaii .....	4.1.5-7
Figure 4.1.5-5:	Spatial Distribution of Hawaii Wetland Types .....	4.1.5-8
Figure 4.1.6.3-1:	Vegetation Types and Land Cover Classes in Hawaii .....	4.1.6-3
Figure 4.1.6.3-2:	Miconia Invasive Plant .....	4.1.6-5
Figure 4.1.6.3-3:	Cattail .....	4.1.6-6
Figure 4.1.6.3-4:	Ivy Gourd .....	4.1.6-7
Figure 4.1.6.4-1:	Protected Areas of the Hawaiian Islands .....	4.1.6-17
Figure 4.1.6.5-1:	Protected Marine Areas on Hawaii .....	4.1.6-20
Figure 4.1.6.5-2:	Expanded View of Protected Marine Areas on Hawaii .....	4.1.6-21
Figure 4.1.7-1:	Land Use/Land Cover in Hawaii .....	4.1.7-5
Figure 4.1.7-2:	State Land Use Districts .....	4.1.7-7
Figure 4.1.7-3:	Hawaii Airspace .....	4.1.7-11
Figure 4.1.7-4:	Recreational Areas .....	4.1.7-13
Figure 4.1.8-1:	Areas in Hawaii Managed for Visual Resources .....	4.1.8-2
Figure 4.1.10-1:	Potential for Environmental Justice Populations .....	4.1.10-8
Figure 4.1.11-1:	Historic Properties Listed on the NRHP .....	4.1.11-16
Figure 4.1.12-1:	Hawaii Class I Areas .....	4.1.12-6
Figure 4.1.14-1:	The Greenhouse Gas Effect .....	4.1.14-2
Figure 4.2.14-1:	Projected Temperature and Precipitation Changes for Hawaii .....	4.2.14-5
Figure 5-1:	American Samoa Geography .....	5-3
Figure 5.1.1-1:	American Samoa Transportation and Hospital Locations .....	5.1.1-3
Figure 5.1.2-1:	Soil Associations Map of American Samoa .....	5.1.2-5
Figure 5.1.3-1:	Topographic Characteristics of Tutuila Island, American Samoa .....	5.1.3-2
Figure 5.1.3-2:	General Seismic Hazard Map of American Samoa .....	5.1.3-4
Figure 5.1.3-3:	Volcanoes in American Samoa .....	5.1.3-5
Figure 5.1.4-1:	Spatial Distribution of American Samoa Watersheds .....	5.1.4-3
Figure 5.1.4-2:	Spatial Distribution of American Samoa Streams .....	5.1.4-4
Figure 5.1.4-3:	Example Map of American Samoa Floodplains .....	5.1.4-6
Figure 5.1.5-1:	American Samoa Wetland Types .....	5.1.5-7
Figure 5.1.5-2:	Marine Intertidal Wetland on American Samoa .....	5.1.5-7
Figure 5.1.6.3-1:	Vegetation Types and Land Cover Classes in American Samoa .....	5.1.6-3
Figure 5.1.6.3-2:	Rhus Secondary Forest Vegetation on American Samoa .....	5.1.6-5
Figure 5.1.6.3-3:	Rain Forest Vegetation on American Samoa .....	5.1.6-6
Figure 5.1.6.3-4:	Secondary Scrub Vegetation on American Samoa .....	5.1.6-6
Figure 5.1.6.4-1:	Protected Areas on American Samoa .....	5.1.6-18
Figure 5.1.6.5-1:	Coral Reefs and National Park Areas in American Samoa .....	5.1.6-24
Figure 5.1.6.5-2:	American Samoa Marine Protected Areas .....	5.1.6-25

Figure 5.1.7-1:	Land Use/Land Cover in American Samoa .....	5.1.7-5
Figure 5.1.7-2:	Recreational Areas.....	5.1.7-8
Figure 5.1.11-1:	Historic Properties Listed on the NRHP.....	5.1.11-7
Figure 5.1.14-1:	The Greenhouse Gas Effect.....	5.1.14-2
Figure 6-1:	Guam Geography.....	6-2
Figure 6.1.1-1:	Guam Ports and Major Roads.....	6.1.1-3
Figure 6.1.1-2:	Guam Airports .....	6.1.1-4
Figure 6.1.2-1:	Major Land Resource Areas of Guam.....	6.1.2-3
Figure 6.1.2-2:	Soil Associations Map of Guam.....	6.1.2-7
Figure 6.1.3-1:	Geologic Rock Unit Ages in Guam.....	6.1.3-2
Figure 6.1.4-1:	Spatial Distribution of Guam Watersheds.....	6.1.4-4
Figure 6.1.4-2:	Spatial Distribution of Guam Streams.....	6.1.4-5
Figure 6.1.4-3:	Example Map of Guam Floodplains.....	6.1.4-7
Figure 6.1.4-4:	Spatial Distribution of Guam Aquifers.....	6.1.4-10
Figure 6.1.5-1:	Guam Wetland Types .....	6.1.5-7
Figure 6.1.5-2:	Marine Intertidal Wetland on Guam.....	6.1.5-7
Figure 6.1.5-3:	Spatial Distribution of Guam Wetland Types .....	6.1.5-8
Figure 6.1.6.3-1:	Vegetation Types and Land Cover Classes in Guam .....	6.1.6-3
Figure 6.1.6.4-1:	Location of Conservation Lands and Marine Preserves on Gaum .....	6.1.6-17
Figure 6.1.6.5-1:	Marine Protected Areas and Coral around Guam.....	6.1.6-19
Figure 6.1.7-1:	Land Use/Land Cover in Guam.....	6.1.7-5
Figure 6.1.7-2:	Recreational Areas.....	6.1.7-8
Figure 6.1.10-1:	Potential for Environmental Justice Populations.....	6.1.10-7
Figure 6.1.11-1:	Historic Properties Listed on the GRHP and NRHP .....	6.1.11-11
Figure 6.1.14-1:	The Greenhouse Gas Effect.....	6.1.14-2
Figure 6.2.6.6-1:	Location of Designated Critical Habitat for Mariana Fruit Bat.....	6.2.6-63
Figure 7-1:	Northern Mariana Islands Geography .....	7-2
Figure 7.1.1-1:	Northern Mariana Islands Transportation and Hospital Locations.....	7.1.1-3
Figure 7.1.2-1:	Major Land Resource Areas of the Northern Mariana Islands.....	7.1.2-3
Figure 7.1.2-2:	Soil Associations Map of the Northern Mariana Islands.....	7.1.2-7
Figure 7.1.3-1:	General Seismic Hazard Map of the Northern Mariana Islands.....	7.1.3-4
Figure 7.1.3-2:	Volcanoes in the Northern Mariana Islands .....	7.1.3-5
Figure 7.1.4-1:	Spatial Distribution of the Northern Mariana Islands Perennial Streams.....	7.1.4-4
Figure 7.1.4-2:	Spatial Distribution of the Northern Mariana Islands Watersheds.....	7.1.4-5
Figure 7.1.4-3:	Example Map of Northern Mariana Islands Floodplains.....	7.1.4-7
Figure 7.1.5-1:	Northern Mariana Islands Wetland Types.....	7.1.5-4
Figure 7.1.5-2:	Marine Intertidal Wetland (Submerged) on the Northern Mariana Islands.....	7.1.5-7
Figure 7.1.5-3:	Estuarine Mangrove Wetland on the Northern Mariana Islands .....	7.1.5-7
Figure 7.1.5-4:	Wetland Types of the Southern, Inhabited Northern Mariana Islands where NWI Mapping was Available .....	7.1.5-8
Figure 7.1.6.3-1:	Vegetation Types and Land Cover Classes in the Northern Mariana Islands .....	7.1.6-3
Figure 7.1.6.3-2:	Smothering Invasive Vines in the Northern Mariana Islands.....	7.1.6-7
Figure 7.1.6.4-1:	Protected Areas in the Northern Mariana Islands.....	7.1.6-16

Figure 7.1.6.5-1:	Northern Mariana Islands Coral and Marine Protected Areas.....	7.1.6-21
Figure 7.1.6.6-1:	Designated Critical Habitat in Northern Mariana Islands .....	7.1.6-39
Figure 7.1.7-1:	Land Use/Land Cover in the Northern Mariana Islands.....	7.1.7-6
Figure 7.1.7-2:	Recreational Areas.....	7.1.7-8
Figure 7.1.11-1:	Historic Property Listed on the NRHP .....	7.1.11-8
Figure 7.1.14-1:	The Greenhouse Gas Effect.....	7.1.14-2
Figure 8-1:	Puerto Rico Geography .....	8-2
Figure 8.1.1-1:	Major Roads, Ports, and Railroad Transportation in Puerto Rico .....	8.1.1-3
Figure 8.1.1-2:	Airports in Puerto Rico.....	8.1.1-5
Figure 8.1.2-1:	Major Land Resource Areas of Puerto Rico.....	8.1.2-3
Figure 8.1.2-2:	Soil Suborder Map of Puerto Rico.....	8.1.2-10
Figure 8.1.3-1:	Geologic Periods and General Rock Types of Puerto Rico.....	8.1.3-2
Figure 8.1.3-2:	Primary Mineral Production Areas in Puerto Rico.....	8.1.3-4
Figure 8.1.3-3:	General Seismic Hazard Map of Puerto Rico.....	8.1.3-6
Figure 8.1.4-1:	Spatial Distribution of Puerto Rico Watersheds.....	8.1.4-4
Figure 8.1.4-2:	Spatial Distribution of Puerto Rico Streams.....	8.1.4-5
Figure 8.1.4-3:	Example Map of Puerto Rico Floodplains.....	8.1.4-8
Figure 8.1.4-4:	Spatial Distribution of Principal Aquifers in Puerto Rico.....	8.1.4-10
Figure 8.1.5-1:	Puerto Rico Wetland Types.....	8.1.5-4
Figure 8.1.5-2:	Marine Intertidal Wetland on Puerto Rico.....	8.1.5-7
Figure 8.1.5-3:	Estuarine Intertidal Wetland on Puerto Rico.....	8.1.5-7
Figure 8.1.5-4:	Palustrine Wetland on Puerto Rico.....	8.1.5-8
Figure 8.1.5-5:	Spatial Distribution of Puerto Rico Wetland Types .....	8.1.5-9
Figure 8.1.6.3-1:	Vegetation Types and Land Cover Classes in Puerto Rico .....	8.1.6-3
Figure 8.1.6.4-1:	General Habitat Types in Puerto Rico.....	8.1.6-9
Figure 8.1.6.4-2:	Protected Areas in Puerto Rico.....	8.1.6-19
Figure 8.1.6.5-1:	Puerto Rico Marine Protected Areas and Habitats of Particular Concern.....	8.1.6-26
Figure 8.1.6.6-1:	Critical Habitat Designations in Puerto Rico.....	8.1.6-51
Figure 8.1.7-1:	Land Use/Land Cover in Puerto Rico.....	8.1.7-6
Figure 8.1.7-2:	Puerto Rico Airspace .....	8.1.7-9
Figure 8.1.7-3:	Recreational Areas.....	8.1.7-11
Figure 8.1.8-1:	Areas in Puerto Rico Managed for Visual Resources.....	8.1.8-2
Figure 8.1.9-1:	Population Distribution and Density .....	8.1.9-3
Figure 8.1.9-2:	Median Household Income.....	8.1.9-5
Figure 8.1.9-3:	Unemployment .....	8.1.9-6
Figure 8.1.9-4:	Property Values .....	8.1.9-10
Figure 8.1.10-1:	Potential for Environmental Justice Populations.....	8.1.10-7
Figure 8.1.11-1:	Historic Properties Listed on the NRHP.....	8.1.11-15
Figure 8.1.12-1:	Nonattainment and Maintenance Areas in Puerto Rico.....	8.1.12-7
Figure 8.1.14-1:	The Greenhouse Gas Effect.....	8.1.14-2
Figure 9-1:	U.S. Virgin Islands Geography.....	9-2
Figure 9.1.1-1:	Major Roads and Ports in the U.S. Virgin Islands.....	9.1.1-3
Figure 9.1.1-2:	Airports in the U.S. Virgin Islands.....	9.1.1-5

Figure 9.1.2-1:	Major Land Resources Areas of the U.S. Virgin Islands.....	9.1.2-3
Figure 9.1.2-2:	Soil Associations Map of the U.S. Virgin Islands .....	9.1.2-7
Figure 9.1.3-1:	Geologic Periods and General Rock Types of the U.S. Virgin Islands .....	9.1.3-2
Figure 9.1.3-2:	General Seismic Hazard Map of the U.S. Virgin Islands .....	9.1.3-5
Figure 9.1.4-1:	Spatial Distribution of the U.S. Virgin Islands Watersheds .....	9.1.4-3
Figure 9.1.4-2:	U.S. Virgin Islands Non-Perennial Streams .....	9.1.4-4
Figure 9.1.4-3:	Example Map of U.S. Virgin Islands Floodplains.....	9.1.4-6
Figure 9.1.4-4:	Spatial Distribution of Principal Aquifers in the U.S. Virgin Islands .....	9.1.4-9
Figure 9.1.5-1:	U.S. Virgin Islands Wetland Types .....	9.1.5-7
Figure 9.1.5-2:	Marine Wetland (Coast) and Estuarine Wetland (Lagoon) U.S. Virgin Islands...	9.1.5-7
Figure 9.1.5-3:	Estuarine Wetland (Red Mangroves) in the U.S. Virgin Islands.....	9.1.5-8
Figure 9.1.5-4:	Overview of Spatial Distribution of U.S. Virgin Islands Wetland Types .....	9.1.5-9
Figure 9.1.5-5:	Spatial Distribution of Wetland Types on St. Thomas and St. John.....	9.1.5-10
Figure 9.1.5-6:	Spatial Distribution of Wetland Types on St. Croix.....	9.1.5-11
Figure 9.1.6.3-1:	Vegetation Types and Land Cover Classes in the U.S. Virgin Islands.....	9.1.6-3
Figure 9.1.6.4-1:	General Habitat Types on the U.S. Virgin Islands .....	9.1.6-10
Figure 9.1.6.4-2:	Protected Areas on the U.S. Virgin Islands .....	9.1.6-18
Figure 9.1.6.5-1:	U.S. Virgin Islands Coastal Protected Areas .....	9.1.6-25
Figure 9.1.6.6-1:	Designated Critical Habitat in the U.S. Virgin Islands.....	9.1.6-52
Figure 9.1.7-1:	Land Use/Land Cover in U.S. Virgin Islands.....	9.1.7-5
Figure 9.1.7-2:	Recreational Areas.....	9.1.7-10
Figure 9.1.10-1:	Potential for Environmental Justice Populations.....	9.1.10-7
Figure 9.1.11-1:	Historic Properties Listed on the NRHP.....	9.1.11-8
Figure 9.1.12-1:	U.S. Virgin Islands Class I Area.....	9.1.12-6
Figure 9.1.14-1:	The Greenhouse Gas Effect.....	9.1.14-2

## ACRONYMS AND ABBREVIATIONS

°F	degree Fahrenheit	ASPA	American Samoa Power Authority
°N	degrees north	ATO	Air Traffic Organization
µg/m <sup>3</sup>	microgram(s) per cubic meter	ATWC	Alaska Tsunami Warning Center
µPa	micro Pascal	AURORA	Alaska Uniform Response Online Reporting Access
%	percent	BACT	best available control technology
A	attained	BCE	before Common Era
AAC	Alaska Administrative Code	BCR	Bird Conservation Regions
AAFIS	Alaska Public Safety Identification System	BGEPA	Bald and Golden Eagle Protection Act
AAQS	Ambient Air Quality Standards	BLM	Bureau of Land Management
ACHP	Advisory Council on Historic Preservation	BLS	U.S. Bureau of Labor Statistics
ACS	American Community Survey (U.S. Census Bureau)	BMP	best management practice
ADEC	Alaska Department of Environmental Conservation	BRFSS	Behavioral Risk Factor Surveillance System
ADFG	Alaska Department of Fish and Game	BSAI	Bering Sea/Aleutian Island
AGL	above ground level	BWG	BioInitiative Working Group
AIRFA	American Indian Religious Freedom Act	CAA	Clean Air Act
AJRCCM	American Journal of Respiratory and Critical Care Medicine	CAB	Clean Air Branch
AKNHP	Alaska National Heritage Program	CARB	California Air Resources Board
AKOSH	Alaska Occupational Safety and Health	CBIA	Coastal Barrier Improvement Act of 1990
AKWAS	Alaska Warning System	CBRA	Coastal Barrier Resources Act of 1982
ALMR	Alaska Land Mobile Radio	CCP	Comprehensive Conservation Plan
ANCSA	Alaska Native Claims Settlement Act	CDC	Center for Disease Control
ANFIRS	Alaska Fire Incident Reporting System	CDLNR	Commonwealth Department of Lands and Natural Resources
ANSI	American National Standards Institute	CE	Common Era
APE	Area of Potential Effect	CELCP	Coastal and Estuarine Land Conservation Program
APLIC	Avian Power Line Interaction Committee	CEPD	Caribbean Environmental Protection Division
APSIN	Alaska Public Safety Information Network	CEQ	Council on Environmental Quality
AQCR	air quality control region	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
ARFF	Aircraft Rescue and Firefighting	CFMC	Caribbean Fisheries Management Council
ARMS	Alaska Records Management System	CFR	Code of Federal Regulations
ARPA	Archaeological Resources Protection Act of 1979	cfs	cubic feet per second
AS	Alaska Statute	CH <sub>4</sub>	methane
ASAC	American Samoa Administrative Code	CHC	Commonwealth Health Center
ASCA	American Samoa Code Annotated	CIA	Central Intelligence Agency
ASCMP	American Samoa Coastal Management Program	CMIP3	Coupled Model Intercomparison Project phase 3
ASDHS	American Samoa Department of Homeland Security	CNMI	Commonwealth of Northern Mariana Islands
ASDMWR	American Samoa Department of Marine and Wildlife Resources	CNMIAC	Commonwealth of Northern Mariana Islands Administrative Code
ASEPA	American Samoa Environmental Protection Agency	CO	carbon monoxide
ASHPO	American Samoa Historic Preservation Office	CO <sub>2</sub>	carbon dioxide
		CO <sub>2</sub> e	carbon dioxide equivalents
		COMAR	Committee on Man and Radiation



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

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

PV	photovoltaic	UVA	University of Virginia
RAN	radio access network	VdB	vibration decibel(s)
RCP	Representative Concentration Pathway	VIC	Virgin Islands Code
RCRA	Resource Conservation and Recovery Act	VIPA	Virgin Islands Port Authority
RF	radio frequency	VISHPO	Virgin Islands State Historic Preservation Office
RIN	Regulation Identification Number	VOC	volatile organic compound
rms	root mean square	vog	volcanic smog
ROW	right-of-way	VRM	Visual Resource Management
SAAQS	State Air Quality Standards	W	watt(s)
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users	W/m <sup>2</sup>	watts per meters squared
SARA	Superfund Amendments and Reauthorization Act of 1986	WAPA	Water and Power Authority
SE	Standard of Error	WHO	World Health Organization
SHPO	State Historic Preservation Office	WIMARCS	West Indies Marine Animal Research and Conservation Science
SIP	State Implementation Plan	WNP	Western North Pacific
SLR	sea level rise	WNW	west-northwest
SMA	Special Management Area	WPC	watts per channel
SMS	Scenery Management System	WPRFMC	Western Pacific Regional Fishery Management Council
SO <sub>2</sub>	sulfur dioxide		
SO <sub>x</sub>	sulfur oxides		
SPCC	Spill Prevention, Control, and Countermeasure		
SPCZ	South Pacific Convergence Zone		
SPOC	State 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		

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## 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, has 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,<sup>1</sup> and coverage – were unique and mission-critical.

Although these communications challenges 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

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<sup>1</sup> Redundancy refers to the duplication of equipment or processes to help maintain continuity of operations.

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 procedures, 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 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 would be expected to 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 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]*). Site-specific actions, once defined, would be evaluated against the analyses presented in the programmatic review for future NEPA compliance. In addition, 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. 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 Programmatic Environmental Impact Statement (Supplemental PEIS). Agencies will also have the opportunity to provide input on the Supplemental PEIS, which will 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 (such as an ecoregional or landscape ecology framework for biological impacts), as practicable and feasible;
- Specific guidance on how to conduct NEPA at the site-specific scale; 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 CEQ guidance is incorporated into decision making.

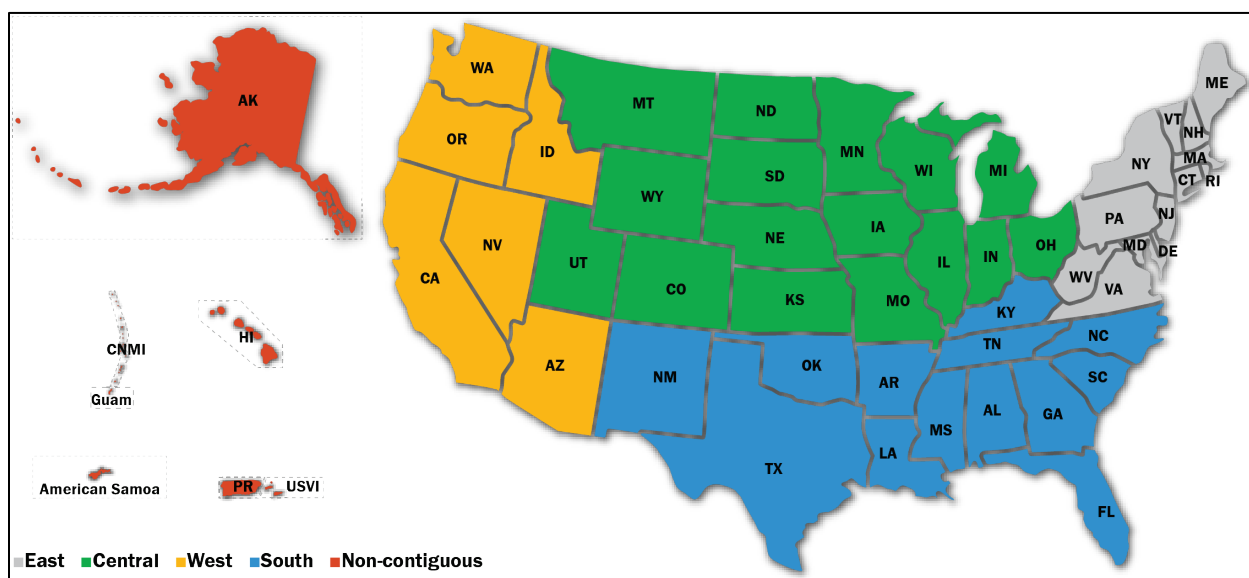


The primary objectives of each PEIS are to:

- Identify and assess potential impacts on the natural and human environment<sup>2</sup> 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.

### 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.

<sup>2</sup> The human environment is natural and the physical (e.g., structures) environment, and the association of people and their activities to those environments.

This Final 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 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 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 or emergency. The network operating standards are envisioned to 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 and emergencies. 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 emergencies and 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<sup>3</sup> 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 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*

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<sup>3</sup> 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.

*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/territory, 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 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. Nine agencies accepted the invitation: the NTIA; 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. Department of Defense Department of the 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, *Invited 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, 15 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 52 tribes with requests to consult on the Proposed Action. FirstNet and/or their partners anticipate 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 CEQ guidance for public involvement in the NEPA process, agencies shall seek to involve the public in preparing environmental documents such as this PEIS (*40 CFR § 1506.6*). These efforts include providing notice to potentially interested parties, holding public meetings, soliciting comments, and making this PEIS available to the public.

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) and public comments made on the Draft PEIS for the non-contiguous region.

### **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.

### **1.7.2. Scoping**

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 critical to informing agency actions in that it begins before the PEIS analyses are initiated and continues throughout document development.

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]). Publication of the Draft PEIS 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
- Honolulu, HI—Tuesday, December 2, 2014
- San Francisco, CA—Thursday, December 4, 2014
- Tucson, AZ—Thursday, December 4, 2014
- Kansas City, MO - Tuesday, December 9, 2014
- New Orleans, LA—Thursday, December 11, 2014
- New York, NY—Monday, December 15, 2014

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 emissions.

### **1.7.3. Public Comment on the Draft PEIS**

A Notice of Availability for the Draft PEIS for the non-contiguous region was published in the *Federal Register* on March 4, 2016, which began a 60-day public comment period (81 FR § 11511 [March 4, 2016]). This period ended on May 3, 2016. Notices were also provided directly to cooperating agencies, state/territory SPOCs, elected officials, American Indian tribes and Native Hawaiian Organizations, media organizations, and other interested parties. As during the scoping period, agencies and members of the public were able to submit comments to FirstNet via traditional mail or via e-mail; in addition, comments could be made via

the regulations.gov website.<sup>4</sup> A second series of public meetings, more extensive than those held during the scoping period, were held where participants had the opportunity to talk directly with FirstNet environmental staff and its contractors to learn about the Proposed Action and the preliminary findings of the Draft PEIS. Individuals in attendance could provide input on those findings both verbally and on comment cards. These public meetings were held as follows:

- Anchorage, Alaska, on March 15, 2016
- Juneau, Alaska, on March 17, 2016
- Honolulu, Hawaii, on March 21, 2016
- Tumon Bay, Guam, on April 5, 2016
- Saipan, Northern Mariana Islands, on April 7, 2016
- Tafuna, American Samoa, on April 11, 2016
- Christiansted, St. Croix, U.S. Virgin Islands, on April 22, 2016
- San Juan, Puerto Rico, on April 26, 2016

Although the official comment period lasted 60 days, FirstNet also considered comments provided after the closing of that period. A summary of the public and agency comments received on the non-contiguous region Draft PEIS, as well as a full listing of the comments themselves and FirstNet's responses to those comments, is provided in Chapter 14, Draft PEIS Public Comments.

## **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

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<sup>4</sup> Docket ID: FIRSTNET-2016-0001 (<https://www.regulations.gov/docket?D=FIRSTNET-2016-0001>)

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 that 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 § 1531 et seq.*) was established to conserve and protect threatened and endangered species. Under most circumstances, the ESA prohibits *take*.<sup>5</sup> 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 available scientific and commercial data 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.

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<sup>5</sup> *Take* is defined differently by various federal and state regulations, but the most commonly accepted definition is that of the U.S. Endangered Species Act that defines take as "to harass, harm, pursue, hunt, shoot, wound, trap, capture, collect or attempt to engage in any such conduct."

### **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 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<sup>6</sup> 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.

### **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.

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<sup>6</sup> 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.*).

### **1.8.10. Executive Order 11988 (as Amended by EO 13690) – 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. Furthermore, federal agencies must either avoid funding or permitting critical facilities in the 500-year floodplain, or must provide protection to mitigate the flood risk to those facilities. Critical facilities are those facilities for which even a small risk of flooding is too great, and include public safety infrastructure (*FEMA 2016*). 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.

Aspects of EO 11988 have been updated in EO 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input (*FEMA 2015*). 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 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. Guidelines for implementing EO 11988, published by the Federal Emergency Management Agency, describe 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 (*FEMA 2015*). 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.

### **1.8.11. 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 13693 – Planning for Federal Sustainability in the Next Decade**

The purpose of EO 13693 is to maintain federal leadership in sustainability and greenhouse gas emission reductions by continuing a policy for federal agencies to increase efficiency and improve their environmental performance. This order outlines goals for federal agencies related to climate change, energy, water use, vehicle fleets, construction, and acquisition. It establishes targets for greenhouse gas emissions, water use and efficiency, and clean energy use for federal operations by 2025, relative to various baselines (depending on resource reduction or improvement).

## **1.9. PEIS ORGANIZATION**

This Final 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: Draft PEIS Public Comments
- Chapter 15: List of Preparers and Contributors
- Chapter 16: Distribution List
- Chapter 17: Index
- Chapter 18: Glossary
- Appendices

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