Draft Programmatic Environmental Assessment

Grant Programs Directorate Programs

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FEMA

Federal Emergency Management Agency
Department of Homeland Security
500 C Street, SW
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EXECUTIVE SUMMARY

This Programmatic Environmental Assessment (PEA) provides an assessment of the expected environmental impacts associated with the implementation of the programs funded by the Federal Emergency Management Agency's (FEMA) Grant Programs Directorate (GPD). The proposed implementation of GPD-funded grant programs would involve a wide variety of projects designed to improve the preparedness and readiness of public safety and first response agencies, as well as improve homeland security through increased protection of the Nation's critical infrastructure.

The Department of Homeland Security (DHS) Office of Grants and Training (G&T) was transformed into GPD on April 1, 2007, as a result of the Post-Katrina Emergency Management Reform Act of 2006. GPD is housed within FEMA to oversee the grant business operations, systems, training, and policy. FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror.

BACKGROUND

The preparedness grant programs managed by GPD enhance the preparedness and response capabilities of States, Territories, Tribes, private-sector and non-governmental first responders to respond to terrorist attacks and non-man made emergencies. These funds are intended to develop and administer planning, training, and equipment assistance programs for state and local emergency response agencies to better prepare them against the threat of terrorism as part of GPD's mission.

GPD's mission is to manage Federal assistance to measurably improve capability and reduce the risks the Nation faces. GPD is responsible for the program management and administration of 19 preparedness grant programs. GPD will ensure all of their preparedness grant programs are aligned to, and are measurable against, the National Preparedness Guidelines and the National Priorities as authorized by the H.R. 10, 9/11 Commission Recommendations Implementation Act. These preparedness grant programs support the achievement of the National Preparedness Goal by providing funds for State and local homeland security efforts, such as planning, equipment purchase, protection of critical infrastructure by reinforcing physical security and access controls, and hiring and training first response personnel. Currently, the grants administered by GPD funds are provided to all 56 States and Territories.

The events of September 11, 2001 highlighted critical needs in the Nation's security safeguards and systems. Effective preparedness is a critical precondition of successful response. In order to best equip State and local governments, as well quasi-governmental private entities, to successfully respond to emergencies, GPD is committed to providing funds that will allow these entities to improve preparedness. These grant programs are part of a comprehensive set of measures authorized by Congress and implemented by FEMA to help strengthen the Nation against risks associated with potential terrorist attacks.

PURPOSE AND NEED

In order to obtain the desired higher level of readiness, State, Territory, Tribal, and private-sector and non-governmental partners identified the need to improve their preparedness capabilities. A

number of activities have been identified by stakeholders enabling them to make meaningful improvements in national preparedness. Funds from GPD grant programs would be used to implement programs that would satisfy a diverse range of identified needs, both programmatic and site-specific. Programmatic needs include integrating preparedness programs and training into existing public safety initiatives, improving emergency-response planning, implementing Statewide Critical Infrastructure/Key Resource (CI/KR) protection programs, and establishing protocols to effectively direct the flow of terrorism and homeland security information. Site-specific needs include physical security enhancements that would improve infrastructure security and resiliency, equipment and infrastructure to enhance jurisdictional capabilities to share critical voice information in tactical settings with other jurisdictions, upgrades to emergency response systems, and improvements in threat detection, such as radiological and nuclear.

SCOPE OF THE PEA

This PEA examines the direct, indirect, and cumulative environmental impacts associated with the GPD-funded grant programs. This document has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) and the FEMA regulations for implementing NEPA.

A programmatic environmental document, such as this PEA, is prepared when an agency is proposing to carry out a broad action, program, or policy. FEMA has determined that the grant programs funded by GPD are a broad action with nationwide implications. The programmatic approach creates a comprehensive, global analytical framework that assesses impacts expected from the program as a whole. It also supports subsequent site-specific environmental evaluations, such as Records of Environmental Considerations (REC), tiered Supplemental Environmental Assessments (SEA) or stand-alone EAs, that may be required to determine the nature and extent of impacts resulting from individual actions at specific locations. It also allows FEMA to identify those project types that will not have any impact to the environment and distinguish them from those that may require further analysis.

This PEA is intended to examine the project types funded by GPD, which have been organized into the following eight groups:

Planning

Planning projects would enable grantees to engage in preparedness activities such as:

- Prioritize needs
- Update preparedness strategies
- Allocate resources
- Deliver preparedness programs across disciplines (e.g., law enforcement, fire, Emergency Medical Services, public health, behavioral health, public works, agriculture, and information technology) and levels of government.

These efforts include the development of policies, plans, procedures, mutual aid agreements, strategies, and other publications that comply with relevant laws, regulations, and guidance and are necessary to perform assigned missions and tasks.

Management and Administration

Activities allowable under the GPD grant programs regarding management and administrative actions allow grantees to enhance their preparedness through the hiring of personnel, publication of guidance documents, and other management activities that build capacity.

Training

States, Territories, and urban areas are encouraged to use GPD funds to develop a State/Territory homeland security training program. These training programs, primarily classroom-based, enable public safety, preparedness, and first responder agencies at all levels to engage in activities that build capacity and capability at all levels, enhancing preparedness. Training-related costs under GPD may include the establishment, support, conduct, and attendance of training. Training topics may include, but are not limited to, chemical, biological, radiological, nuclear, and explosive (CBRNE) terrorism and catastrophic events, cyber/agriculture/food security, intelligence gathering and analysis, citizen and community preparedness, and training for volunteers. For a listing of activities that are allowable expenses, please refer to the relevant year's grant guidance.

Exercises

Exercise scenarios eligible for funding would be based on the Multi-Year Training and Exercise Plan. These exercises, both field- and classroom-based, enhance readiness by allowing public safety, preparedness, and first responder agencies at all levels to engage in tabletop and field exercises that allow them to rehearse real-life scenarios in order to better prevent and respond to acts of terrorism. Exercise scenarios may include CBRNE, cyber, agricultural, and natural or technological disasters. Grant funds can be used to design, develop, conduct, and evaluate terrorism prevention-related exercises.

Purchase of Mobile and Portable Equipment

The GPD grant programs allow for equipment purchases within one of the 21 allowable equipment categories. The Allowable Equipment List (AEL) can be found at *https://www.rkb.us/mel.cfm?subtypeid=549*.

The category of mobile and portable equipment is defined as devices that do not require any installation (e.g. attached to a building, bridge, pier, etc.) and may be transported from site to site, such as hand-held radios, personal protective equipment (PPE), cellular phones, dive equipment, boats, response vehicles, identification cards, and other similar devices that do not require installation.

Communication Towers

Communication towers perform many essential functions, including helping to maintain contact among first responders in the event of an emergency. GPD grant funds may be used to install new towers, replace older, less capable towers, and to renovate existing towers to enhance communication capabilities and better enhance preparedness and response capabilities.

Existing Towers

Actions under this project type would be limited to the addition of new equipment and the upgrade or enlargement of the existing facility. All potential activities would be limited to the communication tower and the area within the fenced (secured) area associated with the existing tower.

New/Replacement Towers

Proposed activities within this category include new construction or replacement of existing communication towers. Communication tower sites are usually fenced and include the tower, an ancillary electronic equipment building, and an emergency backup power generator. Sites with a backup generator also have a fuel tank for the generator, up to 1,000 gallons in rural areas. The sites are usually unmanned, and electricity and telecommunications lines are the only utilities at the site. In some cases, especially in urban areas, the communication antenna could be located on another structure, such as a water tower, smoke stack, or roof of a building.

For purposes of this PEA, construction of a new communication tower is defined as the construction on a previously undisturbed, disturbed, or developed site. Regardless of the setting (urban, rural or remote), the project may require some trenching or jacking/boring to extend electrical power to the tower area. Replacement pertains to the construction of a new updated communication tower on an existing communication tower site.

Modification of Existing Structures and Facilities

GPD grant funds can be used to improve security, and other essential services at existing facilities through renovation, retrofitting, or modification of existing structures. This activity does not cover the demolition or removal of an existing structure and its replacement.

Projects of this type involve activities that are relatively minor alterations to the interior or exterior of existing facilities, and may or may not require ground disturbance. Fixed equipment includes, but is not limited to, closed-circuit television (CCTV) cameras, bollards, lighting, fencing, identification card readers, tire puncture treadles, enhanced communications equipment, loud speakers, warning sirens, and motion detection equipment. The installation of any fixed equipment on communication towers will be discussed separately with communication towers.

Eligible facilities under the GPD grant programs may include: security guard buildings, emergency operation centers (EOCs), waterside facilities (e.g., dock, boathouse, pier, waterside law enforcement facility), court houses, police and fire stations, schools, places of worship, medical facilities, stadiums, and transportation infrastructure (e.g. bus and railway stations, bridges, tunnels, etc.).

Actions analyzed under this alternative may or may not involve ground disturbance. Ground disturbance would typically be associated with installation of utilities or fixed equipment, or enlarging a facility.

New Construction

Certain GPD grant programs allow for the construction of various structures to house and enable the missions of various first responder, public safety, and security entities. These facilities and

structures play a significant role in enhancing preparedness and response capability for these organizations. New facilities that may be built using specific GPD grant funds include: security guard buildings, EOCs, fire stations, and docks/piers. The types of new construction covered under this project type can occur at previously undisturbed, disturbed, or developed sites.

All associated needs for a new facility, including utility connections, fencing, lighting, access roads, equipment/construction staging areas, parking and security measures, etc., are also covered under the analysis of this project type, and are considered to contribute to the entire project footprint. In order to accurately assess the environmental impacts of this project type, all features of the proposed development must be analyzed.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES TO IMPLEMENT THE PROPOSED ACTION

Alternative 1 (No Action Alternative)

The No Action Alternative in the environmental analysis is defined as maintaining the status quo. The No Action Alternative evaluates the effects of not providing eligible Federal assistance for a specific action and provides a benchmark against which the action alternatives may be evaluated.

Under the No Action Alternative, GPD would not implement the programs and would not provide Federal grant funding for security and response measures to improve preparedness. It is assumed that the proposed program or project would not be implemented by the State, Territory, local, or Tribal government or private entity due to lack of Federal funding.

Alternative 2 (Program Implementation)

Programs

All actions considered in this PEA assume that the Federal action is:

- Required to improve national preparedness and homeland security
- Funded under one of the GPD grant programs

Homeland security grant programs are dynamic, and are constantly evolving to better meet demonstrated homeland security needs. As a result, allowable expenses and actions under grant programs may change from year to year. The actions described and analyzed in this PEA are not intended to provide a definitive list of allowable expenses and actions for each grant program, rather they are intended to illustrate the types of expenses and actions that may be allowable. Grant guidance for any given year specifically outlines allowable expenses and actions for each specific grant program.

Projects

Potential actions available for funding under the GPD grant programs have been divided into eight project types: Planning, Management and Administration, Training, Exercises, Purchase of Mobile and Portable Equipment, Construction/Installation/Upgrading of Communication Towers and Supporting Facilities, Modification of Existing Structures and Facilities, and New Construction. These eight general project types are inclusive of actions that are central to GPD's mission. Actions analyzed in this PEA **are not** intended to supersede allowable grant

expenditures as specified in grant guidance for any given year. Under Alternative 2, all GPD-funded grant programs would be implemented simultaneously.

SUMMARY OF ENVIRONMENTAL IMPACTS

Examination of the eight major project types revealed that renovation/modification/retrofitting of existing critical infrastructure facilities, projects associated with communication towers, and projects involving new construction all have the potential to adversely impact the environment as they would likely involve ground disturbing activities and modification of potentially historic structures. Through this PEA, FEMA has determined that preparation of REC, a site-specific SEA or stand-alone EA will be required for the purchase of sonars, the construction, modification, and replacement of communication towers, modifications of existing facilities, and new construction activities. Projects involving planning, training, exercises at existing facilities, management and administration, and the purchase of mobile and portable equipment (except for sonars) would not require further NEPA documentation.

Consequences of Alternative 1: The No Action Alternative

Under the No Action Alternative, no GPD-funded homeland security projects would occur across any of the eight project types defined and analyzed in this PEA. Existing deficiencies and vulnerabilities in public safety, preparedness, and readiness would persist. This could result in an adverse effect on human health and safety.

Consequences of Alternative 2: Program Implementation

Alternative 2 would not have any significant impact on any of the resources areas analyzed for those project types that meet the criteria established in Section 5, Environmental Consequences, and summarized above and in Tables ES-1 through ES-3. Alternative 2 would also have beneficial impacts to human health and safety by improving preparedness, reducing vulnerabilities, and allowing State, Territorial, Tribal, local, quasi-public, and private entities to make meaningful upgrades to the Nation's homeland security infrastructure.

Table ES-1: Summary Table: Communication Towers: Modification to Existing Towers, Replacement of Towers, and New Tower Construction

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
Land Use	No effects.	There would be no effects to land use from upgrades and renovations to existing towers or from tower replacement because land use would not change. Given the relatively small expected footprint of proposed new communication tower sites, substantial changes to land use are unlikely. Grantees and subgrantees are responsible for obtaining coastal consistency determinations. FEMA would ensure the Coastal Barrier Resources Act (CBRA) and the Farmland Protection Policy Act (FPPA). No significant effects are expected.
Geology and Soils	No effects.	There would be no significant impacts from or to geology and soils from this project type. Projects in area susceptible to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes may require the use of certain engineering techniques or consultation with State or Federal agencies to ensure their protection. FEMA would encourage avoidance of the projects in these hazard areas. Ground disturbance associated with this project type would be limited and would not be significant. Ground disturbance for this project type would be less than one (1) acre. Grantees or subgrantees will implement mitigation measures in Section 7.2 that would minimize the effects of the project to soils.
Water Resources	No effects.	There would be no significant effects to water resources from this project type. Grantees and subgrantees would be responsible for securing and meeting the conditions of water quality permits such as NPDES and state permits. In addition, projects would be implemented following mitigation measures in Section 7.2 which would reduce construction-related effects on water resources such as erosion and sedimentation.
Floodplains	No effects.	Projects within floodplains will trigger requirements under 44 CFR Part 9. FEMA is required to identify practicable alternative outside the floodplain or minimize the project's impacts from or to floodplains. Towers may be consider critical actions and would require evaluations using the 500-year BFE standard. Projects located within the floodplain will be documented through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. No significant impacts to or from floodplains are expected from this project type.
Wetlands	No effects.	Projects located near or within wetlands may trigger the requirements under 44 CFR Part 9. FEMA is required to identify practicable alternatives that do not affect wetlands and minimize the project's impacts to wetlands. Projects affected wetlands will be documented through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. In addition, grantees and subgrantees are responsible for securing and meeting the

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
		conditions of Federal and State permits needed for the filling of wetlands. No significant impacts to or from floodplains are expected from this project type.
Biological Resources	No effects.	No significant impacts are expected on vegetation. FEMA will document impacts analysis to sensitive vegetation community through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. No significant impacts are expected to aquatic animals. FEMA will engage in the ESA Section 7 consultation process with FWS or NMFS if there are threatened or endangered species or critical habitat that would be affected by the project. A site-specific SEA would be required if a "no effect" or "not likely to adversely affect" determination cannot be made and formal consultation is triggered. This project type has the potential to affect migratory birds individually and cumulatively. FEMA will enter into a MOU with FWS for the coordination of reviews and for addressing impacts to migratory birds. The MOU would include recommendations for reducing the impacts of new towers on migratory birds. Tower projects that do not meet the guidelines will require site-specific evaluation and coordination with FWS. This process will be documented through a REC or a site-specific SEA depending on the nature and magnitude of the impacts of the project to migratory birds.
Human Health and Safety	There would be adverse effects to human health and safety because existing vulnerabilities in public safety and homeland security preparedness would persist. There would be no effect on hazardous materials.	There would be no significant effect from the use, storage, handling, and disposal of hazardous materials and wastes that may be associated with the operation of communication tower sites. Grantees and subgrantees are responsible for securing and meeting conditions of permits and requirements at the Federal, State, Tribal and/or local level for the handling of these materials. The construction of new or replacement tower sites, and renovations to existing towers, would have a beneficial effect on public safety as they would improve preparedness for public safety and homeland security agencies.
Minority and low-income populations	No effect.	No significant impacts are expected on minority and low-income populations. Tower projects are intended to improve emergency response communication and public safety and therefore would have a long-term beneficial impact on all segments of the population. Grantees and subgrantees are responsible for engaging in adequate public outreach before a new tower construction request is made to FEMA.
Historic Properties	No effect.	No significant impacts are expected to historic properties. Grantees and subgrantees are encouraged to co-locate communication equipment in existing towers whenever possible. FEMA will require grantees and subgrantees to follow applicable mitigation measures in Section 7 of this PEA to reduce potential adverse effects. On November 3rd, 2009 the ACHP issued a program comment that states that FEMA will not need to comply with Section 106 with regard to the effects of communication facilities

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
		construction or modification that has either undergone or will undergo Section 106 review, or is exempt from Section 106 review by the FCC under the FCC Nationwide Programmatic Agreement and/or the FCC Collocation Programmatic Agreement. FEMA must comply with Section 106 for components that are ancillary to the construction or modification of the communication facility itself. Projects with adverse effects to historic properties will require a REC or site-specific SEA depending on the nature and magnitude of the adverse effects.
Infrastructure	No significant effect, but existing deficiencies in communications systems would persist.	Short-term adverse construction related effects, due to interference with availability and increases in construction and demolition wastes, would not be significant. No significant operations-related effects are expected. Short-term adverse construction-related effects due to construction vehicles are not expected to be significant. No significant effects from operations.
Air Quality	No effect.	No significant construction related effects, any effects would be short-term. No significant operations-related effects, any generator use is expected to be occasional and of short duration. New, cleaner generators may reduce emissions. FEMA would require grantees and subgrantees to follow applicable mitigation measures found in Section 7.2.
Noise	No effect.	No significant construction-related effects, noise effects are expected primarily in daytime hours. No significant operations-related effects, generator noise is expected to be occasional and of short duration. FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.
Visual Quality	No effect.	Short-term adverse construction-related effects would not be significant. Long-term adverse related effects may occur. FEMA would encourage grantees and subgrantees to take into account minimization techniques such as selecting tower sites from areas already served by a road, consolidating communication facilities when possible, selecting new site locations where the features of the communication tower site are consistent with the topography of the area, minimizing the footprint of the affected area, painting concrete foundations with an earth-tone paint to reduce contrast, painting communication towers to make them less visible and distinct from the surrounding features, restoring and landscaping disturbed areas after construction activities have been completed, take into account other measures to buffer visual effects and alterations to natural landscapes FEMA would require grantees and subgrantees to follow applicable mitigation measures

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
		found in Section 7.2.
Climate Change	No effect.	No significant impacts. Short-term construction impacts would not be significant, and no significant impacts are expected from operation. New generators that replace older generators may reduce the amount of greenhouse gas (GHG) emissions.

Table ES-2: Summary Table: Modification of Existing Structures and Facilities

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
Land Use	No effects.	There would be no effects to land use from renovation, modification, and retrofitting of existing facilities because land use would not change. Grantees and subgrantees are responsible for obtaining coastal consistency determinations when applicable.
Geology and soils	No effects.	There would be no significant impacts from or to geology and soils from this project type. Projects in area susceptible to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes may require the use of certain engineering techniques or consultation with State or Federal agencies to ensure their protection. FEMA would encourage avoidance of the projects in these hazard areas. Ground disturbance associated with this project type would be limited and would not be significant. Ground disturbance for this project type would be less than one (1) acre. Grantees or subgrantees will implement mitigation measures in Section 7.2 that would minimize the effects of the project to soils.
Water Resources	No effects.	There would be no significant effects to water resources from this project type. Grantees and subgrantees would be responsible for securing and meeting the conditions of water quality permits such as NPDES and state permits. In addition, projects would be implemented following mitigation measures in Section 7.2 which would reduce construction-related effects on water resources such as erosion and sedimentation.
Floodplains	No effects.	Projects within floodplains will trigger requirements under 44 CFR Part 9. FEMA is required to identify practicable alternative outside the floodplain or minimize the project's impacts from or to floodplains. Projects located within the floodplain will be documented through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. No significant impacts to or from floodplains are expected from this project type.
Wetlands	No effects.	Projects located near or within wetlands may trigger the requirements under 44 CFR Part 9. FEMA is required to identify practicable alternatives that do not affect wetlands and minimize the project's impacts to wetlands. Projects affected wetlands will be documented through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. In addition, grantees and subgrantees are responsible for securing and meeting the conditions of Federal and State permits needed for the filling of wetlands. No significant impacts to or from floodplains are expected from this project type.
Biological Resources	No effects.	No significant impacts are expected on vegetation. FEMA will document impacts analysis to sensitive vegetation community through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. No significant impacts are expected to aquatic animals. Projects in the floodplains and wetlands would require compliance with 44 CFR 9. FEMA will engage in the ESA Section 7 consultation process with FWS or NMFS if there

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
		are threatened or endangered species or critical habitat that would be affected by the project. A site-specific SEA would be required if a "no effect" or "not likely to adversely affect" determination cannot be made and formal consultation is triggered.
Human Health and Safety	There would be adverse effects to human health and safety because existing vulnerabilities in public safety and homeland security preparedness would persist. There would be no effect on hazardous materials.	There would be no significant effect from the use, storage, handling, and disposal of hazardous materials and wastes that may be associated with renovation, modification, and retrofitting of existing facilities. Grantees and subgrantees are responsible for securing and meeting conditions of permits and requirements at the Federal, State, Tribal and/or local level for the handling of these materials. These facility upgrades would have a beneficial effect on public safety as they would improve preparedness for public safety and homeland security agencies
Low income and minority populations	No effect.	No significant impacts are expected on minority and low-income populations. Projects are intended to improve emergency response and public safety capabilities and therefore would have a long-term beneficial impact on all segments of the population.
Historic Properties	No effect.	No significant impacts are expected to historic properties. FEMA will require grantees and subgrantees to follow applicable mitigation measures in Section 7 to reduce potential adverse effects. FEMA will engage in the Section 106 consultation process for projects with potential effects to historic properties. Projects with adverse effects to historic properties will require a REC or site-specific SEA depending on the nature and magnitude of the adverse effects.
Infrastructure	No effect.	Short-term adverse construction related effects, due to interference with availability and increases in construction and demolition wastes, would not be significant. No significant operations-related effects are expected. Short-term adverse construction-related effects due to construction vehicles are not expected t be significant. No significant effects from operations.
Air Quality	No effect.	No significant construction related effects would be expected, any effects would be short-term. Interior renovations would have no effect. No significant operations-related effects would be expected. FEMA would require grantees and subgrantees to follow applicable mitigation measures found in Section 7.2.
Noise	No effect.	No significant construction-related effects are expected, noise effects are expected primarily in daytime hours. FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
		specific SEA, depending on the nature and magnitude of the potential impacts.
Visual Quality	No effect.	Short-term adverse construction-related effects would not be significant. Long-term adverse effects may occur for projects involving external renovations and would not be significant.
Climate Change	No effect	Short-term adverse construction-related effects would not be significant. Long-term effects from operations-related emissions increases would not be significant.

Table ES-3: Summary Table: New Construction

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
Land Use	No effects.	No significant impacts to land use are expected. Grantees and subgrantees are responsible for coordinating land use changes with local governments and obtain applicable State, Tribal, and local construction and zoning permits. Grantees and subgrantees are responsible for obtaining coastal consistency determinations. FEMA would ensure the Coastal Barrier Resources Act (CBRA) and the Farmland Protection Policy Act (FPPA).
Geology, Soils, and Seismicity	No effects.	There would be no significant impacts from or to geology and soils from this project type. Projects in area susceptible to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes may require the use of certain engineering techniques or consultation with State or Federal agencies to ensure their protection. FEMA would encourage avoidance of the projects in these hazard areas. Ground disturbance associated with this project type would be limited and would not be significant. Ground disturbance for this project type would be less than five (5) acres. Grantees or subgrantees will implement mitigation measures in Section 7.2 that would minimize the effects of the project to soils.
Water Resources	No effects.	There would be no significant effects to water resources from this project type. Grantees and subgrantees would be responsible for securing and meeting the conditions of water quality permits such as NPDES and state permits. In addition, projects would be implemented following mitigation measures in Section 7.2 which would reduce construction-related effects on water resources such as erosion and sedimentation.
Floodplains	No effects.	Projects within floodplains will trigger requirements under 44 CFR Part 9. FEMA is required to identify practicable alternative outside the floodplain or minimize the project's impacts from or to floodplains. Projects located within the floodplain will be documented through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. No significant impacts to or from floodplains are expected from this project type.
Wetlands	No effects.	Projects located near or within wetlands may trigger the requirements under 44 CFR Part 9. FEMA is required to identify practicable alternatives that do not affect wetlands and minimize the project's impacts to wetlands. Projects affected wetlands will be documented through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. In addition, grantees and subgrantees are responsible for securing and meeting the conditions of Federal and State permits needed for the filling of wetlands. No significant impacts to or from floodplains are expected from this project type.
Biological Resources	No effects.	No significant impacts are expected on vegetation. FEMA will document impacts analysis to sensitive vegetation community through a REC or a site-specific SEA depending on the nature and magnitude of the impacts. No significant impacts are expected to aquatic

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
		animals. Projects in the floodplains and wetlands would require compliance with 44 CFR 9. FEMA will engage in the ESA Section 7 consultation process with FWS or NMFS if there are threatened or endangered species or critical habitat that would be affected by the project. A site-specific SEA would be required if a "no effect" or "not likely to adversely affect" determination cannot be made and formal consultation is triggered.
Human Health and Safety	There would be adverse effects to human health and safety because existing vulnerabilities in public safety and homeland security preparedness would persist. There would be no effect on hazardous materials.	There would be no significant effect from the use, storage, handling, and disposal of hazardous materials and wastes associated with this project type. Grantees and subgrantees are responsible for securing and meeting conditions of permits and requirements at the Federal, State, Tribal and/or local level for the handling of these materials. The construction of new facilities and structures, would have a beneficial effect on public safety as they would improve preparedness and for public safety and homeland security agencies, and expand their capacity to respond effectively to an emergency.
Low income and minority populations	No effect.	No significant impacts are expected on minority and low-income populations. New construction projects are intended to improve emergency response and public safety capabilities and therefore would have a long-term beneficial impact on all segments of the population. Grantees and subgrantees are responsible for engaging in adequate public outreach before a new construction project request is made to FEMA.
Historic Properties	No effect.	No significant impacts are expected to historic properties. FEMA will require grantees and subgrantees to follow applicable mitigation measures in Section 7 to reduce potential adverse effects. FEMA will engage in the Section 106 consultation process for projects with potential effects to historic properties. Projects with adverse effects to historic properties will require a REC or site-specific SEA depending on the nature and magnitude of the adverse effects.
Infrastructure	No effect.	Short-term adverse construction related effects, due to increases in construction and demolition wastes would not be significant. No significant operations-related effects are expected. Short-term adverse construction-related effects due to construction vehicles are not expected to be significant.
Air Quality	No effect.	No significant construction related effects, any effects would be short-term. No significant operations-related effects are expected. FEMA would require grantees and subgrantees to follow applicable mitigation measures found in Section 7.2.
Noise	No effect.	No significant construction-related effects, noise effects are expected primarily in daytime hours. No significant operations-related effects are expected.

Criteria	Alternative 1: No Action Alternative	Alternative 2: Program Implementation
		FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.
Visual Quality	No effect.	Short-term adverse construction-related effects would not be significant. Long-term adverse operations-related effects may occur and would not be significant.
Climate Change	No effect	Short-term adverse construction-related effects would not be significant. Long-term effects from operations-related emissions increases would not be significant.

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List of Acronyms

ACHP	Advisory Council on Historic Preservation
AEL	Authorized Equipment List
AFG	Assistance to Firefighters Grants Program
AGL	above ground level
APE	Area of Potential Effect
AQCR	air quality control region
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	best management practice
BZPP	Buffer Zone Protection Program
CAA	Clean Air Act
CATEX	categorical exclusion
CBP	Customs and Border Protection
CBRA	Coastal Barrier Resources Act
CBRNE	chemical, biological, radiological, nuclear, and explosive
CBRS	Coastal Barrier Resource System
CCP	Citizen Corps Program
CCTV	closed-circuit television
CEDAP	Commercial Equipment Direct Assistance Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFATS	Chemical Facility Anti-Terrorism Standard
CFR	Code of Federal Regulations
CI/KR	Critical Infrastructure/Key Resource
CO	carbon monoxide
COI	chemicals of interest
CTGP	Competitive Training Grant Program
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dB re 1 μPa^2 –s	decibel referenced to 1 micropascal squared second
DHS	Department of Homeland Security
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EFH	Essential Fish Habitat
EHP	Environmental and Historic Preservation
EHS	Extremely Hazardous Substance
EIS	Environmental Impact Statement
EMPG	Emergency Management Performance Grants Program
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operating Plan
EPCRA	Emergency Planning and Community Right to Know Act
ESA	Endangered Species Act
FAA	Federal Aviation Administration

FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FIP	Federal Implementation Plan
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FP&S	Fire Prevention and Safety Grant Program
FSGS	Ferry Security Grant Supplemental
FSM	Federated States of Micronesia
GCR	General Conformity Rule
GHG	Green House Gases
GPD	Grant Programs Directorate
G&T	Office of Grants and Training
Hz	hertz
HSEEP	Homeland Security Exercise and Evaluation Program
IAFIS	Integrated Automated Fingerprint Identification System
IBSGP	Intercity Bus Security Grant Program
ID	identification
IPP	Infrastructure Protection Program
kHz	kilohertz
LETPP	Law Enforcement Terrorism Prevention Program
µg/m3	micrograms per cubic meter
M&A	Management and Administration
mg/m3	milligrams per cubic meter
MMRS	Metropolitan Medical Response System
$MMTCO_2$	Million Metric tons of carbon dioxide equivalent
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NEHRP	National Earthquake Hazard Reduction Program
NEPA	National Environmental Policy Act of 1969
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service of the U.S. Department of Interior
NRCS	Natural Resources Conservation Service
NRF	National Response Framework
NRP	National Response Plan
NWP	Nationwide Permits
O_3	ozone

OC	Operating Center
PA	Programmatic Agreement or Program Analyst
Pb	lead
PEA	Programmatic Environmental Assessment
PM_{10}	particulate matter equal to or less than 10 micrometers in aerodynamic diameter
$PM_{2.5}$	particulate matter equal to or less than 2.5 micrometers in aerodynamic diameter
PPE	Personal Protective Equipment
ppm	parts per million
PSD	Prevention of Significant Deterioration
PSGP	Port Security Grant Program
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
RMI	Republic of the Marshall Islands
SDWA	Safe Drinking Water Act
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Officer
SHSP	State Homeland Security Program
SIP	State Implementation Plan
SO_2	sulfur dioxide
STQ	Screening Threshold Quantities
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Officer
TIP	Tribal Implementation Plan
TSGP	Transit Security Grant Program
TSP	Trucking Security Program
UASI	Urban Areas Security Initiative
U.S.	United States
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound

Section One Introduction

1.1 Overview

On December 17, 2003, the President issued Homeland Security Presidential Directive 8 on National Preparedness. Under the Directive, the Secretary of Homeland Security, in coordination with the heads of other appropriate Federal departments and agencies and in consultation with State, Territory, and local governments, was tasked with developing a national domestic all-hazards National Preparedness Goal (the Goal). Federal departments and agencies will work to achieve this goal by (a) providing for effective, efficient, and timely delivery of Federal preparedness assistance to State and local governments, and (b) supporting efforts to ensure first responders are prepared to respond to major events.

The Department of Homeland Security (DHS) Office of Grants and Training (G&T) was transformed into GPD on April 1, 2007, as a result of the Post-Katrina Emergency Management Reform Act of 2006. GPD is housed within FEMA to oversee the grant business operations, systems, training, and policy. FEMA supports the Nation's citizens and first responders to ensure that the Nation works together to build, sustain, and improves its capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.

1.2 Programmatic Environmental Assessment

The National Environmental Policy Act of 1969, 42 U.S.C. § 4321 *et seq.*, (NEPA) mandates that Federal agencies take into account the effects of their actions, including programs, regulations, policies, and grant-funded specific projects, on the quality of the human environment. The Council on Environmental Quality (CEQ) has established NEPA Implementing Regulations at 40 Code of Federal Regulations (CFR) 1500 *et seq.* for meeting these requirements, and each Federal agency has developed its own implementing procedures specific to its mission. FEMA's procedures are found at 44 CFR Part 10. They contain a list of actions, referred to as Categorical Exclusions (CATEX), that typically do not individually or cumulatively have significant impacts on the human environment. An action that would normally qualify for a CATEX may have extraordinary circumstances that disqualify it from the CATEXs applicability. FEMA's list of extraordinary circumstances can be found at 44 CFR 10.8(d)(3). Actions that are not covered by a CATEX or actions covered by a CATEX that have unresolved extraordinary circumstances require the preparation of an Environmental Assessment (EA) under NEPA to determine the nature and extent of impacts of the action and determine whether the action has significant impacts on the quality of the human environment. An Environmental Impact Statement (EIS) is required when an action will have a significant impact on the quality of the human environment.

The CEQ regulations at 40 CFR §§ 1500.4(i), 1502.4 and 1502.20 encourage the development of program-level NEPA environmental documents and tiering for eliminating repetitive discussions and to focus on the issues specific to the subsequent action. FEMA has developed this Programmatic Environmental Assessment (PEA) under this CEQ authority.

This PEA will also facilitate FEMA's compliance with other environmental and historic preservation requirements by providing a framework to address the impacts of actions typically funded to aid in national preparedness. FEMA coordinates and integrates to the maximum extent possible the review and compliance process required under similar requirements such as the

Section 106 of the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act (ESA), the eight step process of the Executive Order 11988 and 11990, and others. This PEA provides a framework on how FEMA integrates these requirements with NEPA.

Finally, the PEA provides the public and decision-makers with the information required to understand and evaluate the potential environmental consequences of these national preparedness actions. This PEA meets the NEPA goals of impact identification and disclosure and addresses the need to streamline the NEPA review process in the interest of national preparedness.

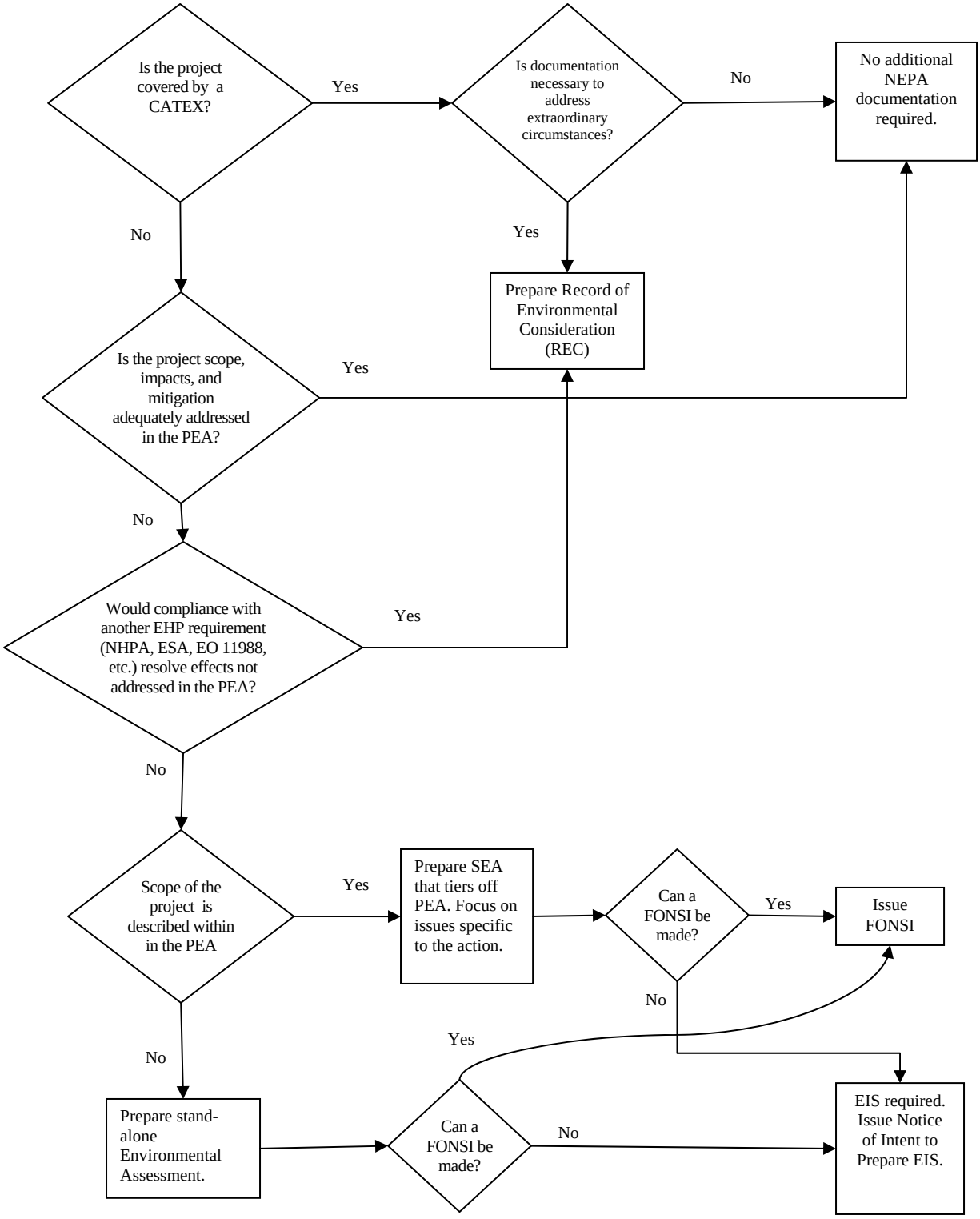
1.3 Activities Evaluated in the PEA

This PEA evaluates typical security enhancement and associated preparedness activities proposed under the GPD grant programs. A wide range of activities may be funded by GPD grants, with varying expected levels of impacts. They may range from relatively small actions such as the purchase of Personal Protective Equipment (PPE) and handheld radios to the construction of communication towers and emergency operations centers (EOCs). While some activities are not expected to have any impact on the quality of the human environment, others may have the potential to impact a variety of environmental resources and/or historic properties. Allowable expenses under most GPD grants include such activities as:

- Planning
- Management and Administration
- Training
- Exercises
- Purchase of Mobile and Portable Equipment
- Construction/Installation/Upgrading of Communication Towers and Supporting Facilities
- Modification of Existing Structures and Facilities
- New Construction

The analysis in this PEA leverages FEMA's experiences regarding environmental impacts that can be expected from actions funded by GPD grant programs. It is also based on a review of scientific literature, consultation with regulatory agencies, and expert opinion. FEMA will use the analysis in this PEA to describe program-level environmental impacts of GPD's grant programs, and define those project types for which no environmental impacts are expected and for which no further NEPA documentation is required. Furthermore, the PEA will define those proposed GPD-funded project types that would require further analysis before a determination of environmental impacts could reasonably be made. The NEPA compliance review of specific projects funded by GPD could result in projects (1) needing to be modified or redesigned to reduce or eliminate environmental impact, (2) needing a Record of Environmental Considerations (REC) to account for the resolution of requirements under other laws such as NHPA, ESA, EO 11988, and the resolution of other extraordinary circumstances, (3) requiring a Supplemental EA (SEA) to tier off of this PEA, (4) requiring an individual site-specific EA to evaluate the potential for environmental impact, or (5) needing an Environmental Impact Statement (EIS) to assess the extent of the environmental impact of the project.

Figure 1-1: Use of PEA in FEMA's Review



Section Two Purpose and Need

2.1 Purpose

The preparedness grant programs managed by GPD enhance the capabilities of States, Territories, Tribes, private-sector and non-governmental first responders to prevent, prepare for, respond to, and recover from natural and man-made disasters, and terrorist attacks. These funds are intended to develop and administer planning, training, personnel, equipment, and exercise assistance efforts for state and local emergency response agencies to better prepare them against the threat of terrorism as part of GPD's mission.

GPD's mission is to manage Federal assistance to measurably improve capability and reduce the risks the Nation faces. GPD is responsible for the program management and administration of 19 preparedness grant programs. These preparedness programs support the achievement of the National Preparedness Goal by providing funds for State and local homeland security efforts, such as planning, equipment purchase, protection of critical infrastructure by reinforcing physical security and access controls, and hiring and training first responders. Currently, GPD grants and associated funding are administered to all 56 States and Territories.

2.2 Need

The events of September 11, 2001 highlighted critical needs in the Nation's security safeguards and systems. Effective preparedness is a critical precondition of successful response. State, Territory, Tribal, and local governments, as well as quasi-governmental private entities, need supplemental funds to improve preparedness and to successfully respond to emergencies.

Programmatic needs include integrating preparedness programs and training into existing public safety initiatives, improving emergency-response planning, implementing Statewide Critical Infrastructure/Key Resource (CI/KR) protection programs, and establishing protocols to effectively direct the flow of terrorism and homeland security information. Site-specific needs include physical security enhancements that would improve infrastructure security and resiliency, equipment and infrastructure to enhance jurisdictional capabilities, public safety interoperable communications, upgrades to emergency response systems, and improvements in intrusion and threat detection, such as radiological and nuclear.

Section Three Alternatives

This section describes the proposed actions to address the purpose and need.

3.1 Alternative 1: No Action

FEMA has included a No Action Alternative to evaluate the potential impacts of not providing eligible Federal assistance and to provide a benchmark against which the proposed alternative may be evaluated. Under the No Action Alternative, GPD would not implement the programs and would not provide Federal grant assistance for security and response measures to improve preparedness. It is assumed that the proposed program or project would not be implemented by the State, Territory, local, or Tribal government or private entity due to lack of Federal funding.

3.2 Alternative 2: Program Implementation

3.2.1 Programs

GPD grant programs are dynamic and are constantly evolving to better meet demonstrated homeland security needs. Congress appropriates funding annually for GPD grant programs and establishes priorities for the use of these funds. As a result, allowable expenses and projects under grant programs may change from year to year. Grant guidance for any given year specifically outlines allowable expenses and actions for each grant program; actions analyzed in this PEA **are not** intended to supersede allowable grant expenditures as specified in grant guidance for any given year.

Currently, GPD administers 19 different grant programs. Below is a list of current programs.

SHSP	State Homeland Security Program
Tribal SHSP	Tribal State Homeland Security Program
OPSG	Operation Stone Garden Security Grant
TSGP	Transportation Security Grant Program
TSP	Trucking Security Program
UASI	Urban Areas Security Initiative
EMPG	Emergency Management Performance Grant
IPR	Intercity Passenger Rail (AMTRAK)
EOC	Emergency Operations Center
MMRS	Metropolitan Medical Response System
IECGP	Interoperability Emergency Communication Grant Program
BZPP	Buffer Zone Protection Program
FRSGP	Freight Rail System Grant Program
DLSGP	Drivers License Security Grant Program
CCP	Citizen Corps Program
NSGP	Nonprofit Security Grant Program
PSGP	Port Security Grant Program
IBSGP	Intercity Bus Security Grant Program
AFG	Assistance to Firefighters Grant

Appendix A provides a brief description of each one of these programs. New programs developed that meet the Purpose and Need in Section Two and the impacts analysis in Section Five will be covered by this PEA.

3.2.2 Projects

Potential actions eligible for funding under the GPD grant programs have been divided into the following eight project types for discussion and analysis in this PEA: Planning, Management and Administration, Training, Exercises, Purchase of Mobile or Portable Equipment, Communication Towers, Modification of Existing Structures and Facilities, and New Construction.

3.2.2.1 Planning

Planning projects would enable grantees to engage in preparedness-related activities such as:

- Prioritization of preparedness needs,
- Preparation or update of preparedness strategies,
- Allocation of resources
- Delivery of preparedness programs across disciplines (e.g., law enforcement, fire, Emergency Medical Services, public health, behavioral health, public works, agriculture, and information technology) and levels of government.

These efforts include the development of policies, plans, procedures, mutual aid agreements, strategies, and other publications that comply with relevant laws, regulations, and guidance and are necessary to perform assigned missions and tasks.

3.2.2.2 Management and Administration

Activities allowable under the GPD grant programs regarding management and administrative actions allow grantees to enhance their preparedness through the hiring of personnel, publication of guidance documents, and other management activities that build capacity. Projects of this type include:

- Hiring planners and training program coordinators, exercise managers, and grant administrators
- Overtime and backfill expenses for personnel
- Regular-time operational costs for existing positions that are assigned to full-time counterterrorism duties
- Development, revision, documentation, and/or distribution of regulations, directives, manuals, information bulletins, and other guidance documents
- Technical assistance activities that involve no resources other than manpower and/or funding
- Other personnel, administrative, fiscal and management activities that involve no resources other than manpower and/or funding

3.2.2.3 Training

States, Territories, Tribes, and urban areas are encouraged to apply for GPD assistance to develop a State/Territory homeland security training program. These training programs, primarily classroom-based, enable public safety, preparedness, and first responder agencies at all levels to engage in activities that build capacity and capability at all levels, enhancing preparedness. Training-related costs under GPD may include the establishment, support, conduct, and attendance of training. Training topics may include, but are not limited to, CBRNE

national security threats and catastrophic events, cyber/agriculture/food security, intelligence gathering and analysis, citizen and community preparedness, and training for volunteers. For a listing of activities that are allowable expenses, refer to the relevant year's grant guidance.

3.2.2.4 Exercises

Exercise scenarios eligible for funding would be based on a grantee's Multi-Year Training and Exercise Plan. These exercises, both field- and classroom-based, enhance readiness by allowing public safety, preparedness, and first responder agencies at all levels to engage in tabletop and field exercises that allow them to rehearse real-life scenarios in order to better prevent and respond to acts of terrorism. Exercise scenarios may include CBRNE, cyber, agricultural, and natural or technological disasters. Grant funds can be used to design, develop, conduct, and evaluate terrorism prevention-related exercises.

3.2.2.5 Purchase of Mobile and Portable Equipment

The GPD grant programs allow for equipment purchases under the 21 allowable equipment categories on the Allowable Equipment List (AEL), or that are otherwise approved by GPD. The AEL is available on-line at https://www.rkb.us/mel.cfm?subtypeid=549.

The category of mobile and portable equipment is defined as devices that do not require any fixed installation and may be transported from site to site, such as hand-held radios, PPE, satellite phones, dive equipment, boats, response vehicles, identification cards, and other similar devices that do not require installation.

Under the AEL, FEMA currently allows for the purchase of some types of high frequency sonar equipment used for detection. These include, but may not be limited to,:

- Imaging sonar - a high-frequency sonar that produces video-like imagery using a narrow field of view.
- Scanning sonar - a smaller sonar system that produces a panoramic view of the surrounding area.
- Side Scan Sonar - produces strip-like images from both sides of the device. This type of sonar emits a high frequency sound to detect a target up to 1,500 meters away.
- Three-dimensional (3-D) sonar - produces a 3-D imagery of objects using an array receiver.

Generally the type of sonar equipment in the AEL operates between above the 150 kilohertz (kHz) frequency with pings of 15 to 20 hertz (Hz).

3.2.2.6 Communication Towers

Communication towers facilitate contact among first responders during an emergency event. GPD grant funds may be used to install new towers, replace older, less capable towers, and to upgrade existing towers to enhance communication capabilities. This category also covers tower-related equipment and infrastructure, as discussed below.

3.2.2.6.1. Existing Towers

Activities under this project type would be limited to the addition of new equipment and the upgrade or enlargement of the existing facility. All potential activities would be limited to the

communication tower and the area within the fenced (secured) area associated with the existing tower.

Potential activities under this category could include, but are not limited to:

- Installing or upgrading electronic communication equipment on the tower and/or inside the equipment building
- Installing or upgrading security fencing
- Installing or upgrading security or aviation lighting
- Installing or upgrading an emergency backup generator and associated fuel storage tank
- Increasing the height of a tower on an existing concrete foundation
- Enlarging or replacing an existing equipment building
- Construction of concrete pad/slab/foundation on which to place equipment building
- Installing or upgrading aboveground vehicle barriers (if appropriate)
- Installing or upgrading in-ground vehicle barriers (e.g., pop-up ballast), if appropriate
- Upgrading an existing access road

3.2.2.6.2. New/Replacement Towers

Proposed activities within this category include new construction or replacement of existing communication towers, associated equipment, and supporting facilities.

Communication tower sites are usually fenced and include the tower, a supporting electronic equipment building, and an emergency backup power generator. Sites with a backup generator typically also have a fuel tank for the generator with a capacity of up to 1,000 gallons, in remote areas. Tower facilities are usually unmanned and visited periodically for maintenance or inspection, and electrical and telecommunications lines are the only utilities at the site. A vehicular access road may be required to reach the site, particularly in remote or undeveloped areas. In some cases, especially in urban areas, the communication antenna could be located on another structure, such as a water tower, smoke stack, or roof of a building.

For purposes of this PEA, construction of a new communication tower is defined as the construction on a previously undisturbed, disturbed, or developed site. Construction of a new communication tower may involve:

- Demolition of existing structures (if needed—disturbed or developed sites only)
- Clearing and grubbing the site (if needed)
- Grading the site (if needed)
- Construction of concrete foundations as a platform to support a steel tower (if needed)
- Construction of a vehicular access road (if needed)
- Installing utilities (electricity, fiber optic, broadband, and telecommunications lines) as appropriate, a backup generator and fuel source, and batteries

- Construction or placement of a structure for housing electronic equipment (such buildings are often pre-fabricated)
- Construction of concrete pad/slab/foundation on which to place equipment building
- Installing security fencing, lighting, and cameras

Regardless of the setting (urban, rural or remote), the proposed project may require some trenching or jacking/boring to extend electrical power to the tower area. Construction of the project components and installation of the communication equipment may also include the following activities:

- Delivering construction materials to the project area
- Mounting radio communication equipment on the communication tower and within the equipment building
- Ingress and egress of construction equipment and construction workers; equipment required for the communication tower and equipment building may include a backhoe, a plow cat, a compactor, a trencher, an auger, concrete trucks, trucks transporting tower materials and cut/fill, and work crew trucks
- Reclaiming all disturbed areas outside the secured area to the pre-construction state using native vegetation

Replacement pertains to the construction of a new updated communication tower on an existing communication tower site. Construction of a replacement communication tower may include the following:

- Demolition of existing structures
- Grading the site
- Constructing concrete foundations as a platform to support a steel tower
- Constructing the new tower, a building for housing electronic equipment, and security features (e.g., fencing, lighting, etc.), as appropriate
- Installing or upgrading utilities (electricity, fiber optics, broadband, and telecommunications lines) as appropriate, a backup generator and a fuel source, and batteries
- Delivery of construction materials to the project area
- Mounting of radio communication equipment on the communication tower and within the equipment building
- Ingress and egress of construction equipment and construction workers; equipment required for the communication tower and equipment building may include a backhoe, a plow cat, a compactor, a trencher, an auger, concrete trucks, trucks transporting tower materials and cut/fill, and work crew trucks
- Reclaiming all disturbed areas outside the secured area to the pre-construction state using native vegetation

It is important to note that some of the above activities associated with tower projects, such as upgrades to or construction of access roads, may not be eligible for GPD funding, and must be

paid for using non-GPD funds. However, for purposes of FEMA's EHP review, all these tower-related activities must be taken into account and are considered part of the overall tower project.

3.2.2.7 Modification of Existing Structures and Facilities

GPD grant funds can be used to improve security and other essential services at existing facilities through renovation, retrofit or expansion of existing structures.

Projects of this type involve activities that are relatively minor alterations to the interior or exterior of existing facilities and may or may not require ground disturbance. This project type includes equipment that must be installed fixed at, in, or on a facility (hereinafter referred to as "fixed equipment"). Fixed equipment includes, but is not limited to, closed-circuit television (CCTV) cameras, bollards, lighting, fencing, identification card readers, tire puncture treadles, loud speakers, warning sirens, x-ray machines, and motion detection equipment.

Facilities that may be eligible for security enhancements under the GPD grant programs include: security guard buildings, emergency operation centers (EOCs), waterside facilities (e.g., dock, dockhouse, pier, waterside law enforcement facility), court houses, police and fire stations, schools, places of worship, medical facilities, stadiums, transportation infrastructure (e.g. bus and railway stations, bridges, tunnels, etc.), and tourist sites (e.g. monuments, museums, historic sites).

Examples of GPD-funded actions include:

- Installing fixed equipment (see examples above)
- Installing, replacing or upgrading blast-proof doors or windows
- Installing, replacing or upgrading interior gates or barriers
- Installing, replacing or upgrading plumbing, electrical lines or other utilities
- Enlarging an existing facility (e.g. adding an annex, story, etc.)

Activities analyzed under this alternative may or may not involve ground disturbance. For purposes of this PEA ground disturbance means any work or activity that results in a disturbance of the earth, including excavating, digging, trenching, plowing, drilling, tunneling, backfilling, blasting, topsoil stripping, land leveling, peat removing, quarrying, clearing and grating. Ground disturbance would typically be associated with installation of utilities, enlarging a facility, and installation of fence and light posts. Ground disturbance actions under this project type would be less than one (1) acre.

3.2.2.8 New Construction, including Replacement, of Facilities

Certain GPD grant programs allow for the construction of various structures to house and enable the missions of various first responder, public safety, and security entities. These facilities and structures play a significant role in enhancing preparedness and response capability for these organizations. New facilities that may be built using GPD grant funds include: security guard buildings, EOCs, fire stations, and docks/piers. For purposes of this PEA, new construction is defined as preparation of previously disturbed or undisturbed land and the building or assembly of new buildings (including pre-fabricated buildings), structures, facilities, infrastructure and other real property on that land. The types of new construction covered under this project type

can occur at previously undisturbed, disturbed, or developed sites. Activities associated with the construction of a new facility may include:

- Demolition of an existing structure
- Site clearing and grubbing
- Site grading
- Excavation
- Staging areas for equipment, building materials, fill, etc.
- Delivery, installation, and connection of utilities
- Installing supporting security measures
- Use of construction equipment, such as backhoes, front-end loaders, compactors, trenchers, augers, trucks (concrete, delivery, dump), and air compressors
- Traffic to and from the project site, including worker vehicles and delivery vehicles
- Demolishing an existing facility and replacing it with a new facility on the same site

All associated needs for a new facility, including utility connections, fencing, lighting, access roads, equipment staging areas, parking and security measures, etc., are also covered under the analysis of this project type, and are considered to contribute to the entire project footprint. In order to accurately assess the environmental impacts of this project type, all features of the proposed development must be analyzed. These activities would typically be less than five (5) acres.

Section Four Affected Environment

This section provides a description of the various areas of concern, from an environmental and historic preservation perspective, that could potentially be impacted by projects implemented using GPD grant funding. It serves as a baseline from which to identify and evaluate potential impacts. The potential impacts of GPD-funded projects on the quality of the human environment are discussed in Section Five, Environmental Consequences. The areas of concern covered in this section are: land use; geology, soils and seismicity; water resources; wetlands; floodplains; biological resources; human health and safety; low-income and minority populations; historic properties; infrastructure; air quality; noise; visual quality; and climate change.

4.1 Land Use

Land use is the way in which, and the purposes for which, people utilize the land and its resources. Land use planning varies depending on land ownership and jurisdictional boundaries. Land use within and in the immediate vicinity of urban areas is generally guided by comprehensive plans that specify the allowable types and locations of present and future land use. In most cases, that comprehensive plan is developed through a public participation process and approved by publicly-elected officials to capture local values and attitudes toward planning and future development. Zoning ordinances and regulations vary throughout the U.S. and are primarily set at the regional, city, county, or local level.

Some GPD projects may occur on Federally-managed land, such as Bureau of Land Management (BLM) or U.S. Forest Service (USFS) land. Land use planning in these Federally-managed lands do not undergo the same type of planning process as land under the ownership of private and municipal entities. Most Federal land planning activities are under the discretion of the managing agency, which has its own criteria for use, development procedures, and public involvement. These activities are often exempt from local zoning ordinances and regulations.

The proposed project sites are likely to vary greatly in their land use characteristics given that GPD-funded activities may occur at various locations throughout the contiguous United States, Alaska, Hawaii, and Caribbean and Pacific Islands. To assess the affected environment related to zoning and land use, it may be necessary to survey the proposed project area. This site-specific analysis is beyond the scope of this PEA, therefore potential impacts will be discussed on a programmatic level.

The following land designations are discussed below: coastal zones, coastal barriers, and important farmlands.

The Costal Zone Management Act (CZMA) of 1972 (16 U.S.C. § 1451 *et seq*.) is administered by the Department of Commerce's Office of Ocean and Coastal Resource Management within the National Oceanic and Atmospheric Administration (NOAA). It applies to all coastal States and to all states that border the Great Lakes. The CZMA was established to help prevent any additional loss of living marine resources, wildlife, and nutrient-enriched areas; alterations in ecological systems; and decreases in undeveloped areas available for public use. The CZMA gives states the authority to determine whether activities of governmental agencies are consistent with Federally-approved coastal zone management programs. Each state coastal zone management program must include provisions protecting coastal natural resources, fish, and wildlife; managing development along coastal shorelines; providing public access to the coast for recreational purposes; and incorporating public and local coordination for decision-making in

coastal areas. This voluntary Federal-State partnership addresses coastal development, water quality, shoreline erosion, public access, protection of natural resources, energy facility siting, and coastal hazards.

The Federal Consistency provision, contained in Section 307 of the CZMA, allows affected states to review Federal activities to ensure that they are consistent with the state's coastal zone management program. This provision also applies to non-Federal programs and activities that use Federal funding and that require Federal authorization. Any activities that may have an effect on any land or water use or on any natural resources in the coastal zone must conform to the enforceable policies of the approved state coastal zone management program. NOAA's regulations in 15 CFR 930 provide the procedures for arriving or obtaining a consistency determination.

The Coastal Barrier Resources Act (CBRA) of 1982 (16 U.S.C. § 3501 *et seq*.), administered by the U.S. Fish and Wildlife Service (FWS), was enacted to protect sensitive and vulnerable barrier islands found along the U.S. Atlantic, Gulf, and Great Lakes coastlines. The CBRA established the Coastal Barrier Resources System (CBRS), which is composed of undeveloped coastal barrier islands, including those in the Great Lakes. With limited exceptions, areas contained within a CBRS are ineligible for direct or indirect Federal funds that might support or promote coastal development, thereby discouraging development in coastal areas.

Prime and unique farmlands and farmlands of state and local importance are protected under the Farmland Protection Policy Act (FPPA) of 1981 (7 U.S.C. § 4201 *et seq*.). Prime farmland is characterized as land with the best physical and chemical characteristics for the production of food, feed, forage, fiber and oilseed crops. Prime farmland is either used for food or fiber crops or is available for those crops; it is not urban, built-up land, or water areas. Unique farmland is defined as land that is used for the production of certain high-value crops, such as citrus, tree nuts, olives, and fruits. The FPPA requires Federal agencies to examine the potentially adverse effects to these resources before approving any action that would irreversibly convert farmland to non-agricultural uses. This examination is done in consultation with the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS), who uses a land evaluation and site assessment system to complete a Farmland Conversion Impact Rating Form (Form AD-1006). Federal regulations at 7 CFR 658 describe the process for this analysis.

4.2 Geology, Soils and Seismicity

4.2.1 Geology and Soils

The geology of an area refers specifically to the surface and near-surface materials of the earth and to how those materials were formed. These resources are typically described in terms of regional or local geology, including mineral resources, earth materials, soil resources, and topography.

Descriptions of these resource areas include bedrock or sediment type and structure, unique geologic features, depositional or erosional environment, and age or history. Mineral resources include usable geological materials that have some economic or academic value. Soil is the unconsolidated loose covering of broken rock particles and decaying organic matter overlying the bedrock or parent material. Soils are typically described by their complex type, slope, and physical characteristics. Topography consists of the geomorphic characteristics of the land or sea

floor surface, including the change in vertical elevation of the earth's surface across a given area, the relationship with adjacent land features, and geographic location (USCG 2006).

Soil characteristics within an area depend on the parent material located in that area. Soil characteristics vary across the U.S. and its territories. Areas with similar soils are grouped and labeled as soil series because of their similar origins and chemical and physical properties, which cause the soils to perform similarly for land use purposes.

The geological makeup of the United States is broken down into physiographic divisions, as established by the U.S. Geological Survey (USGS). Physiographic divisions are broad-scale regions established by common terrain texture, rock type, and geologic structure and history.

Geologic, topographic, and soil characteristics may impose limitations on potential uses for a particular site. Areas characterized by susceptibility to flooding, seismic or volcanic activity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes may entirely preclude the implementation of a proposed project at a particular location, or may require the use of certain engineering technologies or require consultation with State or Federal agencies before the proposed project may proceed.

4.2.2 Seismicity

Executive Order 12699 – Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction establishes responsibilities regarding the seismic-related safety of buildings owned, leased or funded by Federal agencies. Under this EO, each Federal agency responsible for the design and construction of a Federal or federally-funded building must ensure that the building is designed and constructed in accordance with appropriate seismic design and construction standards. These standards are promulgated through the National Earthquake Hazard Reduction Program (NEHRP) and are subsequently incorporated into model building codes (such as the 2006 International Building Code/International Residential Code) that are used as the basis for local building codes in most municipalities. NEHRP periodically publishes new standards; the latest NEHRP standards were published in 2000 (NEHRP 2000). The EO applies to all building projects for which detailed plans and specifications were initiated subsequent to its issuance. A building means any structure, fully or partially enclosed, used or intended for sheltering persons or property.

The purposes of these requirements are to:

- Reduce the risks to persons who would be affected by the failure during an earthquake of buildings owned by the Federal government, leased for Federal uses, or purchased or constructed with Federal assistance;
- Improve the capability of essential Federal buildings to function during and after an earthquake;
- Reduce earthquake-related losses to public buildings in a cost-effective manner.

4.3 Water Resources

Water resources refer to the occurrence, availability and physical, chemical, and biological characteristics of surface water and groundwater, including hydrologic properties and water quality for aquatic plant and animal communities and public water supplies. Water bodies

include aquifers, springs, streams, river, lakes, reservoirs, estuaries, and near shore and offshore marine waters. Water quality encompasses the level of pollutants that affect the suitability of water for a given use. Water use classifications generally include public water supply, recreation, propagation of fish and other aquatic life, agricultural use, and industrial use.

Water resources (water quality and quantity) are protected and regulated by many Federal statutes and EOs, as well as State and local regulations and directives. Surface, ground, and coastal waters are protected from pollution originating from point sources such as sewage treatment plant discharge and industrial discharges, and from non-point sources such as runoff from urban paved areas, mines, and livestock operations. Statutes, laws, and EOs governing water resources are listed below. Wetlands and floodplains will be described separately in the following sections.

- **Federal Water Pollution Control Act of 1972 (better known as Clean Water Act (CWA)) (33 U.S.C. § 1251 *et seq*.):** This Act regulates water quality of all discharges into "waters of the United States." The CWA also establishes the National Pollutant Discharge Elimination System (NPDES) under Section 402, permits for dredged or fill material under Section 404, and state water quality certification requirements under Section 401. The NPDES Permit Program regulates wastewater discharges from point sources. A NPDES Stormwater General Construction Permit is required before construction modification activities commence at a site where more than 1 acre of land will be disturbed. Construction activity that includes "routine maintenance to maintain original lie and grade, hydraulic capacity, or original purpose of the facility" is specifically excluded.
- **Section 404 of the CWA:** The U.S. Army Corps of Engineers (USACE) is responsible for regulating the disposal of dredged and fill materials under Section 404 of the CWA. Certain waters of the United States are considered "special aquatic sites" under the CWA because they are generally recognized as having particular ecological value. Such sites include sanctuaries and refuges, mudflats, wetlands, vegetated shallow, eelgrass beds, coral reefs, and riffle and pool complexes. Special aquatic sites are defined in the CWA and may be afforded additional consideration in the USACE permit process for a project. Section 404 permits are discussed in more detail under wetlands in Section 4.5 of this PEA. Section 401 of the CWA specifies that States must certify that any activity subject to a permit issued by a Federal agency, such as a CWA Section 404 permit, meets all state water quality standards.
- **Safe Drinking Water Act (SDWA) of 1974 (42 U.S.C. § 300f *et seq*.):** The U.S. Environmental Protection Agency (USEPA) regulates primary drinking water supplies under the SDWA. These regulations were established to protect public health and prescribe requirements for State programs to implement the public water supply supervisor program and underground injection control program under the authority of SDWA.
- **Sole Source Aquifers (42 U.S.C. § 300h-3(e)):** The SDWA authorizes USEPA to designate aquifers that are the sole or principal source of drinking water for an area. To meet the criteria for designation, a sole-source aquifer must supply at least 50 percent of the drinking water to persons living over the aquifer and no feasible alternate source of drinking water is available. Once an aquifer is designated, USEPA can review proposed projects that are to receive Federal funds and that have the potential to contaminate the aquifer. Federal agencies cannot provide financial assistance to a project for which the USEPA finds that it would create a significant hazard to public health by contaminating a designated SSA.

- **Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 U.S.C. § 401 *et seq*.):** This Act requires authorization from the USACE for construction activities in or near any navigable water of the United States.
- **Wild and Scenic Rivers Act (WSRA) of 1968 (16 U.S.C. § 1271 *et seq*.):** This Act preserves selected rivers in a free-flowing condition and protects their local environments.

4.4 Floodplains

Floodplains are the lowland and relatively flat areas adjoining inland and coastal waters including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year. Floodplains perform a variety of essential functions including floodwater conveyance and storage, groundwater recharge, wave attenuation, streambank erosion, reduction in sedimentation rates, water quality maintenance, and support of highly productive ecosystems.

Most floodplains are adjacent to streams, lakes, or oceans. Beaches and small river valleys are usually easily recognizable as floodplains, but less obvious floodplains occur in dry washes and on alluvial fans in arid parts of the western United States, around prairie potholes, in areas subject to high groundwater levels, and in low lying areas where water may accumulate. Sheet flooding and ponding occur in areas where there is no clearly defined channel and the path of flooding is unpredictable.

FEMA is charged with the implementation of the National Flood Insurance Act (NFIA) as amended. The NFIA creates the National Flood Insurance Program (NFIP), makes flood insurance available for structures within communities participating in the NFIP, and requires the acquisition of flood insurance for structures in special flood hazard areas as a pre-condition of receiving Federal assistance. As part of its implementation of the NFIP FEMA identifies special flood hazard areas in Flood Insurance Rate Maps (FIRMs) and requires communities to adopt local floodplain ordinances that meet, at a minimum, FEMA's floodplain management criteria in 44 CFR 60 *et seq*.

Executive Order 11988 – Floodplain Management was issued in 1977 to eliminate the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative for locating a project outside of the floodplain. EO 11988 applies to federally-funded projects and directs agencies to consider alternatives to siting projects within a floodplain. FEMA's regulations in 44 CFR Part 9 implement EO 11988 for the agency. These regulations require FEMA to engage in an 8-step decisionmaking process before undertaking an action within the floodplain or that would be affected by the floodplain. These steps involve: (1) determination that the action is in the floodplain, would affect the 100-year floodplain, or would indirectly support development in the floodplain; (2) early public notice; (3) identification and evaluation of alternatives to locating in the floodplain; (4) identification of the impacts of the proposed action; (5) selection of minimization, restoration and preservation measures; (6) reevaluation of alternatives; (7) publication of findings and public explanation; and (8) implementation of the action. For critical actions such as emergency operation centers, communication towers, hazardous waste facilities, hospitals, or utility plants FEMA must identify practicable alternatives outside the 500-year floodplain. If no practicable alternatives exist to constructing a facility and/or supporting features, outside the floodplain, then FEMA

must minimize potential harm to or from the floodplain. FEMA's procedures contain particular restrictions and minimization requirements for actions that will be located in the coastal high hazard area (CHHA, typically depicted as V-zones in FEMA's FIRMs) or in the regulatory floodway.

4.5 Wetlands

Wetlands are areas which are inundated or saturated by surface or ground water with a frequency sufficient to support, or that under normal hydrological conditions does or would support, a prevalence of vegetation or aquatic life typically adapted for these soil conditions. Examples of wetlands include swamps, marshes, estuaries, bogs, beaches, wet meadows, sloughs, mud flats, among others.

Wetlands have important ecological functions and are biologically diverse. They assimilate nutrients in surrounding surface waters, remove suspended solids and pollutants from stormwater, and protect shorelines from wind and wave action and storm-generated forces. GPD-funded actions that would impact wetlands would require review under several regulatory programs. These programs are listed below.

- **Section 404 of the CWA:** Formal legal protection of jurisdictional wetlands is promulgated through Section 404 of the CWA. A dredge and fill permit for activities in waters of the United States including wetlands from the USACE is required if an action has the potential to adversely affect jurisdictional wetlands. There are several Nationwide Permits (NWP) for activities in waters of the United States that may cover specific aspects of the development of the proposed activities. For example, NWP 3 (Maintenance) may apply to activities related to the repair, rehabilitation, or replacement of an existing structure; NWP 12 (Utility Line Activities) or NWP 14 (Linear Transportation Projects) may apply to the construction of utility lines and access roads for new facilities; NWP 18 (Minor Discharges) or NWP 19 (Minor Dredging) may apply to many sites where water impacts are minimal; NWP 28 (Modifications of Existing Marinas) may apply to activities near tidal waters; and NWP 39 (Commercial and Institutional Developments) may apply to actions involving the expansion or construction of security facilities. The NWP program has numerous guidelines and conditions that must be met for an activity to qualify for a permit. NWPs are subject to review by the States under Section 401 of the CWA, as are all aspects of the USACE permitting program. Various USACE Districts also have Regional General Permits that function similarly to NWPs; however, Regional General Permits are typically more specific in the types of actions that they cover and typically necessitate more stringent conditions and reporting requirements. If none of the NWPs apply to the proposed activity and no applicable Regional General Permit exists, then the grantee or subgrantee must acquire an Individual Permit from the USACE.
- **Section 401 of the CWA:** Each State has an opportunity to establish specific criteria for water quality protection under this section of this Act. These provisions must be satisfied prior to issuance of permits under Sections 402 and 404 of the CWA.
- **Executive Order 11990 – Protection of Wetlands:** This EO, issued in 1977, requires that all federally funded, permitted, or sponsored projects affecting wetlands demonstrate that

there are no practicable alternatives, and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

FEMA's implementation of EO 11990 is described in 44 CFR Part 9 and involves an 8-step decision-making process similar to that described for EO 11988. This process ensures that proposed activities are consistent with EO 11990 and is also used to evaluate the potential effects of an action on wetlands. GPD-funded projects affecting wetland areas may require site-specific evaluation and consultation to develop mitigation measures.

4.6 Biological Resources

Biological resources include animals, plants, and their habitats. In general, biological resources can include native and introduced plants that comprise the various habitats, animals present in such habitats, and natural areas that help support these plant and wildlife populations. Protected or sensitive biological resources include plant and animal species listed as threatened or endangered by FWS, National Marine Fisheries Service (NMFS), or a State.

4.6.1 Vegetation

Vegetation can be characterized as tundra, forest (coniferous and broadleaf/mixed), grasslands and savannas, and desert. The potential for an area to provide and be used as wildlife habitat is based on several factors, including topography, vegetative cover and type, water availability, aerial extent, connectedness, and interferences attributable to human activity.

4.6.2 Terrestrial Wildlife and Aquatic Resources

Terrestrial wildlife species distribution and abundance are heavily influenced by available habitat. Available habitat and vegetative communities vary significantly across the U.S. and its territories even within short distances. Site-specific information is needed to determine project-specific impacts on wildlife species. Therefore, the focus of the baseline discussion is on compliance with existing laws and EOs regarding terrestrial wildlife.

In general, aquatic resources that could be affected by project activities are limited to water bodies located down gradient of a project site. Waterside structures also have potential to directly affect a water body through the placement of pilings, docks, etc. Both the distribution and abundance of aquatic species can be influenced by factors such as water quality (including temperature), land use practices within the watershed, and the presence of other aquatic species, especially non-native exotic species. Again, because potential project sites are located across the U.S. and its territories, providing baseline information for all aquatic ecosystems that could be located down gradient of project sites is beyond the scope of this PEA.

Examples of laws and EOs governing terrestrial wildlife and aquatic species are listed below.

- **Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531 *et seq*.):** This Act prohibits any actions that may harm or jeopardize the continued existence of any threatened or endangered species, or critical habitat. This is discussed in greater detail below.
- **Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 U.S.C. § 668 *et seq*.):** This Act prohibits the taking or possession of and commerce in bald eagle and golden eagles with limited exceptions.

- **Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. § 703 *et seq*.):**The Migratory Bird Treaty Act makes it unlawful for any individual to take, possess, buy, sell, purchase, or barter any migratory bird, including feathers or other parts, nests, eggs, or products, except as allowed by implementation regulations. It has been extended to include almost all birds that have the ability to seasonally relocate within various part of the U.S. A list of migratory birds can be found in 50 CFR Part 10.13 and at http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html.
- **Executive Order 12186 – Responsibilities of Federal Agencies to Protect Migratory Birds:** EO 13186 directs Federal agencies whose activities have or are likely to have a measurable, negative effect on migratory bird populations to develop and implement a Memorandum of Understanding (MOU) with FWS that will promote the conservation of migratory birds. Activities subject to the E.O. 12186 may include implementation of agency programs.
- **Fish and Wildlife Coordination Act (FWCA) of 1934 (16 U.S.C. § 661 *et seq*.):** This Act was enacted to protect fish and wildlife when Federal actions result in the impoundment of a natural stream or body of water. States also have biological resource protection regulations and guidelines that must be considered in order to comply with the Act.
- **Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. § 1361 *et seq*.):** This Act prohibits the taking or importing of marine mammals and marine mammal products.
- **Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976 (16 U.S.C. § 1801 *et seq*.):** The Amended Act, also known as the Sustainable Fisheries Act, requires all Federal agencies to consult with NMFS on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH).
- **EO 13089 – Coral Reef Protection:** This EO tasks Federal agencies with identifying actions that may affect coral reef ecosystems and ensuring that actions that they authorize, fund, or conduct will not degrade the conditions of coral reef ecosystems.
- **EO 13112 – Invasive Species:** EO 13112 was created to prevent the introduction of invasive species and to provide for their control. Under this EO Federal agencies can not authorize, fund, or carry out actions that are likely to cause or promote the introduction or spread of invasive species in the U.S.
- **EO 13158 – Marine Protected Areas**: This EO was created to help protect the significant natural and cultural resources within the marine environment. It requires Federal agencies whose actions affect the resources protected by MPA's to avoid harm to these resources.

The regulatory environment is an important consideration in reviewing the potential adverse impacts of activities proposed for GPD funding. The applicability of these requirements changes based on site-specific circumstances; project scope; Federal, State, and local government programs; level of Federal involvement; proximity of the biological resource(s) to a proposed project area; and land ownership. Developing an accurate portrayal of the regulatory environment affecting each proposed action is therefore essential in evaluating requirements for biological resource protection. Site-specific evaluation and a full understanding of the Federal, State, and local requirements are necessary.

4.6.3 Listed Species, Critical Habitat and Special-Status Species

Activities by humans, such as over-harvesting, spreading of invasive exotic species, uncontrolled development resulting in the destruction of habitat, and the release of contaminants into the air, water, and soil, have resulted in significant reductions in the abundance and distribution of native species with numerous species nearing extinction or becoming extinct. Regulatory programs, both Federal and State, have been enacted in an attempt to prevent extinction of threatened and endangered species. Threatened and endangered species are broadly distributed throughout the U.S. and its territories. There are over 1,300 federally listed threatened and endangered species. Identifying and discussing each, as well as their habitat requirements, is beyond the scope of this PEA.

The ESA requires Federal agencies to conserve those plants and animal species that have been listed as endangered and threatened species by the FWS or NMFS and critical habitats designated by these agencies. It defines an endangered species as any species in danger of extinction throughout all or a significant area of its range and a threatened species as any species likely to become endangered in the near future. It also defines critical habitat as those geographical areas that contain physical or biological features that are essential to the conservation of the species. Under Section 7 of the ESA, Federal agencies, in consultation with FWS or NMFS, must insure their actions are not likely to jeopardize the continued existence of any endangered or threatened species (i.e., a listed species) or result in the destruction or adverse modification of critical habitat.

FWS and NMFS are responsible for compiling the lists of threatened and endangered species. If a Proposed Action is likely to adversely affect a listed species or critical habitat, the Federal agency must prepare a Biological Assessment (BA) and initiate a formal consultation with FWS or NMFS. After reviewing the BA, FWS or NMFS prepares a Biological Opinion stating whether the Proposed Action is likely to jeopardize the continued existence of a listed species or cause the destruction or adverse modification of critical habitat. If this is the case, the Biological Opinion will provide the Federal agency with Reasonable Prudent Alternatives that, if adopted, would avoid a jeopardy or adverse modification determination. The purpose of the consultation process is to ensure avoidance and minimization of potential adverse impacts on a listed species or critical habitats. Formal consultation is not required if the Federal agency determines that the action would have no effect on endangered or threatened species or designated critical habitat. Formal consultation is also not needed if the Federal agencies agree that the Proposed Action is not likely to adversely affect listed species. In addition, the ESA prohibits all persons subject to U.S. jurisdiction, including Federal agencies, from, among other things, “taking” endangered or threatened species. The “taking” prohibition includes any harm or harassment and applies in the United States and on the high seas.

Many States have designated special status species and provide some level of legal protection for these species. The special status species frequently overlap with those listed under the Federal ESA. However, species lists developed by the States frequently are more inclusive.

4.7 Human Health and Safety

Hazardous substances are defined as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that pose a substantial present or potential hazard to human health and the environment. Improper management and disposal of hazardous substances can lead to

contamination of groundwater and surface water, including drinking water supplies, and soils. The primary Federal laws for the management and disposal of hazardous substances are the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. § 9601 *et seq*.), the Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. § 6901 *et seq*.) and the Oil Pollution Act (OPA) of 1990 (33 U.S.C. § 2701 *et seq*.).

RCRA establishes national goals to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, and to ensure that wastes are managed in an environmentally sound manner. RCRA outlines duties and responsibilities for hazardous waste generators, transporters, storers, treaters, and disposers of hazardous waste. RCRA requires the regulation of underground storage tanks (UST), imposing structural integrity and management practice requirements.

Waste management regulations by EPA are codified at 40 CFR Parts 239–282; regulations for management of hazardous waste begin at 40 CFR Part 260. Nearly all developed areas in the continental U.S. have solid waste management services or programs, with municipal solid waste generally regulated and managed at the State and community level. States have enacted laws and promulgated regulations that are at least as stringent as the Federal regulations. In addition, States have the authority to carry out many of the functions of RCRA through their own hazardous waste programs (and State laws), if such programs have been approved (authorized) by EPA.

Evaluations of hazardous substances and wastes must consider whether any hazardous material will be generated by the proposed activity and whether a hazardous material already exists at the site or in the general vicinity of the site. Existing hazardous materials and waste concerns could impact future use of a site.

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 U.S.C. § 11001 *et seq*.) establishes requirements for Federal, State, and local governments, Indian Tribes, and industry regarding emergency planning and "community right-to-know" reporting on hazardous and toxic chemicals. States and communities, working with facilities, can use the information to improve chemical safety and protect public health and the environment. Under EPCRA, local governments are required to prepare chemical emergency response plans, and to review plans at least annually. State governments are required to oversee and coordinate local planning efforts. Facilities that maintain Extremely Hazardous Substances (EHSs) on site in quantities greater than corresponding Threshold Planning Quantities must cooperate in emergency plan preparation.

Additionally, facilities must immediately report accidental releases of EHS chemicals and "hazardous substances" in quantities greater than corresponding Reportable Quantities defined in CERCLA to State and local officials. This information must be made available to the public. Facilities manufacturing, processing, or storing designated hazardous chemicals must make Material Safety Data Sheets (MSDSs) describing the properties and health effects of these chemicals available to State and local officials and local fire departments. Facilities must also report, to State and local officials and local fire departments, inventories of all onsite chemicals for which MSDSs exist. This information must be made available to the public.

Facilities must complete and submit a Toxic Chemical Release Inventory Form annually for each of the more than 600 Toxic Release Inventory chemicals that are manufactured or otherwise used above the applicable threshold quantities.

The Small Business Liability Relief and Revitalization Act (the Brownfield Amendments) clarified CERCLA liability provisions for potential property owners. If the potential property owners meet the specific provisions of the act, including an adequate inquiry on past uses of the property, the landowner will be able to assert the innocent landowner defense, contiguous property exemption, and bona fide prospective purchaser exemption to CERCLA liability. The USEPA has published the final "all appropriate inquiries" rule (40 C.F.R. 312.10) that establishes the criteria for conducting Environmental Site Assessments on properties considered for acquisition.

Section 550 of the Department of Homeland Security (DHS) Appropriations Act of 2006 established an interim program requiring chemical facilities to conduct vulnerability assessments and develop facility security plans and required DHS to issue regulations for this program. In 2007 DHS issued the Chemical Facility Anti-Terrorism Standard (CFATS) interim final rule at 6 CFR Part 27. The purpose of this rule is to determine where chemicals of interest (COI) exist and whether additional security measures are required for facilities that store and manage these chemicals. In this rule, DHS sets forth the list of COI and their screening threshold quantities (STQs), which would trigger requirements under CFATS. Any facility or institution that possesses COI in excess of their listed thresholds was required to submit a detailed survey to DHS, which in turn classified the facilities into one of four risk-based tiers, ranging from the highest risk facilities in Tier 1 to lowest facilities in Tier 4. DHS classified 7,002 facilities into these tiers based on the information submitted in the surveys. These facilities were required to submit Security Vulnerability Assessments and Site Security Plans. DHS also issued Draft Risk-Based Performance Standards Guidance associated with the CFATS regulations. *73 Fed. Reg. 63,719 (Oct. 27, 2008)*. These include standards for areas such as perimeter security, access control, personnel surety, and cyber security.

4.8 Minority and Low Income Populations

Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority and Low-Income Populations requires Federal agencies to identify and correct its programs, policies, and activities that have disproportionately high and adverse human health or environmental effects on minority or low-income populations. The EO also tasks Federal agencies with ensuring that public notifications regarding environmental issues are concise, understandable, and readily accessible. The general purposes of EO 12898 are as follows:

- To focus the attention of Federal agencies on human health and environmental conditions in minority communities and low-income communities with the goal of achieving environmental justice;
- To foster nondiscrimination in Federal programs that substantially affect human health or the environment;
- To give minority communities and low-income communities greater opportunities for public participation in, and access to, public information on matters relating to human health and the environment.

Potential environmental justice impacts are evaluated by analyzing the socioeconomic makeup of the community where a project is proposed to be located. Some general category descriptions help define and weigh Federal action impacts on socioeconomic resources and environmental justice include economic characteristics such as low-income areas, housing characteristics such

as medium- to high-density residential areas and rural areas, and demographic characteristics such as areas with a high percentage of minorities.

Low-income or poverty areas are defined using the statistical poverty threshold from the U.S. Census Bureau (USCB), which is based on income and family size. The USCB defines a poverty area as a census tract in which 20 percent or more of its residents are below the poverty threshold and an extreme poverty area as one in which 40 percent or more are below the poverty level. The 2007 poverty threshold for a family of four with two children under the age of 18 was $21,027 (USCB 2008).

Minority populations include persons who identify themselves as Asian or Pacific Islander, Native American or Alaskan Native, black (not of Hispanic origin), or Hispanic. (CEQ 1997). A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. In addition, a minority population also exists if there is more than one minority group present and the minority percentage, when calculated by aggregating all minority persons, meets one of the above thresholds.

If a proposed project will cause disproportionate high and adverse impacts on low-income or minority populations, mitigation measures will be required.

4.9 Historic Properties

Historic properties are prehistoric or historic districts, sites, buildings, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP), maintained by the Department of the Interior, National Park Service (NPS). More than 80,000 properties are listed in the NRHP. Almost every county in the U.S. has at least one place listed in the NRHP.

Properties may be eligible for listing in the NRHP if they possess significance at the national, tribal, state or territory, or local level in American history, architecture, archeology, engineering, or culture. In order for a property to be considered historic, it must meet basic criteria and retain the historic integrity of those features necessary to convey their significance. To convey integrity, historic properties will always possess several, and usually most, of the following seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The passage of time may require re-evaluation of historic properties to reaffirm the original National Register status.

There are multiple Federal regulations that require consideration of effects to historic properties, including Section 106 of the National Historic Preservation Act (NHPA) of 1966 (16 U.S.C § 470 *et seq*.), the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (25 U.S.C. § 3001 *et seq*.), the American Indian Religious Freedom Act (AIRFA) of 1978 (42 U.S.C. § 1992 *et seq*.), and the Archaeological Resources Protection Act (ARPA) of 1979 (16 U.S.C. § 470aa *et seq*.).

Section 106 of NHPA directs the Federal Government to consider the effects of its undertakings on historic properties through a four-step decision-making and compliance process. It is noteworthy that the law does not mandate preservation of historic properties; rather, it mandates that Federal agencies follow the decision-making process. The four steps of the Section 106 compliance process are as follows:

1. **Initiate the Section 106 Process.** FEMA determines whether an undertaking exists, engages the appropriate State Historic Preservation Office (SHPO) or Tribal Historic Preservation Office (THPO), and identifies potential consulting parties.

2. **Identify historic properties.** FEMA, in consultation with the SHPO/THPO, determines the Area of Potential Effects (APE) for the undertaking and reviews existing information on historic properties within the APE. The APE is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The APE is determined by the scope of the project, the characteristics of the project area (e.g. topography, building density, land use), and the type of historic property being considered, and may be different for different kinds of effects caused by the undertaking. Also, the APE for historic properties may be different from the area studied for other resource types under NEPA. Once the APE is established, FEMA gathers information from the SHPO/THPO, Indian tribes and Native Hawaiian organizations, consulting parties, and other individuals or organizations likely to have knowledge of historic properties in the area, and identifies issues relating to the undertaking's potential effects on historic properties. This step also involves FEMA making a determination of whether a property is eligible for listing on the NRHP.

3. **Assess adverse effects of undertaking on historic properties.** If FEMA's assessment determines no historic properties or no adverse effect to eligible historic properties, the SHPO/THPO and other consulting parties are informed, and the compliance process ends at this step. If the assessment determines actual or potential adverse effects to eligible historic properties, the SHPO/THPO and other consulting parties are notified through a letter and supporting documentation. Federal agencies must consider possible direct, indirect, and cumulative effects on historic properties. Direct effects include physical impacts, while indirect effects may include visual, atmospheric, and audible impacts on historic properties.

4. **Resolve adverse effects to historic properties.** As stipulated in 36 CFR § 800.6, the Federal agency must resolve adverse effects by seeking ways to avoid, minimize, or mitigate the undertaking's adverse effect through consultation with the SHPO/THPO and Advisory Council on Historic Preservation (ACHP). If avoiding or minimizing the adverse effect through re-design or other alternative means is not possible, the Federal agency, the SHPO/THPO, the ACHP, and other appropriate consulting parties may enter into a Memorandum of Agreement that outlines appropriate measures to mitigate adverse effects to historic properties. In cases where the Federal agency and the other consulting parties fail to agree on appropriate mitigation measures, the Federal agency or the other consulting parties may terminate consultation, in which case the ACHP issues a final comment. The Federal agency must take these comments into consideration before notifying ACHP of its final decision, after which the project may proceed.

Because of the broad scope and location of the proposed projects in this PEA, the presence of historic properties within the APE of some of the proposed projects is highly likely. Once an APE is established for a particular undertaking, background research with the SHPO/THPO, Indian tribes, local libraries, government offices, historical societies, and others as necessary, can

provide information on previously-identified historic properties. Research may also provide an understanding of the historic context for a project area, which will further assist in identifying resources and evaluating whether they may meet one or more of the NRHP criteria. Fieldwork could also be required to identify historic properties.

A higher standard is applicable to Federal agencies when their actions may affect historic properties that are designated as National Historic Landmarks (NHLs). Federal agencies must, to the maximum extent possible, minimize harm to NHLs directly and adversely affected by their undertakings prior to their approval. 16 U.S.C. § 470h-2(f). In addition Federal agencies must notify and formally invite the Secretary of Interior to the consultation process, and invite the ACHP to participate in the consultation process to resolve adverse effects. There are fewer than 2,500 NHLs but they include Critical Infrastructure and Key Resources that may be the subject of GPD projects.

FEMA has entered into State-specific Programmatic Agreements (PAs) with various State Historic Preservation Offices around the country. These State-specific PAs provide streamlined procedures for FEMA undertakings related to its disaster response and recovery missions. They also include programmatic allowances that exclude certain FEMA undertakings from the Section 106 consultation process. With the exception of activities under the Assistance to Firefighters Grant Program (AFGP), the GPD undertakings covered under this PEA are not covered by these State-specific PAs. FEMA will be identifying opportunities to include GPD-funded activities into these State-specific PAs as they are developed or revised.

In this PEA, FEMA divides historic properties into two broad categories: archaeology and other historic properties. FEMA will always conduct the Section 106 process described above to properly identify all historic properties and address adverse effects of its undertakings to historic properties. It is FEMA's practice to complete this process before completing the NEPA determination to ensure that impacts to historic properties have been taken into account in the NEPA process.

4.10 Infrastructure

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure by definition includes a broad array of facilities (e.g., utility systems, streets, highways, railroads, airports, ports, bridges, buildings and structures, and other man-made facilities). Individuals, businesses, governmental entities, and virtually all relationships between these groups depend upon this infrastructure for their most basic needs, as well as for critical and advanced needs (e.g., emergency response and health care). Section 5195c(e) of Title 42 of the U.S. Code defines critical infrastructure (CI) as the assets, systems, and networks, whether physical or virtual, so vital to the US that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or a combination of these. Section 101(10) of Title 6 of the U.S. Code defines key resources as publicly or privately controlled resources essential to the minimal operations of the economy and government.

Infrastructure is entirely man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as "developed." An essential component of economic growth to an area is the availability of infrastructure and its capacity to

support growth. Infrastructure components typically include utilities (electricity and communications), solid waste, and the transportation network.

Transportation

Potential sites addressed by this PEA can be located in any type of area: urban, suburban, rural, or remote. The transportation facilities that serve these different types of locations can vary widely. Urban areas are generally characterized by a complex and extensive system of roads, including major interstate freeways and surface streets. Urban roads typically support high levels of traffic, which often result in roadway segment and intersection congestion. Rural environments can be characterized by fewer roads and roads that are frequently graveled instead of paved. Generally, traffic levels on rural roads are relatively low (i.e., little or no congestion). Remote areas may have no maintained roadways, but instead, only hiking or all-terrain vehicle trails.

Solid Waste

Solid waste, more commonly known as trash or garbage, consists of everyday items such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. Projects that have the potential to generate large amounts of solid waste may impact a community's ability to properly manage and dispose of waste. Projects proposed to take place in communities with insufficient solid waste management capacity may need to create a plan to address this issue.

Communication Infrastructure

The use of the 700 MHz and 800 MHz frequency spectrum for communication systems is regulated by the Federal Communications Commission (FCC). Operators must obtain a FCC license to operate a communication tower using these frequencies. The issuance of an FCC license is a Federal action that triggers NEPA, Section 106 of NHPA, Section 7 of ESA and other similar environmental laws. The FCC regulations at 47 CFR Part 17 prescribes procedures for antenna structure registration and requires the Federal Aviation Administration (FAA) to conduct an aeronautical study of the navigation air space to determine appropriate tower marking and lighting requirements to achieve safe air space. Before the FCC authorizes the construction of new antenna structures or alteration in the height of existing antenna structures, an FAA determination of "no hazard" is required if the structure will affect navigable air space within a certain distance of an airport, heliport, or military base. FAA notification is required for any new construction greater than 200 feet AGL, and near an airport runway (taller than 100:1 for a horizontal distance of 20,000 feet, 50:1 for a horizontal distance of 10,000 feet, and 25:1 for a horizontal distance of 5,000 feet of a heliport). By checking the heights of proposed antennae and their proximity to airports, the FCC's TOWAIR software system assists in determining if FAA notification is required. The FAA can vary marking and lighting recommendations when requested, provided that aviation safety is not compromised. In all cases, safe aviation conditions around the tower are the FCC's primary concern, and safety concerns dictate the marking and lighting requirements. Navigation air space, which starts at 200 feet above the ground, decreases in elevation in close proximity to airports; the minimum height for required marking or lighting would decrease in these areas.

The FCC has entered into two Nationwide Programmatic Agreements (PA) that exclude some FCC undertaking associated with the licensing of these structures from the Section 106 review

process and streamlines the Section 106 consultation process for those undertakings not excluded. The PAs are titled *Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission* (September 2004), and *Nationwide Programmatic Agreement for the Co-location of Wireless Antennas* (March 2001). On September 17, 209 the ACHP issued a Draft Program Comment to the two FCC Nationwide PAs establishing that USDA's Rural Utilities Service and Department of Commerce's National Telecommunications and Information Administration (NTIA) would not need to comply with Section 106 for communication facilities construction or modification that have undergone or would undergo Section 106 review, or that are exempt from Section 106 review, by the FCC under the two Nationwide Programmatic Agreements. The Federal Register notice (74 Fed. Reg. 47807, Sept. 17 2009) can be found in Appendix I of this PEA. FEMA provided comments to the ACHP requesting FEMA to be included in the scope of the Program Comment. *See* Appendix J. As a result, the ACHP included FEMA in the Final Program Comment. *See* Appendix K. This Program Comment became effective October 23, 2009 and will be available until September 30, 2015.

The FCC has also developed a voluntary Tower Construction Notification System (TCNS) that allows proponents of new towers to provide notice of their proposal to participating Indian tribes and Native Hawaiian Organizations (NHO). The TCNS facilitates the identification of, and appropriate initial contact with, Indian tribes and NHOs that may attach religious and cultural significance to historic properties within the geographic area of the proposed undertaking. Once notified, Indian tribes and NHOs have the option of responding to applicants through the TCNS. The FCC retains the responsibility to engage in government-to-government consultation with the interested tribe or NHO.

FEMA recognizes that there are other Federal, State, Tribal and Territory public safety interoperability-related activities such as the FCC's public safety initiatives, the NTIA's Public Safety Interoperable Communications Grant Program (PSIC), and the RUS programs. These programs are part of a Nationwide effort to improve interoperability within the emergency preparedness and response community. Grantees and subgrantees have the ability to leverage these different programs within their jurisdictions to achieve their overall public safety interoperability goals. Thus, there is a potential for some GPD-funded actions under this project type to be connected with other Federal and non-Federal funded actions.

4.11 Air Quality

The EPA has established primary and secondary National Ambient Air Quality Standards (NAAQS) under the provisions of the Clean Air Act (CAA) of 1970 (42 U.S.C. § 7401 *et seq*.). The CAA not only established the NAAQS, but also set emission limits for certain air pollutants from specific sources, set new source performance standards based on best demonstrated technologies, and established national emissions standards for hazardous air pollutants.

The EPA classifies the air quality within an air quality control region (AQCR) according to whether the region meets or exceeds Federal primary and secondary NAAQS. Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define levels of air quality necessary to protect public welfare (i.e., soils, vegetation, and wildlife) from any known or anticipated adverse impacts of a pollutant. Federal NAAQS are currently established for the following seven pollutants (known as "criteria

pollutants"): carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), lead (Pb), particulate matter equal to or less than 10 micrometers in aerodynamic diameter (PM_{10}), and particulate matter equal to or less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$). Table 4-1 shows the NAAQS.

Table 4-1: National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide (CO)	9 ppm (10 milligrams/ m^3 [mg/m^3])	8 hours	None	
	35 ppm (40 mg/m^3)	1 hour		
Lead (Pb)	0.15 $\mu g/m^3$	Rolling 3-month average	Same as primary	
	1.5 $\mu g/m^3$	Quarterly average	Same as primary	
Nitrogen Dioxide (NO_2)	0.053 ppm (100 $\mu g/m^3$)	Annual (arithmetic mean)	Same as primary	
Particulate Matter (PM_{10})	150 $\mu g/m^3$	24 hours	Same as primary	
Particulate Matter ($PM_{2.5}$)	15.0 $\mu g/m^3$	Annual (arithmetic mean)	Same as primary	
	35 $\mu g/m^3$	24 hours	Same as primary	
Ozone (O_3)	0.075 ppm (2008 std)	8 hours	Same as primary	
	0.08 ppm (1997 std)	8 hours	Same as primary	
	0.12 ppm	1 hour (applies only in limited areas)	Same as primary	
Sulfur Dioxide (SO_2)	0.03 ppm	Annual (arithmetic mean)	0.5 ppm (1300 $\mu g/m^3$)	3-hours
	0.14 ppm	24-hours		

Source: EPA 2008a

Air quality is affected by both stationary sources (e.g., urban and industrial developments) and mobile sources (e.g., automobiles and trains). In general, urban environments are characterized by elevated levels of criteria pollutants, which can potentially reach unhealthy levels. Rural environments, in contrast, are typically characterized by good air quality for most criteria pollutants due to the lack of pollution- emitting sources. However, due to the migratory nature of air pollutants, emissions from urban areas can have a negative impact on the air quality of a rural area. Land use practices in rural areas can affect air quality when wind erosion raises dust from tilled fields, and when agricultural burning and fires caused by vegetation management practices adversely affect air quality with smoke and wind blown ashes.

An AQCR or portion of an AQCR may be classified as attainment, non-attainment, or unclassified for each of the seven criteria pollutants. Attainment describes a condition in which one or more of the seven NAAQS are being met in an area. The area is considered to be attainment only for those criteria pollutants for which the NAAQS are being met. Non-attainment describes a condition in which one or more of the seven NAAQS are not being met in an area. Unclassified indicates that air quality in the area has not been classified and is therefore treated as attainment. Areas that have been recently re-designated from non-attainment to attainment are called maintenance areas (in reference to how the area will maintain attainment). An area may have all four classifications for different criteria pollutants. Air emission regulations are more stringent in non-attainment areas and vary not only from AQCR to AQCR, but also within an AQCR. States with air quality that does not achieve the NAAQS are required

to develop and maintain State Implementation Plans (SIPs). In addition, the USEPA may develop a Federal Implementation Plan (FIP) and Tribes may develop their own Tribal Implementation Plans (TIP). These plans constitute a federally enforceable definition of the applicable approach (or plan) and schedule for the attainment of the NAAQS.

The General Conformity Rule (GCR), established under Section 176(c)(4) of the CAA (42 U.S.C. § 7506(c)) requires Federal agencies to work with State, Territory, Tribal, and local governments in a nonattainment or maintenance area to ensure that Federal actions conform to the initiatives established in the applicable SIP, FIP, or TIP. Before a Federal action is taken, it must be evaluated for conformity with the applicable implementation plan.

4.12 Noise

Noise is defined as unwanted sound that interferes with normal human activities or wildlife behavior, or may otherwise diminish environmental quality. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. In a typical day, most people are exposed to sound levels of 50 to 55 dB or higher.

Topographic features and structural barriers that absorb, reflect, or scatter sound waves can decrease or increase noise levels. (HUD 2009). In addition, atmospheric conditions, such as wind speed and direction, and weather, can also affect the perception of the sound. (HUD 2009). Animals use sounds for communication and navigation, to avoid danger, and to find food. The same noise factors that affect humans may also influence wildlife. In general, wildlife has a wider hearing range than humans, both on the low and high frequency ends of the noise spectrum. Noise studies, principally those on aircraft noise, have found varying results, ranging from no identifiable effects in some species, to noticeable behavioral and physiological effects in other species (e.g., birds) (EPA 1980).

For this PEA FEMA will adopt the U.S. Department of Transportation's Federal Highway Administration standards for noise abatement found in 23 CFR Part 772 – Table 1. These establish, for example, the need to consider noise abatement measures for actions that produce sound levels that 10 percent of the time exceed 70 dB in areas with sensitive receptors (e.g. as playgrounds, parks, schools, libraries, residences, and hospitals) and exceed 75 dB in developed lands.

4.13 Visual Quality

Natural and man-made features give a particular setting or area its aesthetic qualities. These features define the landscape character of an area and form the overall impression that an observer receives of that area. Evaluating the aesthetic qualities of an area is a subjective process because the value an observer places on specific landscape features varies depending upon the values and attitudes of the observer. Regardless of the subjective nature of assessing visual aesthetics, landforms, water surfaces, vegetation, and man-made features can generally be

considered characteristic of an area if they are inherent to the composition and function of the landscape.

The aesthetic characteristics of a project area depend on whether the area is a remote, rural, or urban setting. In a remote or rural setting, the visual aesthetics tend to be dominated by naturally-occurring landforms and vegetation. Examples include natural landscapes, mountains, undulating land, valleys, cliffs, lakes, streams, beaches, and natural vegetation. Although naturally-occurring visual resources dominate rural areas, some signs of human activity are likely to be present and may also contribute to the visual aesthetics. Examples include farm houses, agricultural fields, fences, barns, silos, scenic highways, and lighthouses. Vegetation in rural areas is primarily crops grown in tilled fields, grassland, and lawns around farmhouses. Remote areas may have no visible man-made structures.

The natural features present in rural/remote settings may also be present in an urban environment. However, unlike the remote or rural settings, man-made features are normally the dominant visual element in an urban setting. Examples of these features include houses, office buildings, warehouses, rail yards, utility plants, historic buildings, landmarks, parking areas, storage yards, billboards, and signage. Vegetation in an urban setting is primarily lawns, shrubs, and ornamental trees.

Air pollution can substantially reduce visibility in wilderness areas and parks. The EPA issued the Regional Haze Rule, 40 CFR 51.300 *et. seq.*, to address the decrease in visibility in 156 of the Nation's National Parks and Wilderness areas (Class I Areas). The Regional Haze Rule encourages States and Federal land management agencies to work together to address regional haze in these areas. As a result of the rule States with Class I Areas have adopted or may adopt plans and regulations that restrict activities that contribute to regional haze.

4.14 Climate Change

Climate change refers to long-term fluctuations in global surface temperatures, precipitation, ice cover, sea levels, cloud cover, ocean temperatures and currents, and other climatic conditions. Scientific research has shown that in the past century, Earth's surface temperature has risen by an average of about 1.3 degrees Fahrenheit (ºF) or 0.74 degrees Centigrade (ºC). (IPCC 2007). Sea levels have risen 6.7 inches (0.17 meter) in the past century and Arctic sea ice has shrunk by 2.7 percent per decade, with larger decreases of 7.4 percent in summer. (IPCC 2007). Impacts of climate change include increase in average surface temperatures, decrease in seasonal frozen ground, extreme temperatures, extreme weather events such as heavy precipitation events and intense and longer droughts, reduction in glaciers, ice caps and snow cover, andincrease in cyclone activity.

Most scientists agree that this climate change is largely a result of green house gases (GHG) emissions from human activities. (IPCC 2007). These GHG trap heat in the Earth's troposphere and reradiate it back to Earth causing warming. The Intergovernmental Panel on Climate Change (IPCC) – the scientific body tasked by the United Nations to evaluate the risk of human-induced climate change – has asserted that, "Most of the observed increase in global average temperatures since the mid-20th Century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." (IPCC 2007).

Most GHGs, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), water vapor, and ozone occur by natural processes. However, human activities such as the combustion of fossil fuels, production of agricultural commodities and the harvesting of trees can contribute to increased concentrations of these gases in the atmosphere. Atmospheric concentrations of CO_2, CH_4 and N_2O have increased approximately 35, 150, and 18 percent, respectively, since the beginning of the Industrial Revolution in the mid-1700 (IPCC 2007). The IPCC predicts that CO_2 concentrations could rise to more than three times the pre-industrial level by 2100 (Meehl *et al*. 2007). The IPCC also predicts a increase of average global surface temperature of 2.0 to 11.5 ºF (1.1 to 6.4 ºC) over the next century, accompanied by a sea level rise of approximately 0.6 to 1.9 ft. (0.18 to 0.59 m). (IPCC 2007).

Contributions to the increase of GHG in the atmosphere vary greatly from country to country, and depend heavily on the level of industrial and economic activity. The United States accounts for 19.6 percent of global CO_2 emissions. (WRI 2008). GHG emissions for the U.S. in 2006 were estimated at 7,054 million metric tons of carbon dioxide ($MMTCO_2$) equivalent (EPA 2008b). CO_2 is the primary GHG emitted in the U.S., represented close to 85 percent of all U.S. $MMTCO_2$ equivalent emissions in 2006. (EPA 2008b).

On April 24, 2009 the USEPA issued a proposed endangerment finding and proposed rule establishing that GHG endanger public health and welfare of current and future generations. 78 Fed. Reg. 18886 (April 24, 2009). This proposed finding was issued with respect to six GHG: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The USEPA Administrator also proposed to find that the combined emissions of carbon dioxide, methane, nitrous oxide and hydrofluorocarbons from new vehicles and new motor vehicles are contributing to air pollution which is endangering public health and welfare under Section 202(a) of the CAA. The adoption of this endangerment finding will provide the USEPA with authority to regulate the emission of these pollutants.

Section Five Environmental Consequences

This Section provides a programmatic analysis of the impacts of the No Action Alternative and the Proposed Action. It describes the likely effects of implementing the programs and project types eligible under the various GPD grants and, to the extent possible, identifies programmatic mitigation and best management practices (BMPs) that will be used to reduce or avoid the impacts of particular activities. In addition, this section identifies project activities that require site-specific evaluation and may trigger the need for the preparation of a Record of Environmental Consideration (REC) or a Supplemental Environmental Assessment (SEA) to determine if the particular activities would have significant impacts on the quality of the human environment given their unique environmental context.

Some of the proposed projects indentified in this PEA could be eligible for one or more FEMA CATEX. GPD programs and grant-funded projects were not the basis for FEMA's list of CATEXs and extraordinary circumstances at the time of their development in 1980 or the various revisions in 1981, 1982, 1987, 1994, 1996 and 2001. For this reason the PEA includes a discussion of the applicability of existing FEMA CATEX to GPD actions. Appendix B provides a cross-walk of FEMA's CATEX and how they apply to GPD-funded activities.

For GPD project types to which FEMA CATEXs apply and do not have the potential to trigger extraordinary circumstances, this PEA will serve as the only NEPA documentation required. For those GPD project types to which a FEMA CATEX applies, but which may trigger the need to evaluate the presence or resolution of extraordinary circumstances based on the unique environmental conditions present, FEMA will document the applicability of the CATEX and extraordinary circumstances through a REC on a case-by-case basis. If there are extraordinary circumstances present that cannot be resolved, then FEMA will prepare a site-specific SEA and determine whether a FONSI can be issued. See Figure 1-1.

It is FEMA's practice to review an action or project for its compliance with other environmental planning and historic preservation requirements such as ESA Section 7, NHPA Section 106, 44 CFR Part 9, and others before making the final NEPA determination. This ensures that the Agency integrates NEPA with other planning requirements and utilizes the established review and consultation processes to inform the determination of whether a CATEX applies, whether extraordinary circumstances have been resolved, whether a PEA is applicable, whether a finding of no significant impact (FONSI) could be reached, or the appropriate timing for the issuance of a record of decision for an EIS.

The criteria for determining the level significance of environmental impacts that is used in this PEA and for GPD actions in general is established in Table 5-1 for easy reference.

Table 5-1. Criteria for determining significance in this PEA

Area of Evaluation	No Significant Effect	Significant Effect
Land Use	Impacts to land use would not be measurable or would be measurable or perceptible, but would be limited to a relatively small change in land use that is still consistent with surrounding or planned land uses. The proposed action and alternatives would be consistent with respective State Coastal Zone Management plans, CBRA and FPPA. or Mitigation measures are used to reduce the level of impacts below the level of significance.	The proposed action will significantly change the surrounding land uses in the short- and long-term. or The proposed action and alternatives would not be consistent with the surrounding land use and the local land use agency requires a special land use permit or waiver. or The proposed action and alternatives would not be consistent State Coastal Zone Management plans or CBRA or The proposed action and alternatives would cause significant impacts to prime and unique farmland.
Geology, Soils, and Seismicity	Impacts to geology, soils, and seismicity as a result of the proposed action or alternatives would not be detectable or detectable and steps are taken in order to minimize adverse impacts. Projects proposed in areas characterized by susceptibility to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes are mitigated. or Mitigation measures are used to reduce the level of impacts below the level of significance.	Impacts on geology, soils, and seismicity as a result of the proposed action or alternatives would be readily apparent and result in a change to the character of the resource over a relatively wide area. Or Projects proposed in areas characterized by susceptibility to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes are not mitigated.
Water Resources	Impacts (chemical, physical, or biological effects) resulting from the proposed action or alternatives would be either not detectable, or detectable, but at or below water quality standards or criteria. Alterations in water quality and hydrologic conditions relative to historical baseline may occur, however, only on a localized and short-term basis. or Mitigation measures are used to reduce the level of impacts below	Impacts (chemical, physical, or biological effects) resulting from the proposed action or alternatives would be detectable and would be frequently altered from the historical baseline or desired water quality conditions; and/or chemical, physical, or biological water quality standards or criteria would be locally, slightly and singularly, exceeded on either a short-term or prolonged basis.

Area of Evaluation	No Significant Effect	Significant Effect
	the level of significance.	
Floodplains	Activities are not in the floodplain. Or Adverse effects to or from the 100-year floodplain for non-critical actions or adverse effects to or from the 500-year floodplain for critical actions are present. Adverse effects are minimized in accordance with FEMA's minimization standards in 44 CFR 9.11. Or Mitigation measures are used to reduce the level of impacts below the level of significance.	Adverse effects to or from the 100-year floodplain for non-critical actions or adverse effects to or from the 500-year floodplain for critical actions are present. Adverse effects are not minimized in accordance with FEMA's minimization standards in 44 CFR 9.11.
Wetlands	Actions are not taken in wetlands. or Adverse effects from the project to wetlands will occur but effects are minimized in accordance with FEMA's minimization standards in 44 CFR 9.11. Water quality and hydrologic changes resulting from such development would either be not detectable, or detectable, but at or below water quality standards or criteria. Alterations in water quality and hydrologic conditions relative to historical baseline may occur as a result of wetland loss. For jurisdictional wetlands subgrantee will notify the USACE and obtain any required permits prior to the initiation of work. or Mitigation measures are used to reduce the level of impacts below the level of significance.	Adverse effects from the project to wetlands will occur. Adverse effects are not minimized in accordance with FEMA's minimization standards in 44 CFR 9.11. Impacts to water quality and hydrology would be detectable and would be frequently altered from the historical baseline or desired water quality conditions. The USACE determines that an EIS is required before an Individual Permit may be issued for jurisdictional wetlands.
Biological Resources – Vegetation, Wildlife	Impacts to native species, their habitats, or the natural processes sustaining them from the proposed action or alternatives would be detectable, but would not be expected to be outside the natural range of variability. Occasional responses to disturbance by some individuals could be expected, but without interference to feeding, reproduction, or other factors affecting population levels. Sufficient habitat would remain functional to maintain viability of all species.	Impacts from the proposed action or alternatives on native species, their habitats, or the natural processes sustaining them would be detectable, and would be expected to be outside the natural range of variability for long periods of time or be permanent. Population numbers, population structure, genetic variability, and other demographic factors for species might have large, short-term declines, with long-term population numbers significantly depressed. Frequent responses to disturbance by some individuals would be

Area of Evaluation	No Significant Effect	Significant Effect
	or Mitigation measures are used to reduce the level of impacts below the level of significance.	expected, with negative impacts to feeding, reproduction, or other factors resulting in a long-term decrease in population levels. Loss of habitat might affect the viability of at least some native species.
Biological Resources – Listed Species, Critical Habitat, and Special Status Species	Effects on listed species or designated critical habitat are insignificant, discountable (i.e., extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated) or beneficial. During consultation, FWS or NMFS provides written concurrence of "not likely to adversely affect." or Mitigation measures are used to reduce the level of impacts below the level of significance.	A determination is issued that the action will jeopardize the continued existence of a species or adversely modify critical habitat and the agency will proceed with the action. Or There will be take of a migratory bird without the appropriate permit by FWS.
Human Health and Safety	Hazardous or toxic materials and/or wastes could be safely and adequately managed in accordance with all applicable regulations and policies, with limited exposures or risks. There would be no short- or long-term adverse impacts to public safety and homeland security preparedness. or Mitigation measures are used to reduce the level of impacts below the level of significance.	A net increase in the amount of hazardous or toxic materials and/or wastes to be handled, stored, used, or disposed of, resulting in unacceptable risk, exceedence of available waste disposal capacity, or probable regulatory violation(s). Site contamination conditions could preclude development of sites for the proposed use. Public safety and homeland security preparedness would be compromised and vulnerabilities would increase.
Low-income and minority populations	There would be no disproportionately high and adverse environmental or health effects to low-income and/or minority populations, or any disproportionate effects would be mitigated. or Mitigation measures are used to reduce the level of impacts below the level of significance.	There would be unmitigated disproportionately high and adverse environmental and health impacts to low-income populations, minority populations.
Historic Properties	No historic properties are affected. or The historic characteristics or setting of an NRHP eligible or listed property are altered, or have the potential to be altered, but the resource retains its integrity.	The integrity of an NRHP eligible or listed property would be diminished or destroyed and effects would not be mitigated below the level of significance.

Area of Evaluation	No Significant Effect	Significant Effect
	or Mitigation measures are used to reduce the level of impacts below the level of significance.	
Infrastructure **Significant impacts to utilities are not necessary and sufficient criteria to prepare an EIS*	No impacts to infrastructure. Or An impact to the human and/or natural environment would occur, but is less than thresholds indicated below for "significant effect." or Mitigation measures are used to reduce the level of impacts below the level of significance.	*Communications*: Effects would be considered potentially significant if the proposed action or alternatives would require communication systems to meet requirements that could not be provided without major modifications to the existing systems. or *Solid Waste*: Effects would be considered potentially significant if the proposed action or alternatives would require collection and/or disposal that could not be provided in a reliable manner, which could cause waste to accumulate or be disposed of in a manner that could adversely affect human health or the environment. or *Transportation* - Additional demand placed on the existing transportation network by the proposed action or alternatives would exceed the capacity of the network, creating disruptions in service in roadways, rail, or air transportation.
Air Quality	Emissions from the proposed action or alternatives for NAAQS in nonattainment and maintenance areas would be less than excedence levels as defined in Table 3.3. Emissions in attainment areas would not cause air quality to go out of attainment for any NAAQS. Or Mitigation measures are used to reduce the level of impacts below the level of significance.	Emissions from the proposed action or alternatives for NAAQS would be greater than the exceedance levels for nonattainment and maintenance areas. Emissions in attainment areas would cause an area to be out of attainment for any NAAQS.
Noise	Noise levels resulting from the proposed action or alternatives would exceed natural sounds, as described under no effect, but would not exceed typical noise levels from construction equipment or generators. Noise generated by construction and operation of the	Noise levels would exceed typical noise levels from construction equipment and generators on a permanent basis or for a prolonged period of time.

Area of Evaluation	No Significant Effect	Significant Effect
	facility would be temporary or short-term in nature. Or Mitigation measures are used to reduce the level of impacts below the level of significance.	
Visual Quality	No permanent direct or indirect impacts to the viewsheds of resources such as natural landscapes, Class I Areas, historic properties and/or the aesthetic character of the surrounding area from the proposed action or alternatives would be expected. Any temporary visual disturbances that alter the character of the viewshed and/or aesthetic character of the surrounding area would be returned to its original state following the action. Or Mitigation measures are used to reduce the level of impacts below the level of significance.	Significant direct or indirect impacts to the viewsheds of any resources such as natural landscapes, Class I Areas, historic properties and/or the aesthetic character of the surrounding area from the proposed action or alternatives are anticipated, and these effects would be greater in number, extent, and/or duration than non-significant impacts. Significant impacts could include disturbances (such as the long-term alteration of the viewshed that would require mitigation) that could alter the character of the viewshed of a historical resource, and the viewshed might not resume its original state following the action.
Climate Change	Emissions of CO2 of proposed action or group of actions are below the level of detection. Or Mitigation measures are used to reduce the level of impacts below the level of significance.	Emissions of CO2 of proposed action or group of actions are significant and no mitigation is provided.

5.1 Alternative 1: No Action Alternative

Implementing the No Action Alternative would have no impacts on areas of concern such as land use, geology, soils, seismicity, noise, and visual quality.

The No Action Alternative may result in adverse impacts to areas of concern such as water resources, floodplains, wetlands, biological resources, historic properties, minority and low-income populations, infrastructure, air quality, and human health and safety. Under the no action alternative, facilities, including CI/KR, would remain vulnerable to man-made disasters and the local communities, States, Territories, and the Nation would not be fully prepared for these incidents. For example, the release of hazardous substances from facilities that use, store, process or dispose of such substances could have significant impacts on the natural and physical environment and to human health and safety. Properties of historic significance could be the target of a man-made incident or could be damaged or destroyed as a result of the incident. CI/KR such as major transit facilities, transportation corridors, ports, and emergency operations centers would remain vulnerable.

In addition to vulnerable facilities and infrastructure, the No Action Alternative would result in a less prepared community of first responders, local, State, Territory, and Tribal governments. An unprepared response to a natural or man-made disaster could have significant consequences to the natural and physical environment and/or on human health and safety. Not only can environmental resources such as soils, air and water be the medium or target of the incident, but the response to such an incident itself could have irreversible adverse consequences to areas such as water resources, floodplains, wetlands, biological resources, historic properties, air quality, and human health and safety.

5.2 Alternative 2: Program Implementation

Under Alternative 2, FEMA would implement the GPD programs, including the eligible activities and project types under each program.

5.2.1 Programs

As provided in Section 3.2.1, the GPD grant programs are dynamic and may change each year based on Congressional authorization, mandates and priorities. Grant program implementation activities such as general grant administration, development of program guidance, and policy and regulations are not expected to have significant impacts on the quality of the human environment. The particular project types allowed under the various GPD grant programs that may have impacts on the environment are discussed in Section 5.2.2 below. For any given year, programs that are limited to planning, training, management and administration, exercises within existing facilities, and mobile and portable equipment purchase will not have significant impacts to the human environment.

Each year, FEMA will evaluate the grant guidance for each GPD program to determine if the eligible activities are covered under this PEA. For activities not covered by this PEA, FEMA will develop Supplemental Program EAs tiered from this analysis to take into account the impacts of the activity type on the human environment. FEMA will ensure that the grant guidance provides

information on the particular environmental planning and historic preservation requirements that must be met prior to the initiation of the project.

In addition, FEMA and GPD will develop outreach and training tools such as information bulletins, job aids, and classroom training to assist GPD staff and grantees with environmental planning and historic preservation compliance and to avoid, to the maximum extent possible, significant impacts to the human environment from the implementation of these grant programs.

5.2.2 Project Types

The following project types may be allowable under various GPD grant programs and may have the potential to affect the environment, including historic properties: exercises outside of existing facilities, communication towers, modification of existing structures and facilities (including the installation of fixed equipment), and new construction/replacement.

The expected environmental impacts of many typical GPD-funded project types are analyzed below. Impacts are expected to vary substantially by project type, and even within each project type according to certain project parameters.

5.2.2.1 Planning

The activities associated with this project type are administrative in nature, have no physical footprint, and use existing facilities, established procedures, and land use designations. They do not involve any changes in land use, ground disturbance, modification of facilities, or release pollutants to environmental media (i.e. air, water, and land). Therefore, this project type would have no effect on land use, geology and soils, water resources, floodplains, wetlands, biological resources, minority and low-income populations, historic properties, air quality, noise, human health and safety, visual quality, or climate change. This project type will have a beneficial effect on human health and safety and infrastructure by improving local, State, Territory, Tribal and National readiness.

FEMA CATEX (iii) covers this project type and its applicability can be extended to GPD activities. This project type is not likely to trigger extraordinary circumstances and, therefore, no further NEPA documentation of activities under this project type will be needed.

5.2.2.2 Training

The activities associated with this project type are administrative in nature, have no physical footprint, and use existing facilities, established procedures, and land use designations. They do not involve any changes in land use, ground disturbance, modification of structures or facilities, or release of significant levels of pollutants to environmental media (i.e. air, water, and land). Therefore, this project type would have no effect on land use, geology and soils, water resources, floodplains, wetlands, biological resources, minority and low-income populations, historic properties, air quality, noise, visual quality or climate change. This project type will have a beneficial effect on human health and safety and infrastructure by improving local, State, Territory, Tribal and National readiness.

FEMA CATEX (v) covers this project type and its applicability can be extended to GPD activities. This project type is not likely to trigger extraordinary circumstances and, therefore, no further NEPA review or documentation of activities under this project type will be needed.

5.2.2.3 Management and Administration

The activities associated with this project type are administrative in nature, have no physical footprint, and use existing facilities, established procedures, and land use designations. They do not involve any changes in land use, ground disturbance, modification of structures or facilities, or release of significant levels of pollutants to environmental media (i.e. air, water, and land). Therefore, this project type would have no effect on land use, geology and soils, water resources, floodplains, wetlands, biological resources, minority and low-income populations, historic properties, air quality, noise, visual quality or climate change. This project type will have a beneficial effect on human health and safety and infrastructure by improving local, State, Territory, Tribal and National readiness.

FEMA CATEX (i) covers this project type and its applicability can be extended to GPD activities. This project type is not likely to trigger extraordinary circumstances and, therefore, no further NEPA review or documentation of activities under this project type will be needed.

5.2.2.4 Exercises

5.2.2.4.1. Exercises within existing facilities

Exercises that are conducted at existing facilities designed and permitted to handle the specific type of exercise will not involve any changes in land use, ground disturbance, modification of structures or facilities, or release of significant levels of pollutants to environmental media (i.e. air, water, and land). Therefore, this project type would have no effects on land use, geology and soils, water resources, floodplains, wetlands, biological resources, minority and low-income populations, historic properties, air quality, noise, visual quality, or climate change. This project type will have a beneficial effect on human health and safety and infrastructure by improving local, State, Territory, Tribal and National readiness.

FEMA CATEX (v) covers this project type and its applicability can be extended to GPD activities. This project type is not likely to trigger extraordinary circumstances and, therefore, no further NEPA review or documentation of activities under this project type will be needed.

5.2.2.4.2. Exercises outside existing facilities, with major logistic activity, or that involve release of toxic, radioactive, or biological material/agents

Other types of exercises such as those conducted outside existing facilities, those with major logistic activity such as the creation of base camps, construction of temporary facilities, development of staging areas, significant redistribution of vehicles or people, or those exercises that involve the release of toxic, radioactive, or biological agents may have impacts on land use, geology and soils, water resources, floodplains, wetlands, biological resources, minority and low-income populations, historic properties, infrastructure, air quality, noise, visual quality, and climate change. These impacts may vary depending on the nature of the exercise, where it is located, and the resources present that are likely to be affected.

This project type will have beneficial impacts on human health and safety by improving local, State, Territory, Tribal and National readiness to terrorist attacks.

FEMA CATEX (v) covers this project type and its applicability can be extended to GPD activities. However, because of the potential environmental impacts of this project type, FEMA will document the applicability of the CATEX to the particular exercise thru an REC and take

into account any potential extraordinary circumstances and the applicability of other environmental planning and historic preservation requirements. If extraordinary circumstances exist and cannot be adequately addressed, FEMA will require a site-specific SEA tiered from this PEA to determine if the proposed project is likely to have significant impacts on the quality of the human environment.

5.2.2.5 Mobile and Portable Equipment (No Installation)

The activities associated with this project type have no physical footprint, and use existing facilities, established procedures, and land use designations. They do not involve any changes in land use, ground disturbance, modification of facilities, or release of significant levels of pollutants to environmental media (i.e. air, water, and land). Therefore, this project type would have no effects on land use, geology and soils, floodplains, wetlands, minority and low-income populations, historic properties, air quality, noise, visual quality, or climate change.

The AEL includes equipment that is used directly in water, such as boats, sonar, and barriers. Although this equipment is placed directly in the water, it has no significant impact on water quality when used properly and following industry Best Management Practices (BMPs) such as regular maintenance and responsible handling, use, and storage of materials that have the potential to affect water quality, such as fuels and lubricants.

FEMA CATEX (vi) covers this project type and its applicability can be extended to GPD activities. Except for the purchase of mid-and low-frequency active sonar equipment to be used in marine waters, no further NEPA review or documentation of activities under this project type will be needed because the project type is not likely to trigger extraordinary circumstances.

Sonar

Under the MMPA, NMFS is responsible for the management and conservation of cetaceans (whales, dolphins, and porpoises) and pinnipeds (seals and sea lions). NMFS is the primary government agency responsible for enforcing the MMPA. The MMPA established a moratorium on the taking (harassment, injury, or killing) of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals and marine mammal products into the U.S. (NMFS, 2009a). Along with NMFS, FWS is also responsible for assessing the affects on marine mammals under the MMPA. Walruses, sirenians (manatees), sea otters, and polar bears are under FWS jurisdiction (NMFS, 2009b). Both NMFS and FWS are responsible for reviewing and permitting sonar use activities that may affect those marine mammals under their jurisdiction.

Marine mammals as a group have functional hearing ranges of 10 Hz to 200 kHz. (Navy 2008). Active sonars that operate within these frequency ranges have the potential to harass marine mammals by affecting their physiology (e.g. auditory system, organ tissue damage due to resonance) and behavior (e.g. stress, orientation, breathing, social relationships, flight response). They may also result in “masking” which is the interference with the clear reception of signals that are of interest to these marine mammals. Mid-frequency sonar (ranging from 1 to 10 kHz) and low-frequency sonar (ranging from 1 Hz to 1 kHz) used in marine waters has the potential to produce these effects on marine mammals. (Reynolds, 2008; Navy 2008). Sonars that operate at frequencies higher than 200 kHz do not have the potential to adversely affect marine mammals because the source attenuates rapidly in the water and are outside of the upper frequency limit of

even the ultrasonic species of marine mammals. (Navy 2008). High-frequency sonars operating between 10 kHz and 200 kHz may require coordination with NMFS or FWS. Site-specific information on the geographic area where the equipment will be used, predicted exposure levels (e.g., number, duration and sound pressure level of received pings), and species density and distribution will be needed to determine their potential for adverse effects on marine mammals.

FEMA will coordinate with NMFS and FWS on projects involving use of active sonars that operate below the 200 kHz frequency. This coordination may involve Section 7 consultation under the ESA. The grantee or subgrantee is responsible for obtaining any permits that may be required under the MMPA, ESA and CZMA and for complying with any conditions that may be placed on the project as the result of coordination with NFMS/FWS.

This PEA will be the only NEPA documentation for passive sonars and active sonars operating in frequencies higher than 200 kHz under this project type. For all other sonars FEMA will document the applicability of the CATEX (vi) thru an REC and take into account any potential extraordinary circumstances as well as the results of the ESA Section 7 consultation process and applicability of other laws such as MMPA and CZMA. If extraordinary circumstances exist and cannot be adequately addressed, FEMA will require a site-specific SEA tiered from this PEA to determine if the proposed project is likely to have significant impacts on the quality of the human environment.

5.2.2.6 Communication Towers

As indicated in Section 4.10, FEMA recognizes that there are other Federal, State, Tribal and Territory public safety interoperability-related actions such as the FCC's public safety initiatives, NTIA's PSIC Grant Program and USDA's Rural Utility Service's programs. These programs are part of a Nationwide effort to improve interoperability within the emergency preparedness and response community. Grantees and subgrantees have the ability to leverage these different programs within their jurisdictions to achieve their overall public safety interoperability goals. Thus, there is a potential for some GPD-funded actions under this project type to be connected with other non-FEMA funded actions. FEMA will incorporate by reference into this PEA the description of environmental conditions and environmental consequences analysis of the NTIA PEA for the PSIC Grant Program and the Generic Environmental Impact Statement New York State Statewide Wireless Network to the extent that they are consistent with this document. FEMA may issue separate SEAs or otherwise adopt other PEAs or Programmatic EIS (PEIS) as they become final and available to ensure consistency of NEPA reviews in the Nation's public safety interoperability efforts.

5.2.2.6.1. Existing communication towers

Modifications and/or upgrades of existing communication towers and supporting facilities are covered by FEMA CATEX (ix). As explained below, this project type may have the potential to impact the human environment based on the site-specific conditions and resources present. FEMA will always conduct site-specific evaluation and document the applicability of the CATEX, including presence of extraordinary circumstances and applicability of other environmental planning and historic preservation requirements through a REC. For proposed projects having extraordinary circumstances that cannot be resolved, a site-specific SEA will be required to determine if the impacts are likely to be significant.

5.2.2.6.1.1. Land Use

Modifications and/or upgrades of existing communication towers and supporting facilities would not have significant impacts to land use because they do not change existing land use patterns.

5.2.2.6.1.2. Geology and Soils

The co-location and upgrading of communication equipment on an existing tower that is not located in areas characterized by susceptibility to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes would not result significant impacts from geology and soils to the project. The construction of new equipment buildings or facilities that are not located in areas characterized by these hazards will not result in significant impacts from geology and soils to the project.

Some co-location and upgrading activities could occur in towers that are in areas characterized by hazards characterized above. However, the impacts from geology to these activities are not expected to be significant.

Activities involving the expansion, placement, and construction of supporting facilities in areas characterized by susceptibility to seismic, volcanic, tsunamis, landslide or mudslide activity, structural instability, excessive erodibility, or steep slopes may result in impacts from geology to these actions. These activities may require the use of certain engineering technologies or require consultation with State or Federal agencies before the project may proceed. All structures in areas of seismic risk that are covered by this PEA must be designed and constructed in accordance with appropriate seismic design and construction standards, which are promulgated through NEHRP. Therefore, the constructed buildings will represent a low seismic hazard to people and equipment housed in the building during a seismic event.

In addition, the expansion, placement, and construction of supporting facilities may have adverse effects to soils. Inadequate stabilization of the site may produce uncontrolled erosion that may result in the loss of topsoil, reduction of infiltration capacity, alteration of natural hydrology of the land, increase in flood risks, and adverse impacts to nearby habitat. (EPA 2007). Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to geology and soils. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

5.2.2.6.1.3. Water Resources

The co-location and upgrading of communication equipment on an existing tower would not have an impact on water resources. These activities are expected to occur within the existing previously disturbed area with minimal or no ground disturbance. Therefore, there is no substantial increase in runoff from the site. Additionally, these types of projects do not result in a substantial increase in groundwater or surface water usage within the project area.

Activities involving the expansion, placement, and construction of supporting facilities beyond previously disturbed areas may adversely affect water resources and quality in the project area. Uncontrolled stormwater pollution, erosion and sedimentation can result in the pollution of waters of the U.S. (EPA 2007). Table 5-2 shows the most common water pollutants associated with construction activities.

Table 5-2: Water pollutants from construction practices

Construction Site Pollutants									
	Primary Pollutant	Other Pollutants							
Areas of Consideration	Sediment	Nutrients	Heavy metals	pH (acids & bases)	Pesticides & herbicides	Oil & grease	Bacteria & viruses	Trash, debris, solids	Other toxic chemicals
Clearing, grading, excavating, and unstabilized areas	✓							✓	
Paving operations	✓							✓	
Concrete washout and waste			✓	✓				✓	
Structure construction/ painting/cleaning		✓		✓				✓	✓
Demolition and debris disposal	✓							✓	
Dewatering operations	✓	✓							
Drilling and blasting operations	✓			✓				✓	
Material delivery and storage	✓	✓	✓	✓	✓	✓		✓	✓
Material use during building process		✓	✓	✓	✓	✓		✓	✓
Solid waste (trash and debris)								✓	✓
Hazardous waste			✓	✓	✓	✓			✓
Contaminated spills		✓	✓	✓	✓	✓			✓
Sanitary/septic waste		✓		✓			✓		✓
Vehicle/equipment fueling and maintenance						✓			✓
Vehicle/equipment use and storage						✓			✓
Landscaping operations	✓	✓						✓	

Source: USEPA, *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites* (2007)

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects implementing these measures will not result in significant impacts to water resources and water quality. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

5.2.2.6.1.4. Floodplains

The co-location and upgrading of communication equipment on an existing tower would not have an impact on floodplains but may be affected by the floodplain. Impacts to the floodplain are not expected because these activities would occur within the existing previously disturbed area and minimal ground disturbance. Equipment installed on a tower located in the floodplain may be exposed to flood hazards.

Under 44 CFR Part 9, FEMA is required to avoid activities in a floodplain unless it is the only practicable alternative. When a proposed project is the only practicable alternative, FEMA is required to minimize the impacts to the floodplain and the impacts from floods to the facility. Minimization techniques apply to the location of structures, equipment and building contents in floodplain areas. This could include elevating supporting structures and equipment such as equipment buildings and generators above the base flood elevation. Minimization techniques may include floodproofing structures or facilities. Public safety towers may be considered critical actions under this analysis because the risk of flooding might be too great. In such cases, the standard to be used for avoidance, elevation, or floodproofing is the 500-year base flood elevation. In addition, if supporting structures are flood-insurable structures and

the upgrade constitutes a substantial improvement, FEMA will require the grantee or subgrantee to comply with the local floodplain ordinance and obtain, if necessary, a local floodplain permit.

FEMA regulations at 44 CFR 9.11(d) prohibit the agency from funding new construction, including replacement, in coastal high hazard areas (CHHA) or in floodways unless they are functionally dependent uses or facilitate open space use. They also prohibit substantial improvements in the floodway. FEMA defines substantial improvements as any repair, reconstruction or other improvement of a structure or facility the costs of which equals or exceeds 50% of the market value of the structure.

FEMA will document the 8-step decisionmaking process and minimization measures for all proposed communication tower projects located in a floodplain through either a REC or a site-specific SEA, depending on the nature of the potential impacts to and from the floodplain.

5.2.2.6.1.5. Wetlands

The co-location and upgrading of communication equipment on an existing tower would not have an impact on wetlands. These activities are expected to occur within the existing previously disturbed area with minimal ground disturbance.

Activities involving the expansion, placement, and/or construction of supporting facilities beyond previously disturbed areas have the potential to adversely impact wetlands. Potential indirect impacts include uncontrolled stormwater pollution, erosion and sedimentation from the project that may adversely affect nearby wetlands. In addition, these activities may involve direct impacts such as conversion of nearby wetlands as the result of the expansion of facilities. Under 44 CFR Part 9, FEMA is required to engage in an 8-step decisionmaking process for proposed projects that may have adverse impacts on wetlands, which includes the use of minimization techniques when the proposed project affecting the wetland is the only practicable alternative. Minimization measures include avoidance techniques such as establishing wetland buffer zones, following the general mitigation measures for ground disturbing activities as laid out in Section 7.2, and compensation measures such as wetland mitigation and banking. In addition to FEMA's responsibility under 44 CFR Part 9, the grantee or subgrantee must obtain the applicable CWA Section 404 permit prior to the initiation of the project if it will affect wetlands that are considered waters of the U.S. by the USACE. The grantee or subgrantee must consult with USACE to determine whether any of the NWPs or a Regional General Permit apply or whether an Individual Permit is required. Depending on the type of permit and as part of the permitting process, the grantee or subgrantee may need to prepare a CWA Section 404 (b)(1) alternatives analysis or a wetland mitigation plan.

If the project cannot be designed to avoid impacts to the wetland, then FEMA will document the 8-step decisionmaking process and minimization measures in either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts to the wetlands. In addition, FEMA will include a grant condition requiring the grantee or subgrantee to secure applicable CWA permits /certifications before initiating any work involving ground disturbance.

5.2.2.6.1.6. Biological Resources - Vegetation

The co-location and upgrading of communication equipment on an existing tower would not have an impact on vegetation. These activities are expected to occur within the existing previously disturbed area with minimal ground disturbance.

Activities involving the expansion, placement, and construction of supporting facilities beyond previously disturbed areas may adversely impact vegetation. The removal of vegetation and the inadequate stabilization of the site after construction may cause severe erosion that could result in the loss of topsoil, reduction of infiltration capacity, alteration of natural hydrology of the land, increase in flood risks, and adverse impacts to nearby habitat. (EPA 2007).

Ground disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects implementing these measures will not result in significant impacts to vegetation. With the implementation of these mitigation measures and the absence of any special status species, modifications and/or upgrades to existing towers and supporting facilities do not have a significant adverse impact on local vegetation in the vicinity of a project site. In addition, with the control of invasive exotic plant species as discussed previously, compliance with EO 13112 is also achieved. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

In cases where the proposed project area is determined to contain or be near a sensitive vegetation community, FEMA will document its impact analysis through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.1.7. Biological Resources - Terrestrial Wildlife

The co-location and upgrading of communication equipment on an existing tower would not have an impact on terrestrial wildlife. These activities are expected to occur within the existing previously disturbed area with minimal ground disturbance; therefore, these activities would not have significant impact on terrestrial wildlife. One exception would be modifications of navigational safety nighttime lighting in existing towers from white strobe lights (L-865) or red flashing, incandescent lights (L-864) to steady-burning red lights (L-810). Steady-burning red lighting has the potential to increase migratory bird collisions with towers and guy wires supporting the towers. (Gehring et al. 2009). FEMA will require a site-specific SEA for those modifications that result in the change of tower lighting to steady-burning red lights (L-810).

The addition of communication equipment that results in the increase in tower height exceeding 199 feet may adversely affect migratory birds. The increase in tower height will trigger consultation with FAA and may result in lighting requirements that could attract migratory birds and result in avian collisions. FEMA will require a site-specific SEA if the addition of communication equipment will result in an increase in tower height exceeding 199 feet and will use steady burning red lights (L-810).

Activities involving the expansion, placement, and construction of supporting facilities beyond previously disturbed areas have the potential to affect terrestrial wildlife. If an activity involves work in a forested area or special status area such as a floodplain, wetland, forest or wildlife refuge, the project may have adverse effects on wildlife such as displacement or loss of foraging habitat for common small mammals or birds or fragmentation of habitat. The grantee or subgrantee will be required to coordinate with the appropriate Federal, State, Territory, or Tribal agency and obtain any special land use permits or licenses in these areas. Grantees and subgrantees will be required to submit to FEMA any environmental or historic preservation documentation or clearance obtained from that process.

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that are less than one (1) acre and for which these measures are implemented will not result in significant impacts to terrestrial wildlife. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

5.2.2.6.1.8. Biological Resources - Aquatic Wildlife

The co-location and upgrading of communication equipment on an existing tower would not have significant impacts on aquatic wildlife. These activities are expected to occur within the existing previously disturbed area with minimal ground disturbance; therefore, these activities would not have significant impact on these resources. One exception is proposed projects that would result in new beachfront lighting near sea turtle nesting grounds which may adversely affect these resources. Beachfront lighting can disorient sea turtle hatchlings. Hatchlings find their way to the sea by differentiating between dark and bright areas and overhead artificial lights disrupts this ability. (Salmon 2003). For proposed coastal projects that would result in new lighting, FEMA will require grantees and subgrantees to coordinate with the State natural resources or coastal resources agency to determine if the project is likely to affect sea turtle nesting patterns and, if it is, to design the project in a manner to reduce these impacts. If the proposed project cannot be redesigned to reduce these impacts, then a site-specific SEA will be required to evaluate the potential impacts to the species.

Activities involving the expansion, placement, and construction of supporting facilities beyond previously disturbed areas have the potential to affect aquatic wildlife. Projects within floodplains or affecting floodplains or wetlands may have adverse impacts to aquatic wildlife and/or their habitat. FEMA would avoid taking actions within or affecting floodplains or wetlands. If undertaking the project within the floodplain or wetland is the only practicable alternative, then FEMA will document the 8-step decisionmaking process and minimization measures through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.1.9. Biological Resources - Listed Species, Critical Habitat and Special Status Species

Except as provided above for migratory birds and sea turtles protected under the ESA, the co-location and upgrading of communication equipment on an existing tower would not have an impact on listed species, critical habitat or special status species. These activities are expected to occur within the existing previously disturbed area with minimal ground disturbance.

There may be situations where a special status species individual is using the existing tower or nearby facility as a nesting area. FEMA will require grantees and subgrantees to identify if the subject facility is being used by a special status species individual or if a special status species is nearby. FEMA will encourage grantees and subgrantees to follow existing guidelines for the protection of such species. In addition, FEMA will consult with FWS and/or appropriate State, Tribe, or local government agency before the project is approved to discuss measures needed to avoid impacts to these individuals. Projects that incorporate measures to avoid impacts to these special status individuals, such as avoiding disruption of nests and avoiding construction activities within 660 feet of identified nests, would not have significant impact on these

resources. If the proposed project cannot be designed to avoid impacts to these special status individuals, then FEMA will document its impact analysis through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

Activities involving the expansion, placement, and construction of supporting facilities beyond previously disturbed areas have the potential to affect listed species or special species habitat. These activities may result in the displacement or fragmentation of habitat for these species. Land disturbance associated with this activity is expected to be less than one (1) acre and FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. However, FEMA will not be able to determine whether the impacts of the specific activity to the listed species, critical habitat or special status species are significant without an appropriate site-specific evaluation and consultation with FWS or NMFS. If consultation results in a No Effect or Not Likely to Adversely Affect (NLAA) determination, then the activity would not have significant impacts on these resources and no additional NEPA review would be required. If the consultation results in the initiation of formal consultation, then FEMA will enter into the formal ESA Section 7 consultation and document the results in a site-specific SEA.

5.2.2.6.1.10. Human Health and Safety

Activities in this project type are expected to have a beneficial impact on human health and safety throughout the U.S. and its territories. Modifications and/or upgrades of communication towers and supporting facilities will improve readiness and response to natural and man-made disasters. Updated equipment will allow a faster and more complete transfer and sharing of information between agencies and first responders at all levels of government and communities.

Activities related to the modification and/or upgrade of communication towers and supporting facilities may involve the use, handling, storage, and disposal of hazardous substances such as fuel storage tanks and flammable liquids. Waste fuel and/or oil associated with the operation of the emergency generator at tower sites must be disposed of according to Federal and State regulations. Additionally, the above-ground fuel storage tanks for the emergency generators would be located within berms to limit runoff and infiltration should a spill or leak occur. FEMA will encourage grantees and subgrantees to locate containers with a capacity to store more than 100 gallons of hazardous substances of an explosive or fire prone nature at an acceptable separation distance from facilities or structures where people can congregate such as schools or hospitals. Grantees and subgrantees may use the HUD's guidance "Siting of HUD-Assisted Projects near Hazardous Facilities (HUD -1060-CPD, Sept. 1996), incorporated in this PEA by reference. The grantee or subgrantee will be responsible for meeting the "all appropriate inquiries" rule in 40 C.F.R. 312.10 before acquiring a new property. Grantee and subgrantees must prepare, implement, and regularly update spill prevention and control plan when needed and required by law. The use, handling, storage and disposal will be disposed of according to Federal, State or Territory, and local regulations. No significant impacts are expected from these activities.

5.2.2.6.1.11. Minority and Low-Income Populations

Activities in this project type would not have disproportionate high and adverse impacts on low-income and/or minority populations. These activities are expected to occur within the existing previously disturbed area with minimal ground disturbance and therefore have no significant adverse effects on low-income or minority populations. These activities will have a long-term

beneficial impact on all segments of the population, including minority and/or low-income populations, by increasing public safety.

5.2.2.6.1.12. Historic Properties - Archeology

Modifications and/or upgrades of existing communication towers and supporting facilities that do not involve ground disturbance would have no potential to affect archeological resources.

Activities involving ground disturbance have the potential to affect archeological resources, particularly if the activities would be located on undisturbed land. Yet the presence of modern structures or facilities does not mean that no archaeological resources exist or that they have already been destroyed. Examples of ground disturbing activities include topsoil removal, hand excavation of trenches, excavation along existing foundation walls (whether on an historic or modern building), and/or enlargement of existing structures or facilities. While existing structures may have disturbed potential archaeological deposits at the time of construction, intact resources may have been left undisturbed. In addition, existing historic structures may have archaeological components and any landscaping or other activities that disturb the ground could affect potential archaeological deposits. Geographical location and expected site types dictate whether a proposed project will affect archaeological resources.

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that are less than one (1) acre, for which these measures are implemented, and that are located in areas with low potential for presence of archeological resources are not likely to result in significant impacts to archeological resources. Proposed projects located in areas with moderate to high potential for archeological findings would trigger Section 106 consultation with the SHPO/THPO and the resolution of adverse effects by avoidance, minimization or mitigation. The Program Comment issued by the ACHP on November 3rd, 2009 establishes that FEMA would not need to comply with the Section 106 process for those tower-related projects that have undergone or will undergo Section 106, or that are exempt from Section 106, by the FCC Nationwide PA and Collocation PA. FEMA will coordinate with the FCC on the implementation of this Program Comment and FEMA's and its applicants role for tower-related projects covered by the Program Comment.

FEMA will engage in the Section 106 consultation process for projects not covered by the Program Comment to determine whether historic properties would be adversely affected and to resolve those adverse effects. FEMA will consult with the SHPO/THPO, tribes and other sources to determine if the proposed project has the potential to adversely affect historic properties. If the proposed project does not have the potential to adversely affect historic properties, then there is no adverse effect to this resource and no further NEPA review would be required. FEMA will document this process through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential adverse effects.

5.2.2.6.1.13. Historic Properties - Other Historic Properties

The co-location of equipment or modification of an existing tower is a preferred alternative to the construction of a new tower, as this type of activity minimizes ground disturbance and the introduction of new visual elements on the landscape. Some existing towers may have not gone through the Section 106 process prior to their license and construction. Although FEMA Section 106 review responsibilities is limited to the FEMA undertaking (i.e. the action being funded by

FEMA) it is important to point out that the Agency will take into account past actions and impacts as part of the evaluation of cumulative effects and take these into account in its determination of adverse effects of its action/undertaking.

In general, modifications of communication tower facilities – including co-location of equipment and installation of additional equipment within the fenced facility (e.g. equipment shelters, additional fencing, generators, lighting, vehicle barriers) – that are not considered historically significant, do not substantially increase the height or size of the facility and are not located within or near an historic district or landscape are not likely to adversely affect historic properties or their viewshed.

Proposed projects involving a substantial increase in height and size of a communication tower may increase the radius of the APE because the resultant structure would be visible from a greater distance. FEMA must identify the APE, identify historic properties within the APE, and determine if the proposed increase adversely affects historic properties in consultation with the SHPO or THPO and other interested parties. Likewise, should the communication tower be located within or in view of an historic district or landscape, indirectly affected historic properties must be considered. Dense commercial areas, wilderness and roadless areas, industrial areas, non-historic transportation corridors, or new subdivisions are examples of areas where an increase in the height or size of a communication tower will likely have no potential to affect, result in a finding of no historic properties affected, or result in a finding of no adverse effect on historic properties. In the latter two circumstances, FEMA must consult with the SHPO or THPO and other interested parties. In many cases, tower facilities blend into industrial or commercial landscapes.

To avoid adverse effects, equipment could be co-located on alternative existing structures or in less historically sensitive areas, as long as the needed radio coverage requirements would still be met. Should equipment need to be co-located on historic properties or within historic districts, effects to historic properties can be minimized by masking the equipment on or in existing structures within the required location. Landscape buffers surrounding the base of facilities may also minimize visual effects on immediately adjacent historic properties.

The Program Comment issued by the ACHP on November 3rd, 2009 establishes that FEMA would not need to comply with the Section 106 process for those tower-related projects that have undergone or will undergo Section 106, or that are exempt from Section 106, by the FCC Nationwide PA and Collocation PA. FEMA will coordinate with the FCC on the implementation of this Program Comment and FEMA's and its applicants role for tower-related projects covered by the Program Comment.

FEMA will engage in the Section 106 consultation process for projects not covered by the Program Comment to determine whether historic properties would be adversely affected and to resolve those adverse effects. FEMA will consult with the SHPO/THPO, tribes and other sources to determine if the proposed project has the potential to adversely affect historic properties. If the proposed project does not have the potential to adversely affect historic properties, then there is no adverse effect to this resource and no further NEPA review would be required. FEMA will document this process through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential adverse effects.

5.2.2.6.1.14. Infrastructure

Traffic impacts associated with modifications and/or upgrades to existing communication towers and supporting facilities are limited to the construction phase. New construction would use existing infrastructure or would require minimum infrastructure development. Once construction activities have been completed, traffic levels and flow return to original levels. Grantees and subgrantees are responsible for coordinating with the appropriate local agency to ensure adequate measures are implemented during construction, including warning signage, limitation of public right-of-ways for staging, use of flagpersons, lane closures, and detours. Potential impacts of these activities on traffic would not be significant.

No significant adverse effect would occur on utilities or the collection and disposal of solid waste as a result of these types of projects. These proposed projects would enhance communications networks, providing a beneficial impact.

5.2.2.6.1.15. Air Quality

In general, the co-location and upgrading of communication equipment on an existing tower would not have adverse impacts on air quality because the activities are expected to occur within the existing previously disturbed area with minimal ground disturbance. Fugitive dust and equipment exhaust emissions associated with these types of activities are not expected to have any significant impact on air quality, regardless of whether the project area is located in a pristine, attainment, nonattainment, or maintenance area. These projects generally involve small structural changes or modifications to existing structures or fences. However, even in nonattainment areas these emissions are likely going to be below minimum regulatory thresholds for these criteria pollutants.

Some proposed projects could include the installation of a new or upgraded emergency generator that operates during power outages. The operation of generators may be regulated in the particular State or region where the project will take place. A generator may qualify for emergency generator provisions depending on its usage or it may be exempt from permit requirements if they are below the State's established emission threshold. Grantees and subgrantees must coordinate with their State environmental quality agency to determine the applicable requirements.

Activities involving the expansion, placement, and construction of supporting facilities beyond previously disturbed areas have the potential to affect air quality. Fugitive dust and air pollutants associated with the operation of construction equipment may affect air quality conditions at the project site. Off-road engines used in construction-related vehicles such as backhoes, front end loaders, bulldozers, tractors, graders, excavators, etc. are typically diesel-based that produce nitrogen oxides (NOx), hydrocarbons (HC), carbon monoxide (CO) and particulate matter (PM) emissions. (USEPA 2003). In FEMA's experience, the air emissions associated with

Table 5-3: Estimate of Criteria Pollutant Emissions from Equipment Used in Site Preparation and Construction Activities for Alternative Housing Pilot Program (AHPP) in Calcasieu, Louisiana

Pollutant	Total (tons/year)	*de minimus* Thresholds (tons/year) [1]
CO	16.50	100
Volatile Organic Compounds (VOC)	3.21	100
Nitrous Oxides (NO_x)	23.62	100
PM-10	8.23	100
PM-2.5	2.54	100
SO_2	2.93	100

Source: FEMA 2009, prepared by Gulf South Research Corp.

individual site preparation and construction activities in sites less than five (5) acres do not rise to the level of significance even in non-attainment areas. Table 5-3 and Appendix C shows, for example, an estimate made by the agency on the air emissions associated with equipment used for site preparation and construction activities for the placement of alternative housing units in the Gulf Coast of the U.S. (FEMA 2009). These estimates were based on US EPA's NONROAD Model (USEPA 2005).

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to air quality. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

Older structures often contain lead-based paint or asbestos containing materials. Any activities associated with the demolition of facilities must be done in accordance with Federal and State laws and regulations regarding the handling and disposal of hazardous materials, such as lead-based paint and asbestos containing materials.

5.2.2.6.1.16. Noise

In general, the co-location and upgrading of communication equipment on an existing tower does not have noise-related adverse effects. These projects are generally small in scale and construction activities are temporary in nature.

Activity work involving the expansion, placement, and construction of supporting facilities may have measurable noise-related impacts. Table 5-4 shows an estimate of the noise levels associated with typical construction equipment and attenuation of noise at various distances. To estimate the attenuation of the noise over a given distance the following relationship was used:

$$dBA_2 = dBA_1 - 20 \log (d_2/ d_1)$$

Where:

dBA_2 = dBA at distance 2 from source (predicted);

dBA_1 = dBA at distance 1 from source (measured);

d_1 = distance to location 2 from source;

d_2 = distance to location 1 from source (50 ft.);

Source: CDOT 1998.

Table 5-4. Estimated Sound Levels for Construction Equipment and Attenuation at Various Distances

Equipment	Typical Noise Level (dBA) at 50 ft. from Source[1]	Estimate at 100 ft.	Estimate at 200 ft.	Estimate at 500 ft.	Estimate at 1,000 ft.
Air Compressor	81	75	69	61	55
Backhoe	80	74	68	60	54
Ballast Equalizer	82	76	70	62	56
Ballast Tamper	83	77	71	63	57
Compactor	82	76	70	62	56
Concrete Mixer	85	79	73	65	59
Concrete Pump	82	76	70	62	56
Concrete Vibrator	76	70	64	56	50
Crane Derrick	88	82	76	68	62
Crane Mobile	83	77	71	63	57
Dozer	85	79	73	65	59
Generator	81	75	69	61	55
Grader	85	79	73	65	59
Impact Wrench	85	79	73	65	59
Jack Hammer	88	82	76	68	62
Loader	85	79	73	65	59
Paver	89	83	77	69	63
Pneumatic Tool	85	79	73	65	59
Pump	76	70	64	56	50
Rock Drill	98	92	86	78	72
Roller	74	68	62	54	48
Saw	76	70	64	56	50
Scraper	89	83	77	69	63
Shovel	82	76	70	62	56
Truck	88	82	76	68	62

[1]Source: FHWA 2006.

The estimates provided in Table 5-4 indicate that most of the equipment commonly associated with construction activities produces noise levels that exceed 75 dBA. A distance of 200 feet or more is needed between most of the construction equipment provided and a receptor to attenuate the noise levels those that are acceptable.

Land disturbance associated with this activity is expected to be less than one (1) acre. This limits the type and time of use for each piece of equipment. FEMA will adopt, or require grantees and subgrantees to follow, the general mitigation measures for ground disturbance activities in

Section 7.2, which includes operation during business hours (Monday thru Friday from 7am to 5pm) and the use equipment using the manufacturer's standard noise control devices (i.e. mufflers, baffling, and/or engine enclosures). In addition, grantees and subgrantees will be required to comply with any State, Territory, Tribal or local noise control requirements. With these measures the activity would not result in significant noise impacts.

FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.1.17. Visual Quality

Short-term impacts are associated with the presence of construction equipment and vehicles necessary to carry out the modification or upgrades to existing towers. These impacts are considered insignificant and limited to the construction phase. Long-term impacts associated with these actions are not considered significant because the existing facilities are already a part of the viewshed and the changes would be minor.

FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to visual quality. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

5.2.2.6.1.18. Climate Change

There would be no significant impact to climate change as a result of modifications or upgrades to existing communication towers. These modifications would not result in any changes in land use, a significant increase in the burning of fossil fuels, or any other activities known to contribute to the increased emissions that cause climate change.

5.2.2.6.2. Construction of new or replacement communication towers

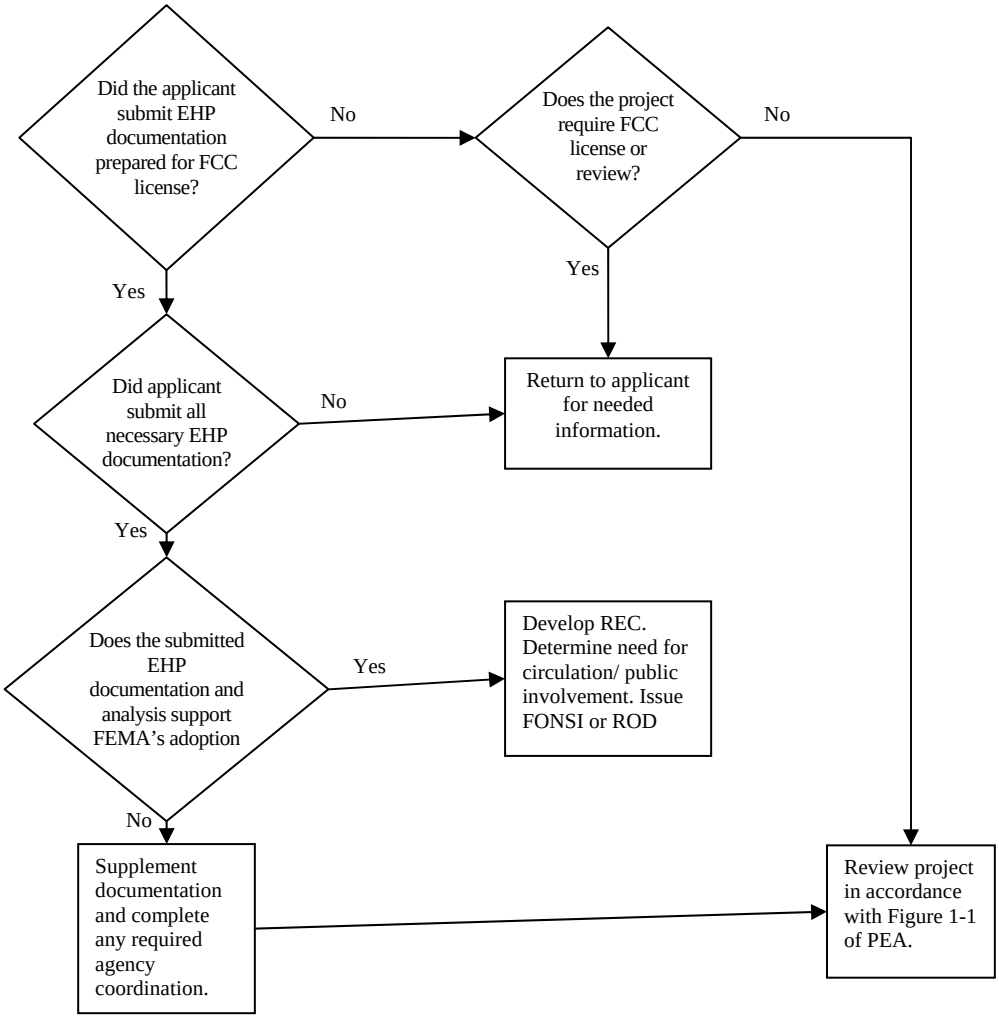
The replacement of communication towers and supporting facilities are covered by FEMA CATEX (ix) and (xv). As explained below this project type may have potential to impact the quality of the human environment based on the site-specific conditions, and based on tower design (i.e. use of guy wires versus a monopole or lattice design). FEMA will conduct site-specific evaluations and document the applicability of the CATEX, including presence of extraordinary circumstances, and the applicability of other environmental planning and historic preservation requirements through a REC. For projects having extraordinary circumstances that cannot be resolved, FEMA will develop a SEA to determine if the impacts are significant.

Construction of new communication towers may be covered by FEMA CATEX (ix). FEMA will conduct site-specific evaluations and document the applicability of the CATEX, including presence of extraordinary circumstances, and the applicability of other environmental planning and historic preservation requirements through a REC. For projects having extraordinary circumstances that cannot be resolved, FEMA will develop a SEA to determine if the impacts are significant.

Construction of a new communication tower would trigger review by the FCC under NEPA, Section 106 of NHPA, Section 7 of ESA, E.O. 11988 and other federal environmental planning

and historic preservation compliance requirements. In order to expedite this review and avoid the duplication of reviews between FCC and FEMA, FEMA strongly recommends that grantees and subgrantees complete the FCC's required environmental and historic preservation compliance review and include documentation prepared for that process or any clearance obtained from the FCC as part of the request for FEMA funding for the communication tower. Appendix E provides FEMA's procedures for the adoption of other Agency's reviews such as the FCC environmental planning and historic preservation review. FEMA will continue to work with the FCC and resource agencies to seek ways to eliminate the duplication of reviews for this project type and may memorialize these approaches as they are established.

Figure 5-1. FEMA NEPA Process for New Communication Towers



5.2.2.6.2.1. Land Use

Replacement of towers would not have significant impacts on land use because the new and previous land use would be the same.

Construction of a new tower and supporting facilities in a new location may require land use changes at the local level. However, substantial changes to land use are unlikely given the relatively small footprint of this project type (less than 1 acre).

Depending on the extent of changes proposed for the tower and the required construction and demolition activities, a construction permit from local authorities may be required prior to construction. Conditions of the permit normally specify that the proposed facility be constructed and operated in compliance with local zoning ordinances, or that a zoning variance be obtained. The grantee or subgrantee is responsible for obtaining the necessary construction permits.

FEMA is prohibited from providing assistance for new construction activities in CBRS units. FEMA will require the grantee or subgrantee to coordinate with the State Coastal Management Agency to obtain a consistency determination when the propose project occurs within a State's designated coastal zone.

If the proposed project will affect prime and unique farmland, FEMA will complete the required Form AD-1006 and consult with NRCS. If the Form AD-1006 indicates that the proposed project will score more than 160 points, then FEMA will document this finding in either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.2.2. Geology and Soils

Construction of new towers and the replacement of towers in areas that are not characterized by susceptibility to seismic or volcanic activity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes will not result in significant impacts from geology and soils to the project.

New construction activities in areas characterized by susceptibility to seismic or volcanic activity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes will require the use of certain engineering technologies or require consultation with State or Federal agencies before the proposed project may proceed. All structures, such as equipment and storage buildings, in areas of seismic risk that are covered by this PEA must be designed and constructed in accordance with appropriate seismic design and construction standards, which are promulgated through NEHRP.

Replacement towers would not have any impact on soil because soils in the project area have already been compacted under the original tower. However, construction of new towers and supporting facilities may have adverse impacts to soils. Inadequate stabilization of the site may produce uncontrolled erosion that may result in the loss of topsoil, reduction of infiltration capacity, alteration of natural hydrology of the land, increase in flood risks, and adverse impacts to nearby habitat (EPA 2007). Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to geology and soils. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

5.2.2.6.2.3. Water Resources

Replacement towers would not have significant impacts to water resources or water quality. This activity would not increase the amount of impervious surfaces at a given location. However, areas that have been disturbed by the removal of the existing vegetation are much more susceptible to water erosion during major precipitation events and to wind erosion during dry and windy weather conditions. Uncontrolled stormwater pollution, erosion and sedimentation can result in the pollution of waters of the U.S. (EPA 2007).

Construction of new towers and supporting facilities may adversely affect water resources and quality in the project area. Uncontrolled stormwater pollution, erosion and sedimentation can result in the pollution of waters of the U.S. (EPA 2007). Table 5-2 shows the most common water pollutants associated with construction activities.

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects implementing these measures will not result in significant impacts to water resources and water quality. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

FEMA will coordinate with the appropriate agency if any of the construction activities occur in the vicinity of a wild or scenic river. If the project affects a wild or scenic river, then FEMA will engage in a site-specific SEA to appropriately evaluate the potential for significant impacts to this resource.

If construction activities involve the filling of navigable waters of the U.S., FEMA will require the grantee or subgrantee to coordinate with the USACE to obtain the applicable Federal permit. Proposed projects that would require Individual Permit will require close coordination among the grantee or subgrantee, FEMA and USACE. This process may include the development of a site-specific SEA under this PEA or the start of the EIS process.

Construction activities that comply with the required NPDES permits, comply with applicable Nationwide or General permits under Section 404 and Section 10, and do not affect wild or scenic rivers will not result in significant impacts to water resources and water quality.

5.2.2.6.2.4. Floodplains

Public safety interoperable communication towers may be considered critical actions because the risk of flooding that could damage or destroy the tower is too great. Therefore, proposed tower projects require evaluation under the 500-year BFE standard. Under 44 CFR Part 9, FEMA is required to avoid activities in a floodplain unless it is the only practicable alternative. If locating a project in the floodplain is the only practicable alternative, FEMA must minimize the impacts to the floodplain and the impacts from floods to the facility. Minimization techniques apply to the location of structures, equipment and building contents in floodplain areas. This could include elevating facilities or structures above the base flood elevation. Minimization techniques may include floodproofing structures or facilities. In addition, if structures are flood-insurable structures and the upgrade constitutes a substantial improvement, FEMA will require the grantee to comply with the local floodplain ordinance and obtain, if necessary, a local floodplain permit.

FEMA regulations at 44 CFR 9.11(d) prohibit the agency from funding new construction, including replacement, in coastal high hazard areas (CHHA) or in floodways unless they are functionally dependent uses or facilitate open space use. Communication towers are not functionally dependent uses. The regulations also prohibit substantial improvements in the floodway.

If undertaking the project in the 500-year floodplain is the only practicable alternative, then FEMA will document the 8-step decisionmaking process and minimization measures through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.2.5. Wetlands

The replacement of a communication tower at an existing site is not expected to have a significant impact on wetlands because the activities would occur within the previously disturbed area. Construction of new towers and supporting facilities that are not within or affect wetlands will not have significant impacts on wetlands.

Some construction activities related with the placement of new towers and supporting facilities may adversely affect wetlands. Activities outside of wetland areas but near wetlands may result in uncontrolled stormwater pollution, erosion and sedimentation that may adversely affect these nearby wetlands. Minimization measures include avoidance techniques such as establishing wetland buffer zones and complying with the mitigation measures in Section 7.2 would reduce the potential adverse impacts of these activities to nearby wetlands.

Some construction activities related with the placement of new towers and supporting facilities may take place within wetland areas. Under 44 CFR Part 9, FEMA is required to engage in an 8-step decisionmaking process for proposed projects that may have adverse impacts on wetlands, which includes the use of minimization techniques when the project affecting the wetland is the only practicable alternative. Minimization measures include avoidance techniques such as establishing wetland buffer zones to avoid converting or filling wetlands. Compensation measures include such wetland mitigation and wetlands banking. In addition to FEMA's responsibility under 44 CFR Part 9, the grantee or subgrantee must obtain the applicable Federal permit prior to the initiation of the project if it will affect wetlands that are considered waters of the U.S. by the USACE. The grantee or subgrantee must coordinate with USACE to determine whether any of the NWPs or a Regional General Permit apply or whether an Individual Permit is required. Proposed projects that would require Individual Permit will require close coordination among the grantee or subgrantee, FEMA and USACE. This process may include the development of a site-specific SEA under this PEA or the start of the EIS process.

If the project cannot be designed to avoid impacts to the wetland, then FEMA will document the 8-step decisionmaking process and minimization measures through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.2.6. Biological Resources - Vegetation

The replacement of a communication tower at the existing site is not expected to have no or minimal impact on vegetation. The activities are expected to occur within the existing previously disturbed area. However, there may be disturbance or removal of vegetation that has grown up around the base of the existing tower and supporting facilities since their original placement on the site.

The construction of new communication towers and supporting facilities may adversely impact vegetation. The removal of vegetation and the inadequate stabilization of the site after construction may cause severe erosion that could result in the loss of topsoil, reduction of infiltration capacity, alteration of natural hydrology of the land, increase in flood risks, and adverse impacts to nearby habitat. (EPA 2007).

Ground disturbance for the construction of a new tower, associated equipment building, generator and security fencing to enclose these facilities is expected to be less than one (1) acre. However, depending on the location of the proposed project and the need to construct an access road and utility easements, the amount of ground disturbance associated with these supporting activities could increase the potential for impacts to vegetation, particularly in remote or undeveloped areas. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects implementing these measures will not result in significant impacts to vegetation. With the implementation of these mitigation measures and the absence of any special status species, construction of new communication towers are not expected to have a significant adverse impact on local vegetation in the vicinity of a project site. In addition, with the control of invasive exotic plant species as discussed previously, compliance with EO 13112 is also achieved. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement these mitigation measures.

If the project area is determined to be located within or near a sensitive vegetation community, a FEMA will document its impact analysis through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.2.7. Biological Resources - Terrestrial Wildlife

The replacement of a communications tower at the existing site that follow FWS guidelines explained below would have no or minimal impact on terrestrial wildlife. The activities are expected to occur within the previously disturbed area.

The construction of new communication towers and supporting facilities has potential to affect terrestrial wildlife. If an activity involves work in a forest area or special status area such as a wildlife refuge, wetlands, or floodplains, the proposed project may have adverse impacts on wildlife such as displacement or loss of foraging habitat for common small mammals or birds or fragmentation of habitat. These impacts, however, are not likely to be significant due to the small size and scope of a typical communication tower project. The grantee or subgrantee will be required to coordinate with the appropriate Federal, State, Territory, or Tribal agency and obtain any special land use permits or licenses in these areas. Grantees and subgrantees will be required to submit to FEMA any environmental or historic preservation compliance documentation or clearance obtained from that process.

Ground disturbance for the construction of a new tower, associated equipment building, generator and security fencing to enclose these facilities is expected to be less than one (1) acre. However, depending on the location of the proposed project and the need to construct an access road and utility easements, the amount of ground disturbance associated with these supporting activities could increase the potential for impacts to terrestrial wildlife. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to terrestrial wildlife. FEMA will require a site-specific SEA for projects that

would result in more than one (1) acre of ground disturbance or do not implement applicable mitigation measures in Section 7.2.

Migratory Birds

The long-term impacts on migratory birds from communication towers are potentially significant. The FWS Division of Migratory Bird Management has issued interim guidelines for reducing impacts from towers on migratory birds (FWS 2000). The Division also submitted comments to the FCC's Notice of Proposed Rulemaking, "Effects of Communication Towers on Migratory Birds" in February 2007 that update the guidance provided in 2000. These comments are incorporated in Appendix F of this PEA. FEMA is currently coordinating with FWS in the development of an MOU under Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds that would take into account actions involving communication tower constructions, including the programs discussed in this PEA. A Draft MOU can be found in Appendix G. The MOU incorporates the following FWS guidelines for the siting, construction, and operation of communication towers:

1) Co-location of communication equipment on existing towers or other tall structures (e.g. water tower) is preferred over construction of a new tower.
2) Communication towers, where practicable, should be less than 200 feet AGL in height, be of monopole or lattice design, contain no guy wires, and contain no lights, except where required along major highway travel corridors and within 3.8 statute miles of approach and departure airport runways (i.e. towers should be unlighted if Federal Aviation Administration (FAA) regulations allow). This recommendation is the environmentally-preferred industry standard for tower placement, construction, and operation. This includes all new communication towers, the repair or re-construction of outdated or damaged towers, and the upgrade and modification of existing towers.
3) All new towers must be fitted in decreasing order of priority with white strobes, red strobes, or blinking incandescent lighting, and no L-810 side lights should be used.
4) Where tower height and guy wires are a concern regarding impacts to migratory birds, shorter, un-guyed towers should be constructed, even if a larger number of towers are needed to provide equivalent service. In other words, a larger overall footprint is preferable to the use of guy wires.
5) Towers exceeding 199 feet AGL in height, even those that are several hundred feet AGL in height, do not necessarily need to be guyed. However, it is recognized that towers may need to be guyed in areas susceptible to hurricanes, tornadoes, and other types of hazards.

Through the implementation of these guidelines, replacement and construction of new communication towers will comply with the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, the Fish and Wildlife Coordination Act. FEMA programs would be in compliance with E.O. 13186.

For tower projects that fully meet the FWS guidelines, no consultation between FEMA and FWS shall be necessary. For projects that do not meet the FWS guidelines, FEMA will not be able to determine whether the impacts of the specific activity to migratory birds are significant without an appropriate site-specific evaluation and consultation with FWS. If FWS determines that the proposed tower project will not have adverse impacts to migratory birds, FEMA will document

the results in an REC. If, however, FWS determines that the proposed tower project will have adverse impacts to migratory birds and those impacts cannot be adequately mitigated, a site-specific SEA will be required to determine the level of significance of the impacts.

5.2.2.6.2.8. Biological Resources – Aquatic Wildlife

The replacement or new construction of towers and supporting facilities activities in areas that are not located within or affect the 100-year floodplain, wetlands, or coastal areas would not have significant impacts on aquatic life.

Proposed projects within floodplains or affecting floodplains, wetlands, or coastal areas may have adverse impacts to aquatic wildlife and/or their habitat. Conversion of floodplain or wetlands to other uses would reduce important habitat that is critical for aquatic species. (NMFS 2008). FEMA will avoid taking actions within or affecting floodplains or wetlands. If locating the project within the floodplain or wetland is the only practicable alternative, FEMA will document the 8-step decisionmaking process and minimization measures through a site-specific SEA.

Coastal projects that would result in new beachfront lighting near nesting grounds for sea turtles may adversely affect these resources. Beachfront lighting can disorient sea turtle hatchlings. Hatchlings find their way to the sea by differentiating between dark and bright areas and overhead artificial lights disrupts this ability (Salmon 2003). For proposed coastal projects that would result in new lighting, FEMA will require grantees and subgrantees to coordinate with the State natural resources or coastal resources agency to determine if the coastal project is likely to affect sea turtle nesting patterns and, if it is, to design the project in a manner to reduce these impacts. If the project cannot be redesigned to reduce these impacts, then FEMA will document its impact analysis through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.2.9. Biological Resources - Listed Species, Critical Habitat and Special Status Species

In general, the replacement of a communication tower at the existing site is expected to have minimal or no impact on listed species, critical habitat or special status species. These activities are expected to occur within the previously disturbed area. However, there may be situations where a special status species individual is using the existing tower or is nesting nearby. FEMA will require grantees and subgrantees to identify if a special status species is nearby and, when it is nearby, will encourage grantees and subgrantees to design their projects following existing guidelines for the protection of such species. In addition, FEMA will consult with FWS and/or appropriate State, Tribe, or local government agency before the project is approved to discuss measures needed to avoid impacts to these individuals. Proposed projects that incorporate measures to avoid impacts to these special status individuals would not have significant impact on these resources.

Construction of new towers and supporting facilities has the potential to affect listed species, critical habitat or special status species. Ground disturbance for the construction of a new tower, associated equipment building, generator and security fencing to enclose these facilities is expected to be less than one (1) acre. However, depending on the location and design of the proposed project and the need to construct an access road and/or utility easements, the amount of ground disturbance associated with these supporting activities could increase the potential for

impacts to listed species, critical habitat or special status species. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2.

FEMA will consult with FWS or NMFS under Section 7 of ESA. If consultation under Section 7 results in a No Effect or Not Likely to Adversely Affect (NLAA) determination, then the activity would not have significant impacts on these resources and no additional NEPA review would be required. If the consultation results in the initiation of formal consultation, then FEMA will enter into the formal ESA Section 7 consultation and document the results in a site-specific SEA.

5.2.2.6.2.10. Human Health and Safety

Replacement or construction of new communication towers and supporting facilities are expected to have a beneficial impact on human health and safety throughout the US and its territories. These activities will improve readiness and response to natural and man-made disasters and will allow a faster and more complete transfer and sharing of information between agencies and first responders at all levels of government and communities.

The replacement or construction of new communication towers may involve the use, handling, storage, and disposal of hazardous substances such as fuel storage tanks and flammable liquids. Waste fuel and/or oil associated with the operation of the emergency generator at tower sites must be disposed of according to Federal and State regulations. Additionally, the above-ground fuel storage tanks for the emergency generators would be located within berms to limit runoff and infiltration should a spill or leak occur. FEMA will require grantees and subgrantees to locate containers with a capacity to store more than 100 gallons of hazardous substances of an explosive or fire prone nature at an acceptable separation distance from facilities or structures where people can congregate such as schools or hospitals. Grantees and subgrantees may use the HUD's guidance "Siting of HUD-Assisted Projects near Hazardous Facilities (HUD -1060-CPD, Sept. 1996)", incorporated in this PEA by reference. FEMA will require grantees and subgrantees to prepare, implement, and regularly update spill prevention and control plan when needed. The use, handling, storage and disposal will be disposed of according to Federal, State or Territory, and local regulations. No significant impacts are expected from these activities.

5.2.2.6.2.11. Minority and Low-Income Populations

Impacts related to replacement projects are similar to those discussed for existing tower sites because the structure being replaced already exists in the environment. Potential impacts are those associated with ground disturbance (e.g. localized air quality, stormwater pollution), traffic, and noise. However, these impacts would affect all populations and would not be disproportionally directed to minority or low-income populations. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2 which include practices to control these impacts.

There is a potential for new communication towers to be disproportionately located near minority or low-income populations. Grantees and subgrantees are responsible for adequate planning of these activities to avoid this result. Grantees and subgrantees are also responsible for engaging in adequate community outreach before the project is proposed to FEMA. For these projects FEMA will require evidence from grantees and subgrantees of their community outreach efforts.

With appropriate planning, community outreach, and implementation of the mitigation measures, these proposed projects are not anticipated to have a significant impact on minority or low-income populations. If FEMA finds disproportionate high and adverse impacts to minority and/or low-income populations, then a site-specific SEA will be required.

5.2.2.6.2.12. Historic Properties - Archeology

The replacement or construction of new communication towers will not have an adverse effect on archeological resources if the projects are located on sites that have low probability for the presence of archeological deposits or that have been previously surveyed and found not to have archeological deposits.

The replacement of communication towers in sites that have moderate to high probability for the presence of archeological deposits may have adverse effects on these resources. The presence of modern structures or facilities does not mean that no archaeological resources exist or that they have already been destroyed. While existing structures may have disturbed potential archaeological deposits at the time of construction, intact resources may have been left undisturbed. In addition, any landscaping or other activities that disturb the ground could affect potential archaeological deposits. Geographical location and physical characteristics of the site dictate whether an undertaking will affect archaeological resources. If such activities are anticipated, then Section 106 consultation is necessary to determine whether potential archaeological resources exist and whether they would be adversely affected. If the project will have an adverse effect, FEMA must develop ways to avoid, minimize, or mitigate adverse effects to the archaeological resources in consultation with the SHPO or THPO and other interested parties.

The construction of new communication towers and supporting facilities on sites that have moderate to high probability for the presence of archeological deposits may have adverse effects on these resources. Geographical location and physical characteristics of the site dictate whether an undertaking will affect archaeological resources.

The Program Comment issued by the ACHP on November 3rd, 2009 establishes that FEMA would not need to comply with the Section 106 process for those tower-related projects that have undergone or will undergo Section 106, or that are exempt from Section 106, by the FCC Nationwide PA and Collocation PA. FEMA will coordinate with the FCC on the implementation of this Program Comment and FEMA's and its applicants role for tower-related projects covered by the Program Comment.

FEMA will engage in the Section 106 consultation process for projects not covered by the Program Comment to determine whether historic properties would be adversely affected and to resolve those adverse effects. FEMA will consult with the SHPO/THPO, tribes and other sources to determine if the proposed project has the potential to adversely affect historic properties. If the proposed project does not have the potential to adversely affect historic properties, then there is no adverse effect to this resource and no further NEPA review would be required. FEMA will document this process through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential adverse effects.

5.2.2.6.2.13. Historic Properties - Other Historic Properties

The replacement or construction of new communication towers that do not affect historic properties will not have significant impacts on these resources. Locating new towers in areas

where historic properties are not likely present helps reduce or avoid adverse impacts to historic properties. Examples include industrial parks or commercial strip malls and transportation right-of-way corridors that are not within boundaries of historic districts. The construction of a new tower outside the limits of an historic district or designated historic landscape and with no or limited visibility from historic properties will not likely have an adverse effect on historic properties.

Some proposed projects involving the replacement or construction of new towers and supporting facilities may have adverse effects to historic properties. The replacement of a communication tower with a tower that is substantially increased in height, footprint, or of different type (i.e. lattice vs. guy wire) may result in adverse affects of historic properties within the identified historic property's APE. Conversely, the construction of new towers within historic districts or designated historic landscapes or within the viewshed of historic properties is likely to introduce characteristics that diminish the historic integrity of these properties and, therefore, have adverse effects on historic properties. Activities to be considered in the undertaking include any construction and/or demolition activities associated with the project and/or activities that may not be eligible under the GPD programs but are connected to the tower construction such as the construction of access roads, installation of utilities, and removal of vegetation among others.

Avoidance of adverse effects can be achieved by siting towers in less historically sensitive areas or co-locating equipment on existing structures to avoid construction of a new tower. For new communication towers constructed within an historic district or within the viewshed of historic properties, examples of measures to minimize the impacts could include using a design and color so that the tower blends into the surrounding area and placing landscape buffers.

The Program Comment issued by the ACHP on November 3rd, 2009 establishes that FEMA would not need to comply with the Section 106 process for those tower-related projects that have undergone or will undergo Section 106, or that are exempt from Section 106, by the FCC Nationwide PA and Collocation PA. FEMA will coordinate with the FCC on the implementation of this Program Comment and FEMA's and its applicants role for tower-related projects covered by the Program Comment.

FEMA will engage in the Section 106 consultation process for projects not covered by the Program Comment to determine whether historic properties would be adversely affected and to resolve those adverse effects. FEMA will consult with the SHPO/THPO, tribes and other sources to determine if the proposed project has the potential to adversely affect historic properties. If the proposed project does not have the potential to adversely affect historic properties, then there is no adverse effect to this resource and no further NEPA review would be required. FEMA will document this process through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential adverse effects.

5.2.2.6.2.14. Infrastructure

Traffic impacts associated with replacement or construction of new communication towers and supporting facilities are limited to the construction phase. Except for routine maintenance and inspection visits, tower sites are unmanned. Once construction activities have been completed, traffic levels and flow return to original levels. Grantees and subgrantees are responsible for coordinating with the appropriate local agency to ensure adequate measures are implemented during construction, including warning signage, limitation of public right-of-ways for staging,

use of flagpersons, lane closures, and detours. Impacts of these activities on traffic would not be significant.

No significant adverse effect would occur on utilities or the collection and disposal of solid waste as a result of these types of projects. These projects would enhance communications networks, providing a beneficial impact to communities during emergency events.

5.2.2.6.2.15. Air Quality

Impacts to air quality for replacement or construction of new communication towers and supporting facilities are similar to those described for modification/upgrades to existing towers. Construction-related activities that could result in an adverse impact on air quality are generally associated with short-term emissions, principally from site clearing activities and the use of construction equipment and related vehicles. The construction activities are not likely to result in a violation of the GCR or cause PSD deterioration. Operation of the new facilities would not have significant impact on the local or regional air quality. In general, operation of new or replaced facilities would not result in a new major source and would not likely result in a violation of the GCR or cause PSD deterioration.

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to air quality. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

5.2.2.6.2.16. Noise

Noise impacts associated with the replacement or construction of new communication towers and supporting facilities are similar to those described for upgrades to existing towers, although impacts from construction equipment may be greater in magnitude and duration. Impacts would be limited to the construction period and would not be significant.

FEMA will require grantees and subgrantees to follow, the general mitigation measures for ground disturbance activities in Section 7.2, which includes operation during business hours (Monday thru Friday from 7am to 5pm) and the use equipment using the manufacturer's standard noise control devices (i.e. mufflers, baffling, and/or engine enclosures). In addition, grantees and subgrantees will be required to comply with any State, Tribal or local noise control requirements. With these measures, proposed projects would not result in significant noise impacts.

FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.2.17. Visual Quality

The replacement of an existing tower of similar height and design would not have long-term impacts on visual quality, as a tower previously existed on the landscape. However, construction activities would result in minor, short-term impacts to visual quality.

The visual impacts of a new tower, access road, power lines, and supporting equipment and buildings may be more noticeable in a rural or remote area where man-made features sharply contrast with the natural setting. These impacts are typically less noticeable in an urban area where other towers, high-rise buildings, etc. are present.

Communication towers constructed in rural, remote, roadless areas, near natural landscapes, or Class I areas have the greatest potential for impacts to visual quality. To minimize impacts, the following mitigation measures would be implemented when appropriate:

- Selecting tower sites from areas already served by a road
- Consolidating communication facilities when possible (e.g. "tower farm")
- Selecting new site locations where the features of the communication tower site are consistent with the topography of the area
- Minimizing the footprint of the affected area
- Painting concrete foundations with an earth-tone paint to reduce contrast
- Painting communication towers to make them less visible and distinct from the surrounding features
- Restoring and landscaping disturbed areas after construction activities have been completed
- Take into account other measures to buffer visual effects and alterations to natural landscapes

In addition FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. These measures will reduce the particulate matter emissions of ground disturbance actions. Proposed projects implementing these measures will not result in significant impacts to visual quality. If these measures are not followed, then FEMA will document its impacts analysis through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.6.2.18. Climate Change

The replacement of existing towers would have no effect on climate change, because the land use and function of the facility would remain the same.

The construction of new communication towers would not have a significant impact on climate change. Increased emissions from construction activities would be of short duration and a limited scale. While land use would be altered at the site and there would be an increase in energy usage to provide power to the tower, the scale at which these changes would occur would not be significant.

5.2.2.7 Modification of Existing Structures and Facilities

Modification, including renovation, retrofits and expansions, of existing structures and facilities are covered by FEMA CATEX (xvi) and (xvii). As explained below, this project type may have the potential to impact the quality of the human environment based on the site-specific conditions and resources present. FEMA will conduct a site-specific evaluation and document the applicability of the CATEX, including presence of extraordinary circumstances, and applicability of other environmental planning and historic preservation requirements through a

REC. For projects having extraordinary circumstances that cannot be resolved, a site-specific SEA will be required.

5.2.2.7.1.1. Land Use

Proposed modification of existing structures and facilities would not have significant impacts on land use. Some activities under this project type involving structural changes to the existing facility may require a construction permit from local authorities prior to construction. Conditions of the permit normally specify that the proposed facility be constructed and operated in compliance with local zoning ordinances, or that a zoning variance be obtained. The grantee or subgrantee is responsible for obtaining the necessary construction permits.

5.2.2.7.1.2. Geology and Soils

Proposed modification of existing structures and facilities in areas that are not characterized by susceptibility to seismic or volcanic activity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes will not result in significant impacts from geology and soils to the project.

Some proposed modifications for structures or facilities located in areas characterized by susceptibility to seismic or volcanic acitivity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes may be adversely affected by these hazard conditions. However, the impacts would not be significant given the type of activities under this project type (e.g. installing blast-proof doors and/or windows, security lighting and fencing, CCTVs, and other similar physical security enhancements). Expansion of existing facilities is also included in this project type. As these proposed projects do not involve construction of new buildings, EO 12699 does not apply.

Some proposed projects could involve more extensive renovation activities, including the removal and/or construction of walls, installation of bollards, or installation of tire puncture treadles. All such activities must be completed in accordance with building codes of the local area, including seismic requirements, as appropriate. Thus, the intent of EO 12699 is satisfied.

Areas that have been disturbed by the removal of the existing vegetation are much more susceptible to water erosion during major precipitation events and to wind erosion during dry and windy weather conditions. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2 which include practices to reduce soil erosion. Proposed projects implementing these measures will not have significant impacts on geology and soils. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

5.2.2.7.1.3. Water Resources

Proposed projects that would involve modification of the interior of existing structures and facilities would have no significant impact on water resources. These activities are expected to occur within the existing previously disturbed area with minimal or no ground disturbance. Therefore, there is no substantial increase in runoff from the site. Additionally, these types of activities do not result in a substantial increase in groundwater or surface water usage within the project area.

Activities involving the expansion of facilities beyond previously disturbed areas or construction may adversely affect water resources and quality in the project area. Uncontrolled stormwater pollution, erosion and sedimentation can result in the pollution of waters of the U.S. (EPA 2007). Table 5-2 shows the most common water pollutants associated with construction activities.

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to water resources and water quality. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

Activities associated with buildings and structures located waterside have the potential to directly impact aquatic resources, through erosion and runoff and pollutants. Proposed activities involving docks, piers, boathouses, and other facilities or structures dependent on water would be carried out in a manner that minimizes the potential for any hazardous materials (e.g., oil or gasoline) to enter the water, emphasizing BMPs for the handling, use, storage, and disposal of hazardous substances. Grantees or subgrantees are responsible for complying with required and applicable permits for these actions including the drafting of a spill prevention and contingency plan when required. Therefore, these activities do not have a significant impact on water resources.

Construction activities located in or near a water body may require a RHA Section 10 or a CWA Section 404 permit from the USACE. The permits would identify measures that must be implemented to minimize erosion and runoff, such as the use of silt fencing, rip-rap, and other erosion-prevention methods. The grantee or subgrantee is responsible for acquiring all necessary permits and complying with all mitigation measures identified to ensure no significant impacts.

5.2.2.7.1.4. Floodplains

Proposed modification of existing structures and facilities that are not located within the 100-year floodplain (500-year floodplain for critical actions) would not have significant impacts on floodplains.

Proposed modification of existing structures and facilities that are located in the floodplain would not have impacts on floodplains but may be affected by the floodplain. Impacts to the floodplain are not expected because these activities would occur within the existing previously disturbed area and minimal ground disturbance. However, any components added to existing facilities located in the floodplain may be exposed to flood hazards.

Under 44 CFR Part 9, FEMA is required to avoid activities in a floodplain unless it is the only practicable alternative. If locating a project in the floodplain is the only practicable alternative, FEMA must minimize the impacts to the floodplain and the impacts from floods to the facility. Minimization techniques apply to the location of structures, equipment and building contents in floodplain areas. This could include elevating facilities or structures above the base flood elevation. Minimization techniques may include floodproofing structures or facilities. Some of these facilities may be considered critical actions under this analysis because the risk of flooding might be too great. In such cases, the base flood elevation or standard for floodproofing is the 500-year flood event. In addition, if structures are flood-insurable structures and the upgrade

constitutes a substantial improvement, FEMA may require the grantee to comply with the local floodplain ordinance and obtain, if necessary, a local floodplain permit.

FEMA regulations at 44 CFR 9.11(d) prohibit the agency from funding new construction, including replacement, in coastal high hazard areas (CHHA) or in floodways unless they are functionally dependent uses or facilitate open space use. Boat houses, docks, piers are examples of functionally dependent uses. They also prohibit substantial improvements in the floodway.

If undertaking the proposed project in the floodplain is the only practicable alternative, then FEMA will document the 8-step decisionmaking process and minimization measures through a REC or site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.7.1.5. Wetlands

Modification of existing structures and facilities would not typically involve the installation or construction of any new fixed structures or buildings within a wetland, and therefore would have no significant effect on wetlands and comply with EO 11990 and Section 404 of the CWA.

Activities outside of wetland areas but near wetlands may result in uncontrolled stormwater pollution, erosion and sedimentation that may adversely affect these nearby wetlands. Minimization measures include avoidance techniques such as establishing wetland buffer zones and obtaining and complying with NPDES permits and SWPPP measures would reduce the potential adverse effects of these activities to nearby wetlands.

Enlargement of a facility or construction within wetland areas would affect wetlands. Under 44 CFR Part 9, FEMA is required to engage in an 8-step decisionmaking process for projects that may have adverse impacts on wetlands, which includes the use of minimization techniques when the project affecting the wetland is the only practicable alternative. Minimization measures include avoidance techniques such as establishing wetland buffer zones to avoid converting or filling wetlands. Compensation measures include such wetland mitigation and wetlands banking. In addition to FEMA's responsibility under 44 CFR Part 9, the grantee or subgrantee must obtain the applicable CWA Section 404 permit prior to the initiation of the project if it will affect wetlands that are considered waters of the U.S. by the USACE. The grantee or subgrantee must coordinate with USACE to determine whether any of the NWPs or a Regional General Permit apply or whether an Individual Permit is required. Proposed projects that require an Individual Permit will require close coordination between the grantee or subgrantee, FEMA and USACE. This process may include the development of a site-specific SEA or the start of the EIS process.

If the proposed project cannot be designed to avoid impacts to the wetland, then FEMA will document the 8-step decisionmaking process and minimization measures through REC or site-specific SEA, depending on the nature and magnitude of the potential impacts..

5.2.2.7.1.6. Biological Resources-Vegetation

Proposed projects that would involve modifications to the interior of existing structures or facilities would not have significant impacts on vegetation.

Enlargement of a facility or construction activities beyond previously disturbed areas may adversely impact vegetation. The removal of vegetation and the inadequate stabilization of the site after construction may cause severe erosion that could result in the loss of topsoil, reduction of infiltration capacity, alteration of natural hydrology of the land, increase in flood risks, and adverse impacts to nearby habitat. (EPA 2007).

Ground disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that are less than one (1) acre and for which these measure are implemented will not result in significant impacts to vegetation. With the implementation of these mitigation measures and the absence of any special status species, modifications to existing structures or facilities will not have a significant adverse impact on local vegetation in the vicinity of a project site. In addition, with the control of invasive exotic plant species as discussed previously, compliance with EO 13112 is also achieved. FEMA will require a site-specific SEA or stand-alone EA for those projects under this project type that warrant more than one (1) acre of ground disturbance or that would not implement applicable mitigation measures in Section 7.2.

If the project area is determined to contain or be located near a sensitive vegetation community, then FEMA will document its impacts analysis through a REC or site-specific SEA, depending on the nature and magnitude of the potential impacts. .

5.2.2.7.1.7. Biological Resources -Terrestrial Wildlife

Proposed modification of existing structures and facilities would not have significant impacts on terrestrial wildlife.

The construction phase of outdoor activities under this project type may have the potential to disturb terrestrial wildlife and their habitat, but most impacts are not expected to be significant or long-term. The incremental loss of habitat from an expansion project would not be significant, as expansion is not expected to significantly alter the building footprint. Operational impacts include long-term loss of habitat and direct impacts on terrestrial wildlife species which may alter feeding, mating, or foraging behaviors, construction-related noise and other disturbance can affect wildlife population usage in areas surrounding the project site. This is especially true during sensitive periods of the species life cycle.

5.2.2.7.1.8. Biological Resources - Aquatic Wildlife

Proposed modification of existing structures and facilities that are not located within or do not affect the 100-year floodplain, wetlands or coastal areas would not have significant impacts on aquatic life.

Proposed projects within floodplains or affecting floodplains, wetlands or coastal areas may have adverse impacts to aquatic wildlife and/or their habitat. FEMA would avoid taking actions within or affecting floodplains or wetlands. If undertaking the proposed project within the floodplain or wetland is the only practicable alternative, FEMA will document the 8-step decisionmaking process and minimization measures through a site-specific SEA.

Propose coastal projects that would result in new beachfront lighting near nesting grounds for sea turtles may adversely affect these resources. Beachfront lighting can disorient sea turtle hatchlings. Hatchlings find their way to the sea by differentiating between dark and bright areas and overhead artificial lights disrupts this ability (Salmon 2003). For coastal projects that would result in new lighting, FEMA will require grantees and subgrantees to coordinate with the State natural resources or coastal resources agency to determine if the coastal project is likely to affect sea turtle nesting patterns and, if it is, to design the project in a manner to reduce these impacts. If the proposed project cannot be redesigned to reduce these impacts, then FEMA will document

the impacts analysis with a REC or site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.7.1.9. Biological Resources - Listed Species, Critical Habitat and Special Status Species

Proposed projects that would involve modification of the interior of existing structures and facilities would not have significant impacts on listed species, critical habitat, or special status species. Enlargement of a facility or construction activities beyond previously disturbed areas in areas that do not have presence or likelihood of listed species, critical habitat or special status species would not have significant impacts on these resources.

Enlargement of a facility or construction activities beyond previously disturbed areas in areas where listed species, critical habitat or special status species are present may adversely affect these resources. Activities that have the potential to adversely affect threatened and endangered species would include the installation of security fencing, in-ground vehicle barriers, small building additions, noise from construction activities, and lighting. These activities may result in the displacement or fragmentation of species habitat, disorientation of species due to lighting, and abandonment of nests due to noise disruptions.

Land disturbance associated with this activity is expected to be less than one (1) acre and FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. However, FEMA will not be able to determine whether the impacts of the specific activity to the listed species, critical habitat or special status species are significant without an appropriate site-specific evaluation and consultation with FWS or NMFS. If consultation results in a No Effect or Not Likely to Adversely Affect (NLAA) determination, then the activity would not have significant impacts on these resources and no additional NEPA review would be required. If the consultation results in the initiation of formal consultation, then FEMA will enter into the formal ESA Section 7 consultation and document the results in a site-specific SEA.

There may be situations where a special status species individual is living near the site of a proposed project. FEMA will require grantees and subgrantees to identify if a special status species is nearby and, when it is nearby, will encourage grantees and subgrantees to design their projects following existing guidelines for the protection of such species. In addition, FEMA will consult with FWS and/or appropriate State, Tribe, or local government agency before the project is approved to discuss measures needed to avoid impacts to these individuals. Projects that incorporate measures to avoid impacts to these special status individuals would not have significant impact on these resources. If the proposed project cannot be designed to avoid impacts to these special status individuals, then FEMA will document its impacts analysis through REC or site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.7.1.10. Human Health and Safety

These types of projects are expected to have a beneficial impact on human health and safety throughout the U.S. and its territories. Modifications of existing structures and facilities such as security guard buildings, EOCs, stadiums, etc. reduces the risk of attacks and assists agencies and communities in their response should an attack or national disaster occur. Updated equipment, especially first responder medical and firefighting equipment, allows responding

agencies to ensure better care for victims and better protection for themselves. Updated security provides greater protection to personnel working in these facilities, helping to minimize loss of life and facilitating continued performance of personnel duties during an emergency event.

The grantee or subgrantee is responsible for checking and complying with the EPCRA and CFATS regulations. Waste fuel and/or oil associated with the new facilities must be disposed of according to Federal and State regulations. Additionally, the above-ground fuel storage tanks for the emergency generators would be located within berms to limit runoff and infiltration should a spill or leak occur. FEMA will require grantees and subgrantees to locate containers with a capacity to store more than 100 gallons of hazardous substances of an explosive or fire prone nature at an acceptable separation distance from facilities or structures where people can congregate such as schools or hospitals. Grantees and subgrantees may use the HUD's guidance "Siting of HUD-Assisted Projects near Hazardous Facilities (HUD -1060-CPD, Sept. 1996), incorporated in this PEA by reference. The grantee or subgrantee will be responsible for meeting the "all appropriate inquiries" rule in 40 C.F.R. 312.10 before acquiring a new property. FEMA will require grantees and subgrantees to prepare, implement, and regularly update spill prevention and control plan when needed. The use, handling, storage and disposal will be disposed of according to Federal, State or Territory, and local regulations. Therefore, no significant long-term impacts associated with hazardous waste/materials are anticipated from the renovation, retrofitting, or operation of these facilities.

5.2.2.7.1.11. Minority and Low Income Populations

Proposed projects that would involve modification of the interior of existing structures and facilities are not likely to have disproportionate high and adverse impacts on minority or low-income populations.

The impacts on minority or low-income populations for proposed projects that involve the enlargement of a facility or construction activities beyond previously disturbed areas would be those associated with ground disturbance (e.g. localized air quality, stormwater pollution), traffic, and noise. However, these impacts would affect all populations and would not be disproportionally directed to minority or low-income populations. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2 which include practices to control these impacts. Proposed projects implementing these measures would minimize impacts to all populations and would not result in disproportionate high and adverse environmental or health effects on minority or low-income populations.

5.2.2.7.1.12. Historic Properties - Archeology

Proposed modification of existing structures and facilities would have no effect on archeological resources because there would be no ground disturbing activities.

Expansion and other external construction-related activities, such as trenching, in sites that have low probability for the presence of archeological deposits or that have been previously surveyed and found not to have archeological deposits would not have significant impacts on these resources.

Expansion and other external construction-related activities in sites, such as trenching, that have moderate to high probability for the presence of archeological deposits may have adverse effects on these resources. The presence of modern structures or facilities does not mean that no

archaeological resources exist or that they have been destroyed. While existing structures may have disturbed potential archaeological deposits at the time of construction, intact resources may have been left undisturbed. In addition, existing historic structures may also have archaeological components and any landscaping or other activities that disturb the ground could affect potential archaeological deposits. Geographical location and physical characteristics of the site dictate whether a proposed project will affect archaeological resources. If such activities are anticipated, then Section 106 consultation is necessary to determine whether potential archaeological resources exist and whether they would be adversely affected by the proposed project. If the proposed project will have an adverse effect, FEMA must develop ways to avoid, minimize, or mitigate adverse effects to the archaeological resources in consultation with the SHPO or THPO and other interested parties.

FEMA will consult with the SHPO/THPO, tribes and other sources to determine the probability for the presence of archeological resources. If the proposed project does not have the potential to adversely affect archaeological resources, then there is no significant impact to this resource and no further NEPA review would be required. If the proposed project has the potential to adversely affect these resources, FEMA will engage in the Section 106 process and document this process and the resolution of adverse effects with a REC or site-specific SEA, depending on the nature and magnitude of the potential impacts. .

5.2.2.7.1.13. Historic Properties - Other Historic Properties

Proposed modification of existing structures and facilities that are not considered historic properties would not have significant impacts on these resources.

Proposed modification of existing structures and facilities that are considered historic properties or exterior work on structures and facilities in the APE of an historic property may have adverse effects on these resources. The critical infrastructure or key resources that are the subject of GPD-funded projects may be objects, structures, building, sites, or districts that are included in or eligible for inclusion in the NRHP. A number of these historic properties may also be NHLs.

Activities under this project type that could have adverse effects on historic properties include demolition, modification of historic buildings and structures, ground disturbance, and activities with in the APE of an identified historic property. Types of adverse effects may include the loss of the historic property, abandonment of the historic property, alteration of historic-defining features or components, and viewshed impacts.

FEMA will consult with the SHPO/THPO, tribes and other sources to determine if the proposed project has the potential to adversely affect historic properties. If the proposed project does not have the potential to adversely affect historic properties, then there is no significant impact to this resource and no further NEPA review would be required. If the proposed project has the potential to adversely affect these resources, FEMA will engage in the Section 106 process and document this process and the resolution of adverse effects through a REC or site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.7.1.14. Infrastructure

Proposed modification of existing structures and facilities would not have significant adverse impacts to infrastructure. These activities would use existing infrastructure or would require minimum infrastructure development. Expansion of facilities could result in long-term changes in traffic flow in the area near the project site due to the ingress and egress of workers.

However, these changes are not considered a significant impact as roadway construction and traffic flow patterns are completed according to Federal Highway Administration (FHWA) and State Department of Transportation (DOT) protocols. Construction may lead to a temporary increase in solid waste generation, but this increase would be short-term and would not be expected to be significant.

5.2.2.7.1.15. Air Quality

Proposed modification of existing structures and facilities would not have significant adverse impacts on air quality. Expansion and construction-related actions, such as trenching and removal of vegetation, that could result in an adverse impact on air quality are generally associated with short-term emissions, principally from site clearing activities and the use of construction equipment and related vehicles. FEMA does not expect that the construction nor demolition activities would result in a violation of the GCR or cause PSD deterioration.

Land disturbance associated with this activity is expected to be less than one (1) acre. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to air quality. FEMA will require a site-specific SEA for those projects under this project type that are more than one (1) acre or that would not implement applicable mitigation measures in Section 7.2.

Older structures often contain lead-based paint or asbestos containing materials. Any activities associated with the demolition of facilities must be done in accordance with Federal and State laws and regulations regarding the handling and disposal of hazardous materials, such as lead-based paint and asbestos containing materials.

5.2.2.7.1.16. Noise

Proposed modification of existing structures and facilities will not have significant adverse impacts on noise. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2, which includes equipment operation during business hours (Monday through Friday from 7am to 5pm) and using equipment with the manufacturer's standard noise control devices (e.g. mufflers, baffling, engine enclosures). In addition, grantees and subgrantees will be required to comply with any State, Territory, Tribal, or local noise control requirements. With these measures the activity would not result in significant noise impacts.

FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.7.1.17. Visual Quality

Proposed modification of existing structures and facilities will not have significant adverse aesthetic impacts. Any impacts that do occur would be limited to the immediate vicinity of the project. Short-term impacts would be expected due to the presence of heavy equipment, the presence of debris and construction materials, and the disruption of the site during construction. However, FEMA will require grantees and subgrantees to implement the general mitigation

measures for ground disturbance activities in Section 7.2 and conduct site cleanup and restoration following the completion of construction, which would limit these impacts.

5.2.2.7.1.18. Climate Change

Proposed modification of existing structures and facilities would have no significant impacts to climate change. Increased emissions from construction activities would be of a short duration and small scale. These project types would not result in changes in land use or significant increases, if any, in energy requirements and fossil fuel-burning activities.

5.2.2.8 New Construction

Currently FEMA does not have a CATEX that covers new construction. As described in Section 3.2.2.8, the activities covered under this project type are new construction projects, including replacement of facilities, of up to five (5) acres in previously undisturbed, disturbed, or developed sites. Examples of new construction include security guard buildings, EOCs, and fire stations. FEMA will conduct site-specific evaluation and document the applicability of this PEA and the applicability of other environmental planning and historic preservation requirements to the proposed project through a REC. A site-specific SEA will be required for proposed projects with impacts that are not adequately addressed in this PEA.

5.2.2.8.1. New construction, including replacement, on previously developed or disturbed sites

5.2.2.8.1.1. Land Use

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not result in land use changes and would not have significant impacts on land use. The grantee or subgrantee will be required to obtain all necessary permits, including applicable construction permits, before initiating work. Construction permits may include requirements for the construction and operation of the facility to be in compliance with local zoning ordinances or in compliance with any zoning variance granted. Any changes in zoning must be coordinated at the local government level before work begins and may require site-specific evaluation.

FEMA is prohibited from providing assistance for new construction activities, including replacements, in CBRS units. FEMA will require the grantee or subgrantee to coordinate with the State Coastal Management Agency to obtain a consistency determination when the proposed project occurs within a State's designated coastal zone. New construction in previously developed areas or replacements of facilities are exempt from the FPPA requirements.

5.2.2.8.1.2. Geology and Soils

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas that are not in areas characterized by susceptibility to seismic or volcanic activity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes would not result in significant impacts from geology and soils to the project.

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed sites in areas characterized by the hazards described above will require the use of certain engineering technologies or require consultation with State or Federal agencies before the project may proceed. All structures in areas of seismic risk that are covered by this PEA must be designed and constructed in accordance with appropriate seismic design and construction standards, which are promulgated through NEHRP. Therefore, the constructed buildings will represent a low seismic hazard to people and equipment housed in the building during a seismic event.

Land disturbance associated with this activity is expected to be less than five (5) acres. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects implementing these measures will not have significant impacts on geology and soils. FEMA will require a site-specific SEA for those projects that would result in more than five (5) acres of ground disturbance or that do not implement applicable mitigation measures in Section 7.2.

5.2.2.8.1.3. Water Resources

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas are not expected to have significant impacts to water resources or water quality. This activity would not increase the amount of impervious surfaces at a given location. However, areas that have been disturbed by the removal of the existing vegetation are much more susceptible to water erosion during major precipitation events and to wind erosion during dry and windy weather conditions. Uncontrolled stormwater pollution, erosion and sedimentation can result in the pollution of waters of the US (EPA 2007).

Land disturbance associated with this activity is expected to be less than five (5) acres. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Grantees and subgrantees are responsible for securing any applicable NPDES permits and meeting permit conditions, which may include developing a SWPPP for the construction activity. Proposed projects that obtain and comply with the required NPDES permits and SWPPP will not result in significant impacts to water resources or water quality. FEMA will require site-specific SEAs for projects that would result in more than five (5) acres of ground disturbance or that do not implement applicable mitigation measures in Section 7.2.

5.2.2.8.1.4. Floodplains

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas that are not located within the 100-year floodplain (500-year floodplain for critical actions) would not have significant impacts on floodplains.

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have impacts on floodplains but may be affected by the floodplain. Impacts to the floodplain are not expected because these activities would occur within the existing previously disturbed area. However, any new facilities located in the floodplain may be exposed to flood hazards.

Under 44 CFR Part 9, FEMA is required to avoid activities in a floodplain unless it is the only practicable alternative. If undertaking a proposed project in the floodplain is the only practicable alternative, then FEMA must minimize the impacts to the floodplain and the impacts from floods

to the facility. Minimization techniques apply to the location of structures, equipment and building contents in floodplain areas. This could include elevating facilities or structures above the base flood elevation. Minimization techniques may include floodproofing structures or facilities. Some of these facilities may be considered critical actions under this analysis because the risk of flooding might be too great. In such cases, the base flood elevation or standard for floodproofing is the 500-year flood event. In addition, if structures are flood-insurable structures and the upgrade constitutes a substantial improvement, FEMA will require the grantee to comply with the local floodplain ordinance and obtain, if necessary, a local floodplain permit.

FEMA regulations at 44 CFR 9.11(d) prohibit the agency from funding new construction, including replacement, in coastal high hazard areas (CHHA) or in floodways unless they are functionally dependent uses or facilitate open space use. They also prohibit substantial improvements in the floodway.

If undertaking the proposed project in the floodplain is the only practicable alternative, FEMA will document the 8-step decisionmaking process and minimization measures through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.1.5. Wetlands

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant impacts on wetlands. However, areas that have been disturbed by the removal of the existing vegetation are much more susceptible to water erosion during major precipitation events and to wind erosion during dry and windy weather conditions. Both types of erosion can cause adverse impacts on wetlands located down gradient or down wind. Grantees and subgrantees are responsible for securing any applicable NPDES permits and meeting permit conditions, which may include developing a SWPPP for the construction activity. The SWPPP would include practices to control soil erosion, sedimentation and water pollution that may affect wetlands. Projects that obtain and comply with the required NPDES permits and SWPPP will not result in significant impacts to wetlands.

5.2.2.8.1.6. Biological Resources - Vegetation

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant impacts on vegetation. Areas that have been disturbed by the removal of the existing vegetation are much more susceptible to water erosion during major precipitation events and to wind erosion during dry and windy weather conditions. Both types of erosion can cause adverse impacts on vegetation located down gradient or down wind, and on fish and wildlife resources located in off-site areas. FEMA will require grantees and subgrantees to secure any applicable NPDES permits, which may include developing a SWPPP for the construction activity. FEMA will also require applicants to follow the mitigation measures in Section 7.2. Projects that obtain and comply with the required NPDES permits and SWPPP and follow these measures will not result in significant impacts to vegetation.

With the implementation of these mitigation measures and the absence of any special status species, new construction or replacement of a structure or facility will not have a significant adverse impact on local vegetation.

If the project area is determined to contain or be located near a sensitive vegetation community, FEMA will document its impact analysis through an REC or site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.1.7. Biological Resources - Terrestrial Wildlife

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant impacts on terrestrial wildlife. These areas have been previously disturbed and the presence of terrestrial wildlife is not likely.

5.2.2.8.1.8. Biological Resources - Aquatic Wildlife

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant impacts on aquatic wildlife. These areas have been previously disturbed and the presence of terrestrial wildlife is not likely. An exception is coastal projects that would result in new beachfront lighting near nesting grounds for sea turtles. Beachfront lighting can disorient sea turtle hatchlings. Hatchlings find their way to the sea by differentiating between dark and bright areas and overhead artificial lights disrupts this ability (Salmon 2003). For proposed coastal projects that would result in new lighting, FEMA will require grantees and subgrantees to coordinate with the State natural resources or coastal resources agency to determine if the project is likely to affect sea turtle nesting patterns and, if it is, to design the project in a manner to reduce these impacts. If the proposed project cannot be redesigned to reduce these impacts, then FEMA will document the impacts analysis through a REC or site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.1.9. Biological Resources - Listed Species, Critical Habitat, and Special Status Species

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant impacts on threatened, endangered and special status species or Federally designated critical habitat. These areas have been previously disturbed and the presence of these resources is not likely.

However, there may be situations where a special status species individual is living in the vicinity of the proposed project site. FEMA will require grantees and subgrantees to identify if a special status species is nearby and, when it is nearby, will encourage grantees and subgrantees to design their projects following existing guidelines for the protection of such species. In addition, FEMA will consult with FWS and/or appropriate State, Tribe, or local government agency before the project is approved to discuss measures needed to avoid impacts to these individuals. Proposed projects that incorporate measures to avoid impacts to these special status individuals would not have a significant impact on these resources. If the proposed project cannot be designed to avoid impacts to these special status individuals, then FEMA will document the impacts analysis through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.1.10. Human Health and Safety

These types of proposed projects are expected to have a beneficial impact on human health and safety throughout the United States and its territories. The construction of new first responder and emergency response facilities, as well as other structures to house homeland security and emergency preparedness functions, reduces the risk of attacks and assists agencies and

communities in their response should a disaster occur. Updated security and response capacity provides greater protection, helping to minimize loss of life and facilitating continued performance of first responder personnel duties during an attack or national disaster.

Grantees and subgrantees are responsible for checking and complying with the EPCRA and CFATS regulations, as appropriate, is the responsibility of the grantee or subgrantee. Waste fuel and/or oil associated with the new facilities must be disposed of according to Federal and State regulations. Additionally, the above-ground fuel storage tanks for the emergency generators would be located within berms to limit runoff and infiltration should a spill or leak occur. FEMA will require grantees and subgrantees to locate containers with a capacity to store more than 100 gallons of hazardous substances of an explosive or fire prone nature at an acceptable separation distance from facilities or structures where people can congregate such as schools or hospitals. Grantees and subgrantees may use the HUD's guidance "Siting of HUD-Assisted Projects near Hazardous Facilities (HUD -1060-CPD, Sept. 1996), incorporated in this PEA by reference. The grantee or subgrantee will be responsible for meeting the "all appropriate inquiries" rule in 40 C.F.R. 312.10 before acquiring a new property. Grantees and subgrantees are responsible for preparing, implementing, and regularly updating spill prevention and control plan when needed. The use, handling, storage and disposal will be disposed of according to Federal, State or Territory, and local regulations. Therefore, no significant long-term impacts associated with hazardous waste/materials are anticipated from the renovation, retrofitting, or operation of these facilities.

5.2.2.8.1.11. Minority and Low-income Populations

The impacts on minority or low-income populations for proposed new construction projects in previously developed or disturbed areas include those associated with ground disturbance (e.g. localized air quality, stormwater pollution), traffic, and noise. However, these impacts would affect all populations and would not be disproportionally directed to minority or low-income populations. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2 which include practices to control these impacts.

Some proposed new construction projects may involve the placement of facilities that may be of concern (e.g. hazardous materials storage sites) near minority or low-income populations. Grantees are responsible for adequate planning and community outreach for these projects before they are submitted to FEMA. For proposed projects of concern, FEMA will require evidence from grantees and subgrantees of community outreach efforts.

The replacement or relocation of fire stations and other operation centers may result in the indirect effect of abandonment of a station or operation center that served an area with predominant low-income or minority populations. Grantees or subgrantees are responsible for adequate planning of these activities to ensure that service times and areas are not affected in a manner that results in a high disproportionate and adverse indirect impacts on these populations. For these proposed projects, FEMA will require evidence from grantees and subgrantees of community outreach efforts.

With appropriate planning, community outreach, and implementation of the mitigation measures, these projects are not anticipated to have a significant impact on minority or low-income populations. FEMA will require a site-specific SEA if it finds that there are disproportionate high and adverse impacts to minority and/or low-income populations from the particular project.

5.2.2.8.1.12. Historic Properties - Archeology

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant impact on these resources if those sites have low probability for the presence of archeological deposits or have been previously surveyed and found not to have archeological deposits.

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas that have moderate to high probability for the presence of archeological deposits may have adverse effects on these resources. The presence of modern structures or facilities does not mean that no archeological resources exist or that they have already been destroyed. While existing structures may have disturbed potential archeological deposits at the time of construction, intact resources may have been left undisturbed. In addition, existing historic structures may also have archeological components and any landscaping or other activities that disturb the ground could affect potential archeological deposits. Geographical location and physical characteristics of the site dictate whether a proposed project will affect archeological resources. If such activities are anticipated, Section 106 consultation is necessary to determine whether potential archeological resources exist and whether they would be adversely affected by the proposed project. If the proposed project will have an adverse effect, FEMA must develop ways to avoid, minimize, or mitigate adverse effects to the archeological resources in consultation with the SHPO or THPO and other interested parties.

FEMA will consult with the SHPO/THPO, tribes and other sources to determine the probability for the presence of archeological resources. If the proposed project does not have the potential to adversely affect these resources, then there is no significant impact to this resource and no further NEPA review would be required. If the proposed project has the potential to adversely affect these resources, FEMA will engage in the Section 106 process and document this process and the resolution of adverse effects through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.1.13. Historic Properties - Other Historic Properties

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas that do not affect historic properties would not have significant impacts on these resources.

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas that affect historic properties may have significant impacts these resources. The critical infrastructure or key resources that are the subject of these proposed projects may be objects, structures, building, sites, or districts that are included in or eligible for inclusion in the NRHP. A number of these historic properties may also be NHLs.

Proposed activities under this project type that could have adverse effects on historic properties include the demolition, facilities' modifications, ground disturbance, and the placement of new facilities or structures within the APE of an identified historic property. Types of adverse effects may include the loss the historic property, abandonment of the historic property, alteration of historic defining features or components, displacement or relocation of a historic property, and viewshed impacts.

FEMA will consult with the SHPO/THPO, tribes and other sources to determine if the proposed project has the potential to adversely affect historic properties. If the proposed project does not

have the potential to adversely affect historic properties, then there is no significant impact to this resource and no further NEPA review would be required. If the proposed undertaking has the potential to adversely affect these resources, FEMA will engage in the Section 106 process and document this process and the resolution of adverse effects through a REC or site-specific REC, depending on the nature and magnitude of the potential impacts.

5.2.2.8.1.14. Infrastructure

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant adverse impacts on infrastructure. New construction would use existing infrastructure or would require minimum infrastructure development. Construction of new facilities could result in long-term changes in traffic flow in the area near the site due to the ingress and egress of workers, regardless of whether the site was previously developed. However, these changes are not considered a significant impact as roadway construction and traffic flow patterns are completed according to FHWA and local Department of Transportation (DOT) protocols. Construction may lead to a temporary increase in solid waste generation, but this increase would be short-term and would not be expected to be significant.

The construction of new facilities will enhance the protection of CI/KR at the local, State, Territory, Tribal, and national level, resulting in a beneficial impacts to infrastructure.

5.2.2.8.1.15. Air Quality

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant adverse impacts on air quality. Construction-related activities that could result in an adverse impact on air quality are generally associated with short-term emissions, principally from site clearing activities and the use of construction equipment and vehicles. FEMA does not expect construction or demolition activities to result in a violation of the GCR or cause PSD deterioration. Operation of the new facilities would not have significant impact on the local or regional air quality. In general, operation of new or replaced facilities would not result in a new major source and does not result in a violation of the GCR or cause PSD deterioration.

Land disturbance associated with this activity is expected to be less than five (5) acres. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to air quality. FEMA will require site-specific SEA for projects under this project type of more than five (5) acres of ground disturbance or that do not implement applicable measures in Section 7.2.

Older structures often contain lead-based paint or asbestos containing materials. Any activities associated with the demolition of facilities must be done in accordance with Federal and State laws and regulations regarding the handling and disposal of hazardous materials, such as lead-based paint and asbestos containing materials.

5.2.2.8.1.16. Noise

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have significant adverse impacts from noise. FEMA will require grantees and subgrantees to follow, the general mitigation measures for ground

disturbance activities in Section 7.2, which includes operation during business hours (Monday thru Friday from 7am to 5pm) and the use equipment using the manufacturer's standard noise control devices (i.e. mufflers, baffling, and/or engine enclosures). In addition, grantees and subgrantees will be required to comply with any State, Territory, Tribal, or local noise control requirements. With these measures the proposed project would not result in significant noise impacts.

FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.1.17. Visual Quality

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas may have adverse aesthetic impacts both short-term during the construction period and long-term during operation of the new facility. Short-term impacts would be expected due to the presence of heavy equipment, the presence of debris and construction materials, and the disruption of the site during construction. However, FEMA will require grantees and subgrantees to implement the general mitigation measures for ground disturbance activities in Section 7.2 which would limit these impacts. Long-term aesthetic impacts would be limited to the immediate vicinity of the project. FEMA will require grantees and subgrantees to take prudent measures, such as maintaining existing stands of trees and revegetating with native plants where possible, to minimize long-term impacts. In addition, the design and building materials used for new structures and facilities may be selected to be compatible with the surrounding existing architecture, which would help minimize impacts.

5.2.2.8.1.18. Climate Change

Proposed new construction, including replacements, of structures or facilities in previously developed or disturbed areas would not have a significant impact on climate change. Increased emissions from construction activities would be of short duration and a limited scale. While land use would be altered at the site and there would be an increase in energy usage to provide power to the facility, the scale at which these changes would occur would not be significant.

5.2.2.8.2. New construction on undeveloped or undisturbed sites

5.2.2.8.2.1. Land Use

Proposed new construction projects on undeveloped or undisturbed sites that are consistent with existing land use/ zoning designations, are not in CBRS units, are consistent with a State's coastal management plan, and do not affect important farmlands would not have significant impacts on land use.

Some proposed new construction projects on undeveloped or undisturbed sites may involve land use/zoning changes. Construction of a new facility may require a change in land use or zoning, depending on the location chosen for construction. Any proposed projects involving structural changes to the existing facility require a construction permit from local authorities prior to construction. Conditions of the permit normally specify that the proposed facility be constructed and operated in compliance with local zoning ordinances, or that a zoning variance be obtained. The grantee or subgrantee is responsible for obtaining the necessary construction permits.

FEMA is prohibited from providing assistance for new construction activities in CBRS units. FEMA will require the grantee or subgrantee to coordinate with the State Coastal Management Agency to obtain a consistency determination when the propose project occurs within a State's designated coastal zone.

If a proposed new construction project will convert prime and unique farmland to non-agricultural use, FEMA will conduct the required assessment (Form AD-1006) and consult with NRCS when necessary. If the Form AD-1006 indicates that the proposed project will score more than 160 points, then FEMA will document this finding in either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.2.2. Geology and Soils

Proposed new construction projects on undeveloped or undisturbed sites that are not in areas characterized by susceptibility to seismic or volcanic activity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes would not result significant impacts from geology and soils to the project.

Proposed new construction projects on undeveloped or undisturbed sites that are in areas characterized by the hazards identified above will require the use of certain engineering technologies or require consultation with State or Federal agencies before the project may proceed. All structures in areas of seismic risk that are covered by this PEA must be designed and constructed in accordance with appropriate seismic design and construction standards, which are promulgated through NEHRP. Therefore, the constructed buildings will represent a low seismic hazard to people and equipment housed in the building during a seismic event.

In addition, proposed new construction projects on undeveloped or undisturbed sites may have adverse effects to soils. Inadequate stabilization of the site may produce uncontrolled erosion that may result in the loss of topsoil, reduction of infiltration capacity, alteration of natural hydrology of the land, increase in flood risks, and adverse impacts to nearby habitat (EPA 2007). Land disturbance associated with this activity is expected to be less than five (5) acres. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Proposed projects that implement these measures will not result in significant impacts to geology and soils. FEMA will require a site-specific SEA for projects under this project type that would result in more than five (5) acres of ground disturbance or that do not implement applicable measures in Section 7.2.

5.2.2.8.2.3. Water Resources

Proposed new construction projects on undeveloped or undisturbed sites may adversely affect water resources and quality in the project area. Uncontrolled stormwater pollution, erosion and sedimentation can result in the pollution of waters of the U.S. (EPA 2007). Table 5-2 shows the most common water pollutants associated with construction activities.

Land disturbance associated with this activity is expected to be less than five (5) acres. Grantees and subgrantees are responsible for securing any applicable NPDES permits and meeting permit conditions, which may include developing a SWPP for the proposed construction project.

If proposed new construction projects involve the filling of waters of the U.S., FEMA will require the grantee or subgrantee to coordinate with the USACE to obtain a Section 10 permit if the water is navigable or a Section 404 Nationwide, Regional General, or Individual permit for

non-navigable waters before the project starts. Proposed projects that would require an Individual Permit will require close coordination between the grantee or subgrantee, FEMA and USACE. This process may include the development of a site-specific SEA or the start of the EIS process.

If a proposed new construction project occurs in the vicinity of a wild or scenic river, FEMA will coordinate with the appropriate agency. If the project affects a wild or scenic river, then FEMA will engage in a site-specific SEA to appropriately evaluate the potential for significant impacts to this resource.

Proposed new construction projects that comply with the required NPDES permits, comply with applicable Nationwide or General permits under Section 404 and Section 10, and do not affect wild or scenic rivers will not result in significant impacts to water resources and water quality.

5.2.2.8.2.4. Floodplains

Proposed new construction projects on undeveloped or undisturbed sites that are not located within the 100-year floodplain (500-year floodplain for critical actions) would not have significant impacts on floodplains.

Under 44 CFR Part 9, FEMA is required to avoid activities in a floodplain unless it is the only practicable alternative. If undertaking a project in the floodplain is the only practicable alternative, FEMA must minimize the impacts to the floodplain and the impacts from floods to the new structure or facility. Minimization techniques apply to the location of structures, equipment and building contents in floodplain areas. This could include elevating facilities or structures above the base flood elevation. Minimization techniques may include floodproofing structures or facilities. Some of these facilities may be considered critical actions under this analysis because the risk of flooding might be too great. In such cases, the base flood elevation or standard for floodproofing is the 500-year flood event. In addition, if structures are flood-insurable structures and the upgrade constitutes a substantial improvement, FEMA will require the grantee to comply with the local floodplain ordinance and obtain, if necessary, a local floodplain permit.

FEMA regulations at 44 CFR 9.11(d) prohibit the agency from funding new construction, including replacement, in coastal high hazard areas (CHHA) or in floodways unless they are functionally dependent uses or facilitate open space use. They also prohibit substantial improvements in the floodway.

If undertaking the proposed project in the floodplain is the only practicable alternative, FEMA will document the 8-step decisionmaking process and minimization measures through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts to or from the floodplain.

5.2.2.8.2.5. Wetlands

Proposed new construction projects on undeveloped or undisturbed sites that are not located within or would otherwise affect wetlands would not have significant impacts on wetlands.

Some proposed new construction projects on undeveloped or undisturbed sites may have adverse impacts to wetlands. Activities outside of wetland areas but near wetlands may result in uncontrolled stormwater pollution, erosion and sedimentation that may adversely affect these nearby wetlands. Minimization measures include avoidance techniques such as establishing

wetland buffer zones and obtaining and complying with NPDES permits and SWPPP measures would reduce the potential adverse impacts of these proposed projects to nearby wetlands.

Some proposed new construction projects may take place within wetland areas. Under 44 CFR Part 9, FEMA is required to engage in an 8-step decisionmaking process for projects that may have adverse impacts on wetlands, which includes the use of minimization techniques when the project affecting the wetland is the only practicable alternative. Minimization measures include avoidance techniques such as establishing wetland buffer zones to avoid converting or filling wetlands. Compensation measures include such wetland mitigation and wetlands banking. In addition to FEMA's responsibility under 44 CFR Part 9, the grantee or subgrantee must obtain the applicable CWA Section 404 permit prior to the initiation of the project if it will affect wetlands that are considered waters of the U.S. by the USACE. The grantee or subgrantee must coordinate with USACE to determine whether any of the NWPs or a Regional General Permit apply or whether an Individual Permit is required. Proposed projects that would require an Individual Permit will require close coordination between the grantee or subgrantee, FEMA and USACE. This process may include the development of a site-specific SEA or the start of the EIS process.

If the proposed project cannot be designed to avoid impacts to the wetland, FEMA will document the 8-step decisionmaking process and minimization measures in a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts to the wetlands.

5.2.2.8.2.6. Biological Resources - Vegetation

Proposed new construction projects on undeveloped or undisturbed sites may have adverse impacts to vegetation. Areas that have been disturbed by the removal of the existing vegetation are much more susceptible to water erosion during major precipitation events and to wind erosion during dry and windy weather conditions. Both types of erosion can cause adverse impacts on vegetation located down gradient or down wind, and on fish and wildlife resources located in off-site areas. Grantees and subgrantees are responsible for securing any applicable NPDES permits, which may include developing a SWPPP for the construction activity. FEMA will also require grantees and subgrantees to follow the mitigation measures in Section 7.2. Proposed projects that obtain and comply with the required NPDES permits and SWPPP and implement these mitigation measures will not result in significant impacts to vegetation.

With the implementation of these mitigation measures and the absence of any special status species, new construction or replacement of a structure or facility would not have a significant adverse impact on local vegetation. FEMA will require a site-specific SEA for projects under this project type that would result in more than five (5) acres of ground disturbance or that do not implement applicable measures in Section 7.2.

If the project area is determined to contain or be located near a sensitive vegetation community, FEMA will document the impact analysis through an REC or site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.2.7. Biological Resources - Terrestrial Wildlife

Proposed new construction projects on undeveloped or undisturbed sites may have adverse impacts to terrestrial wildlife and/or their habitat. Operational impacts include long-term loss of habitat and direct impacts on terrestrial wildlife species.

Impacts on habitat are generally limited to new construction within an undisturbed area. Construction-related noise and other disturbance can affect wildlife population usage in areas surrounding the project site. This is especially true during sensitive periods of the species' life cycle.

FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Projects that implement these measures will not result in significant impacts to terrestrial wildlife. FEMA will require site-specific SEA for projects under this project type that would result in more than five (5) acres of ground disturbance or would not implement applicable measures in Section 7.2.

5.2.2.8.2.8. Biological Resources - Aquatic Wildlife

New construction projects on undeveloped or undisturbed sites that are not located within or affect the 100-year floodplain, wetlands, or coastal areas would not have significant impacts on aquatic life.

Proposed projects within floodplains or affecting floodplains, wetlands, or coastal areas may have adverse impacts to aquatic wildlife and/or their habitat. FEMA would avoid taking actions within or affecting floodplains or wetlands. If undertaking the project within the floodplain or wetland is the only practicable alternative, FEMA will document the 8-step decisionmaking process and minimization measures through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

Proposed coastal projects that would result in new beachfront lighting near nesting grounds for sea turtles may adversely affect these resources. Beachfront lighting can disorient sea turtle hatchlings. Hatchlings find their way to the sea by differentiating between dark and bright areas and overhead artificial lights disrupts this ability (Salmon 2003). For proposed coastal projects that would result in new lighting, FEMA will require grantees and subgrantees to coordinate with the State natural resources or coastal resources agency to determine if the project is likely to affect sea turtle nesting patterns and, if it is, to design the project in a manner to reduce these impacts. If the project cannot be redesigned to reduce these impacts, then FEMA will document the impact analysis through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts identified.

5.2.2.8.2.9. Biological Resources – Listed Species, Critical Habitat, and Special Status Species

Proposed new construction projects on undeveloped or undisturbed sites would affect threatened, endangered, and special status species in the same manner that vegetation and wildlife would be affected. The threatened and endangered species that could be affected would depend on the physiographic region in which the proposed project is located and the nature and extent of the habitats present at the project site and surrounding areas. Construction-related activities may adversely affect threatened and endangered species by potentially reducing, altering, or fragmenting available habitat; introducing invasive species; causing injury or mortality to wildlife; noise; and behavioral impacts.

Land disturbance associated with this activity is expected to be less than five (5) acres and FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. However, FEMA will not be able to determine whether the impacts of the specific activity to the listed species, critical habitat or special status

species are significant without an appropriate site-specific evaluation and consultation with FWS or NMFS. If consultation results in a No Effect or Not Likely to Adversely Affect (NLAA) determination, the activity would not have significant impacts on these resources and no additional NEPA review would be required. If the consultation results in the initiation of formal consultation, FEMA will enter into the formal ESA Section 7 consultation and document the results in a site-specific SEA.

In addition, there may be situations where a special status species individual is living in the vicinity of a proposed project. FEMA will require grantees and subgrantees to identify if a special status species is nearby and, when it is nearby, will encourage grantees and subgrantees to design their projects following existing guidelines for the protection of such species. In addition, FEMA will consult with FWS and/or appropriate State, Tribe, or local government agency before the project is approved to discuss measures needed to avoid impacts to these individuals. Projects that incorporate measures to avoid impacts to these special status individuals would not have significant impact on these resources. If the project cannot be designed to avoid impacts to these special status individuals, then FEMA will document the impact analysis through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts identified..

5.2.2.8.2.10. Human Health and Safety

Proposed new construction projects are expected to have a beneficial impact on human health and safety throughout the U.S. and its territories. The construction of new first responder and emergency response facilities, as well as other structures to house homeland security functions, reduces the risk of attacks and assists agencies and communities in their response should a disaster occur. Updated security and response capacity provides greater protection, helping to minimize loss of life and facilitating continued performance of first responder personnel duties during an attack or national disaster.

Grantees and subgrantees are responsible for checking and complying with the EPCRA and CFATS regulations, as appropriate. Waste fuel and/or oil associated with the new facilities must be disposed of according to Federal and State regulations. Additionally, the above-ground fuel storage tanks for the emergency generators would be located within berms to limit runoff and infiltration should a spill or leak occur. FEMA will require grantees and subgrantees to locate containers with a capacity to store more than 100 gallons of hazardous substances of an explosive or fire prone nature at an acceptable separation distance from facilities or structures where people may congregate such as schools or hospitals. Grantees and subgrantees may use the HUD's guidance "Siting of HUD-Assisted Projects near Hazardous Facilities (HUD -1060-CPD, Sept. 1996), incorporated in this PEA by reference. The grantee or subgrantee will be responsible for meeting the "all appropriate inquiries" rule in 40 C.F.R. 312.10 before acquiring a new property. Grantees and subgrantees are responsible for preparing, implementing, and regularly updating spill prevention and control plan for proposed projects when needed. The use, handling, storage and disposal will be disposed of according to Federal, State or Territory, and local regulations.

5.2.2.8.2.11. Minority and Low-income Populations

The impacts on minority or low-income populations of proposed new construction projects on undeveloped or undisturbed sites would be those associated with ground disturbance (e.g. localized air quality, stormwater pollution), traffic, and noise. However, these impacts would

affect all populations and would not be disproportionally directed to minority or low-income populations. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2 which include practices to control these impacts.

Some proposed new construction projects may involve the placement of facilities that may be of concern (e.g. hazardous materials storage sites) near minority or low-income populations. Grantees and subgrantees are responsible for adequate planning and community outreach for these projects before they are submitted to FEMA. For projects of concern, FEMA will require evidence from grantees and subgrantees of community outreach efforts.

The replacement or relocation of fire stations and other operation centers may result in the indirect effect of abandonment of a station or operation center that served an area with predominant low-income or minority populations. Grantees and subgrantees are responsible for adequate planning of these activities to ensure that service times and areas are not affected in a manner that results in a high disproportionate and adverse indirect impacts on these populations. For these proposed projects, FEMA will require evidence from grantees and subgrantees of community outreach efforts.

With appropriate planning, community outreach, and implementation of the mitigation measures, these proposed projects are not anticipated to have a significant impact on minority or low-income populations. If FEMA finds disproportionate high and adverse impacts to minority and/or low-income populations, a site-specific SEA will be required.

5.2.2.8.2.12. Historic Properties - Archeology

Proposed new construction projects on undeveloped or undisturbed sites would not have significant impact on archeological resources if those sites have low probability for the presence of archeological deposits or have been previously surveyed and found not to have archeological deposits.

Proposed new construction projects on undeveloped or undisturbed sites that have moderate to high probability for the presence of archeological deposits may have adverse effects on these resources. Geographical location and physical characteristics of the site dictate whether an undertaking will affect archeological resources. If such activities are anticipated, Section 106 consultation is necessary to determine whether potential archeological resources exist and whether they would be adversely affected by the proposed project. If the proposed project will have an adverse effect, FEMA must develop ways to avoid, minimize, or mitigate adverse effects to the archeological resources in consultation with the SHPO or THPO and other interested parties.

FEMA will consult with the SHPO/THPO, tribes and other sources to determine the probability for the presence of archeological resources. If the proposed project does not have the potential to adversely affect these resources, then there is no significant impact to this resource and no further NEPA review would be required. If the proposed project has the potential to adversely affect these resources, FEMA will engage in the Section 106 process and document this process and the resolution of adverse effects through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.2.13. Historic Properties - Other Historic Properties

Proposed new construction projects on undeveloped or undisturbed sites that do not affect historic properties would not have significant impacts on these resources.

Some proposed new construction projects may adversely affect historic properties, such as through the placement of new facilities or structures within the APE of an identified historic property or historic district.

FEMA will consult with the SHPO/THPO, tribes and other sources to determine if the proposed project has the potential to adversely affect historic properties. If the proposed project does not have the potential to adversely affect historic properties, then there is no significant impact to this resource and no further NEPA review will be required. If the proposed project has the potential to adversely affect these resources, FEMA will engage in the Section 106 process and document this process and the resolution of adverse effects through a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.2.14. Infrastructure

Proposed new construction projects on undeveloped or undisturbed sites may have an adverse impact on infrastructure. New construction projects could result in long-term changes in traffic flow in the area near the site due to the ingress and egress of workers.. However, these changes are not considered a significant impact as roadway construction and traffic flow patterns are completed according to FHWA and State DOT protocols. Construction activities may lead to a temporary increase in solid waste generation, but this increase would be short-term and would not be expected to be significant. Proposed projects may increase demand on local utilities, such as electricity, sewer, and water service, but that increase is not expected to be significant.

The construction of new facilities will enhance the protection of CI/KR at the local, State, Territory, Tribal, and national level, resulting in a beneficial impacts to infrastructure.

5.2.2.8.2.15. Air Quality

Proposed new construction projects may have adverse impacts on air quality. Construction-related activities that could result in an adverse impact on air quality are generally associated with short-term emissions, principally from site clearing activities and the use of construction equipment and vehicles. FEMA does not expect that the construction nor demolition activities would result in a violation of the GCR or cause PSD deterioration. Operation of the new facilities would not have significant impact on the local or regional air quality. In general, operation of new or replaced facilities would not result in a new major source and does not result in a violation of the GCR or cause PSD deterioration.

Land disturbance associated with this activity is expected to be less than five (5) acres. FEMA will require grantees and subgrantees to follow the general mitigation measures for ground disturbance activities in Section 7.2. Projects that implement these measures will not result in significant impacts to air quality. FEMA will require a site-specific SEA for projects under this project type that would result in more than five (5) acres of ground disturbance or do not implement applicable measures in Section 7.2.

5.2.2.8.2.16. Noise

Proposed new construction projects on undeveloped or undisturbed sites may have noise-related adverse impacts. FEMA will require grantees and subgrantees to follow the general mitigation

measures for ground disturbance activities in Section 7.2, which includes operation of equipment during business hours (Monday through Friday from 7am to 5pm) and the use of manufacturers' standard noise control devices (e.g. mufflers, baffling, engine enclosures). In addition, grantees and subgrantees will be required to comply with any State, Territory, Tribal or local noise control requirements. With these measures the activity would not result in significant impacts from noise.

FEMA will document those actions that would result in noise levels exceeding 70 dBA for more than 10 percent of the time and will take place less than 200 feet from sensitive receptors (e.g. schools, hospitals, and residential areas) through either a REC or a site-specific SEA, depending on the nature and magnitude of the potential impacts.

5.2.2.8.2.17. Visual Quality

Proposed new construction projects on undeveloped or undisturbed sites may have adverse aesthetic impacts, both short-term during the construction period and long-term during operation of the new facility. Short-term impacts would be expected due to the presence of heavy equipment, the presence of debris and construction materials, and the disruption of the site during construction. However, FEMA will require grantees and subgrantees to implement the general mitigation measures for ground disturbance activities in Section 7.2, which would limit these impacts. Long-term aesthetic impacts would be limited to the immediate vicinity of the project. FEMA will require grantees and subgrantees to take prudent measures, such as maintaining existing stands of trees and revegetating with native plants where possible, to minimize long-term impacts.

5.2.2.8.2.18. Climate Change

Proposed new construction projects on previously undisturbed sites would not have a significant impact on climate change. Increased emissions from construction activities would be of short duration and a limited scale. While land use would be altered at the site and there would be an increase in energy usage to provide power to the facility, the scale at which these changes would occur would not be significant due to the typical nature of the types of projects that GPD funds.

Section Six Cumulative Impacts

The CEQ regulations implementing NEPA define cumulative impacts as the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

6.1 Alternative 1: No Action

Under the No Action Alternative, cumulative impacts would result in persistent vulnerabilities and the continued compromised ability of first responders as well as local, State, Territory, and National governments to prepare for and respond to national security emergencies.

6.2 Alternative 2: Program Implementation

6.2.1 Programs

Implementation of GPD programs would result in beneficial cumulative impacts on human health and safety. Financial assistance being provided by GPD to State, Territory, local, and Tribal governments and private-sector and non-governmental first responders may be used to implement projects throughout the United States, its six territories, and two Pacific island countries (FSM and RMI). This assistance is provided to enhance the capabilities of grantees and subgrantees to prevent and respond to national emergencies, including acts of terrorism. The cumulative effect of the enhanced capability resulting from the grant programs coupled with existing and on-going security activities will greatly elevate the level of local, State, and national security within the United States, its six territories, FSM, and RMI. These cumulative beneficial impacts on the human health and safety/security of our country are associated with:

- Increase in staff of affected governmental agencies
- Accelerated training of existing and new personnel
- Purchase of new and/or improved security and communication equipment
- Improvement of communication of first responders within and between all levels (Federal, State, and local) of governmental agencies
- Improved security at major public gathering areas
- Improved safety of security and law enforcement personnel
- Expanded medical resources (facilities, equipment, and supplies) for responding to emergency conditions that could have large numbers of victims.

6.2.2 Projects

FEMA's experience with similar types of projects addressed in this PEA is that they would have minimal adverse cumulative impacts given the relatively small amount of land that will be physically affected by the proposed projects. However, project-specific information will be

needed for the following projects to appropriately take into consideration the potential for cumulative impacts:

- Construction of new communication towers and supporting facilities,
- Modification of existing structures and facilities,
- New construction.

FEMA will take cumulative impacts into account when evaluating whether the particular action fits within this PEA. If the potential for cumulative impacts is present FEMA, will document this in a REC or a site-specific SEA.

Two particular areas deserve further discussion given their potential for nationwide cumulative impacts: impacts of communication towers to migratory birds and impacts of construction activities on climate change.

6.2.2.1 Migratory Birds and Communication Towers

FEMA recognizes that there are other Federal, State, Tribal and Territory public safety interoperability-related actions such as the FCC's public safety initiatives, NTIA's PSIC Grant Program, and the USDA Rural Development's Rural Utilities Service programs. These programs are part of a nationwide effort to improve interoperability within the emergency preparedness and response community. Grantees and subgrantees have the ability to leverage these different programs within their jurisdictions to achieve their overall public safety interoperability goals.

The combination of new public safety communication towers that do not follow the FWS guidelines with other communication towers, such as private cell towers, that do not follow these guidelines could have measurable impacts on migratory birds. However, information on the level of significance of these cumulative impacts on migratory birds, such as number of migratory bird collisions and deaths caused by towers and the percentage of these that are associated with public safety towers, is currently unavailable. To address this unavailable information FEMA will collect information regarding migratory bird fatalities in towers funded by the agency. FEMA will require grantees and subgrantees to report for up to five (5) years the number of bird collisions and deaths caused by the towers. In turn FEMA will report to FWS on this information.

6.2.2.2 Construction Actions and Climate Change

A recent study by the EPA indicates that the construction sector, which is engaged in the preparation of land and the construction, alteration, and repair of facilities and structures, is a substantial contributor of the nation's GHG emissions. The study established that the construction industry produces approximately 1.7% of the total GHG emissions in the U.S. and roughly 6% of the U.S. industrial-related GHG emissions (EPA 2009). The reason for this proportion is due to the sheer number of construction activities occurring in the U.S. simultaneously.

The number of GPD-funded construction-related projects in a given year is expected to be limited. The majority of GPD funds are used for planning activities, management and administration activities, purchase of portable or mobile equipment, training, and exercises.

However, FEMA will require grantees and subgrantess to observe the following practices to reduce the amount of potential GHG emissions in the construction related activities associated with communication towers and supporting facilities, facilities modifications, and new construction:

- Reduce construction equipment idling to the maximum extent practicable;
- Ensure adequate maintenance of equipment, including proper engine maintenance, adequate tire inflation, and proper maintenance of pollution control devices;
- To the extent possible, adopt other feasible measures under the EPA guidance Potential for Reducing Greenhouse Gas Emissions in the Construction Sector.

Section Seven Mitigation

FEMA will encourage grantees and subgrantees to take the following measures into account to the extent practicable and applicable to avoid or minimize impacts to the quality of the human environment. If grantees or subgrantees cannot avoid or minimize the impacts, an SEA may be required. The general mitigation measures outlined in this section may be superseded by higher or more stringent standards required by the particular Federal, State or Territory, Tribe, or local government agency issuing a permit, license, or approval for the project. Additional project-specific mitigation measures may be imposed as a condition of project approval/grant award for those projects covered by a CATEX that trigger extraordinary circumstances or those projects for which a site-specific SEA will be prepared.

7.1 Measures to avoid impacts to the human environment

1. Avoid taking actions that modify existing land use patterns;
2. Avoid undertaking projects in areas characterized by susceptibility to seismic or volcanic activity, tsunamis, landslides, mudslides, structural instability, excessive erodibility, or steep slopes;
3. Avoid undertaking projects in the floodplain;
4. Avoid undertaking projects on important farmlands;
5. Avoid undertaking projects on or near TCPs;
6. Avoid undertaking projects in wetlands;
7. Avoid undertaking projects that adversely affect historic properties;
8. Avoid undertaking projects that adversely affect threatened and endangered or special status species or critical habitat.

7.2 Minimization Measures for ground disturbing/ construction activities of up to five (5) acres

1. Follow applicable State, Territory, Tribal, and local permitting requirements for construction;
2. Water down construction site two to three times per day if dust emissions become a problem;
3. Enclose or water down exposed dirt storage piles;
4. Minimize the disturbed area and preserve vegetation to the maximum extent possible;
5. Maintain topsoil whenever possible;
6. Phase construction activities to the extent possible;
7. Control stormwater flowing to and through the project site;
8. Protect slopes by using measures such as erosion control blankets, bonded fiber matrices, turf reinforcement mats, silt fences (for moderate slopes), etc.;
9. Temporarily protect storm drain inlets until site is stabilized;
10. Retain sediment on-site and control dewatering practices by using sediment traps or basins for large areas (> 1 acre) when appropriate;

11. Establish stabilized construction entrances/exits (e.g. large crushed rocks, stone pads, steel wash racks, hose-down systems, pads);
12. Limit construction activities, including operation of heavy machinery, to normal business hours (M-F 7am-5pm);
13. Avoid engaging in construction activities within 200 feet of noise-sensitive receptors such as schools, hospitals, residential areas, nursing homes, etc.
14. Ensure adequate maintenance of equipment, including proper engine maintenance, adequate tire inflation, and proper maintenance of pollution control devices;
15. Ensure equipment at the project site uses the manufacturer's standard noise control devices (i.e., mufflers, baffling, and/or engine enclosures);
16. Reduce construction equipment idling to the maximum extent practicable;
17. Implement plans to eliminate and minimize oil or fuel spills from construction equipment;
18. Minimize the impacts of equipment staging areas;
19. Stabilize slopes promptly through temporary and permanent cover best management practices (BMPs). Following construction all remaining disturbed areas must be revegetated with locally acquired sources of native seeds and plants in a manner that returns the site to its pre-construction condition or better. Plantings are done during the optimum season for the species being planted. Any seeding carried out during the revegetation program is completed with commercially available seeds certified to be free of noxious weed seeds and other invasive species. If necessary, an irrigation system is installed to ensure establishment of the planted vegetation. The target for new plantings is an 80 percent survival rate at the end of 3 years. Invasive exotic plant species are controlled to the maximum extent practical to accomplish the revegetation effort. If the application of a chemical is required to control an invasive exotic plant species, the chemical is applied by a certified pesticide or herbicide applicator per labeled directions and in compliance with all Federal, State, and local laws and regulations.
20. When applicable adopt measures to minimize traffic impacts during construction such as providing warning signage, limit the use of public right-of-ways for staging of equipment or materials, use of flagpersons when needed, and coordinate detours if traffic access points will be obstructed.
21. Avoid engaging in construction activities within 660 feet of a bald or golden eagle nest during nesting and fledging, as nesting eagles are quite sensitive to human activities during these times.
22. Establish an inspection and maintenance approach to ensure these measures are working adequately.
23. To the extent possible, adopt other feasible measures under the EPA Guidance Potential for Reducing Greenhouse Gas Emissions in the Construction Sector.
24. Avoid archeological sites by shifting ground disturbance in a particular area, when possible.

7.3 Minimization/ Mitigation measures for communication towers

1. Avoid engaging in construction activities within 660 feet of a bald or golden eagle nest during nesting and fledging, as nesting eagles are quite sensitive to human activities during these times.
2. Avoid initiating construction during the nesting/fledging period in an area that contains potential nesting habitat for migratory birds. If such disturbance is required, a nest survey is conducted of the area to be disturbed and if no nests are found, construction can proceed. However, if nests are found, construction must be delayed until any eggs have hatched and the young birds have fledged.
3. Limit construction within or in the vicinity of habitat utilized by wildlife during sensitive periods (i.e., calving or fawning periods).
4. Reduce the speed of vehicles traveling through project areas with concentrations of wildlife such that potential impacts on wildlife are minimized.
5. Co-locate communication systems or equipment in already existing towers, whenever possible;
6. Avoid increasing the height of towers to taller than 199 feet above ground level (AGL), using construction techniques that do not require guy wires (i.e., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration (FAA) regulations allow.
7. If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night with the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided.
8. Down-shield security lighting for on-ground facilities and equipment to keep light within the boundaries of the site.
9. Place daytime visual markers on the guy wires of those towers proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites.
10. Towers and appendant facilities should be sited, designed, and constructed to avoid or minimize habitat loss within and adjacent to the tower “footprint.”
11. Minimize road access and fencing to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.
12. Take into account the potential to buffer visual effects and alterations to natural landscapes in the siting of towers.

Section Eight Documents Incorporated by Reference

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Glossary of Terms

Supporting facilities – Subsidiary or auxiliary buildings, equipment, infrastructure, or services such as roads, utilities, storage buildings, fuel tanks, generators, etc. that support the successful operation of a parent facility.

Ground disturbance - any work or activity that results in a disturbance of the earth, including excavating, digging, trenching, plowing, drilling, tunneling, backfilling, blasting, topsoil stripping, land leveling, peat removing, quarrying, clearing and grating

Best Management Practices (BMPs) – Effective, practical, structural or nonstructural methods, schedules of activities, or prohibitions of practices which prevent or reduce the movement of sediment, nutrients, pesticides and other pollutants from the land to surface or ground water, or which otherwise protect water quality.

Critical Infrastructure - Assets, systems, and networks, whether physical or virtual, that are so vital to a population that their incapacitation or destruction would have a debilitating effect on public health or safety, national security, economic vitality, or a combination of these. Critical infrastructure includes facilities that are especially important during and after a natural or man-made hazard event, including but not limited to, hospitals, fire and police stations, shelters, and facilities that store important records.

Key resources - Publicly or privately controlled resources essential to the minimal operations of the economy and government.

Historic property – Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register of Historic Places, including artifacts, records, and material remains related to such a property or resource. Historic properties are significant at the national, tribal, regional, state, territory, or local level in American history, architecture, archaeology, engineering, or culture.

Infrastructure - Those systems necessary to provide electric power, natural gas, water, and wastewater services.

Modification – Changes to an existing building or structure resulting from the addition or removal of architectural elements, equipment, utilities, etc.

New construction – The preparation of previously disturbed or undisturbed land and the building or assembly of new buildings, structures, infrastructure and other real property on that land. The preparation of land includes removal of vegetation; site clearing, grading, and grubbing; excavation, etc. This definition does not include activities prior to construction, such as design, siting of buildings, or specification of materials, nor does it include the operation of a facility following construction.

Physical security enhancements and access controls – Equipment or devices installed at existing facilities to improve security and restrict access of unauthorized personnel. Examples include lighting, jersey barriers, vehicle bollards, fencing, gates, tire puncture treadles, surveillance cameras.

Retrofitting – Making changes to an existing building, structure or utility system to protect it against a natural or man-made hazard, such as an earthquake or explosion.

References

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List of Preparers

FEMA

Jomar Maldonado, Acting Environmental Officer

Laura Shick, Environmental Program Specialist

Adria Martínez, Program Manager

Booz Allen Hamilton

John Thomas Fitch, Senior Environmental Manager

William McGovern, Senior Environmental Specialist

Amanda Pereira, Environmental Specialist

Emily Lux, Environmental Specialist

URS Corp.

Kathryn St. Clair-Barrett, Senior Architectural Historian

Carrie Albee, Senior Architectural Historian

Kathleen Furgerson, RPA, Principal Archeologist

Mark Edwards, Principal Architectural Historian

Susan Volkmer, Senior Environmental Scientist

Quentin Bliss, Principal Environmental Scientist

Morgan Griffin, Project Manager

Tom Hay, Project Manager