

## Draft Environmental Assessment

### Section 2 Relocation—Hope Power Distribution Line Kenai Peninsula Borough, Alaska

May 3, 2012



**FEMA**

U.S. Department of Homeland Security  
FEMA Region X  
130 228<sup>th</sup> Street SW  
Bothell, WA 98021-9796

# Draft Environmental Assessment

## Section 2 Relocation—Hope Power Distribution Line

Chugach Electric Association, Inc.

Kenai Peninsula Borough

Hope, Alaska

FEMA Hazard Mitigation Grant Program Project No. 5

FEMA-1843-DR-AK

*Prepared for:*

**U.S. Department of Homeland Security**

FEMA Region X

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## LIST OF ACRONYMS

|        |   |
|--------|---|
| ADF&G  | Alaska Department of Fish and Game                                    |
| APE    | Area of Potential Effects   |
| BMPs   | Best Management Practices   |
| CEA    | Chugach Electric Association, Inc.                                    |
| CEQ    | Council on Environmental Quality                                      |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR    | Code of Federal Regulations   |
| cy     | cubic yards   |
| EA     | Environmental Assessment  |
| EFH    | Essential Fish Habitat  |
| EO     | Executive Order   |
| ESA    | Endangered Species Act  |
| F      | Fahrenheit  |
| FEMA   | Federal Emergency Management Agency                                   |
| FONSI  | Finding of No Significant Impact                                      |
| FWCA   | Fish and Wildlife Coordination Act                                    |
| HMGP   | Hazard Mitigation Grant Program                                       |
| kV     | kilovolt  |
| MP     | milepost  |
| MSDS   | Material Safety Data Sheets   |
| MSA    | Magnuson-Stevens Fishery Conservation and Management Act              |
| NEPA   | National Environmental Policy Act                                     |
| NHPA   | National Historic Preservation Act                                    |
| NMFS   | National Marine Fisheries Service                                     |
| NRHP   | National Register of Historic Places                                  |
| OSHA   | Occupational Safety and Health Act                                    |
| RCRA   | Resource Conservation and Recovery Act                                |
| SHPO   | State Historic Preservation Office/Officer                            |
| USACE  | United States Army Corps of Engineers                                 |
| USFS   | United States Forest Service  |
| USFWS  | United States Fish and Wildlife Service                               |

## **1.0 INTRODUCTION**

The Chugach Electric Association, Inc. (CEA) has applied through the Alaska Department of Homeland Security and Emergency Management to the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for funding to relocate Section 2 of the Hope power distribution line. FEMA is proposing to fund 75 percent of the cost for this project through its Hazard Mitigation Grant Program (HMGP), with the remainder coming from CEA or other nonfederal sources.

### **1.1 Authority and Jurisdiction**

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1973 (Stafford Act), as amended, provides federal assistance programs for both public and private losses sustained in disasters. FEMA's HMGP provides grants to states, local governments, and Indian tribes for long-term hazard mitigation projects. This project is authorized under a major disaster declared by the President on June 11, 2009, for flooding and ice jams on the Yukon River that occurred from April 28 through May 31, 2009 (FEMA-1843-DR-AK). The HMGP is authorized under Section 404 of the Stafford Act.

In accordance with the National Environmental Policy Act (NEPA) of 1969, FEMA must evaluate the environmental consequences of proposed actions on the natural and human environment before deciding to fund an action, including evaluating alternative means of addressing the purpose and need for a federal action. The President's Council on Environmental Quality (CEQ) has developed a series of regulations for implementing NEPA. These regulations are included in Title 40 of the Code of Federal Regulations (CFRs), Parts 1500–1508. This draft Environmental Assessment (EA) will address the environmental issues associated with the relocation of the power line. It is prepared in accordance with both CEQ and FEMA regulations for NEPA (44 CFR Part 10) to determine whether to prepare a Finding of No Significant Impact or a Notice of Intent to prepare an Environmental Impact Statement for the proposed project.

## **2.0 PURPOSE AND NEED**

The purpose of the Stafford Act is to provide a wide range of federal assistance for states and local governments significantly impacted by disasters or emergencies or both. The purpose of the HMGP is to reduce the loss of life and property in future disasters by funding mitigation measures during the recovery phase of a natural disaster. The purpose of this project is to reduce hazard vulnerabilities to Section 2 of the Hope power distribution line.

FEMA has determined there is a need to relocate Section 2 to provide reliable electrical power to residences of the Hope and Sunrise communities in Alaska. CEA has determined there is a need to move the power line in Section 2 from its current remote location in steep areas vulnerable to avalanche activity to reduce the frequency of power outages. There is also a need to provide an alignment closer to the public highway where maintenance and repairs would be safer, easier, faster, and less expensive. The Proposed Action Alternative is the applicant's request to meet their needs.

## 3.0 LOCATION AND BACKGROUND

### 3.1 Location

The project is located in the Western Kenai Mountains at the northern end of the Kenai Peninsula Borough. It begins approximately 1.7 miles from the Seward Highway cutoff for the Hope Highway. The cutoff is located 70 miles south of Anchorage at milepost (MP) 56 of the Seward Highway. The Hope Highway runs inland from the cutoff to the south shore of the Turnagain Arm of Cook Inlet and ends in the town of Hope. The Hope power distribution line originates at CEA's Hope Substation located near the Seward Highway cutoff. The line runs approximately 17.7 miles through the Chugach National Forest and Alaska Department of Natural Resource lands between the Seward Highway and Hope. The current alignment of Section 2 of the Hope power line is located west of the Hope Highway, with some segments over a mile distant from the highway. The terrain is steep, heavily forested, and traverses several drainage gorges.

The realignment would begin at existing pole 31, located approximately 100 feet west of Hope Highway MP 1.7, and would generally follow the highway to connect to pole 69, located approximately 600 feet west of MP 5.5. Pole 31 is located in Township 10 North, Range 1 West, Section 19, of the Seward Meridian at Latitude  $60.80365^{\circ}$  North, Longitude  $-149.43895^{\circ}$  West. Pole 70 is located in Township 10 North, Range 2 West, Section 24, at Latitude  $60.85444^{\circ}$  North, Longitude  $-149.44239^{\circ}$  West. The existing line would be moved downhill and relocated approximately 70' to 300' west of the Hope Highway corridor, except for one portion starting at pole 31 which would run approximately one mile on the east side of the highway. A site location map is included in Appendix A.

### 3.2 Background

The CEA Hope power distribution feeder line was constructed between 1967 and 1968 and is a 14.4 kilovolts (kV) single-phase power distribution line serving approximately 200 metered locations in the community of Hope and the surrounding area. It is primarily located upslope of the Hope Highway, traversing much of its length through a heavily wooded forest. Due to its location along coastal mountains, the line is subject to harsh conditions associated with high winds, heavy wet snow, and avalanches. In addition, the line has been increasingly impacted by the spruce bark beetle infestation on the Kenai Peninsula that has killed a significant number of spruce trees.

Hope area residents incur power outages at a comparatively high frequency. From 1999 through 2004, the Hope line experienced an outage rate of 76 hours per year (3.17 days), compared to 2.0 hours per year for the CEA system as a whole. Approximately 30 percent of the Hope feeder line failures are attributable to Sections 2 and 3 of the line. Outage durations are much longer due to the terrain and accessibility, as well as repair work limitations when strong winds, heavy snow, or avalanche conditions persist. During outages access is often blocked by avalanches and crews are required to obtain entry approval from a certified avalanche expert before repair work can begin. It is common for repair crews to have to wait for weather and work conditions to improve before they can reach structures that are located well off the road system. In addition, the area is a minimum two-hour drive from the CEA office in Anchorage during the winter.

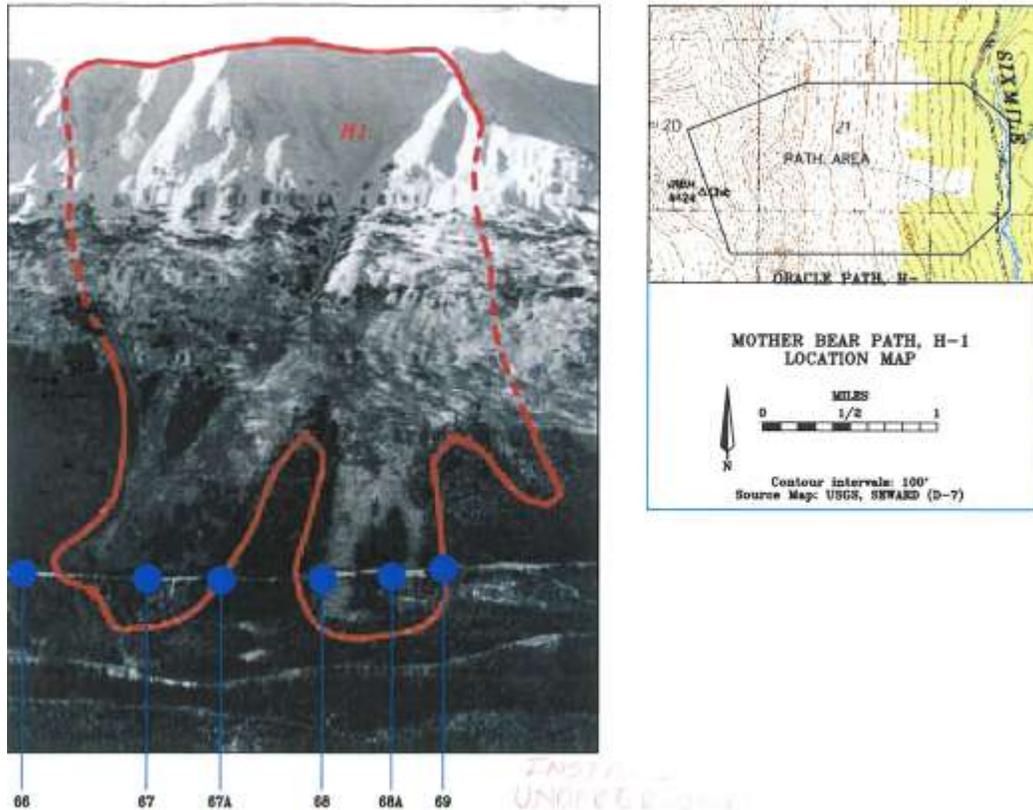


Figure 1. Hope Section 2 power distribution line location at the Mother Bear avalanche hazard.

The avalanche path that crosses Section 2 is named Mother Bear. Although small to moderate-sized slides occur each winter in this path, CEA power outage records reveal that significant avalanches in Section 2 occur, on the average, once every 10 years. Major slides capable of causing damage to the power line have an estimated return interval of approximately once in 30 years. At the most, debris depths at the power line range from 8 to 12 feet, with powderblast heights from 75 to 100 feet. Although most of the avalanche history of this path is unknown, two events are worth noting. In February 2000, the Mother Bear chutes produced a fast-moving dry powder avalanche that hit and destroyed two power line structures. In addition, CEA avalanche control operations subsequently brought down a second large avalanche that also hit the power line and Hope Highway with powderblast and destroyed two more structures.

CEA coordinates their power line maintenance in the area with the U.S. Forest Service (USFS), which conducts fire mitigation in the Chugach National Forest. Tree removal by the USFS augments CEA work by removing trees that threaten the integrity of the Hope power line from Hope Highway MP 1.7 to 10.

## 4.0 ALTERNATIVES

In accordance with federal laws and FEMA regulations, the EA process for a proposed federal action must include an evaluation of alternatives and a discussion of the potential environmental consequences. This draft EA includes the analysis of two alternatives. Alternative 1 is the No Action Alternative, which would entail no repairs or improvements to Section 2 of the Hope power distribution line. Alternative 2 would move the Hope power distribution line in Section 2 between milepost 1.7 and 5.5 by relocating it downhill approximately 70' to 300' from the west side of the Hope Highway corridor, with one portion located east of the highway. Alternative 2 is the Proposed Action Alternative.

One power supply alternative considered but not carried forward would be to install, fuel, and maintain a 300 kilowatt generator in the Hope area. For this alternative, 200 gallons of fuel would need to be imported some 40 miles daily, and power line would still have to be protected from tree fall, ice, and avalanche damages. This alternative has been used over the years when snow conditions precluded making repairs to the power line from the Hope Substation to the communities of Hope and Sunrise, but it would not be a permanent solution. It would be expensive to operate and would not fully remedy the problem of outages and damages to the power line.

Other alternatives considered but not carried forward include 1) rebuilding the line overhead at its current location using high strength materials; 2) undergrounding the line in its present location; 3) utilizing a new type of conductor; or 4) expanding the cleared right-of-way width. These options were discounted based on input from the outside agencies due to cost, constructability factors, and the compelling need to improve line reliability.

### 4.1 Alternative 1 – No Action Alternative

Inclusion of a No Action Alternative in the environmental analysis and documentation is required under NEPA. The alternative evaluates the effects of not providing eligible assistance for a specific action and provides a benchmark against which the other alternatives may be evaluated.

Under the No Action Alternative, FEMA would not provide funding to mitigate the ongoing problems with frequent and extended power outages caused by damages to Section 2 of the Hope power line. Existing conditions at the current location of Section 2 would continue and the line would remain vulnerable to strong winds, heavy snow, and avalanche damage. This alternative would not meet the project's purpose and need, nor CEA's goals and objectives identified.

### 4.2 Alternative 2 – Relocate Section 2 of the Hope Power Distribution Line (Proposed Action)

For the Proposed Action, CEA would relocate approximately four miles of the Hope power distribution line in Section 2, located west of the Hope Highway between the Seward Highway cutoff and the community of Sunrise. The new line would be closer to the highway and would replace the existing line located along steep mountains and gorges, in some areas over a mile

distant from the highway, where it is subject to harsh conditions. The new line would begin at existing pole 31, located approximately 100 feet west of MP 1.7 of the Hope Highway, and would generally follow the highway to connect to pole 69, located approximately 600 feet west of MP 5.5. Final alignment would determine whether pole 69 also needs to be removed.

For the new construction, approximately 50 single-phase overhead wood power poles from 38 to 65 feet tall would be installed, including overhead lines and conductors, to construct the new line. At the beginning of the relocation at pole 31, the line will cross the highway and be located along the eastern highway right-of-way for approximately one mile to avoid rock outcroppings to the west. It will then jump back across and resume its location west of the highway for the remainder of the relocation.

A new right-of-way 40 feet wide would be cleared on the west side of the highway to accommodate the new line. Construction of the right-of-way includes removing hazard and danger trees adjacent to the right-of-way that are standing dead or live trees with the potential to threaten distribution lines. This includes trees substantially taller than the power line that may be brought down by wind, ice, or snow. At a few locations where the topography restricts effective power line construction due to rock outcroppings, the alignment may veer uphill (west) from the highway, as needed.

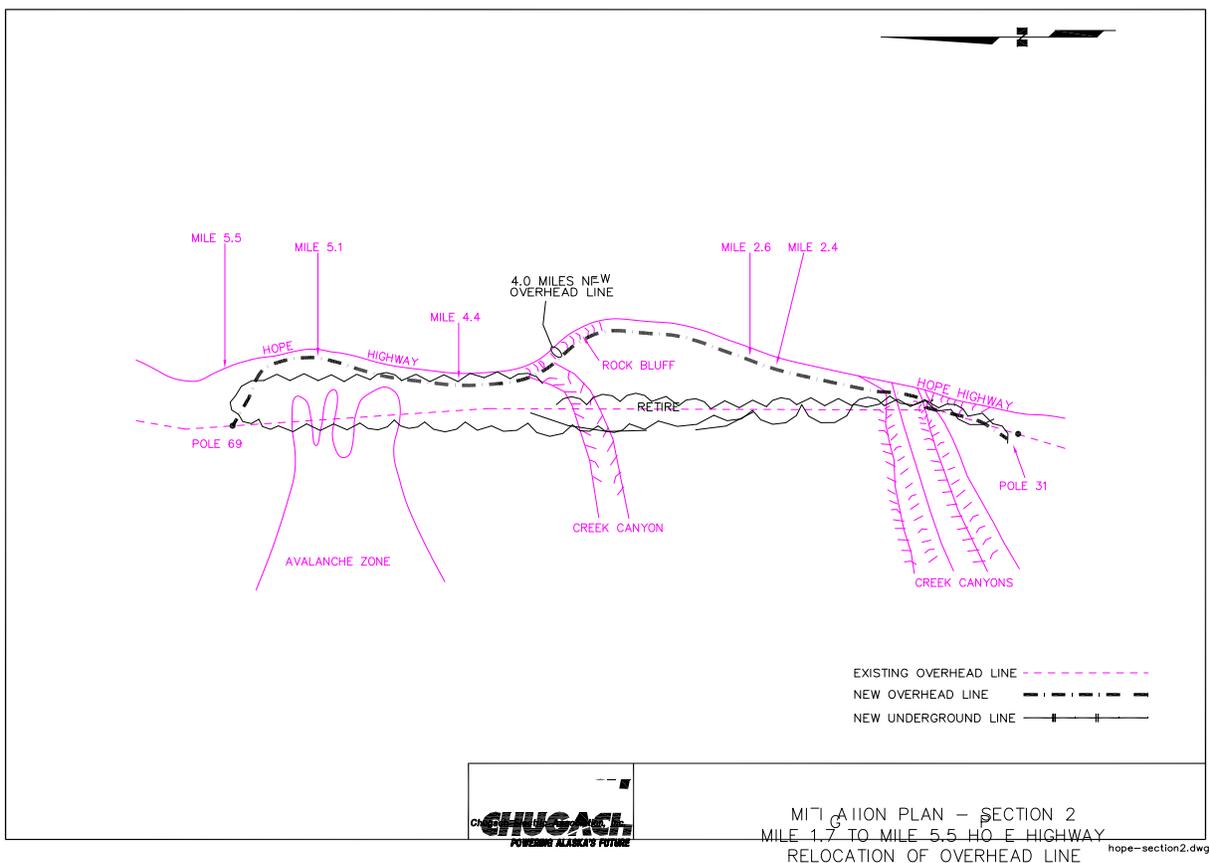


Figure 2. Site plan including existing overhead line and proposed relocation of power line for Section 2.



**Photo 1. Typical Hope power line right-of-way.**

Due to the quantity of trees to be cleared for the new right-of-way, new 20-foot-wide temporary access routes would be required approximately every 500 feet to stage logs along the highway for use by area residents for firewood. These access routes would extend from the road edge to the right-of-way and would be determined by local topography. They would not disturb the surface slopes, although they may require the removal of some trees. Any permanent access routes needed for maintenance of the line would be pre-approved through the state and federal permitting process required for the project.

Clearing of the right-of-way would be scheduled from August 15 through September 15, 2012, and would utilize hand and mechanized equipment. This may include a hydro-ax, an excavator with a mulcher head, an all terrain vehicle (ATV), a Caterpillar dozer to smooth out the right-of-way and to spread brush, a Timbco feller buncher, and chainsaws. Four-person clearing crews would

access the right-of-way on foot or by using ATVs. Clearing of the right-of-way would not involve grubbing or significant ground surface disturbance. Stumps would be left no more than 12 inches in height and slash would be within 16 inches from the ground. Trees would be limbed, cut to manageable lengths, transported using the access routes, and stacked along the highway at pull-off points for public use.

In areas that have rock conditions or where access is not possible due to rock formations or excessively steep slopes, alternative excavation may be required. There is a possibility that some rock blasting may be required at one or two locations. In addition, a setback may be required by permitting to be left when the right-of-way encounters a flowing creek. The placement of the poles would be arranged so that the line would span the creek between the poles, allowing a buffer zone of brush and low growth trees on the sides of the creek.

Construction of the new line is planned to start in September 2012 and be completed by mid-December. A contractor with a line truck would auger 24" diameter holes for the new power poles. If the pole locations are in soils and access conditions allow, the holes would be bored or excavated with small excavators. Other equipment for construction may include a highway digger/line truck, Nodwell tracked vehicle, wire puller, pole trailer, and four-wheeler. Most equipment would be left in the right-of-way on evenings and weekends in a locked and secure manner. Refueling of equipment shall take place off the right-of-way.



**Photo 2. Aerial view of power line right-of-ways adjacent to the Hope Highway.**

there is abundant rock present, screw-type anchors would be used into the ground, which have minimal ground disturbance. If rock is present, a rock anchor would be used. Neither would require additional clearing.

For installation of the new line, all materials (poles, anchors, framing, insulators, and line hardware) would be skidded to the pole sites or carried in by an ATV after freeze-up in September. Stringing of the conductor line would be accomplished by pulling the lines from reels using a sock line that is strung through temporary travelers up each pole. Approximately 20 to 30 wood poles would require guy supports with anchors, which are commonly placed 20 to 40 feet from the pole they are supporting, depending on the topography. Unless

The existing power line would be retired and contractors would remove poles 32 through 68. Removal is planned to start in late February 2013 and be completed by the end of June. Phase 1 of the removal would include all conductors, insulators, down guys, framing cross-arms, and the poles cut off at snow level. This work would be conducted during the winter by skidding out the retired materials to minimize the impact on vegetation. The contractor would access the site with snow machines and skid-mounted sleds and rollers. Phase 2 would consist of cutting the poles down to just below the ground line and placing native materials over the pole locations. Upon completion, all power line structures removed would be taken to an approved contractor or CEA storage facility. This section of the line is 45 years old and none of the materials have any salvage value.

Clearing and danger tree removal along the highway coincides with USFS efforts to mitigate fire danger with fire breaks, including the removal of dead-standing wildfire fuel. The relocation would reduce the occurrence of damage by falling trees or avalanche impacts and would shorten the outage duration due to the proximity of the relocated line to the Hope Highway. Further reduction in outage duration would be realized as it would eliminate the need to notify and receive clearance from avalanche officials before crews can enter the area, as is currently required at the upland location.

## **5.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS**

The NEPA compliance process requires federal agencies to consider direct and indirect impacts to the environment. For each resource category, the impact analysis follows the same general approach in terms of impact findings. When possible, quantitative information is provided to establish impacts. Qualitatively, these impacts will be measured as outlined below.

| Impact Scale           | Criteria  |
|------------------------|---|
| <b>None/Negligible</b> | The resource area would not be affected, or changes would be either non-detectable or if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.  |
| <b>Minor</b>           | Changes to the resource would be measurable, although the changes would be small and localized. Impacts would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.   |
| <b>Moderate</b>        | Changes to the resource would be measurable and have both localized and regional scale impacts. Impacts would be within or below regulatory standards, but historical conditions are being altered on a short-term basis. Mitigation measures would be necessary and the measures would reduce any potential adverse effects. |
| <b>Major</b>           | Changes would be readily measurable and would have substantial consequences on a local and regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.                      |

Impacts are disclosed based on the amount of change or loss to the resource from the baseline conditions and may be direct or indirect. Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by an action and occur later in time or are farther removed from the area, but are reasonably foreseeable. Cumulative impacts are discussed in Section 6.0.

Resources that were not analyzed in detail include air quality and noise. No effect to air quality is expected beyond small amounts of dust and exhaust from short-term construction operations. All areas in the Kenai Peninsula Borough, including the project site, meet or exceed the National Ambient Air Quality Standards and the project area is not located within a federally-designated air quality nonattainment area, maintenance area, or an Alaska Department of Environmental Conservation air quality area of concern. No impacts are anticipated from noise beyond a short-term increase during construction. The project is located in a rural area and there are not any residences in the project vicinity.

The following subsections discuss the regulatory settings and the environment and existing conditions for each alternative. The discussion is broad and regional in nature. It does not include a complete inventory of each resource, but does provide information to characterize those resources. This section also identifies the potential effects and environmental consequences of the two alternatives considered.

## 5.1 Physical Resources

### 5.1.1 Climate and Climate Change

The Turnagain Arm coastal area where the Hope Highway is located features moderately cold winters and relatively mild summers. Winter temperatures range from 14 to 27 degrees Fahrenheit (°F) and summer temperatures vary from 45 to 65 °F. The average annual

precipitation is 22 inches, not counting snowfall. Rainfall is the heaviest in September and averages 3.17 inches. April is the driest month and averages 0.79 inches. Winter months receive more precipitation than summer months. The average annual snowfall is 74.4 inches, with snowfall increasing dramatically with elevation. No permafrost exists in the Southcentral portion of Alaska where the project is located.

The CEQ has released guidance on how federal agencies should consider climate change in their decision making process for actions. The suggested threshold for when quantitative analysis should be done in NEPA documents is for an action to release over 25,000 metric tons of greenhouse gases per year (CEQ 2010). Given the nature and relatively small scale of the action alternative considered and the lack of greenhouse gas releases, no further analysis was completed on climate change because it would not meet the established threshold warranting further consideration.

### **5.1.2 Geology and Soils**

The topography adjacent to the Turnagain Arm in the area consists of broad outwash plains (lowlands) bounded by steep, rocky, glaciated sideslopes. The Pacific sea floor descends hundreds of kilometers into the earth's mantle beneath Southcentral Alaska and the coast lies above the boundary between the North American plate and the Pacific plate. For many millions of years, the two plates have been converging at a rate of about 6 centimeters per year. This process is known as subduction, and the place where it takes place is called a subduction zone. Subduction is ultimately responsible for the main features of the bedrock geology of Southcentral Alaska, the many earthquakes, the frequent explosive eruptions of Cook Inlet volcanoes, and some very pronounced long-term uplift and subsidence (ups and downs) of the Kenai Mountains.

The bedrock geology of the project location is dominated by undifferentiated sedimentary rocks consisting primarily of graywacke, shale, slate, and conglomerates. The geology that overlays most of the bedrock is in the form of frost-shattered rocks in the high alpine areas, colluvium and glacial drift on the side slopes, and alluvium and glacially deposited materials on the valley floors. On the sideslopes the soils are typically medium textured and well drained, becoming deeper and more developed as you move lower.

Lowlands areas that are not subject to continual erosion or deposition from material above, either mineral or snowfall, usually exhibit greater soil development and support mature conifer forests. Those soils forming from alluvial materials tend to be better drained than those forming from siltsand clays. Areas that are poorly drained can develop thick organic horizons within the soil profile and support wetland vegetation. Upper areas with soils that are well drained and thus better aerated can also support productive conifer forests.

The Farmland Protection Policy Act requires Federal agencies to minimize the extent to which their programs contribute to the unnecessary conversion of prime farmland, unique farmland, and land of statewide or local importance to non-agricultural uses. There are no prime and unique farmlands designated in the project area and no conversion would occur.

### 5.1.3 Consequences of Alternatives

#### Alternative 1 – No Action

Under this alternative, FEMA would not provide funding to mitigate the ongoing problems related to power outages for Section 2. No construction activities would occur that would potentially impact physical resources. The existing site would remain on steep slopes and would continue to be subject to harsh conditions associated with high winds, heavy wet snow, and avalanches. The impact intensity to the resource would be relatively small and localized but would have measurable regional scale impacts to the communities of Hope and Sunrise in terms of continued power outages, which would be considered minor to moderate.

#### Alternative 2 – Relocate Section 2 of the Hope Power Distribution Line (Proposed Action)

Soil conditions at the existing site would remain largely unchanged as the majority of the removal operations would be conducted by snow machines and skid-mounted sleds and rollers during the winter to minimize the ground disturbance. The topography in the area would revert back to a natural state.

At the relocation site, vehicles would use the Hope Highway and right-of-way infrastructure to access the site as much as possible. Additional access routes would be selected at several locations along the Hope Highway and would be determined by the local topography. Access routes would not disturb the surface slopes, although they may require the removal of some trees. No permanent access road construction is anticipated, but if needed would be required to meeting permitting requirements.

Clearing of the 40' wide right-of-way would not involve grubbing or significant ground surface disturbance, other than augering 24" diameter holes to install the new power poles and minor ground disturbance from anchoring poles into the ground at certain sites. There would be no impacts to prime and unique farmlands, as there are none in the project area. Based on the scale of the project, the impact intensity to physical resources, including soil stability, would be minor.

## 5.2 Water Resources

### 5.2.1 Surface, Ground, and Water Quality

There are four creeks that cross the project area to the west of the Hope Highway from Mile 1.7 to 5.5. They include Beaver Creek at MP 2.4, Alder Creek at MP 2.6, Old Woman Creek at MP 4.4, and an unnamed creek at MP 5.1. These creeks all feed into Sixmile Creek, located on the east side of the Hope Highway.

Sixmile Creek is semi-glacial, has steep gradients, and is a popular recreation area for whitewater boating and fishing. In the *Chugach Forest Land Management Plan* revision process, the USFS found Sixmile Creek to be eligible as a "Recreational River" based primarily on its use for whitewater boating. On the upper river, the state owns only the river bottom. On the lower river (adjacent to Borough-owned uplands), the state owns a 200-foot wide retention corridor to

protect fish habitat and passage, and to ensure public access for sport fishing, hunting, and recreation. In addition to recreational use, the Sixmile Creek corridor bottomlands are used extensively for placer mining and most of the creek has been staked with mining claims.

### **5.2.2 Wetlands**

Executive Order (EO) 11990 for the Protection of Wetlands requires federal agencies to follow avoidance, mitigation, and preservation procedures with public input before implementing construction that has the potential to affect wetlands.

From U.S. Fish and Wildlife Service (USFWS) wetlands mapping, all wetlands occurring in the vicinity are located on the east side of the Hope Highway and are adequately buffered by the road. Therefore, only project aspects located on the east side of the highway would have the potential to affect wetlands.

### **5.2.3 Floodplains**

EO 11988 for Floodplain Management requires federal agencies to take action to minimize the occupancy and modification of floodplains and to avoid adverse effects and incompatible development in the floodplain. FEMA is required to notify the public at the earliest possible time of the intent to carry out an action in a floodplain and to involve the affected and interested public in the decision-making process.

The project area is mapped Zone D for floodplains under FEMA's Flood Insurance Rate Map Community Panel No. 0200121475A, dated May 19, 1981, for the Kenai Peninsula Borough and Cook Inlet. Zone D indicates that the flood zone for the area is undetermined. However, given the site's location in an area that historically has not flooded, it is unlikely the overall site would be in a floodplain. The project would not impede natural floodplain uses or be considered incompatible development and therefore would not cause adverse effects or any change to pre-existing floodplain values. FEMA has concluded the alternatives would not have an impact on 100-year or 500-year floodplains and no further documentation is required.

### **5.2.4 Coastal Zone**

The project is located inland and southwest of the marine waters of Cook Inlet in Turnagain Arm, which is a coastal zone. Alaska no longer has a coastal zone management program and a state review for consistency is not required.

### **5.2.5 Consequences of Alternatives**

#### **Alternative 1 – No Action**

The No Action alternative does not include any FEMA action and no construction activities would occur that would impact water resources.

## **Alternative 2 – Relocate Section 2 of the Hope Power Distribution Line (Proposed Action)**

The Proposed Action would include constructing the new power distribution line over four streams that occur along the proposed right-of-way. All four streams flow into Sixmile Creek located on the east side of the Hope Highway. The placement of the poles would be arranged so that lines would span the creek between the poles and no in-water work is anticipated. CEA requires contractors to comply with its *Outside Electrical Line Construction Contract 2012*. The contract includes a stipulation that contractors provide an Alaska-certified erosion and sediment control lead on-site during all construction activities to ensure Best Management Practices (BMPs) for environmental protection are implemented that comply with all local, state, and federal laws, ordinances, permit conditions, and agency guidance documents.

CEA is required, as part of the project approval, to coordinate with the Alaska Department of Fish and Game (ADF&G) to determine whether any permits will be required. It would be at the discretion of the ADF&G permitting to determine whether additional buffer zones of brush and low growth trees would be required when the right-of-way encounters a flowing creek.

When the Proposed Action crosses over to the east side of the Hope Highway, wetlands may occur in the project vicinity. As part of the USFS special use permit amendment required for the project, the USFS requires this location be surveyed by their wetlands specialist prior to ground disturbing activities to ensure no wetlands would be impacted. The USFS would coordinate with the USFWS to address any issues or concerns, and may require mitigation measures as conditions in the USFS permit amendment, if applicable.

The project design, BMPs required, and applicable permit requirements would significantly reduce the potential to affect water quality due to the release of sediments at creek crossings and any potential impacts to wetlands. No direct or indirect effects to water resources are anticipated from the Proposed Action and the impacts would be negligible.

### **5.3 Biological Resources**

The project is located within the Chugach National Forest. Each National Forest is governed by a management plan implemented by the USFS in accordance with the National Forest Management Act. The plan sets management, protection, and use goals and guidelines. The USFS reviews project documents and monitors conditions on a forest to ensure projects are done in accordance with plan direction and to determine any effects that might require a change in management.

In addition to the USFS management of the National Forest, the Conservation Planning Assistance Program of the USFWS Anchorage Field Office uses the best available science and practical land management techniques to ensure that land use and land development projects proceed in a manner consistent with the USFWS's mission. USFWS environmental review responsibilities under federal statutes include, but are not limited to the Clean Water Act, Endangered Species Act, Fish and Wildlife Coordination Act, Migratory Bird Treaty Act, and Bald and Golden Eagle Protection Act (Eagle Act).

### 5.3.1 Vegetation

The range of plant species forest-wide in Alaska ranges from 85 occurrences in sparsely vegetated areas to 540 in species rich areas. In all, 45 percent of the total flora of Alaska (720 of 1560 species) has been documented in the forests of Southcentral Alaska, which includes the Chugach National Forest. A total of 11 sensitive plant species are known or suspected to occur in the Chugach National Forest, but they are all in Portage valley on the east side of Cook Inlet. The Chugach National Forest is classified as having 80 percent non-forest cover types, 17 percent forested with predominantly conifers, and 3 percent freshwater. The distribution and cover types of plant communities in the forest have developed in response to climate, landforms, past and existing land uses, and natural processes such as avalanches, landslides, insects, and wildfires. On steeper slopes and drainages, avalanches play an important role in vegetation dynamics and patterns. In addition, fires have burned approximately 75,000 acres since 1914, most of which occurred on the Kenai Peninsula.

The onset of the spruce bark beetle infestation on the Kenai Peninsula has resulted in a rapidly accelerating tree kill which has devastated the spruce forest in this area. Many of the spruce trees are either dead-standing beetle killed trees or trees vulnerable to the spruce bark beetle. As the trees die, they tend to dry out very quickly and become brittle. Consequently, trees that could once survive 100 miles per hour winds are now falling at wind speeds in the 60 to 80 miles per hour range or less. A total of 131,050 acres of the forest was documented as being infested by the spruce bark beetle between 1957 and 1997.

The project site on the west side of the Hope Highway is located within an ecosystem of forested uplands that is heavily wooded with spruce and hemlock trees, alder and willow uplands, and alpine and riparian cottonwood stands. The population of mature spruce is greater on the west side of the highway than the east. Larger concentrations of alder and devils club were noted adjacent to the power line, streams, and the Hope Highway. The highest elevations are covered by snow and ice or steep rocky side slopes and therefore support no or very little vegetation. Where soils have developed glacial deposits and where the microclimate is more favorable, plant communities from dwarf-scrub and grasslands typical of alpine areas may occur.

East of the Hope Highway, the terrain is generally flat with small hills and distinct embankments adjacent to Sixmile Creek. Large components of hemlock with only scattered spruce stands occur, with a mix of both green and dead spruce trees. Birch, hemlock, alder, and occasional cottonwood trees also occur, with thicker stands of alder and cottonwood adjacent to the highway. The understory consists of willow, various berries, ferns, devils club, grasses, and rusty menziesii, with wetlands species occurring in the vicinity of the Sixmile Creek drainage.

EO 13112, Invasive Species, was created to prevent the introduction of invasive species and to provide for their control. In general, the Chugach National Forest is not currently experiencing major problems with invasive species. In areas with established recreation use routes such as the Resurrection Trail that starts in Hope, important factors affecting invasive plant populations appear to be the high level of human use, the diversity of human use (including the use of pack animals, mountain biking, and other means of mechanical recreation), and the change in natural

communities due to road construction and revegetation projects. All of these factors are projected to increase over time.

### 5.3.2 Fish (including Essential Fish Habitat)

Sixmile Creek is listed by the ADF&G as Hydrologic Unit Code No. 19020302 for the Kenai Peninsula. It naturally supports relatively small returns of Chinook (king) salmon (*Oncorhynchus tshawytscha*) and coho salmon (*O. kisutch*), and is assumed to be a limited rearing area for coho. There has not been an in-river fishery for Chinook salmon in Sixmile Creek for at least the last 20 years. Relatively larger populations of pink salmon (*O. gorbuscha*) and chum salmon (*O. keta*) spawn in the lower areas of the river and the creek presently supports a very minor fishery for these species. Sockeye salmon (*O. nerka*) is also listed by the ADF&G as occurring in the creek. Resident fish species may include Dolly Varden (*Salvelinus malma*), arctic char (*S. alpinus*), rainbow trout (*O. mykiss*), and Arctic grayling .

ADF&G's Habitat Division implements the state's Title 16 authority for Fish Habitat and Special Area permitting. Alaska Statute 16.05.871(a) requires the ADF&G to specify the various rivers, lakes, and streams, or parts of them, that are important for spawning, rearing, or migration of anadromous fishes. Protection of these specified water bodies is addressed by other sections of the statute, which requires persons or governmental agencies to submit plans and specifications to the ADF&G and receive written approval in the form of a Fish Habitat Permit prior to beginning the proposed use, construction, or activity that would take place in specified water bodies. A Fish Habitat Permit may also be required for activities occurring in a water body or portions of a water body that are not specified in the ADF&G catalog, but are frequented by anadromous or resident fish species. If work occurs during frozen conditions, a Fish Habitat Permit is not needed from the ADF&G.

The Magnuson-Stevens Fishery Conservation and Management Act of 1996 (as amended) requires all federal agencies to protect fisheries habitat from being lost due to disturbance and degradation, and to consult with the National Marine Fisheries Service (NMFS) when an action has the potential to adversely affect Essential Fish Habitat (EFH). Freshwater EFH for salmon fisheries in Alaska includes all streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in the state. From the Final Environmental Impact Statement for EFH Identification and Conservation in Alaska, dated April 2005, all five salmon species listed for Sixmile Creek are considered EFH species for Alaska stocks of Pacific salmon.

### 5.3.3 Wildlife

Southcentral Alaska is estimated to include occurrences of 65 percent of the bird, mammal, and fish species found in Alaska. Habitat in the project vicinity offers nesting, brood rearing, foraging, and staging habitat for numerous bird species. Notable species include the bald eagle (*Haliaeetus leucocephalus*), Kittlitz's Murrelet (*Brachyramphus brevirostris*), marbled murrelet (*Brachyramphus marmoratus*), northern goshawk (*Accipiter gentiles*), osprey (*Pandion haliaetus*), Townsend's warbler (*Dendroica townsendi*), and Peale's peregrine falcon (*Falco peregrinus*). Mammals that may wander through the area include brown bears (*Ursus arctos*), black bears (*U. americanus*), Dall sheep (*Ovis dalli dalli*), moose (*Alces alces*), lynx (*Lynx*

*Canadensis*), gray wolves (*Canis lupus pambasileus*), wolverines (*Gulo gulo katschemakensis*), and mountain goats (*Oreamnos americanus*).

The Kenai brown bear population is a USFS management indicator species, and is dependent on large, undisturbed areas of land. Brown bear populations on the Kenai Peninsula are considered stable, with minimal confrontations between bears and humans that result in “defense of life and property” mortality to bears. Forest cooperation as part of the Interagency Brown Bear Study Team serves as a partnership to maintain brown bears along with other uses on the Kenai Peninsula. Other species that depend on large land areas that agencies have noted as important indicator species on the Kenai Peninsula include moose, gray wolf, lynx, wolverine, black bear, and Dall sheep (USFS 2002).

Moose, caribou, Dall sheep, and mountain goats have good habitat sufficient to continue to contribute to subsistence and hunting opportunities throughout the Kenai Peninsula. Sixmile Creek is listed as a moose rutting and winter concentration area. Other wildlife species such as lynx, wolverine, gray wolf, river otter, bald eagle, osprey, and northern goshawk are present throughout the Kenai Peninsula in sufficient numbers that their populations are considered secure.

The Fish and Wildlife Coordination Act (FWCA) was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. FEMA consulted with the USFWS and ADF&G regarding potential impacts to fish and wildlife. The evaluation and conditions required by these two agencies ensure there are not adverse affects to the FWCA.

#### **5.3.4 Bald and Golden Eagles**

The bald eagle is protected by the Eagle Act and the Migratory Bird Treaty Act. Both Acts protect bald eagles from a variety of harmful actions and impacts to protect their nests from *take*, including disturbance. The USFWS has developed national bald eagle management guidelines to provide protective provisions for activities that can potentially interfere with bald eagles and affect their ability to forage, nest, roost, breed, or raise young. The guidelines are intended to help people minimize such impacts to bald eagles, particularly where they may constitute *disturbance*, which is prohibited by the Eagle Act. In addition, the USFS and USFWS have a Memorandum of Understanding for the Alaska Region (February 26, 2002) that stipulates the interests and responsibilities of both agencies and agreed on procedures to ensure conservation measures are applied to protect bald eagles.

Beginning in March/early April, bald eagles begin building nests and re-establishing their territories. Egg laying and incubation generally peak in late April/early May, but can continue into June. Hatching and rearing young can span several months, e.g., May through September, with fledging typically occurring in August to September.

During the breeding season, bald eagles are sensitive to a variety of human activities. However, not all bald eagle pairs react to human activities in the same way. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities

much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair.

To avoid disturbing nesting bald eagles, the USFWS recommends keeping a distance between the activity and the nest (distance buffers), maintaining preferably forested or natural areas between the activity and around nest trees (landscape buffers), and avoiding certain activities during the breeding season. The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. Ideally, buffers would be large enough to protect existing nest trees and provide for alternative or replacement nest trees. In addition, the USFWS recommends avoiding clear cutting or removal of overstory trees within 330 feet of a nest at any time and avoiding timber cutting operations during the breeding season within 660 feet of a nest. The distance may be decreased to 330 feet around alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, after eggs laid in another nest within the territory have hatched.

Recommendations to avoid disturbance of foraging areas and communal roost sites include minimizing potentially disruptive activities and development in the eagles' direct flight path between their nest and roost sites and important foraging areas, and prohibiting construction and clearing activities from May through early August due to the bird nesting season. Provided no active eagle nests are located within  $\frac{1}{4}$  mile of the power line right-of-way, disturbance to bald eagles should not be an issue.

### 5.3.5 Migratory Birds

Landbirds in Alaska include 260 species, 135 breeding species, and a wide variety of bird groups such as raptors, ptarmigan, woodpeckers, swallows, chickadees, thrushes, warblers, and sparrows. Approximately 50 percent of the landbirds breeding in Alaska migrate outside of Alaska to spend the winter elsewhere. Many of these migrant landbirds travel great distances to and from their wintering grounds in the tropics, including Southeast Asia, Africa, Mexico, Central America, and South America. Because of the unique geographic position of Alaska, many of the state's landbirds are found nowhere else in the United States or North America.

There is not comprehensive distribution or population data for landbirds within the analysis area. However, the forested habitats present likely offer much needed food and cover resources for migrating individuals from a variety of species. The Migratory Bird Treaty Act (MBTA) of 1918, as amended, protects all native species of birds found in Alaska except grouse and ptarmigan, which are upland game species and protected by the State of Alaska. Federal regulations (50 CFR Part 21.11) prohibit the *take* of migratory birds, which is defined to include by any means or any manner, and any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any bird, nest, egg, or part thereof. Habitat is protected when there is an active nest (a nest with chicks or eggs being tended by an adult). Empty and abandoned nests and nonviable eggs are not protected, but cannot be taken into possession without a permit from the USFWS. Permits are not required to remove or alter the structure the nest is built in or on.

Migratory birds nest not only on tree branches and in tree and snag cavities, but also among shrubs and downed vegetation, on open ground, and on cliffs. Many nests, if not most, are well-camouflaged or otherwise almost undetectable. While adult birds can usually escape construction activities, their eggs and chicks have no defense. Destruction of active bird nests, eggs, or nestlings that result from vegetation clearing, grubbing, and other site preparation and construction activities would violate the MBTA. Therefore, to avoid illegal *take*, it is recommended that clearing and other site preparation activities be timed to occur outside of the local bird nesting season.

The USFWS is the federal agency responsible for administering the MBTA and consultation is required if an action is determined to cause a potential take of migratory birds to determine measures to minimize or avoid these impacts. In April 2005, the USFWS finalized statewide timing guidelines for migratory bird nesting. These guidelines represent time periods during which clearing of vegetation and other site preparation activities be avoided. The guidelines are not regulations, but are intended as recommendations to assist industries (like CEA), contractors, developers, other agencies, and the general public in meeting their obligations under the MBTA. The local nesting season in Southcentral Alaska generally peaks between May 1 and July 15, and a “no clearing” window is in effect for that time period. In addition, clearing should be avoided between April 10 and August 10 if an activity is within 660 feet of an active nest for bald eagles or other raptors.

### **5.3.6 Threatened and Endangered Species and Critical Habitat**

The Endangered Species Act (ESA) of 1973 directs federal agencies to consult with the USFWS or NMFS, as applicable, when an action has the potential to affect any federally-listed threatened, endangered, or proposed species, or would result in the destruction or adverse modification of designated or proposed critical habitat.

According to current ESA species lists for both the USFWS and NMFS, no threatened or endangered species or proposed species of plants or animals occur in the project area. The bald eagle was de-listed in 2006. The project site is located in priority habitat for the Kittlitz’s murrelet, which was designated as a candidate species in 2004 under the ESA because its numbers have declined sharply and it may warrant listing as threatened or endangered. Candidate species are not subject to the regulatory protections of the ESA, and human activities that may affect candidate species are not restricted. However, candidate status signals that there are conservation concerns about a species, and the USFWS encourages agencies, organizations, and individuals to participate in research and conservation activities that may preclude the need to list the species.

### **5.3.7 Consequences of Alternatives**

#### **Alternative 1 – No Action**

Under this alternative, no construction would occur and biological resources wouldn’t be impacted by construction or ground disturbing activities.

## **Alternative 2 – Relocate Section 2 of the Hope Power Distribution Line (Proposed Action)**

Vegetation loss would result from the Proposed Action due to the clearing of the new right-of-way, access routes, and removal of danger and hazard trees. Changes at the site would affect changes in food sources, shelter, and short-term natural processes sustaining bird and wildlife species. However, there is substantial habitat available in the surrounding area and wildlife displaced as a result of project disturbance would likely relocate to adjacent habitat. Any replanting would require the site be seeded with native vegetation to ensure the project is in compliance with EO 13112 for invasive species.

The Proposed Action will require an amendment to the existing USFS special use permit for the Hope power line. The amendment will include review of the project by USFS staff specialists and will specify any additional conditions that may apply to ensure resources are protected, including vegetation, wildlife, bald eagles, and migratory birds. All conditions of the USFS permit will be a requirement of FEMA funding. In addition, CEA operating policies specify contractors comply with CEA's migratory bird and raptor reporting procedures, which includes procedures that must be followed if a protected bird or nest is encountered during construction.

In addition to USFS permit amendment conditions and CEA operating policies, the USFWS prohibits clearing of vegetation in the area between May 1 and July 15 to ensure compliance with the MBTA. The USFWS has provided additional recommendations to FEMA to avoid disturbance and protect all bird species, including their nests and habitat, and the consultation letter (attached in Appendix C) has been provided to the USFS. It was agreed on April 23, 2012, an exception would be allowed for minor clearing necessary to get a line of site to flag the right-of-way prior to construction, provided such clearing would be coordinated with the USFWS. The USFWS has also recommended when new poles and overhead lines will be placed in areas where birds are likely to concentrate (e.g., stream crossings, roosts, wetlands, etc.), visibility enhancement devices should be used to reduce the risk of bird interactions and collisions.

An ADF&G Fish Habitat Permit may or may not be required for the Proposed Action. To ensure compliance with state laws, an ADF&G permit application should be filled out by CEA to determine compliance requirements. This may include a setback be left when the right-of-way encounters a flowing creek to provide a buffer zone of brush and low growth trees on the sides of the creek. Compliance with ADF&G permitting requirements is a condition of FEMA funding and would assist in ensuring effects to fish populations would be negligible and there would be no adverse effects to EFH.

The USFWS has recommended that all four tributary streams to Sixmile Creek identified in the proposed project alignment be treated as anadromous streams, as the likelihood exists that salmon spawning and/or rearing habitat may occur in one or more of these. The USFWS recommends CEA's *Vegetation Management Guidelines* for anadromous streams be followed for the four streams to minimize fisheries impacts. This includes a standard practice of leaving 200-foot buffer zones on each side of the streams and conducting selective tree cutting within these buffers by hand clearing methods only when trees have the potential to grow in excess of 15 feet in height.

The USFWS recommends CEA reconsider creating access routes as frequently as every 500 feet and explore other alternatives to reduce the frequency. The proposed access routes may potentially become inadvertent routes for recreational ATVs, snow machines, and other off-road activities, and create additional disturbance to fish and wildlife habitat. More concerning to the USFWS is the potential for the access routes to create pathways for the spread of invasive plants. If the USFS deems some access routes along the highway are appropriate, the USFWS recommends bollards and/or boulders be placed across the back of these areas to limit undue and future disturbance.

The implementation of BMPs and compliance with USFS, USFWS, and ADF&G permitting requirements and associated management guidelines and recommendations (as required by CEA operating policies) would ensure affects to birds and wildlife by the construction activities would be minimized. Although the changes would be measurable, the effect to biological resources would be minimal to long-term natural processes and the overall impact would be localized and minor.

Tree clearing for the right-of-way, including the removal of danger and hazard trees outside of the right-of-way, provides a joint opportunity for CEA and the USFS to develop forest fire breaks associated with high risk fire areas linked to the spruce bark beetle tree kill problem and ultimately protects habitat.

## **5.4 Cultural Resources**

The National Historic Preservation Act (NHPA) requires that federally-funded actions take into account cultural resources in and around a project site, in cooperation with the state, tribes, and local governments. Section 106 of the NHPA and its implementing regulations (36 CFR 800) outline the procedures to be followed in the documentation, evaluation, and mitigation of impacts to cultural resources. The State Historic Preservation Officer (SHPO) is responsible for administering state-level programs. Cultural resources include resources of historical and/or archaeological significance. For purposes of this analysis, the term “archaeological resources” is used to refer to prehistoric or historic subsurface sites or objects, and the term “historic resources” is used to refer to above-ground historic structures and sites.

### **5.4.1 Prehistoric Context (American Indian/Religious Sites/Tribal Interests)**

Although prehistoric evidence from the project area itself is scarce, evidence from sites found along the Turnagain Arm in the past decade indicates that humans occupied the area from early in the Holocene to the time of European contact. It is believed the first Alaska Natives arrived with the melting of the glaciers that covered the area until about 10,000 B.C. Studies at Beluga Point on the north side of Turnagain Arm south of Anchorage have yielded tools comparable to early Holocene technological complexes in other parts of Alaska. These ancient peoples had both intermittent and permanent residences in the area and were dependent on many of the same subsistence resources that are present in the area today, including salmon and Dall sheep. Other resources that may have been important include beluga whales, eulachon (a small anadromous ocean fish; also called hooligan or smelt), and caribou. Although caribou are not resident in the area today, they were likely available in the past.

It is thought that by about 500 to 1000 A.D., an Athabascan Indian group arrived from the state's interior to settle on the shores of Cook Inlet. Athabascans were traditionally nomadic in nature and were known as hunters and gatherers, living on moose, caribou, plants, berries, and fish. The earliest Athabascan-speaking Dena'ina group likely lived in nomadic bands and eventually developed permanent homes and communities. Traditionally, Dena'ina territory stretched from the Kuskokwim River to Lake Clark and Lake Iliamna, and across the Alaska Range to Cook Inlet, the Susitna Valley, and the Kenai Peninsula.

The abundance of the land, including marine resources and the abundant salmon runs of the region, led the Dena'ina to settle along the banks of the rivers and shorelines of Cook Inlet. At the time of the arrival of Europeans and Russians in the late 1700s, it is believed that there were 3,000 to 5,000 Dena'ina living in dozens of settlements in the region. They incorporated tools, social principles, and ceremonial practices from their non-Athabascan neighbors and traded marine resources with more interior groups of Alaska Native peoples. Examples of their marine adaptations include the use of the baidarkas (sea kayaks) and kamleikas (sea mammal robes). This era was followed by diseases that cut down many Alaska Native people and populations declined by more than 50 percent.

The Dena'ina named the Kenai Peninsula area Yaghanen, the good land. Kenaitze Indian Tribe members are Dena'ina people and the tribe is federally recognized under the Indian Reorganization Act of 1934, as amended for Alaska in 1936, as a sovereign independent nation. Kenaitze ancestors traveled throughout the Kenai Peninsula. In the summer they fished the shores of the rivers and Cook Inlet, harvesting all salmon species using dip nets, weirs, dams, and traps. After the fish harvest, the ancestors traveled inland to hunt bear, caribou, mountain goat, sheep, and moose. Women and children gathered berries and snared small mammals. Winter was a time for trapping, gathering together, traveling from one village to another, storytelling, and trading.

Today Kenaitze tribal members number over 1,236 and although many live on the Kenai Peninsula and in Anchorage, others live throughout Alaska and as far away as New York, Florida, Texas, and California. The Kenaitze dialect of the Dena'ina language is one of the most complex and diverse of Athabascan languages, containing coastal and marine terminology, in addition to over 400 Russian loan words.

In addition to the Kenaitze Indian Tribe, the Qutekcak Native Tribe serves the Native community in the Seward area of the eastern Kenai Peninsula. At the time of European contact in the 18<sup>th</sup> century, the Seward area was inhabited by Alutiiq speaking people known as Unegkurmiut. The territory of the Unegkurmiut embraced the entire south coast of the Kenai Peninsula, including Resurrection Bay. In 1872, Resurrection Bay became the site of a Russian trading post and shipyard. After European contact, the Unegkurmiut population declined to the point that by 1911 no indigenous communities survived along the outer coast of the Kenai Peninsula. Native people eventually left the area because they were either persuaded or forced to leave by the Russians.

The modern Native population in the Seward area is composed of people from diverse cultures—including Inupiat, Athabascan, Aleut, and Alutiiq—who came for a variety of reasons and

remained to make Seward their home. In 1972, members of the Seward Native community began the Mount Marathon Native Association and formalized its governance. In 1993, the name was changed to the Qutekcak Native Tribe. Qutekcak tribal members are a blend of Alaska's Native peoples from all corners of the state and live on the shore of Resurrection Bay. The Tribe has nearly 500 members and is a collection of people of different heritages who are generally referred to as Aleut or Alutiiq people.

#### 5.4.2 Historic Context

In late May 1778, English Captain James Cook entered what is now known as Cook Inlet with his two ships, the *Resolution* and *Discovery*, on a mission to find a Northwest Passage. He named the waterway to the south of what is now modern Anchorage "Turnagain River" after realizing that he could no longer proceed in that direction. In Captain Cook's journals he recounted how the natives offered salmon, halibut, dogs, and furs in trade for some old clothing. The coastal area around Turnagain Arm was described as being swampy, with poor soils that produced a few trees and shrubs such as spruce, birch, and willow, along with rose and current (sic) bushes and a little grass. It is likely that Cook's first indigenous encounter was with the Dena'ina who inhabited the coastal areas around Cook Inlet at that time.

In 1794, English Captain George Vancouver and Lieutenant William Broughton, commanding the *Discovery* (not Cook's old ship) and the *Chatham*, sailed to the head of Cook Inlet and spent about a month adding to Cook's charts, correcting his observations concerning the nature of Turnagain Arm, and generally mapping and describing the coast. Early Russian explorers around the same time, in contrast to the English explorers, stayed in Cook Inlet after their arrival and built permanent settlements. The closest Russian permanent settlement to Turnagain Arm was the Nikolaevsk Redoubt (Fort Nicholas), established in Kenai in 1791.

The discovery of mineral resources (gold, copper, and coal) was the impetus for 19th and 20th century exploration and settlement by non-Natives in the Cook Inlet area, including what is now known as Anchorage and the outlying areas. In 1867, the United States acquired Alaska as a territory. In 1888, Alexander King reported finding gold in the Hope area and the first claims on Resurrection Creek were staked in 1893. The Turnagain Arm Mining District was formed in May of that same year. The valley east of Hope that included Sixmile Creek and the town of Sunrise was designated the Sunrise Mining District in 1895.

"Hope City" was established in 1896 as a mining camp for Resurrection Creek and was home to Alaska's first gold rush, before the Klondike Stampede in the Yukon region or the rush to the gold beaches of Nome. Miners arrived in the Hope area by boat, with many rowing themselves up Cook Inlet's Turnagain Arm in dories. A few of these men decided to name their little town after the next person off the boat. The next person off the boat happened to be Percy Hope, a 17-year-old prospector. In 1897, word of Klondike gold reached Turnagain Arm, resulting in several hundred miners leaving the mining districts. For those that stayed, stream placer deposits along the Turnagain Arm were mined using high-pressure water jets (hydraulic mining) during the first three decades of the 1900s.

The original construction of an 18-mile-long stretch of the Seward Highway traveling from Seward to Kenai Lake was completed in 1923, followed by construction of another segment of the highway running between Moose Pass and Hope that was completed in 1928. Prior to 1950, the U.S. Congress was not eager to fund road building in Alaska because of the huge areas involved, the small number of existing roads, and the large percent of land that was public, which affected the matching-fund formula used for funding roadwork in territories.

While construction of wagon roads, winter sled roads, trails, and low standard roads occurred between the inception of the Alaska Road Commission in 1905 and the late 1940s, it was not until the early 1950s that Alaska began to receive large road building budgets, primarily at the urging of the military, and because of the Cold War. Contracts to build the Seward Highway between Anchorage and Seward were let in 1949, and the road was officially opened on October 19, 1951. Despite the availability of the road, however, the highway between Seward and Girdwood, 35 miles south of Anchorage, was still only considered 59 percent complete in June of 1952.

When the Cold War started to heat up, the strategic location of military bases in Alaska could not be overlooked. Anchorage gained prominence on the Great Circle flying route between the lower '48 and Asia, and Anchorage International Airport was opened in December 1951. The Alaska Constitution was initiated in 1955 and endorsed by the electorate a year later. On May 28, 1958, the Alaska Statehood Bill was passed and Alaska became the 49th state in 1959. The population in Alaska in 1960 was up to 82,833, and a decade later it had increased to 124,385. In 2011, the U.S. Census listed the state's population as 722,718.

### **5.4.3 Historic Properties**

The Area of Potential Effects (APE) for the Proposed Action is located parallel and to the west of the Hope Highway in the Kenai Peninsula Borough, along with one portion on the east side of the highway starting at MP 1.7 for approximately one mile. The current alignment of Section 2 is over a mile west of the highway in some areas. The relocated line would be moved to the base of the steep mountains in the area and would follow the Hope Highway corridor between power pole 31 at milepost 1.7 and pole 69 at milepost 5.5.

The project area is located in a valley that has been continually used from prehistoric to modern times. Heavy mining activities and the looting of graves by miners has greatly limited the documentation of Native activities along Sixmile creek and the Hope area. In 1895, 45 claims were filed on Sixmile Creek, with as many as 1500 people working on Sixmile and its tributaries by 1896. These features have been combined into the Sixmile Historic Mining District (SEW-1008). The period of significance for the District is 1895 to 1942.

The project is located in the Sixmile Historic Mining District. The Alaska Heritage Resources Survey (AHRs) disclosed no known archaeological or historic sites within the APE of the project. There are five sites located east of the Hope Highway along Sixmile Creek. In addition, there are a number of sites where the Hope Highway intersects the Seward Highway approximately  $\frac{3}{4}$  mile to the south of the APE and additional sites closer to the community of Sunrise.

The USFS conducted a cultural resources survey for a Chugach National Forest fuels reduction project on both sides of the Hope Highway between MP 2.3 to the south and MP 6 to the north in April 2002 (R2000100430019). Archeological technicians surveyed between Sixmile Creek to the CEA power distribution line to the west and provided a list of 33 cultural features located, including mining ditches, prospect pits, and equipment associated with hydraulic mining activities. The features located during this survey were combined into the Sixmile Historic Mining District.

#### **5.4.4 Consequences of Alternatives**

##### **Alternative 1 – No Action**

This alternative does not include any FEMA undertaking; therefore, FEMA has no further responsibilities under Section 106 of the National Historic Preservation Act.

##### **Alternative 2 – Relocate Section 2 of the Hope Power Distribution Line (Proposed Action)**

For the Proposed Action, clearing of the right-of-way would involve minimal ground surface disturbance. Stumps would be left no more than 12 inches in height and slash would be within 16 inches from the ground. Access routes would not disturb the surface slopes, although they may require the removal of some trees. Subsurface ground disturbance would be limited to augering 24” diameter holes for the placement of approximately 50 new power poles and installing guy supports anchors (approximately 20 to 30) where needed. The anchors would require minimal ground disturbance, utilizing rock anchors when possible and screw-type anchors when rock is not present.

The USFS has agreed to be the lead regarding Section 106 compliance under the NHPA. From a USFS records search, the entire APE has been previously surveyed for historic sites and there are some known sites that occur in the project vicinity. In coordination with CEA, the USFS will have its staff archaeologist for the Chugach National Forest, Sherry Nelson, coordinate with the CEA crew when the clearing limits are flagged for the project and the USFS will locate and flag known archaeological sites to avoid. This would allow the USFS to confidently ensure that no historic properties would be affected.

Provisions allowed in an existing Programmatic Agreement the USFS has with the SHPO and the Advisory Council on Historic Preservation (dated December 6, 2010) would be applied. The USFS would inform the SHPO of their plans ahead of time to make sure the SHPO agrees with the approach. During the site flagging, the USFS would take measurements and mark everything on a map that would be submitted with all documentation submitted in the USFS annual report for the Programmatic Agreement and no further consultation with the SHPO would be required.

As part of taking the lead for Section 106 compliance, the USFS would also provide information on the Proposed Action to the Kenaitze Indian Tribe and the Qutekcak Native Tribe to identify any sites of traditional cultural and religious importance.

Based on the USFS taking the lead for Section 106 compliance and their approach within the APE for avoidance of historic properties, FEMA has concluded the Proposed Action would have little potential to encounter archaeological resources. An inadvertent discovery clause will be required as a condition of project approval and is included in Section 8.0. FEMA believes this further mitigates the potential for adverse effects to historic properties.

Accordingly, and subject to any later unanticipated discoveries, FEMA has made a determination of *no historic properties affected* for this Undertaking, as outlined in 36 CFR § 800.4(d)(1). The impact intensity to cultural resources by the Proposed Action is expected to be negligible. However, in the event an unanticipated discovery of a potential cultural resource occurs during construction, this would elevate the level of impact. All construction would be halted until FEMA has completed consultation with the SHPO, Kenaitze Indian Tribe, and Qutekcak Native Tribe and determines appropriate measures have been taken to ensure the project is in compliance with the NHPA. The intensity would be determined by the nature of the discovery.

## **5.5 Socioeconomic Resources**

### **5.5.1 Socioeconomics and Environmental Justice**

EO 12898 for Environmental Justice directs federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations in the United States resulting from federal programs, policies, and activities. For the purpose of evaluating Environmental Justice effects in this draft EA, the affected environment is defined as the populations of Hope and Sunrise. Socioeconomic and demographic data for residents was reviewed to determine if a disproportionate number (defined as greater than 50 percent) of minority or low-income persons have the potential to be affected by the alternatives considered.

The 2010 U.S. Census reported there were 192 people in Hope, with 88 percent white, 4.2 percent American Indian and Alaska Native, and the remaining 7.8 percent of the residents had multi-racial backgrounds. In addition, 14.3 percent of the town population had incomes below the poverty level. The 2010 U.S. Census reported there were 18 people in Sunrise, with 94.4 percent white and 5.6 percent Asian. No economic data was available for Sunrise. Both communities have temporary populations that increase the population numbers to approximately 100 additional residents (combined) for winter and summer recreational activities.

The school and local retail businesses provide the only employment in Hope, although some mining activities continue today in the outlying areas. In addition to residential properties, the town has five commercial properties, two public buildings, and one house of worship. Many of the residents of Hope and Sunrise have alternative sources of heat, light, sewer, and cooking capability, including fireplaces, woodstoves, generators, and outhouses. However, due to the remote location of both communities and the length of power outages that occur, the value of electrical service may be somewhat greater than in an average urban neighborhood.

### **5.5.2 Traffic and Safety**

Construction safety and potential impacts to public traffic on the Hope Highway during project implementation are addressed by a number of CEA policies and procedures. Foremost, all contractors hired by CEA to carry out the work are pre-qualified on an annual basis and sign a contract that addresses and regulates potential safety concerns. A copy of the contract can be found on CEA's website at [www.chugachelectric.com](http://www.chugachelectric.com), under the tab *Inside Chugach* and then *Bid Opportunities*. The contract is listed as the *2012 Outside Electrical Line Construction Contract*. It requires contractors hired by CEA to comply with all applicable state and federal safety standards, including but not limited to all training requirements as set forth by the federal Occupational Safety and Health Act (OSHA) in 29 CFR Part 1910.269 and the State of Alaska Department of Labor's general safety code. In addition, contractors must comply with CEA's safety manual.

Examples of the safety provisions required by contractors include:

- The contractor shall at no time and under no circumstances cause or permit any employee to perform any work upon or within 10 feet of energized lines or greater clearance as may be required by OSHA, or upon poles carrying energized lines until CEA's dispatch center has been notified.
- The contractor shall provide and maintain all guard lights, barricades, and other protection for the public as required by applicable statutes, ordinances, and regulations or by local conditions.
- The contractor is responsible for taking all necessary measures to protect and control traffic during the life of the project, including but not limited to, furnishing, erecting, maintaining, replacing, cleaning, moving, and removing any traffic control devices required to ensure the safety of the traveling public.
- The contractor shall keep the entire project in such condition that traffic will be accommodated safely and shall provide traffic control devices and services day and night as needed to facilitate traffic flow and control. All locations requiring redirection or stopping of the traveling public shall be properly signed and/or flagged by the contractor.
- Prior to commencement of work, the contractor shall furnish CEA with the contractor's project-specific written health, safety, and environmental plan, which shall at a minimum include a work hazard assessment and mitigation plan, a list of Material Safety Data Sheets (MSDS) available at the work site, an energy isolation plan, personnel protective equipment, an emergency response plan, and a hazardous material/hazardous waste mitigation and response plan.

### **5.5.3 Consequences of Alternatives**

#### **Alternative 1 – No Action**

Under the No Action Alternative, FEMA would not provide funding to relocate Section 2 of the Hope power distribution line and no construction activities would take place. Section 2 would

continue to be vulnerable to power outages due to the existing line location in steep areas with avalanche activity and prone to adverse weather that is difficult and expensive to repair. The frequency of lost of electrical power would continue to adversely affect the quality of life for residents of the Hope and Sunrise communities, particularly during the cold, dark winter months. The direct and indirect impacts to socioeconomic resources would continue to be minor on a regional scale, but substantial to the residents affected.

### **Alternative 2 – Relocate Section 2 of the Hope Power Distribution Line (Proposed Action)**

Alternative 2 would relocate Section 2 of the Hope power distribution line closer to the Hope Highway, where it would be out of harm's way for the majority of avalanches and storms that occur in the area. It would also make it much safer, easier, and faster for CEA to conduct maintenance and repairs for the power line.

Construction would have a temporary effect on traffic by increasing the number of construction-related vehicles utilizing the Hope Highway for access. The contractor must pose appropriate signage to minimize potential adverse public safety concerns, and to alert motorists of project activity and any traffic pattern changes. Construction traffic should be closely monitored and controlled as appropriate. CEA requires that all construction activities are conducted in a safe manner in accordance with OSHA requirements and CEA policies. Impacts to public health and safety, including the health and safety of area residents during construction and the protection of personnel involved in activities, are anticipated to be negligible with the implementation of construction policies and OSHA requirements.

## **5.6 Hazardous Materials**

The management of hazardous materials is regulated under various federal and state environmental laws and regulations, including the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The purpose of the regulatory requirements set forth under these laws is to ensure the protection of human health and the environment through proper management (identification, use, storage, treatment, transport, and disposal) of these materials.

A database search of the U.S. Environmental Protection Agency's Envirofacts and Enviromapper, revealed no sites of concern for hazardous materials, wastes, or substances (including contaminated soil or groundwater) in or near the proposed project area. In addition, there are no recorded oil and gas wells. Occurrence of hazardous materials anticipated for this project is limited to fuel and lubricants used for mechanized equipment during construction.

### **5.6.1 Consequences of Alternatives**

#### **Alternative 1 – No Action**

The No Action alternative would not disturb any hazardous materials or create potential hazards to human health.

## **Alternative 2 – Relocate Section 2 of the Hope Power Distribution Line (Proposed Action)**

CEA's operating policies require that contractors comply with all environmental laws, including RCRA and CERCLA, related to the generation, handling, transportation, storage, treatment, or disposal of hazardous materials and any other waste materials. This includes taking appropriate measures to prevent, minimize, and control spills of hazardous materials. Hazardous materials are defined as oil; petroleum; other hydrocarbons; and other hazardous, toxic, contaminated, or polluting materials, substances, chemicals or wastes. Prior to commencing work, the contractor is required to submit a written hazardous materials response plan to CEA that includes a plan to respond to and clean up discharges of any such hazardous material. The contractor is required to notify CEA of all spills of hazardous materials that arise out of, result from, or otherwise pertain to the contractor's performance during project implementation.

In addition to the above, the contractor is required by CEA to submit the names of the personnel assigned to perform the work and verify that all personnel have received the training specified by the federal Occupational Health and Safety Administration (OSHA) in 29 CFR Part 1910.120(e); to provide the name of the contractor's spill coordinator for the project; and to conduct worker awareness training on hazardous chemicals (e.g. flammability, carcinogenicity) as required by OSHA under 29 CFR Part 1910.1200(h). CEA shall provide the contractor with material safety data sheets for all materials furnished by CEA that may contain hazardous materials.

## **6.0 CUMULATIVE EFFECTS**

Cumulative effects are those that result from the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes an action. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time.

Under the No Action Alternative, the relatively high frequency and duration of power outages for the communities of Hope and Sunrise would continue to occur, particularly when strong winds, heavy snow, or avalanche conditions persist. Access by CEA repair crews would continue to be difficult and the repairs would need to be coordinated regarding weather and work windows for safety in its current steep and remote location. The effects would be largely socioeconomic due to residents left without power for extended periods of time.

The Proposed Action is not expected to have significant adverse cumulative impacts to physical resources, water resources, biological resources, or cultural resources. Establishing adequate stream buffers to protect riparian habitat, determining appropriate devices to be used to reduce post-construction bird interactions, and potential detrimental effects to fish and wildlife habitat and the spread of invasive species from the proposed frequency of access routes will be addressed further by the USFWS and USFS during the public comment period of this draft EA. Measures to mitigate potential adverse cumulative effects are anticipated to be included in the USFWS special use permit amendment requirements.

Construction would create temporary disturbance to soil from the placement of new power poles. The removal of trees for access and the clearing of the new right-of-way, along with removal of danger and hazard trees, would reduce the amount of habitat available in the immediate area. However, there is substantial habitat available in the surrounding area and the effect would be minimal to long-term natural processes. The removal of fire and danger trees would help to protect the area and resources from future wildfires.

There would be long-term gain to area residents by having more reliable electrical power service from the Proposed Action. BMPs and permitting conditions required for funding would reduce the potential for adverse effects to resources and cumulative effects are anticipated to be minimal.

## **7.0 AGENCY COORDINATION AND PUBLIC INVOLVEMENT**

Several local, state and federal agencies, in addition to Kenaitze Indian Tribe and Qutekcak Native Tribe, were consulted throughout the draft EA process to gather valuable input and to meet regulatory requirements. Agencies contacted included the Kenai Peninsula Borough (KPB), ADF&G, SHPO, USFS, and USFWS. In addition, CEA has worked closely with the communities of Hope and Sunrise, the KPB, and the USFS to define and approve the steps suggested in the January 2006 *Hope Line Relocation Study*. During surveying operations and prior to construction, mailers to residents and local signage will inform all residents of the Proposed Action's objectives and activities.

A public notice has been published in the *Anchorage Daily News* and the *Peninsula Clarion* announcing the availability of this draft EA for a 30-day public review and comment period in the community of Hope, at the CEA office in Anchorage, and online at [www.chugachelectric.com](http://www.chugachelectric.com) and [www.fema.gov/plan/ehp/envdocuments/index.shtm](http://www.fema.gov/plan/ehp/envdocuments/index.shtm). A copy of the public notice is included in Appendix A.

The initial public notice will also serve as the final public notice for this project. Unless significant substantive public comments are received, no further public involvement will be conducted for this draft EA. FEMA does not anticipate the need to prepare an Environmental Impact Statement. In the public notice distributed with the draft EA, all recipients will be notified that after the public comment period ends, provided no substantive comments are received, the final EA and a Finding of No Significant Impact (FONSI) will be available at the above website.

## 8.0 PERMITTING, PROJECT CONDITIONS, AND MITIGATION MEASURES

The CEA is required to obtain and comply with all local, state, and federal permits and authorizations prior to implementing the Proposed Action. Development at the Proposed Action project area shall comply with the scope of work in the FEMA HMGP grant application. The following mitigation measures are required as project conditions for FEMA funding:

1. Failure to obtain and comply with all appropriate local, state, and federal permits and authorizations may jeopardize federal funding.
2. The CEA is required to directly coordinate with the ADF&G, USFS, and Kenai Peninsula Borough's planning department regarding the need for permits, authorizations, and best management practices. The CEA shall obtain and comply with all requirements prior to initiating ground disturbing activities.
3. No construction material or debris shall be staged or disposed of in a wetland, even temporarily. Excess and unsuitable excavated material shall not be sidecast into or placed upslope of wetlands environments and shall be disposed of at an authorized disposal location.
4. If during the course of work, items or sites which might be of archaeological or historical significance are discovered, the applicant shall stop construction in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the property. The applicant shall inform the Alaska Division of Homeland Security and Emergency Management, who will in turn inform FEMA and the Alaska Office of History and Archaeology (OHA). The applicant will not proceed with work until FEMA has completed consultation with OHA and tribes. If human remains are discovered, the applicant will also follow procedures for the discovery of human skeletal remains set out in Alaska Statutes 12.65.5 and as 11.46.482(a)(6) related to the "intentional and unauthorized destruction or removal of any human remains or the intentional disturbance of a grave."
5. Appropriate measures to prevent, minimize, and control spills of hazardous materials should be taken. Any hazardous and non-hazardous wastes generated should be disposed of in accordance with applicable local, state, and federal requirements.
6. Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other laws and Executive Orders prior to implementation.

## 9.0 Conclusion

The draft EA evaluates environmental and historic resources that could be affected by both the No Action alternative and the Proposed Action alternative for the relocation of Section 2 of the Hope power distribution line. The evaluation did not identify any significant adverse impacts associated with physical, water, biological, cultural, or socioeconomic resources, or hazardous materials. Implementing the Proposed Action, along with any conditions associated with permits or approvals, is expected to avoid or minimize adverse effects associated with the action. FEMA anticipates preparing a decision of FONSI if no significant issues are identified during the public comment period. The decision document will be available at the above FEMA website.

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**APPENDIX A**  
**Site Location Map**



## **APPENDIX B**

### **Public Notice**

**PUBLIC NOTICE**

**The U.S. Department of Homeland Security's  
Federal Emergency Management Agency (FEMA)  
Draft Environmental Assessment  
FEMA-DR-1843-AK  
Hope Power Distribution Line Section 2 Relocation**

Notice is hereby given that FEMA plans to assist the Chugach Electric Association, Inc. (CEA) by providing partial funding to relocate Section 2 of the Hope power distribution line adjacent to the Hope Highway in the Kenai Peninsula Borough, Alaska. FEMA is proposing to fund 75 percent of the cost for this project through its Hazard Mitigation Grant Program (HMGP), with the remainder coming from CEA or other nonfederal sources. Federal financial assistance would be provided pursuant to the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.

FEMA has prepared a draft Environmental Assessment (EA) for the proposed project pursuant to the National Environmental Policy Act (NEPA) of 1969 and FEMA's implementing regulations. The draft EA will be finalized after agency and public review and input. The EA evaluates alternatives, including the No Action Alternative, which would not provide funding, and Alternative 2, the Proposed Action, which would relocate Section 2 of the Hope power distribution line from poles 31 to 69 to a site closer to the Hope Highway where maintenance and repairs would be safer, easier, faster, and less expensive.

This notice will constitute as the final notice as required by Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands. If no significant issues are identified during the comment period, FEMA will finalize the EA, issue a Finding of No Significant Impact (FONSI), and fund the project.

The draft EA is available for viewing at the Hope U.S. Post Office, the CEA office in Anchorage, and online at [www.chugachelectric.com](http://www.chugachelectric.com) and [www.fema.gov/plan/ehp/envdocuments/index.shtm](http://www.fema.gov/plan/ehp/envdocuments/index.shtm) for a 30-day public review and comment period. Please submit your written comments to Science Kilner, FEMA Region X Deputy Environmental Officer, no later than midnight on June 8, 2012. Comments can be submitted by:

1. By mail to: U.S. Department of Homeland Security  
FEMA Region X  
130 228<sup>th</sup> Street SW  
Bothell, WA 98021-9796
2. Fax at: (425) 487-4613
3. E-mail at: [science.kilner@fema.dhs.gov](mailto:science.kilner@fema.dhs.gov)

After the public comment period ends, the final EA and the FONSI will be available for viewing at [www.fema.gov/plan/ehp/envdocuments/archives\\_index.shtm](http://www.fema.gov/plan/ehp/envdocuments/archives_index.shtm).

## **APPENDIX C**

### **Resource Agency Consultation Letters**



## United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Kenai Fish and Wildlife Field Office  
43655 Kalifornsky Beach Road  
Soldotna, Alaska 99669-8296



May 2, 2012

Mr. Mark Eberlein, Regional Env. Officer  
FEMA Region X  
130 228<sup>th</sup> Street SW  
Bothell, WA 98021-9796

Re: Hope Power Line Sec. 2 Relocation  
FEMA-1843-DR-AK Scoping Comments

Dear Mr. Eberlein:

On January 27, 2012, the U.S. Fish & Wildlife Service (Service) received a request from the Federal Emergency Management Agency (FEMA) for comments on potential impacts to fish and wildlife from the proposed Hope Feeder Power Line Section 2 Relocation Project. The purpose of the proposed action is to increase the reliability of the sole power feeder line to the Community of Hope, Alaska. This will require the relocation of 3.8 miles of Chugach Electric Association's (CEA) Hope Power Line, downhill from its current steep and heavily forested location, beginning at Milepost (MP) 1.7 of the Hope Highway, where it diverges west from the highway and ends at MP 5.5 where the power line and highway converge. The new alignment will be shifted from the east to the west side of the highway, thereby reducing the occurrence of damage by falling trees or avalanche impacts, and shortening the duration of outages because of the line's proximity to the highway. The project is located on U.S. Forest Service (USFS) land within the Chugach National Forest.

On February 6, 2012, the Service received notice from FEMA that based on a conference call with CEA, FEMA, USFS and Alaska Division of Homeland Security & Emergency Management on February 3, 2012, the scope of work (SOW) would be revised to address several issues raised by the USFS. We were encouraged to suspend review until such time as we received new information. Subsequently, on March 6, 2012, the Service received a revised SOW and began our review. However, on March 16, 2012, FEMA informed us that CEA would again be making changes to the SOW, this time to the route itself, to avoid extensive rock outcroppings on the west side of the highway. Updated plans and an expanded SOW were received on April 3, 2012.

It is our understanding the primary change to the original SOW relates to shifting the location of the first ½ mile of the proposed alignment to avoid a large heavily rock outcropping. The new power line will now generally follow the existing ROW for ½ mile along the east side of the Hope Highway, and then cross to the west side for the remaining 3.3 miles. Relocating this

Mr. Mark Eberlein, FEMA

Hope Power Line Sec. 2 Relocation

section of the power line moves it away from areas vulnerable to avalanche activity and closer to a public highway where maintenance and repairs are easier, faster and less expensive. The proposed alignment will require clearing of a new, heavily forested, 30 to 40 ft wide ROW on the west side of the highway, and the construction of 3.8 miles of new, single-phase overhead power line from Pole #31 to Pole #70.

Approximately 60 single-phase wood power line poles, from 34 ft to 65 ft tall, will be installed (including overhead lines, insulators, and conductors) in the new ROW. If suitable soils exist, and access conditions allow, holes for the power poles will be bored or excavated with track excavators. In cases where rocky conditions are present or where access is impractical, some rock blasting may be required. All materials (poles, anchors, cross-arms), insulators and line hardware will be brought in via helicopter, skidded to the pole sites, or carried in using all-terrain vehicles (ATV's). Roughly 20 wood poles will require guy wire supports with anchors.

In certain habitats that have the potential for avian interactions with power equipment, the design and installation of new facilities, as well as the operation and maintenance of existing facilities should be bird friendly. Because some of the new poles and overhead lines will be placed in areas where birds likely concentrate, e.g. stream crossings, roosts, wetlands, etc., visibility enhancement devices should be used to reduce the risk of bird collisions. New technologies exist in the way of passive and active devices that should help to reduce interactions.

The Section 2 power line relocation is anticipated to start in September 2012 and run through December 2012, with existing pole retirement (Section 4) to be phased over two time periods, beginning in late February 2013 and completed by the end of June 2013. Phase 1 will involve removal of all conductors, insulators, anchors and framing. Poles will be cut off at snow level and removed from the ROW. Phase 2 will involve cutting the remaining pole lengths off just below the ground surface and placing native material over the disturbed ground at each of the pole locations.

On April 23, 2012, the Service participated on a teleconference with FEMA, USFS, and CEA to obtain an updated project overview, get a better understanding of USFS permit processing time frames and requirements, and anticipated construction timelines. Based on those discussions and our review of the information provided to date, we offer the following comments and recommendations.

#### **Fish and Wildlife Resources & Concerns**

***Threatened and Endangered Species*** – We have reviewed this project for potential impacts to endangered or threatened species, pursuant to section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended, 16 U.S.C. 1531 *et seq.*). Our records indicate no federally listed or proposed species and/or designated or proposed critical habitat within the action area of the proposed project. Therefore, no further consultation pursuant to the ESA is required for this project at this time. However, obligations under section 7 of the Act must be reconsidered and consultation reinitiated if new information reveals project impacts that may affect listed species or critical habitat in a manner not previously considered or if this action is subsequently modified in a manner which was not considered in this assessment.

***Migratory and Resident Birds*** – Migratory birds, including songbirds, waterfowl, shorebirds, and raptors, are protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). Federal regulations (50 CFR 21.11) prohibit the unauthorized "take" of migratory birds, which is

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defined (*50 CFR 10.12*) to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. The Service is the federal agency responsible for administering the MBTA and the Bald and Golden Eagle Protection Act (BGEPA). The MBTA does not distinguish between "intentional" and "unintentional" take, and in Alaska, all native birds except grouse and ptarmigan (which are protected by the State of Alaska) are protected under the MBTA. During the local nesting season, which generally peaks between May 1 and July 15 in South-central, "take" of migratory birds can occur when wooded areas and/or vegetation is cleared.

Migratory birds nest not only on tree branches and in tree and snag cavities, but also among shrubs and downed vegetation, on open ground, and on cliffs. Many nests - if not most - are well-camouflaged or otherwise almost undetectable. While adult birds can usually escape construction activities, their eggs and chicks have no defense. Destruction of active bird nests, eggs, or nestlings that can result from vegetation clearing, grubbing, and other site preparation and construction activities would violate the MBTA. Therefore, to avoid illegal "take", it is recommended that clearing and other site preparation activities be timed to occur outside of the local bird nesting season.

The Hazard Mitigation Grant Program (HMGP) Project Application indicates a 40 ft wide ROW will be cleared and that it is heavily wooded with spruce and hemlock. The Service recognizes the need to clear trees and forested areas for access, pole installation and overall maintenance reasons. However, because this work is to occur within a National Forest, we encourage CEA to clear the minimum necessary to achieve the desired outcome.

The Application also states that due to the quantity of trees to be cleared, 20 ft wide access routes will be required as frequently as every 500 ft to provide staging of logs along the highway for public pick-up. These access routes are to be cleared from the edge of the highway to the new ROW. The Service believes CEA should reconsider creating these access routes, as they may potentially lead to unintended indirect and/or cumulative effects on USFS land. For example, these access points could easily become inadvertent routes for recreational ATV's, snow machines and other off-road activities and thus troublesome in terms of illegal motorized use, as well as the additional and unnecessary disturbance that would occur to fish and wildlife and their habitats. More concerning though is the potential these access routes will have for creating pathways for the spread of invasive plants. Other alternatives should be explored to avoid these potential detrimental impacts.

**Bald Eagles and Other Raptors** – Beginning in March / early April, bald eagles begin building nests and re-establishing their territories. Egg laying and incubation generally peak in late April / early May timeframe, but can continue into June. Hatching and rearing young can span several months, e.g. from May through September, with fledging typically occurring in August to September. Additional information is located in our *National Bald Eagle Management Guidelines* which can be found on our Bald and Golden Eagle Permit Program Website (<http://alaska.fws.gov/eaglepermit/index.htm>).

Bald eagles are sensitive to a variety of human activities, but not all eagle pairs react in the same way. It will therefore be important to determine whether the proposed clearing and construction efforts will be in proximity to any active bald eagle nests. Provided no active eagle nests are located within ¼ mile of the Hope power line ROW, disturbance to bald eagles should not be an issue during the planned activities.

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In addition to bald eagles, goshawks are known to nest in the project vicinity. We understand the USFS will be conducting a breeding bird survey in June 2012 to determine the location(s) of any active bald eagle, goshawk and/or other migratory bird nests within or in proximity to the ROW.

Existing pole retirement (Section 4) is currently scheduled to begin in late February 2013 with completion by the end of June 2013. This work could pose potential "take" issues with regard to the destruction of ground nesting birds if done between May 1 and July 15. Likewise the referenced activities could result in disturbance to nesting goshawks and/or bald eagles, if active nests are nearby. It would be prudent for CEA to coordinate with the USFS in order to ensure pole removal activities do not affect nesting birds. Effective up-front coordination and consultation is vital to protect eagles, goshawks, their nests, and habitat, and to avoid potential violations of the MBTA and BGEPA.

**Wildlife and Fisheries Resources** – The functions maintained by riparian areas are important for maintaining valuable fish and wildlife habitat. Fish habitat in particular is enhanced by numerous functions provided by riparian vegetation. Salmonids occupy a variety of streams that vary dramatically in size and flow. In general, spawning and rearing in forested watersheds takes place in second- to fourth-order streams. These streams play a significant role in downstream habitat quality. They also are the ones most easily affected by alterations in the riparian zones (Chamberlin et al. 1991, Davies and Nelson 1994).

Four stream crossings have been identified along the proposed project alignment. All four streams flow into Six Mile Creek, which is classified as anadromous in Alaska Department of Fish and Game's (ADF&G) Anadromous Waters Catalog. While these 4 tributaries to Six Mile Creek are not currently classified as anadromous the likelihood exists that salmon spawning and/or rearing habitat occurs in one or more of these tributary streams.

Removal of vegetation can decrease stream shading and cause increases in stream temperature, which can have negative consequences for fish. There are a number of factors that can be used to determine a suitable and effective riparian zone width. These include aquatic resource functional values, sediment removal and erosion control, excess nutrient removal, moderation of storm water runoff, moderation of stream temperature, maintenance of habitat diversity, wildlife species richness and diversity, and reduction of human disturbance (Castelle et al. 1994).

In the HMGP Project Application CEA indicates that placement of poles will be arranged such that a creek will not be located near mid-span between poles, and that timber set-backs can be left in-place along the course of a creek. CEA further states that they attempt to maintain a buffer zone of brush and low growth trees on either side of streams and creeks and that visual screening clearing set-backs along the Hope Highway can be accomplished in the final alignment design. It is our understanding CEA's *Vegetation Management Guidelines* include a standard practice of leaving 200 ft buffer zones on each side of all anadromous streams within a ROW. Selective tree cutting is done within these buffers (by hand-clearing methods only) when trees have the potential to grow in excess of 15 ft in height.

With no trenching occurring and overhead lines being installed across these locations, fisheries impacts should be minimized. The Service commends CEA for their willingness and commitment to preserve valuable streamside habitats. Because of the importance of the riparian habitat adjacent to these streams, in terms of their fishery resources, avian diversity, recreational

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values, and wildlife movement corridors, we believe full protection is warranted, especially since these streams flow directly into Six Mile Creek and all work is within the National Forest.

### Recommendations

1. While no in-water work is anticipated and the placement of new poles is to be well away from any stream banks along the ROW, riparian and other valuable vegetated habitat adjacent to these watercourses should not be impacted. Minimum 200 ft wide riparian buffers, either side of the four streams within the ROW, should be preserved and protected. Therefore no clearing should occur in these riparian buffer areas.
2. Because this work is to occur within a National Forest, we encourage CEA to further minimize clearing of valuable forested habitat, and clear the minimum necessary to achieve the desired outcome.
3. Avian safe standards should be implemented and appropriate insulating materials and visibility enhancement devices used accordingly. Further, the Service recommends against the use of guy wire supports if at all possible, to avoid mortality caused by direct strike.
4. In order to ensure compliance with the MBTA, we recommend that clearing of vegetation be avoided between May 1 and July 15. Additional requirements, extending this timeframe, are anticipated from USFS.
5. While Service guidance recommends avoiding clearing from May 1 - July 15 on the Kenai Peninsula, there will in all likelihood be instances when nesting birds are encountered outside of this window. We therefore encourage CEA and/or its contractor(s) to be mindful of such and if an active nest *at any time* is encountered, including before or after the local migratory bird timing window, leave it in place and protected until young hatch and depart. If additional information is needed or other actions are required, please contact the Kenai Fish & Wildlife Field Office for assistance.
6. A bald eagle nest survey will be necessary prior to work occurring. It is our understanding USFS personnel will be conducting a breeding bird survey in June in conjunction with the proposed relocation project that will include bald eagles and goshawks.
7. Existing pole retirement (Section 4) should be completed prior to migratory bird, eagle and/or goshawk nesting timeframes to ensure "take" and/or "disturbance" does not occur. CEA should coordinate with the USFS to determine the most appropriate approach to use in this regard.
8. The Service recommends against creating 20 ft wide access routes along the Hope Highway, as planned, due to the aforementioned unintended indirect and/or cumulative effects that will likely occur. Other alternatives should be explored to avoid potential detrimental impacts to fish and wildlife habitats, and to preclude the spread of invasive species on the Chugach National Forest.
9. If the USFS deems some access / entry points along the highway are appropriate, we recommend bollards and/or boulders be placed across the back of these areas to limit undue and future disturbance.

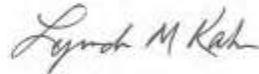
These comments are submitted in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended: 16 U.S.D. 661 *et seq.*) and constitute the report of the Department of the Interior. They are also intended for use in the development of FEMA's

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Environmental Assessment relating to the protection of fish and wildlife resources, and in accordance with NEPA and USFS policy requirements. We believe these recommendations protect resources that are in the public interest. We are available to work with the USFS and Chugach Electric to accommodate our concerns. Thank you for your assistance and if you have questions please feel free to contact me at (907) 260-0131.

Sincerely,



Lynnda M Kahn  
Fish & Wildlife Biologist

cc: Barbara Gimlin (FEMA)  
Katherine Van Massenhove (USFS)

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