

# RECORD OF DECISION

FOR THE  
ELDORADO-IVANPAH TRANSMISSION LINE PROJECT

MAY 2011



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NEEDLES FIELD OFFICE**

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**BUREAU OF LAND MANAGEMENT  
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**RECORD OF DECISION**

**for the**

**Eldorado Ivanpah Transmission Project**

Lead Agency:

*United States Department of the Interior  
Bureau of Land Management*

*Environmental Impact Statement DOI FES 10-56  
Case File Number: CACA-49834(NVN-43265)*

*Eldorado Ivanpah Transmission Project  
Decision to Grant Right-of-Way*

*Bureau of Land Management  
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**May 2011**



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# 1. Decisions and Authority

## 1.1 Background

This Record of Decision (ROD) for the Eldorado Ivanpah Transmission Project (EITP) approves the construction, operation, maintenance, and termination (which includes decommissioning) of the proposed EITP 230-kV Transmission Line on public lands in San Bernardino County, California and Clark County, Nevada as analyzed in the “Final Environmental Impact Report/Environmental Impact Analysis Southern California Edison’s Eldorado-Ivanpah Transmission Line Project”, as noticed in the December 17, 2010, Federal Register. This approval will take the form of Federal Land Policy and Management Act (FLPMA) right-of-way (ROW) grants, issued in conformance with Title V of FLPMA, and implementing regulations found at 43 CFR Part 2800.

One new ROW grant, CACA-49834, will allow Southern California Edison (SCE) the right to use, occupy, and develop the described public lands to construct, operate, maintain, and terminate a 230-kV electric transmission line, a telecommunications line and microwave relay, a new substation, and ancillary access roads related facilities on land that was identified and evaluated in the Final EIS. A second ROW grant amendment to existing ROW grant NVN-066156, will allow SCE to install an overhead optical groundwire for the redundant telecommunications pathway on the existing 500-kV Lugo-Eldorado transmission line.

The existing 115-kV Southern California Edison transmission line is authorized under two different ROW serial numbers, CARI-01730 in California and NEV-43265 in Nevada. These grants were authorized on June 21, 1933 under the Act of December 1, 1928 for the construction of Hoover Dam. The new transmission line ROW grant under the FLPMA, CACA-49834, will replace portions of these two old ROW grants. When the existing transmission line is torn down and replaced with the new 230-kV transmission line, SCE will file applications to relinquish the abandoned portions of the above referenced ROW grants.

This decision is conditioned, however, on implementation of mitigation measures and monitoring programs as identified in the Final EIS, the Biological Opinion (BO) issued by the United States Fish and Wildlife Service (USFWS), the Programmatic Agreement (PA) signed by the California and Nevada State Historic Preservation Officers, and the issuance of all necessary local, state, and federal approvals, authorizations and permits.

This decision approves the EITP Agency Preferred Alternative as analyzed in the Final EIS, which is also referred to as the Selected Alternative in this ROD. During construction there would be disturbance of up to approximately 480 acres in the eastern part of San Bernardino County, and southern Clark County approximately southwest of Las Vegas, Nevada (see Figure 2-3, Appendix 5). The EITP transmission line project includes the following:

## 1.2 Description of Powerline Project

**Eldorado–Ivanpah Transmission Line** – A new double-circuit 230-kV transmission line, approximately 35 miles long, would be constructed between the existing Eldorado Substation in Nevada and the proposed Ivanpah Substation in California near Mountain Pass. It would replace a portion of the existing 115-kV transmission line that runs from Eldorado-Mountain Pass-Baker-Dunn Siding and Cool Water Substations. The existing 115-kV transmission line that runs west of the proposed Ivanpah Substation through Mountain Pass-Baker-Dunn Siding and Coolwater Substations would remain unchanged and it not part of the proposed project. The BLM ROW grant for the transmission line and access road under the transmission line will be within a 100 foot wide ROW affecting approximately 419.85 acres of public land.

Subtransmission Line – A proposed 600- to 800-foot-long addition to an existing 115-kV subtransmission line from a connection point would connect the remaining portion of on the existing Eldorado–Mountain Pass–Baker–Cool Water–Dunn Siding 115-kV line would connect to the proposed Ivanpah Substation to the existing 115-kV subtransmission system. The subtransmission line is located within the above transmission line ROW.

Distribution Lines – A proposed 33-kV distribution circuit, consisting of approximately 5,900 feet of overhead lines, would be constructed to provide light and power to the proposed Ivanpah Substation and microwave telecommunications site. Approximately 400 feet of this 33-kV distribution line would be constructed with underground circuitry. This distribution line would be treated as an amendment to an existing Southern California Edison distribution line running between Mountain Pass and the Primm Golf Course. In addition, there would be a new 33kV overhead distribution circuit approximately 2,096 feet long within 20 foot wide ROW containing 0.96 acres from an existing Nipton distribution line to the proposed Nipton microwave telecommunications site.

Telecommunications - Installation of overhead ground wire and optical ground wire along the proposed telecommunication paths and permanent operation and maintenance of additional facilities such as the proposed microwave communication site in Nipton would create both temporary and permanent land disturbances. Temporary disturbance for the telecommunication component would total 33.2 acres. The ROW for the buried portion of the telecommunications pathway that is located outside the existing Southern California Edison Lugo 500- kV transmission line and extends to the proposed Nipton MW site is within a ROW that is 25 feet and 50 feet in width across 17,433 feet of public land containing 28.38 acres. The Nipton microwave site is 100 feet by 100 feet containing 0.23 acres. The ROW amendment to replace the existing overhead groundwire with an optical overhead groundwire on the Lugo 500-kV transmission line does not change the dimensions of the existing ROW.

Access Road/Spur Roads - The applicant will use the existing transmission line access road to construct the new transmission line. There are some segments of the existing access road located outside the 100 foot wide transmission line ROW, and there are several locations where new access spur roads to tower locations will be constructed. Roads outside the transmission line will be located within 20 foot wide ROWs across 17,433 feet of public land containing 8.98 acres. The access road segments located under the transmission line are included within the transmission line ROW acreages.

Ancillary Facilities - Assembly and erection of the new Lattice Steel Towers, H-frame towers, and Tubular Steel Poles would require laydown areas, material and equipment staging areas, and pulling and tensioning sites. These sites may require vegetation clearing and grading to level areas prior to installation activities. Storage and laydown areas are located on private lands and are not included in the BLM ROW grant.

The acreage associated with the Ivanpah Substation was analyzed in the ISEGS Final EIS and the ROW grant for the substation was issued to Solar Partners, LLC. The final substation area is approximately 17 to 20 acres within the boundary of the ISEGS construction logistics area. The ISEGS project is completing the initial grading, leveling and ground preparation for the Ivanpah substation. Once the Ivanpah Substation is constructed, SCE will request an assignment of the substation area and BrightSource Energy would likely request a partial relinquishment of the 17 to 20 acre substation area out of their construction logistics area ROW grant, serial number CACA-49502.

Short term use areas – The applicant has identified areas that will be needed during construction for short periods that will be reclaimed and not used again. These sites have been requested for a three year term to accommodate construction and reclamation of the sites.

Pull/Splice/tensioning sites will be needed during construction on the new transmission line and along the Lugo transmission line ROW. Tensioning sites can average 500 feet by 150 feet in size while splice and pull sites are generally smaller at 150 by 200 feet. There will be approximately 54.12 acres of temporary pull/splice/tensioning sites needed during construction. The sites may or may not be fully graded depending on terrain and vegetation

cover. The applicant has also proposed two helicopter staging and refueling sites on public lands affecting 2.04 acres.

The EITP Project ROW grant, CACA-49834, will be issued to SCE, for a term of 30-years and will contain a right of renewal. In order to renew a ROW grant, the holder must submit an application to BLM showing the holder is complying with the terms, conditions, and stipulations contained in the grant and applicable laws and regulations. BLM has the discretion to renew the grant if doing so is in the public interest. The company, may, on approval from the BLM, assign the ROW grant to another party in conformance with 43 CFR 2800 regulations. Construction of the project is currently planned to start in the summer of 2011 but is contingent upon the holder supplying and BLM approving of the final engineering design construction plans as part of the final POD. Final approval will take the form of an official Notice to Proceed (NTP) with construction. Until a NTP is approved by BLM, no surface disturbing activities can occur. A shorter three year term ROW grant, CACA49834-01, will be issued to SCE for use of the temporary helicopter staging areas, and for pull/splice/tensioning areas.

In addition, SCE cannot begin construction until compliance with applicable federal, state and local laws and regulations is completed.

SCE has also submitted a request for a NTP with geotechnical soil borings upon approval of the ROW grant. The borings are necessary to gather data required to design tower foundations. Approximately 50 borings will be made 25 to 75 feet deep with soil and rock core samples collected for analysis. These activities would be closely monitoring by qualified cultural resources, and biological monitors. Access for this work will be confined to existing access road alignments to get to proposed tower locations.

### **1.3 Application/Applicant**

SCE is a U. S. Corporation that has demonstrated they are qualified to hold ROW grants on Federal land. The company is one of the largest electric distribution companies in the United States providing electricity to nearly 14 million people in a 50,000 square mile service area in central and southern California. They operate 16 transmission utility interconnections with 4,900 transmission and distribution circuits.

A ROW application pursuant to Title V of FLPMA was filed with the BLM for the use of public land associated with the EITP project. The California BLM State Director was designated as the Lead State for preparing the analysis of the project in both California and Nevada for BLM. The Needles BLM Field Manager was further delegated authority to sign this Record of Decision. ROW grant CACA-49834 will be issued for the transmission line and related facilities on public lands located in California and Nevada by the Needles Field Office Manager. The Las Vegas Field Manager will issue the ROW grant amendment allowing installation of the telecommunication line on ROW NVN-066156.

### **1.4 Purpose and Need for the Proposed Action**

The BLM's purpose and need for the EITP is to respond to SCE's application under Title V of the Federal Land Policy and Management Act (FLPMA; 43 USC 1761) for a ROW grant to construct, operate and decommission a 230-kV electric transmission line, substation, and associated infrastructure on public land in compliance with FLPMA, BLM ROW regulations at 43 CFR 2800, and other applicable federal laws. The decision is to grant the ROW as described in the FEIS preferred alternative.

### **1.5 EIS Availability**

The BLM prepared a Draft EIS for the proposed transmission line project that analyzed the applicant-proposed 230-kV transmission project, alternatives that rerouted portions of the transmission line, alternative telecommunications pathways, and a no action/no construction alternatives. The Draft EIS was circulated for agency and public review on

May 7, 2010 with a 45-day public comment period. Those comments and BLM's responses are provided as appendices in the Final EIS. Comments on the Draft EIS were utilized to revise the Final EIS.

Copies of the Final EIR/EIS (DOI Control No. 10-56), dated November 1 2010, are available at the BLM Needles Field Office (1303 S. Highway 95, Needles, California 92363) and the BLM Las Vegas Field Office (4701 North Torrey Pines Dr., Las Vegas, Nevada, 89130). The Final EIS is also available online at the BLM website at: [http://www.blm.gov/ca/st/en/fo/needles/nefo\\_nepa.html](http://www.blm.gov/ca/st/en/fo/needles/nefo_nepa.html).

After issuing this ROD, the BLM will publish a Notice of Availability of the ROD in the Federal Register.

## 1.6 Authority Under FLPMA and NEPA

FLPMA. BLM's authority for the project is the FLPMA, which establishes policies and procedures for management of public lands. In Section 102(a)(8) of the FLPMA, Congress declared that it is the policy of the United States that:

*...the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use (43 USC Part 1701(a)(8)).*

Section 202 of the FLPMA and the regulations implementing the FLPMA land use planning provisions (43 CFR Subparts 1601 and 1610) provide a process and direction to guide the development, amendment, and revision of land use plans for the use of the public lands.

Title V of the FLPMA, 43 USC 1761–1771, authorizes the BLM, acting on behalf of the Secretary of the Interior, to grant, issue, or renew rights-of-way over, under, and through the public lands for systems for generation, transmission, and distribution of electric energy. The BLM's implementation of its statutory direction for ROW authorizations is detailed in 43 CFR Part 2800. The Authorized Officer (AO) administers the ROW authorization and ensures compliance with the terms and conditions of the ROW grant. The AO means an employee of the Department of the Interior (DOI) to whom the authority to perform the duties described in 43 CFR Part 2800 has been delegated. This authority is derived from the authority of the Secretary of the Interior, and may be revoked at any time. The authority to approve all actions pertaining to the granting and management of Title V ROWs on public lands is delegated to the respective BLM State Directors (BLM Manual 1203, Appendix 1, p. 33). In California, the authority of the BLM State Director to approve actions pertaining to the granting and management of Title V ROWs has been further delegated to the Field Manager (Needles Field Office) who will be responsible for managing this grant. Although CACA-49834 will authorize the use of public lands in two states (California and Nevada), the BLM Director identified California as the lead State for BLM in the processing of this specific ROW application.

NEPA. Section 102(c) of NEPA (42 USC 4321 et seq. ) and the Council on Environmental Quality (CEQ) and DOI implementing regulations (40 CFR Parts 1500–1508 and 43 CFR Part 46) provide for the integration of NEPA into agency planning to insure appropriate consideration of NEPA's policies and to eliminate delay. When taking actions such as approving ROW grants, the BLM must comply with the applicable requirements of NEPA and the CEQ NEPA regulations. Compliance with the NEPA process is intended to assist federal officials in making decisions about a project that are based on an understanding of the environmental consequences of the project. The Draft EIS, Final EIS, and this ROD document BLM's compliance with the requirements of NEPA for the EITP.

BLM Land Use Plans. In furtherance of its authority under the FLPMA, BLM manages public lands in the California Desert District pursuant to the California Desert Conservation Area (CDCA) Plan of 1980, and its amendments. The CDCA Plan includes an Energy Production and Utility Corridor Element, which designates a regional network of utility

planning corridors. The EITP would replace an existing SCE 115-kV transmission line located within an existing designated corridor. BLM manages public land in the Las Vegas Field Office in accordance with the Las Vegas Resource Management Plan (RMP) signed October 5, 1998. The project is in conformance with the Las Vegas RMP Record of Decision as it states in RW-1-h, all public lands within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for rights-of-way under the authority of the Federal Lands Policy Management Act. Additionally, the proposed project would be in conformance with West Wide Energy Corridor Programmatic EIS, which amended the CDCA Plan and the Las Vegas RMP by acknowledging the existing utility corridor.

Because the transmission systems are an allowable use of the land in established energy corridors, the proposed project does not conflict with any applicable BLM land use plans.

Other Authorities and Policies. In conjunction with the FLPMA, BLM is subject to other authorities including:

- The federal Energy Policy Act (EPAAct) of 2005 requires the approval of at least 10,000 MW of renewable energy on public lands by 2015; Currently, proposed renewable energy projects amounting to approximately 1,400 MW of electricity are on file with the BLM for the Ivanpah Valley area. Several of these projects are identified to potentially interconnect with EITP. The Energy Policy Act (119 Statutes 594, 600), Section 368, also requires the DOI, in conjunction with the departments of agriculture (USDA), energy (DOE), commerce (DOC), and defense (DOD), to designate pipeline and electric transmission corridors for the 11 contiguous western states and establish procedures to expedite the review of projects that would be located within established energy corridors. Section 368 specifically notes the need for upgraded and expanded electric transmission infrastructure in the western United States to improve reliability, relieve congestion, and improve the capacity of nationwide electric transmission.
- Executive Order 13212 (May 18, 2001) which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "...production and transmission of energy in a safe and environmentally sound manner. "
- Secretarial Order 3285 (March 11, 2009), which "...establishes the development of renewable energy as one of the highest priorities for the Department of the Interior. "

These authorities and policies are discussed in Section 1.2 of the FEIS.

## **1.7 Information Still Under Review since the Final Environmental Impact Statement**

Since the preparation and publication of the Final EIS, the applicant has been completing ongoing coordination with several agencies per requirements of mitigation measures listed in the FEIS. The applicant has filed an application with the FAA for a flight hazard analysis based on their preliminary transmission line design near the proposed Southern Nevada Supplemental Airport (SNSA). A final flight hazards analysis determination by FAA cannot be made until SCE completes final engineering designs and may require SCE to modify the transmission line to minimize flight hazards. Mitigation Measure MM Haz-2 requires SCE to comply with any FAA requirements upon completion of the SNSA.

Under Secretarial Order 3310, signed on December 23, 2010, the BLM is required to maintain an updated inventory of wilderness characteristics and to incorporate consideration of these characteristics in all land use planning and project level decisions. Although this Final EIS was completed prior to the signing of Secretarial Order 3310, it followed interim California BLM guidance related to consideration of wilderness characteristics and is in conformance with the Secretarial Order and associated BLM manuals. Specifically, the inventory was updated as described below.

The BLM reviewed the Wilderness Inventory Units (WIU) established in 1979 located on the California side of the Ivanpah Valley. The ISEGS FEIS concluded that the imprints of man were substantially noticeable and that opportunities for solitude and primitive recreation were not outstanding. The EITP project crosses these same WIU's that continue to contain signs of mining and many roads and routes, and utility lines. The WIUs did not contain outstanding opportunities for solitude due to their size combined with only light vegetative and topographic screening. No one recreational opportunity or combination of recreational opportunities was considered outstanding. Virtually all routes within these affected WIUs were designated as 'open' in a CDCA LUP Amendment and continue to be distinct due to vehicle use. Approximately five ROW grants for additional facilities have been approved in these WIU since 1980.

The CDCA Plan also designated three ROW corridors generally running east to west across the Ivanpah Valley within these WIU's. These corridors are occupied by multiple 115-kV to 500- kV electric transmission lines, roads, natural gas pipelines, and products pipelines. Imprints of man remain substantially noticeable and opportunities for solitude and primitive recreation are not outstanding. In summary, none of the California WIUs contains lands with wilderness characteristics.

In Nevada, the WIU's have not been updated. However, there is also a designated ROW corridor located between the Eldorado Valley and the Ivanpah Valley. This corridor contains four or more existing electric transmission lines ranging from 115-kV to 500- kV in size that extend toward Roach Lake and Primm, NV before connecting with the designated ROW corridors mentioned above in California. There are two Wilderness Study Area units, one located North of McCollough Pass and one South of McCollough Pass. The designated ROW corridor is approximately 2 miles wide where it passes between these two Wilderness Study Areas.

This Decision will allow the applicant to remove their existing 115-kV transmission line and replace it with a larger double circuit 230-kV transmission line within the same ROW. The transmission line is located in the designated ROW corridor next to several other transmission lines. The redundant telecommunications fiber optics portion of the project will be placed on existing 500 kV transmission towers and buried in the shoulder of a paved highway.

The Draft BLM 6303 Manual contains the following guidance for When Wilderness Inventory Is Not Required:

If the project is in conformance with the existing land use plan, the BLM manager shall make an initial determination as to whether or not wilderness characteristics, as defined by BLM Manual 6301, are clearly lacking in the area affected by the project. If wilderness characteristics are clearly lacking and documented as such, the project can be considered without conducting a wilderness inventory. Lands that clearly lack wilderness characteristics are those that do not meet the naturalness criterion set forth in BLM Manual 6301, because they have extensive surface disturbance and/or do not meet the size criterion of 5,000 acres or any of the size exceptions.

It is clear that the affected public lands, which contain multiple electric transmission lines and associated access roads within designated ROW corridors clearly lack wilderness characteristics due to a lack of naturalness. Therefore, a wilderness inventory is not warranted for these lands. Because wilderness characteristics are not present in the project area they will not be considered further in this Decision.

## **1.8 Decisions Being Made (40 CFR 1505. 2(a))**

### **1.8.1 Bureau of Land Management Right-of-Way Grant**

Under federal law, the BLM is responsible for processing requests for ROW grant applications to determine whether, and under what terms and conditions, to authorize proposed projects such as renewable energy projects, transmission lines, and other appurtenant facilities on land it manages. Because the project is a privately initiated

venture that will be sited on lands managed by the BLM, Southern California Edison (the applicant), applied for a ROW grant from BLM pursuant to regulations. The approved ROW grant includes terms and conditions based on the Final EIS, the Biological Opinion, the Programmatic Agreement, and other federal rules and regulations applicable to federal lands. On approval of the ROW grant, the applicant will be authorized to construct and operate the 230kV transmission line once it meets the requirements specified in the ROD. The ROD requires the applicant to secure a Certificate of Public Convenience and Necessity from the California Public Utilities Commission and prepare a final POD that includes final engineering and design drawings, before BLM will issue a NTP to the applicant. On receipt of the NTP, the applicant will be authorized to construct and operate the 230kV transmission line project and all ancillary facilities. To the extent the Selected Alternative does not progress to construction, operation, or is proposed to be changed to the extent that it appears to the BLM to be a new project proposal on the approved project site, that proposal is subject to NEPA review.

Lands and interests in lands to be authorized for use in the BLM ROW grant include vacant public land located in the States of California and Nevada, and land reserved for administration by the BLM for right-of-way purposes in patent number 27-95-002, dated July 9, 1995.

### **1.8.2 No Revisions to Open Off-Highway Vehicle Routes**

In 2002, the BLM updated access plans and routes in the ***Northern and Eastern Mojave Desert Management Plan*** (NEMO) Amendment to the CDCA Plan. The NEMO Amendment assigned and/or revised access for off-highway vehicle (OHV) routes in the northern and eastern Mojave Desert. The existing power line road between Ivanpah Dry Lake and the Ivanpah Substation is in a designated open route that will not be changed by the project. The Las Vegas RMP Record of Decision allows public vehicle use on authorized access roads and spur roads in this project area. No open vehicle routes will be terminated or closed by issuance of the ROW grant, although there may be occasional needs to limit public use on routes for short terms to minimize public safety hazards associated with hauling heavy equipment and materials to tower sites. Any short term restrictions will be coordinated with local BLM offices in Needles and Las Vegas and the public informed appropriately.

### **1.8.3 What is Not Being Approved**

Under NEPA, related actions can be considered in an environmental document as “connected,” “cumulative,” or “similar” actions. NEPA regulation requires that the federal agency consider the proposed action and other “connected” or “cumulative” actions in the same EIS (40 CFR 1508. 25). An agency may, but is not required to, consider other “similar” actions in the same environmental document.

The BLM determined that the Ivanpah Solar Electric Generating System (ISEGS) project constituted a “cumulative” action for the EITP EIR/EIS. Rationale for defining ISEGS as a cumulative action are described on pages 1-5 through 1-8 of Vol 1 of the Final EIR/EIS. The ISEGS project was filed by corporations formed by BrightSource Energy as the parent company. The ISEGS project was analyzed in a separate EIS (See FES10-31) and a Record of Decision for the project was signed on October 7, 2010. Therefore, the ISEGS project is not being approved by this decision.

## **1.9 Right-of-Way Requirements (43 USC 1764; 1765)**

SF 2800-14 BLM (Right-of-Way Grant), the instrument to authorize the right-of-way grant for the project, includes terms, conditions, stipulations, and measures required as part of the grant authorization. Consistent with BLM policy, the EITP ROW grant will include a performance bonding requirement for installation of facilities consistent with the approved POD. The bond will be calculated upon submission of the final engineering and design and updates to the project Plan of Development. Construction of the EITP transmission line must commence within 5 years after the effective date of the ROW grant.

## **1.10 Summary of Conclusions**

The Selected Alternative for the EITP is the alternative that provides the most public benefits and avoids the most resource impacts. Potential impacts associated with the construction, operation, and maintenance of the proposed action and alternatives to the proposed EITP (including the No Project Alternative) were identified and discussed for each resource in Sections 3.2 to 3.14 of the Final EIR/EIS. Impacts identified for each resource area and alternative were compared with those identified for the proposed project, in terms of potential changes in the intensity, magnitude, and spatial and temporal extent of potential effects for NEPA.

### **1.10.1 Summary of the Comparison of Environmental Impacts**

#### **1.10.1.1 Transmission Routing Alternatives**

Construction, operation and maintenance of the Selected Alternative would have the least land disturbance because it is the shortest length alternative. This alternative would place the entire transmission line next to other transmission lines within a designated utility corridor. All of the alternative transmission routes would have stronger visual contrasts because of line segments that do not parallel already existing transmission lines. Air quality impacts would be equal or slightly above the proposed action for all alternatives since all of the alternatives are slightly longer than the proposed transmission line route. Visual impacts from the Desert Oasis apartments would be slightly reduced by Alternatives C and D which would be further away from the apartments. Transmission Alternative Routes B and C, would have higher impacts to biological resources with more vegetation being removed with a slightly greater loss of habitat. Alternative C would cross higher quality desert tortoise habitat than other alternatives. Alternatives C and D and Subalternative E would lessen impacts on noise, since they would be farther away from sensitive receptors than the proposed project would be.

#### **1.10.1.2 Telecommunication Alternatives**

Major differences between potential impacts from the telecommunications alternatives have been identified for biological resources. The Golf Course Telecommunication Alternative would have increased potential impacts on desert tortoise habitat due to increased critical habitat acreage impacted. Greater impacts to wildlife have been identified for the Mountain Pass Telecommunication Alternative, due to the proximity of construction activities to bighorn sheep and montane bird habitats.

#### **1.10.1.3 No Project / No Action Alternative**

Under the No Project / No Action Alternative, the proposed project, including the transmission line, the proposed Ivanpah Substation, the telecommunications line, and all other components of the proposed project, would not be constructed. Therefore, none of the changes to the existing environment would occur, and there would be no adverse impact to any of the identified environmental resources. If the proposed transmission system is not developed but the planned renewable generation facilities are developed, an alternative method for connecting renewable generation facilities in the Ivanpah Valley area would need to be developed. However, because the Selected Alternative would involve only the replacement of an existing transmission line within an existing ROW, it is reasonable to assume that any alternate connection method for renewable generation facilities in the Ivanpah Valley area could result in greater impacts than the proposed project because it might require new ROW or ground disturbance in previously undisturbed areas.

## 2. Mitigation and Monitoring

### 2.1 Required Mitigation

The Eldorado Ivanpah Transmission Project (EITP) Project includes the following measures, terms, and conditions:

- Mitigation Measures from Chapter 3, Environmental Analysis, Impact Assessment and Mitigation Measure sections, in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS), which are adopted by the Bureau of Land Management (BLM). Those measures which are adopted are listed in Appendix 4, Alternatives;
- Applicant Proposed Mitigation Measures that are contained in Chapter 3 of the FEIR/EIS;
- Terms and Conditions in the Biological Opinion that are provided in Appendix 2, Biological Opinion;
- Terms and Conditions in the Programmatic Agreement that are provided in Appendix 3, Programmatic Agreement; and
- Standard Terms, Conditions, and Stipulations (43 CFR 2800).

The complete language of these Mitigation Measures, and Applicant Proposed Mitigation will be incorporated into the applicant's final Plan of Development (POD) for the Selected Alternative. The right-of-way (ROW) will also include a Mitigation, Monitoring Compliance Reporting Program (MMCRP) that references the terms, conditions, and stipulations as shown in Appendix 4. The draft MMCRP is also included in Appendix 4.

The Mitigation Measures, Applicant Proposed Mitigation, BLM standard terms, and conditions and stipulations included in Appendix 4 are determined to be in the public interest pursuant to 43 CFR 2805.10(a)(1). A final version of the MMCRP will be made a part of the final POD that would be approved by BLM prior to the issuance of any Notice to Proceed with project construction.

### 2.2 Monitoring and Enforcement (40 CFR 1505.2[c])

A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation (40 CFR 1505.2[c]). Agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases. Mitigation and other conditions established in the FEIR/EIS or during its review and committed as part of the decision shall be implemented by the lead agency or other appropriate consenting agency. The lead agency shall:

- Include appropriate conditions in grants, permits or other approvals;
- Condition funding of actions on mitigation;
- Upon request, inform cooperating or commenting agencies on progress in carrying out Mitigation Measures they have proposed and that were adopted by the agency making the decision; and
- Upon request, make available to the public the results of relevant monitoring (40 CFR 1505.3).

The BLM is the federal lead agency for the EITP under the National Environmental Policy Act (NEPA). The BLM is responsible for ensuring compliance with all adopted Mitigation Measures for the EITP in the FEIS. The complete language of all the measures is listed in Appendix 4, and will be incorporated into Southern California Edison's final

POD. The final POD will be reviewed and accepted by the BLM Authorized Officer prior to the issuance of any notice to proceed for the project.

The BLM has also incorporated standard terms, conditions, and stipulations into the ROW grant. Failure on the part of Southern California Edison, as the grant holder, to adhere to these terms and conditions could result in various administrative actions up to and including suspension and even termination of the ROW grant and requirements to remove the facility and rehabilitate disturbances.

The draft MMCRP for the EITP power line is provided in Appendix 4 of this Record of Decision (ROD). The final MMCRP will also be incorporated as part of the final POD.

### **2.3 Mitigation Measures Not Adopted (40 CFR 1505.2[c])**

There are no BLM identified Mitigation Measures from the FEIR/EIS that have not been adopted in this ROD.

### **2.4 Statement of All Practicable Mitigation Adopted**

As required in the BLM *NEPA Handbook H-1790-1* and 40 CFR 1505.2(c), all practicable Mitigation Measures that are necessary to fully mitigate the potential effects of the project according to federal laws, rules, policies, and regulations have been adopted by this ROD for the EITP project.

## 3. Management Considerations

### 3.1 Decision Rationale

This decision approves the right-of-way (ROW) grant for the Eldorado Ivanpah Transmission Project (EITP) in accordance with the Agency Preferred Alternative (Selected Alternative) as analyzed in the Environmental Impact Report/Environmental Impact Statement (FEIR/EIS). The Bureau of Land Management (BLM) decision to authorize this transmission line ROW project is based on the rationale described in the following sections.

#### 3.1.1 Respond to Purpose and Need

Approval of the ROW grant for the Preferred Alternative responds to BLM's purpose and need for the EITP by responding to Southern California Edison's (SCE's) application under Title V of the Federal Land Policy and Management Act (FLPMA) (43 United States Code [USC] 1701) for a ROW grant to construct, operate, maintain, and terminate a 230-kV electric transmission line, a new substation, and other appurtenant facilities on public lands in compliance with the FLPMA, BLM ROW regulations, and other applicable federal laws.

The California Desert Conservation Area (CDCA) Plan recognized a system of ROW corridors as preferred locations for future transmission projects and the proposed project replaces an existing transmission line in a designated corridor with the new transmission line. The Las Vegas Resource Management Plan also designates ROW corridors and allows for the authorization of transmission lines on a case-by-case basis. Therefore the EITP is found to be in compliance with the existing CDCA Plan, as amended and the Las Vegas Resource Management Plan.

The construction, operation, maintenance, and termination activities associated with the Preferred Alternative, either singularly or with mitigation, are in conformance with the following land use plans and policies:

- BLM policy and guidance for issuing ROW grants, including BLM Manual 2801.11;
- *California Desert Conservation Area Plan* (1980, as amended), a plan amendment is required to identify the site as one used for solar generation within the CDCA;
- *Northern and Eastern Mojave Desert Management Plan* (NEMO) Amendment to the CDCA Plan; and
- *Las Vegas Resource Management Plan* (RMP) (1998, as amended), RW-1-h, all public lands within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for ROWs under the authority of the FLPMA.

The EITP Selected Alternative meets the BLM purpose and need for the project.

#### 3.1.2 Achieve Goals and Objectives

The Selected Alternative meets all project objectives, and is technically and legally feasible. It also helps convey electricity from renewable generation projects into a state-of-the-art electric transmission grid system that helps achieve federal and state objectives for renewable energy development. The Preferred Alternative provides for the transmission of renewable energy capacity while reducing adverse impacts compared to other alternative transmission routes. The project complies with CDCA Plan objectives and Las Vegas RMP objectives.

## 3.2 Required Actions

The following federal statutes require that specific actions be completed prior to project implementation:

### 3.2.1 Endangered Species Act of 1973

Under Section 7 of the Endangered Species Act (ESA), as amended (16 United States Code [USC] 1531 et seq.), a federal agency that authorizes, funds, or carries out a project that “may affect” a listed species or its critical habitat must consult with the United States Fish and Wildlife Service (USFWS). The BLM prepared a Biological Assessment for the USFWS in accordance with Section 7 of the ESA for potential effects to the listed desert tortoise. The USFWS has issued a Biological Opinion (BO) for the project which is provided in Appendix 2, Biological Opinion, in this Record of Decision (ROD). Measures included in the BO would reduce any anticipated adverse impacts, and the BLM’s issuance of a Notice to Proceed (NTP) will require that SCE comply with all reasonable and prudent measures and implementing terms and conditions listed in the BO. Furthermore, the ROW grant contains a standard stipulation that requires compliance with the BO.

### 3.2.2 Bald and Golden Eagle Protection Act

This Act provides for the protection of Bald and Golden Eagles by prohibiting, except under certain specified conditions, disturbance or harm of these species. To comply with the Act and based on the USFWS’s recommendation (memo dated September 15, 2010, available as part of the project record), and in accordance with BLM’s Instruction Memorandum 2010-156, the BLM will require SCE to develop an Avian Protection Plan (APP) prior to issuance of any NTP with construction activities. This APP may be part of an overall SCE programmatic APP and strategy to identify steps they must take system-wide to ensure eagle impacts are mitigated to the extent possible including but not limited to on-going surveys, impact monitoring, and facility design.

### 3.2.3 National Historic Preservation Act

The Section 106 process has been completed for the EITP. Section 106 compliance is in accordance with the Programmatic Agreement (PA, pursuant to 36 Code of Federal Regulations [CFR] 800.14[b]) executed by signature through the BLM and the California and Nevada State Historical Preservation Officers (SHPO), and other signatures in October 2010. The PA is provided in Appendix 3, Programmatic Agreement. The only property adversely affected by the EITP is the existing historic 115-kV transmission line, a part of which is being removed by the EITP project.

### 3.2.4 Clean Air Act as Amended in 1990

Title 40 CFR Section 51 (Subpart W–Determining Conformity of General Federal Actions to State or Federal Implementation Plans), Title 40 CFR Section 93 (Subpart B–Determining Conformity of General Federal Actions to State or Federal Implementation Plans) and 42 USC Section 7606(c), require federal actions to comply with the requirements of the Clean Air Act (CAA). The EITP is expected to meet the requirements of the CAA based on compliance. The NTP issued by the BLM is contingent upon SCE obtaining any necessary permits and compliance of the EITP with any mitigation, terms, conditions, and stipulations related to emission controls and reductions during project construction, maintenance, operation, and decommissioning, as determined by the applicable state permitting authority.

### 3.2.5 Clean Water Act

Section 404 of the Federal Clean Water Act (CWA) authorizes the U.S. Army Corps of Engineers (Corps) to regulate the discharge of dredged or fill materials into navigable waters of the U.S., including certain wetlands and other waters of the U.S. The Corps anticipates issuance of Nationwide Permits that will allow construction across the

Ivanpah Dry Lake and associated ephemeral washes near Primm, Nevada. There are no other jurisdictional waters of the U.S. associated with the project.

### 3.2.6 Incorporation of Resource Management Plan Considerations

Amendments to the CDCA Plan and the Las Vegas RMP are not required.

### 3.3 Legal Land Description of EITP

The following legal description applies to facilities to be authorized by CACA-49834 for a 30-year term:

#### Transmission Line and Access Road

##### San Bernardino Meridian

T. 16 N., R 14 E.

Sec. 3: lots 3 and 4, SWNW.

T. 17 N., R 14 E.

Sec. 24: SENE, SESW, SE,

Sec. 25: NWNE, N2NW, SWNW,

Sec. 26: SENE, SESW, N2SE, SWSE,

Sec. 34: SENE, SESW, N2SE, SWSE,

Sec. 35: N2NW, SWNW.

T. 17 N., R. 15 E.

Sec. 17: lot 5, S2NW, NWSW,

Sec. 18: E2SE, SWSE,

Sec. 19: lots 1, 2 and 3, NWNE, E2NW.

##### Mt. Diablo Meridian

T. 27 S., R. 59 E.

Sec. 3: lots 2 and 3, S2NW NWSW,

Sec. 4: SESW, SE, SENE

Sec. 9: NWSW.

T. 26 S., R. 59 E.

Sec 12: SENE, SESW, N2SE, SWSE

Sec. 13: lots 1, 4, 5, 6, and 7, NWNE,

Sec. 23: E2NE, N2SE, SWSE,

Sec. 24: lot 4,

Sec. 26: NWNE, E2NW, N2SW, SWSW,

Sec. 34: E2NE, SE,

Sec. 35: NWNW.

T. 26 S., R. 60 E.

Sec. 3: lot 4,

Sec. 4: lots 1 and 2, SWNE, SENW, N2SW,

Sec. 5: SESW, NESE, S2SE,

Sec. 7: lot 2, N2NE, SWNE, SENW,

Sec. 8: N2NW.

T. 25 S., R. 60 E.,  
Sec. 24: S2SE,  
Sec. 25: E2NE, SWNE, SENW, NESW, W2SW, NWSE,  
Sec. 26: S2SE,  
Sec. 34: SENE, NESW, S2SW, NWSE,  
Sec. 35: NENE, NWNE, NENW, W2NW.

T. 25 S., R. 61 E.,  
Sec. 19: SESW, SE,  
Sec. 20: N2NE, SWNE, NENW, S2NW, NWSW,  
Sec. 21: S2NE, NW, NESE, NWSE,  
Sec. 22: S2NE, SWNW, N2SW, NWSE,  
Sec. 23: S2N2, NWNE, N2NW,  
Sec. 24: S2N2, N2NE,  
Sec. 30: lot 1, NENW

T. 25 S., R. 62 E.,  
Sec. 1: SWNW, NWSW,  
Sec. 2: SENE, SW, N2SE,  
Sec. 3: lots 6 and 7, SWNE, S2NW, NWSW, S2SE,  
Sec. 4: E2SE, SWSE,  
Sec. 8: SENE, SESW, N2SE, SWSE,  
Sec. 9: NWNE, E2NW, SWNW, NWSW,  
Sec. 17: N2NW, SWNW,  
Sec. 18: lot 12, SWNE, SENE, SESW, N2SE, SWSE.  
Sec. 19: lots 5, 6, and 7.

Overhead distribution line

San Bernardino Meridian

T. 16 N., R. 16 E.,  
Sec. 28: lots 2,  
Sec. 33: NWNW.

Buried Telecom Route (Redundant path outside existing Eldorado-Lugo ROW)

San Bernardino Meridian

T. 16 N., R. 16 E.,  
Sec. 26: lot 5,  
Sec. 28: lot 2,  
Sec. 33: S2NE, SENW, NWNW,  
Sec. 34: lot 3, N2NE, S2NW,  
Sec. 35: lots 5 and 9, N2NW.

Mt. Diablo Meridian

T. 28 S., R. 60 E.,  
Sec. 25: SENE, N2SW, N2SE,  
Sec. 26: lots 8, 10, and 11.

Nipton Microwave Tower location

San Bernardino Meridian

T. 16 N., R. 16 E.,  
Sec. 28: lots 2 and 3

The following legal description applies to short-term use areas authorized by CACA-49834-01 which will be granted for a three-year term.

Short-Term ROW Helicopter Landing Zones CACA-49834-01

Mt. Diablo Meridian

T. 25 S., R. 60 E.,  
Sec. 24: SWSE,  
Sec. 26: SWSE,  
Sec. 35: NENE.

T. 25 S., R. 61 E.,  
Sec. 23: NWNE, NENW.

Short-Term ROW Pull/Splice/Tension Sites CACA-49834-01

San Bernardino Meridian

T. 16 N., R. 14 E.,  
Sec 3: lots 3 and 4, SWNW,  
Sec. 4: lot 1.

T. 17 N., R. 14 E.,  
Sec. 24: SE,  
Sec. 26: NESE,  
Sec. 35: NENW.

Mt. Diablo Meridian

T. 27 S., R 59 E.,  
Sec. 3: lots 3 and 4, SENW.

T. 26 S., R 59 E.,  
Sec. 12: N2SE,  
Sec. 26: SENW, NESW,  
Sec. 34: SENE, NESE.

T. 26 S., R. 60 E.,  
Sec. 4: S2NW, N2SW,  
Sec. 7: SENW.

T. 25 S., R. 60 E.,  
Sec. 26: S2SE,  
Sec. 35: NWNE.

T. 25 S., R. 61 E.,  
Sec. 20: SWNE, S2NW,  
Sec. 22: S2SW,  
Sec. 24: E2NE.

T. 25 S., R 62 E.,  
Sec. 1: SWNE, NWSW,  
Sec. 2: SENE, E2SW, N2SE, SWSE,  
Sec. 3: lot 6, SESE,  
Sec. 17: SWNW,  
Sec. 19: lot 7.

### **3.4 Statement of No Unnecessary or Undue Degradation (43 USC 1732[b])**

Congress declared that the public lands be managed for multiple use and sustained yield, in a manner to protect certain land values, to provide food and habitat for species, and to provide for outdoor recreation and human occupancy and use (43 USC 1701 [a][7], [8]). Multiple use management means that public land resources are to be managed to best meet the present and future needs of the American public, balanced to take into consideration the long-term needs of future generations without permanent impairment of the lands (43 USC 1702[c]). BLM manages public land through land use planning, acquisition, and disposition, and through regulation of use, occupancy, and development of the public lands (Subchapters II and III, respectively, 43 USC 1711 to 1722, and 1731 to 1748).

The FLPMA specifically provides that in “managing public lands the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands” (43 USC Section 1781[b]). The process for siting and evaluating the EITP has included extensive efforts on the part of BLM, SCE, the California Public Utilities Commission, public commentators, and other agencies in order to identify a project that accomplishes the purpose and need and other project objectives, while preventing any unnecessary or undue degradation of the lands. These efforts have included:

- The siting of the proposed facility inside existing designated Utility Corridors, and maximizing use of lands that have not been specifically designated for the protection of any resources.
- The selection of an alignment that maximizes the use of existing ROW grants currently held by the applicant.
- The evaluation of project location alternatives which could meet the purpose and need for the proposed project, but result in the avoidance and/or minimization of impacts.
- The development of mitigation measures, including compensation requirements for the displacement of desert tortoise habitat, to further avoid or minimize impacts.

In addition, BLM ROW regulations at 2805.11(a)(1) to (5) require determinations for the following:

BLM will limit the grant to those lands which BLM determines:

- (1) You will occupy with authorized facilities;
- (2) Are necessary for constructing, operating, maintaining, and terminating the authorized facilities;
- (3) Are necessary to protect the public health and safety;

- (4) Will not unnecessarily damage the environment; and
- (5) Will not result in unnecessary or undue degradation.

The lands described above are the minimum necessary to accommodate the transmission project. The applicant has identified and proposes to utilize previously disturbed access routes and disturbed areas within their existing ROW to the extent feasible to minimize the needs to disturb additional areas. All temporary disturbances associated with overhead and underground utilities will be immediately restored and revegetated to minimize erosion in accordance with approved restoration and revegetation plans. Public health and safety will not be compromised by the project as construction work areas will be posted and public access to those areas controlled to prevent possible injury to the public.

The Selected Alternative will achieve almost all of the beneficial impacts of the proposed project, including socioeconomic benefits of increases in employment and fiscal resources, and displacement of greenhouse gas and air pollutant emissions that are reduced and minimized with renewable energy generation. Based on the comparative analysis of the ability of each alternative to meet the purpose and need, and the environmental impacts that would be associated with each alternative as discussed in the FEIS and as summarized above, the Proposed Action was identified by BLM as the Preferred Alternative, and is the Selected Alternative in this ROD. The Selected Alternative does not unnecessarily damage the environment or create unnecessary or undue degradation of the lands.

### **3.5 Statement of Technical and Financial Capability (43 USC 1764[j])**

The CFR provides federal agencies the authority to require a project application to include information on an applicant's technical capability to construct, operate, and maintain the solar energy facilities applied for (43 CFR 2804.12[a][5]).

This technical capability can be demonstrated by other domestic experience with similar transmission facilities. The applicant has provided information on the availability of sufficient capitalization to carry out development, including the preliminary study phase of the project, as well as the site testing and monitoring activities. SCE is an electric utility with both Transmission and Distribution service divisions. SCE operates hundreds of miles of existing Transmission lines in the southwestern U.S.

The applicant's statement of technical and financial capability is provided in their ROW applications for the project.

### **3.6 Relationship to BLM and Other Agency Plans, Programs, and Policies**

#### **3.6.1 Tribal Consultation**

The BLM conducted government-to-government consultation with a number of Tribal governments and Tribal representatives as described in detail in Section 3.5.1.4, Tribal Consultation, in the FEIS. The consultation with Native American Tribes and the discussions with Tribal organizations and individuals revealed few concerns or interest in the EITP.

The following contacts were made with all tribes identified that would be associated with lands proposed for the facility. No specific concerns were expressed by any of the Tribes consulted. Although information was requested, no sites of traditional or religious use were identified in the area by the Tribes. Numerous letters as well as phone calls and face-to-face meetings occurred with Tribes on this project:

- Letter #1 (September 17, 2009): Initiated coordination/consultation with results of archaeological survey.

- Letter #2 (May 11, 2010): Letters to tribes continuing our government-to-government consultation and transmitting Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS).
- Letter #3 (November 29, 2010): Mailed tribes a copy of the FEIR/EIS.

BLM did not receive any calls, contacts, or correspondence from any of the tribes potentially affected by the project. In accordance with 36 CFR Part 800.14(b), PAs are used for the resolution of adverse effects for complex project situations and when effects on historic properties (resources eligible for or listed in the National Register of Historic Places [National Register]) cannot be fully determined prior to approval of an undertaking. The BLM developed and executed a PA regarding the Historic Lattice Steel Tower Transmission Lines for the EITP, however, the PA was limited in scope to the transmission line. It was determined that potentially affected tribes would not be interested in this historic power transmission line. The project did not affect other cultural resources sites requiring mitigation of impacts.

### 3.6.2 USFWS Section 7 Consultation

The BLM permit, consultation, and coordination with the USFWS required for the EITP complies with the federal ESA regarding potential take of the desert tortoise, which is listed as a threatened species. The BLM submitted a Biological Assessment (BA) for take of desert tortoise to the USFWS for the Ivanpah Solar Electric Generating System project on August 9, 2010.

The BO was issued by USFWS on April 29, 2011. In the BO, the USFWS conducted analysis of the impact of the Selected Alternative on the desert tortoise and its habitat, including:

- Scope of the proposed action;
- Environmental baseline, including evaluation of habitat characteristics and estimation of the number of tortoise present by various methods;
- Status of the tortoise populations in the area;
- Impacts due to construction, operations, and restoration;
- Impacts due to loss of habitat; and
- Compensation measures.

In the BO, the Service determined that the level of anticipated take will not jeopardize the continued existence of the desert tortoise, stating:

“Our evaluation of the proposed action includes consideration of the protective measures described in the *Description of the Proposed Action* section of the accompanying biological opinion. Consequently, any changes in these protective measures may constitute a modification of the proposed action that causes an effect to the desert tortoise that was not considered in the biological opinion and requires reinitiation of consultation, pursuant to the implementing regulations of the section 7(a)(2) of the Act (50 CFR § 402.16).”

In addition, this conclusion was reached for a variety of reasons, including:

1. The number of desert tortoises injured and killed as a result of the project will likely be small relative to the number of desert tortoises that occur within the Northeastern Mojave Recovery Unit, and across the range of the species.

2. SCE will implement numerous measures to reduce the potential for increased predation by common Ravens and the spread of non-native plant species.
3. This project would not result in loss of desert tortoise habitat in areas that the Bureau or other agencies have designated for intensive management to achieve conservation of desert tortoises.
4. Compensation requirements through the BLM and the California Department of Fish and Game, and in Nevada renumerations made to the BLM and Clark County Desert Conservation Program, will result in an increase in the amount of existing habitat that is managed for the conservation of the desert tortoise and will likely lead to restoration of lost or degraded habitat within these areas.

The ROD incorporates the results of the BO, including a condition of approval requiring the applicant to comply with the reasonable and prudent measures and required terms and conditions. The BO is provided in Appendix 2, Biological Opinion, of this ROD. It is also available on the BLM website.

### **3.6.3 Bald and Golden Eagle Protection Act**

The BLM coordinated with USFWS concerning requirements of the Bald and Golden Eagle Protection Act. In order to comply with the Act, and based on the USFWS recommendation (memo dated September 15, 2010, available as part of the project record), the BLM will require the preparation of an Avian Protection Plan (APP) prior to issuance of an NTP for the project (see MM-BIO 18 and stipulations). The applicant is considering whether to approach this requirement on a programmatic basis for all of their transmission system or if a project specific APP will be prepared for the EITP.

### **3.6.4 Section 106 and the Programmatic Agreement**

The BLM prepared a PA for the EITP in consultation with the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Officers (SHPO) in Nevada and California, and other interested parties. The executed Final PA, provided in Appendix 3 of this ROD, will govern the required mitigation for the adverse effect to the historic 115-kV transmission line, previously determined eligible for inclusion on the National Register of Historic Places. Required mitigation, such as the development of a Historic American Engineering Record study to document this important resource, provides an opportunity to minimize the effects of the project on cultural resources in accordance with the National Historic Preservation Act.

## **3.7 Consultation with Other Federal Agencies**

The County of Clark, Nevada, cooperated with the BLM on the FEIS for the Ivanpah Solar Electric Generating System project. Input was received from the Clark County Department of Aviation and the Desert Conservation Program. In addition, the Environmental Protection Agency (EPA), Federal Aviation Administration (FAA), National Park Service (NPS), and the U.S. Army Corps of Engineers (Corps) provided input to the BLM on the project and the EIS. Comments received from these agencies on the DEIS were addressed in the comment response appendices of the FEIS. This appendix explains which comments were incorporated into the FEIS. Appendix 1 of this ROD contains further comments from Clark County, EPA, and BLM's responses.

### **3.7.1 Clark County, Nevada**

The Clark County Department of Aviation provided comments and review of the DEIR/EIS because of their concerns related to the proposed Southern Nevada Supplemental Airport (SNSA). The EITP corridor crosses a segment of lands identified in P.L. 105-263, Sec. 42(g), as the Airport Environs Area, a 17,000 acre area that could be transferred to the Clark County Department of Aviation if requested, whenever the SNSA is approved. The SNSA is still in the planning stages but is on hold at the current time. Mitigation Measure (MM Haz-2) requires SCE to comply

with any FAA requirements upon completion of the SNSA. The Clark County Desert Conservation Program also provided input and comments throughout the project relating to segments of the proposed project that crosses patented lands currently owned by the town of Boulder City that are overlaid by a conservation easement that limits development. On lands within the conservation easement, SCE will construct the new transmission project within the boundaries of their existing ROW to eliminate additional surface disturbing activities.

### **3.7.2 Nevada Department of Wildlife**

The Nevada Department of Wildlife (NDOW) provided comments during agency scoping expressing concerns with construction activities during big horn sheep lambing periods. MM BIO-13 will be implemented to reduce potential impacts to big horn sheep by not constructing in lambing areas between January and May in the McCullough Pass area, and by monitoring all construction activities for the presence of sheep and stopping construction when sheep are found within 500 feet of the construction area. NDOW also expressed verbal communications recommending tubular steel pole designs to reduce Raven nesting and predation issues for juvenile desert tortoises. The applicant has prepared a Raven management plan per requirements in MM BIO-12 that will monitor and control offending Ravens if found on the ROW.

### **3.7.3 United States Environmental Protection Agency**

The EPA provided written comments on the proposed project and the EIS preparation during the scoping period. The EPA also provided written comments related to the projects impacts to waters of the United States during the review period for the Draft and Final EIS. Responses to the comments on the Final EIR/EIS are provided in Appendix 1.

### **3.7.4 Federal Aviation Administration**

The FAA provided written comments on the proposed project and the EIS preparation during the scoping period. The comments regarded potential effects of the project on the planned SNSA. Mitigation Measure (MM Haz-2) requires SCE to comply with any FAA requirements upon completion of the SNSA.

### **3.7.5 National Park Service**

The NPS provided written comments on the proposed project and the EIS preparation during the scoping period. The applicants proposed action for the telecommunication pathway was modified early based on NPS input so as to completely avoid the Mojave National Preserve.

### **3.7.6 United States Army Corps of Engineers**

The Corps was contacted during the NEPA process. The applicant prepared a delineation of waters of the United States and submitted the delineation to the Corps. The Corps visited the site and participated in conference calls and provided verbal feedback that the project would fall under a Nationwide Permit.

## **3.8 Land Use Plan Conformance (43 CFR 1610.5-3[a])**

### **3.8.1 California Desert Conservation Area Plan**

The FLPMA establishes public land policy; guidelines for administration; and provides for the management, protection, development, and enhancement of public lands. The FLPMA specifically establishes BLM's authority to grant ROWs for the generation, transmission, and distribution of electrical energy as follows:

- (a) The Secretary, with respect to the public lands ... are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for:
  - (4) systems for generation, transmission, and distribution of electric energy

The FLPMA is relevant to the EITP because it establishes BLM's authority to grant ROWs on public lands for the generation, transmission, and distribution of electrical energy. Because the FLPMA authorizes the issuance of a ROW grant for electrical generation facilities and transmission lines, the EITP will be consistent with the FLPMA.

The CDCA Plan was developed as mandated by the FLPMA and is the land use plan for the EITP site and the surrounding area within the defined CDCA. The CDCA Plan is a comprehensive, long-range plan for the management, use, development, and protection of the public lands in the CDCA. The 25-million acre CDCA contains over 12 million acres of public lands in the California desert, which includes the Mojave Desert, the Sonoran Desert, and a small part of the Great Basin Desert. Those 12 million acres of public lands are approximately half of the total land area in the CDCA. The site proposed for the EITP includes approximately 7 miles of transmission line, a substation, 3 miles of redundant telecommunications line, several miles of 33-kV distribution line, and a microwave tower in the CDCA administered by the BLM.

Goals and actions for each resource managed by the BLM are established in the 12 Elements in the CDCA Plan. Each Plan Element provides a Desert-wide perspective of the planning decisions for one major resource or issue of public concern as well as more specific interpretation of multiple use class guidelines for a given resource and its associated activities.

The EITP project site is classified in the CDCA Plan as Multiple Use Class (MUC) L (Limited Use). MUC L, the most restrictive multiple use classification in the Plan, "...protects sensitive, natural, scenic, ecological, and cultural resource values." Public lands designated Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished. However, the lands are also listed in the CDCA Plan under the Energy Production and Utility Corridor Element, which designates a regional network of utility planning corridors. Within California, the proposed project would replace an existing ROW within established energy corridors that allow for electrical transmission of 161-kV and above. The CDCA Plan notes that utility planning corridors specifically address the expansion of utility facilities constructed for the purpose of telecommunications and bulk transfers of electricity, gas, water, petroleum, and other commodities. Expansion is defined in the element as the addition, construction, or major modification of a tower, pipe, or cable to accommodate the transfer of additional products. The EITP fits within the definitions of expansion of utility facilities and for implementing the Utility Corridor Element that states, applications for utility ROWs will be encouraged by BLM management to use designated corridors. Even though the project lands are classified as class "L," because the EITP transmission line is within an existing transmission corridor identified in the CDCA Plan, no plan amendment is required (CDCA Plan, p.95).

### **3.8.2 Las Vegas Resource Management Plan**

The EITP segments located in Nevada on public land are in conformance with the Las Vegas RMP ROD as it states that all public lands within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for ROWs under the authority of the FLPMA. Nevada is also within established energy corridors that have been designated in the Plan.

### **3.8.3 Need for a Plan Amendment**

No plan amendments are required to approve the EITP in either California or Nevada.

### **3.9 Adequacy of NEPA Analysis**

The BLM considered the need for a Determination of NEPA Adequacy (DNA) worksheet to evaluate new circumstances and information that emerged after publication of the FEIR/EIS to determine whether or not a supplemental NEPA analysis was required. Use of the DNA worksheet for this purpose would be consistent with guidance in Section 5.1 of the agency's NEPA Handbook H-1790-1. The applicant has not submitted any changes to the project since the publication of the FEIS that would suggest a DNA worksheet is required and the BLM has determined that no supplementation under NEPA is required.

## 4. Alternatives (40 CFR 1505.2[b])

The Selected Alternative includes the following components:

### Powerlines

- **Eldorado–Ivanpah Transmission Line:** A new double-circuit 230-kV transmission line, approximately 35 miles long, would be constructed between the existing Eldorado Substation in Nevada and the proposed Ivanpah Substation in California. It would replace a portion of the existing 115-kV transmission line that runs from Eldorado to Mountain Pass, through Baker, Dunn Siding, and Cool Water Substations<sup>1</sup>. The existing 115-kV transmission line that runs west of the proposed Ivanpah Substation to Mountain Pass Substation would remain unchanged and is not part of the proposed project.
- **Subtransmission Line:** A proposed 600- to 800-foot-long addition to an existing 115-kV subtransmission line from a connection point would connect the remaining portion of the existing Eldorado–Mountain Pass–Baker–Cool Water–Dunn Siding 115-kV line with the proposed Ivanpah Substation.
- **Distribution Lines:** A proposed 33-kV distribution circuit, consisting of approximately 5,200 feet of new underground facilities and 5,900 feet of overhead lines, would be constructed to provide light and power to the proposed Ivanpah Substation. Approximately 400 feet of new 33-kV distribution line would be constructed underground to provide light and auxiliary power to the proposed Ivanpah Substation. In addition, the new distribution circuit includes a new 4,300-foot segment of 33-kV overhead lines, and a new underground service from the existing Nipton 12-kV distribution line would be built to provide power to a proposed microwave telecommunications site in the Ivanpah Substation. Near the town of Nipton, California, a buried distribution line would provide electric service to the Nipton Microwave relay.

### 4.1 Alternatives Fully Analyzed in the Draft EIR/EIS

This section summarizes alternatives that were carried forward for analysis in the Environmental Impact Report/Environmental Impact Statement (EIR/EIS), including the No Project Alternative. The alternatives that were eliminated from detailed consideration in the EIR/EIS along with the rationale for elimination are found on pages 2-65 to 2-68 in the Final EIR/EIS.

#### 4.1.1 Transmission Line Routing Alternatives

The alternatives carried forward for analysis that were minor route variations to the proposed transmission line route are called the Transmission Alternatives (Figure 2-1, Appendix 5). Two of the Transmission Alternatives are near the existing Eldorado Substation and are designed to avoid an area not designated as a Bureau of Land Management (BLM) utility corridor. Although this area contains the right-of-way (ROW) for the existing 115-kV line, it falls outside of a reserved BLM-designated corridor, therefore, Southern California Edison (SCE) must obtain Clark County and City of Boulder approval to widen the ROW to the 100 or 130 feet required for the upgraded 230-kV line. The two alternative transmission routes were designed to parallel existing transmission ROWs within the BLM reserved designated ROW corridors.

The other three transmission minor route alternatives are near Primm, Nevada, and are designed to avoid potential impacts to Ivanpah Dry Lake. All the Transmission Alternatives diverge from the proposed transmission line route for a portion of the route, but are not an entire project alternative.

<sup>1</sup> The Public Utilities Commission of Nevada (PUCN) has determined that the replacement of an existing facility with a similar facility does not constitute construction of a utility facility (NRS 704.865).

1. Parallel to LADWP Line Segment (Transmission Alternative Route A)

The Eldorado–Ivanpah 230-kV Transmission Alternative Route A (Figure 2-1, Appendix 5) would begin at the Eldorado Substation. The line would leave the substation heading north, and then immediately would head west to join the existing Eldorado–Mountain Pass–Baker–Cool Water–Dunn Siding ROW. The line would proceed generally west on a 130-foot ROW and cross three Los Angeles Department of Water and Power (LADWP) transmission lines (McCullough–Victorville No. 1, 500-kV; McCullough–Victorville No. 2, 500-kV; and Mead–Victorville, 287-kV) to the north before heading west again. The route would then cross the LADWP 500-kV transmission line (Marketplace–Adelanto). Transmission Alternative Route A would continue west for approximately 5.0 miles on a new ROW, and then turn north for approximately 1,000 feet before crossing the LADWP Marketplace–Adelanto 500-kV transmission line again and joining the proposed project route at MP 7.

The purpose of this alternative is to bypass the 0.8 mile segment of the proposed project route where the proposed project would deviate from designated transmission corridors that are managed by BLM.

2. North of Eldorado (Transmission Alternative Route B)

Transmission Alternative Route B (Figure 2-1, Appendix 5) would begin at the Eldorado Substation. The line would exit the substation to the north and parallel the Eldorado–Mead 230-kV transmission line on existing ROW for approximately 2.5 miles before turning southwest. The route would continue southwest for approximately 2.8 miles and re-join the existing Eldorado–Mountain Pass–Baker–Cool Water–Dunn Siding 115-kV transmission line ROW at MP 2 of the proposed route. This alternative would require numerous, difficult transmission crossings, and several of these overhead utility lines would require modification or relocation to accommodate passage of the Transmission Alternative Route B transmission line.

Similar to Transmission Alternative Route A, the purpose of Transmission Alternative Route B is to bypass a segment of approximately 0.8 miles where the proposed project would deviate from existing BLM managed designated transmission corridor and would cross lands administered by the City of Boulder (Boulder City Conservation Easement).

3. North Dry Lakes Reroute (Transmission Alternative Route C)

Transmission Alternative Route C (Figure 2-1, Appendix 5) would begin at the Eldorado Substation and follow the proposed route to the point where the line reaches the northeastern edge of the Ivanpah Dry Lake (MP 27, tower 185). Transmission Alternative Route C would then continue west and southwest on a new 130-foot ROW around Ivanpah Dry Lake for approximately 5.3 miles before rejoining the proposed project route at MP 32, tower 218. Transmission Alternative Route C was developed to minimize potential impacts to the Ivanpah Dry Lake.

4. South Dry Lakes Reroute (Transmission Alternative Route D)

Transmission Alternative Route D (Figure 2-1, Appendix 5) would parallel the existing LADWP Marketplace–Adelanto 500-kV transmission line as it crosses through the Ivanpah Dry Lake. This route would reduce the overall transmission footprint, since the EITP towers would follow, to the extent feasible, the existing LADWP 500-kV ROW. Transmission Alternative D begins at the Eldorado Substation and follows the proposed route until it approaches the northeastern edge of the Ivanpah Dry Lake (MP 27, tower 184). Transmission Alternative D would then continue south and then southwest on a new 130-foot ROW around Primm for approximately 3.3 miles before rejoining the proposed project route at MP 30, tower 203.

5. South Dry Lakes Bypass (Transmission Subalternative Route E)

Transmission Subalternative Route E is a subalternative to Transmission Alternative Route D. Subalternative E would use a shorter length of new 130-foot ROW (approximately 0.25 miles shorter than Alternative D) from MP 27 of the proposed EITP transmission line to the corridor that would parallel the existing LADWP Marketplace–Adelanto 500-kV transmission line. As would Transmission Alternative D, this route would reduce the overall transmission

footprint, since the EITP towers would follow, to the extent feasible, the existing LADWP 500-kV ROW. Transmission Subalternative Route E would proceed south from MP 27 for approximately 1 mile and then follow the route proposed for Transmission Alternative D (Figure 2-12, Appendix 5).

#### 4.1.2 Telecommunication Alternatives

In addition to minor transmission line routing alternatives, the Final EIR/EIS analyzes two telecommunication alternatives to the proposed telecommunication system. These are the Golf Course Telecommunication Alternative and the Mountain Pass Telecommunication Alternative. These alternatives include additional underground segments and installation of telecommunication wires along existing distribution lines to minimize potential visual impacts of an aboveground microwave tower.

##### 1. Telecommunication Alternative (Golf Course)

The Golf Course Telecommunication Alternative route would extend from Nipton to the point on the north side of Nipton Road where it intersects with Interstate-15 (I-15). This alternative would consist of a combination of all-dielectric self-supporting fiber cable installed on existing Nipton 33-kV wooden distribution pole lines and underground fiber optic cable in new duct banks (Figure 2-13, Appendix 5). Approximately 1 mile of all-dielectric self-supporting fiber cable would be installed overhead on an existing Nipton 33-kV distribution line immediately west of Nipton, on the north side of Nipton Road. Pole replacement for this alternative is not anticipated; however, the detailed project engineering design process might indicate that pole replacement would be necessary. From the westernmost pole on the Nipton line before it crosses to the south side of Nipton Road, fiber optic cable would be installed in a new underground duct along the north side of Nipton Road in new ROW to the intersection of Nipton Road and I-15. The underground cable length for this segment would be approximately 9 miles.

From the I-15–Nipton Road junction, the Golf Course Telecommunication Alternative route would parallel I-15, running north on an existing Nipton 33-kV distribution line, and crossing I-15 near the Primm Valley Golf Course. This alternative route would cross the Primm Valley Golf Course in a new underground duct (Figure 2-13, Appendix 5), then continue on an existing Nipton 33-kV distribution line to a point approximately 1 mile north of the Ivanpah Substation. The telecommunication line would then be installed in a new underground duct for approximately 1 mile to the Ivanpah Substation. The entire route from the I-15 junction to the Ivanpah Substation would be approximately 10 miles.

##### 2. Telecommunication Alternative (Mountain Pass)

The Mountain Pass Telecommunication Alternative route would extend from Nipton to the point on the north side of Nipton Road where it intersects with I-15. This alternative would consist of all-dielectric self-supporting fiber cable installed on existing Nipton 33-kV wooden distribution pole lines and in an underground fiber optic in new duct as described in the Golf Course Telecommunications Alternative.

From the I-15 junction point with Nipton Road, the route would parallel I-15 in an underground duct for approximately 1.0 mile and then would exit the underground duct and be strung on an existing Nipton 33-kV distribution line. The alternative route would then continue west to the town of Mountain Pass, then north to the Mountain Pass Substation. From there, the cable route would proceed northeast on an existing Nipton 33-kV distribution line to the Ivanpah Substation. The route would enter the proposed Ivanpah Substation from the south via approximately 500 feet of underground conduit that would be installed from the last Nipton 33-kV distribution line pole to the substation. The Mountain Pass Telecommunication route, from the I-15 junction point to the Ivanpah Substation, would be approximately 15.0 miles.

Dedicated communication enclosures would be included within the Mountain Pass Substation (6.0 miles southwest of the Ivanpah Substation) to house communication equipment. The communication equipment would be needed to repeat (re-generate) optical signals from/to Eldorado via telecommunication Path 2, Section 3. The enclosures would

be equipped with an AC electrical power interface, batteries and battery chargers, air conditioners, and conduits for connection to fiber optic cables from distribution pole lines.

### 4.1.3 No Project / No Action Alternative

The No Project Alternative / No Action alternative considers the environmental impacts if the proposed project and its alternatives are not built. Under this alternative, none of the activities or potential environmental impacts described in Chapter 3 of the Final EIR/EIS would occur. For the California Public Utilities Commission (CPUC), a No Project decision would be the denial of the Certificate of Public Convenience and Necessity application filed by SCE. The BLM No Action decision would be the denial of the ROW application filed by SCE.

Under the No Project / No Action alternative, the objectives of the proposed project would not be accomplished. The electrical transmission system proposed to connect renewable energy sources in the Ivanpah Valley area would not be constructed. Therefore, the applicant and other California utilities might not be able to comply with the provisions of Executive Order 13212, the Energy Policy Act of 2005, the Federal Power Act, California Senate Bill 1078, or California Senate Bill 107.

The applicant would continue to operate and maintain the existing 115-kV transmission structures and the existing Eldorado Substation. The applicant would also continue to use existing access and spur roads for operations and maintenance. The applicant is required to interconnect and integrate power generation facilities into its electric system, under Sections 210 and 212 of the Federal Power Act (16 U.S.C. § 824 [i] and [k]) and Sections 3.2 and 5.7 of the California Independent Service Operator's (CAISO's) Tariff. Further, state mandates require the applicant to increase its percentage of renewable generation sources in its overall energy portfolio. The existing transmission system in the Ivanpah Valley area cannot support the interconnection of these renewable generation projects planned for the area. With the proposed transmission system, the applicant would be able to connect some of the planned renewable generation projects in the Ivanpah Valley area to the existing CAISO-controlled grid, which would help the applicant meet the renewable generation goals set by the state.

Under the No Project Alternative / No Action, the following events or actions (scenarios) related to electric generation and transmission could be reasonably expected to occur in the foreseeable future:

- As currently conceived, solar projects proposed in the Ivanpah Valley area would be postponed or cancelled.
- Applicants for certain projects planned in the area have stated their intention to connect to an upgraded 230-kV transmission network, and it can be reasonably assumed that other planned projects in the area have the same intention. These proposed renewable energy projects would have to find alternate means to connect to the existing transmission system without compromising system reliability.
- The California Renewable Portfolio Standard (RPS), which requires retail sellers of electricity to increase their sales share produced by renewable energy sources to 20 percent by 2010, might not be achieved without access to renewable energy from the Ivanpah Valley. While access to renewable energy from the Ivanpah Valley could be provided via other methods, the location of the existing SCE transmission corridor in relation to the planned renewable generation projects in the Ivanpah Valley area make it a likely candidate for providing access to the CAISO-controlled grid.
- Other renewable energy resources would need to be identified and transmission studies would need to be conducted to connect these newly identified sources to the transmission grid. This could delay SCE's, and other utilities', ability to reach the RPS goal of 20 percent renewable generation sources by 2010.
- If the proposed transmission system is not constructed, the planned renewable generation facilities would need to find alternative means for transmitting their power to load centers and customers. This alternative

might not meet the objectives outlined by the CPUC and the BLM. Specifically, under the No Project Alternative, access to the CAISO-controlled grid might, but might not, be provided to solar generation projects planned for the Ivanpah Valley area, because these projects might not be constructed or could connect to transmission systems that service customers outside of California.

- Under the No Project Alternative, the applicant would need to identify alternate renewable generation sources to meet the state RPS goals. This could result in delaying the applicant's ability to comply with the RPS mandate and, depending on the alternate sources identified, could result in greater environmental impacts than the proposed project as they might require creation of a new ROW or might require ground disturbance in previously undisturbed areas.
- Further, if the proposed transmission system is not developed but the planned renewable generation facilities are developed, an alternative method for connecting renewable generation facilities in the Ivanpah Valley area would need to be developed.

## 4.2 Agency Preferred Alternative

The BLM identified the Proposed Action as the Agency Preferred Alternative in the Draft EIR/EIS in Section 2.3.4. The CPUC also identified the Proposed Project (Proposed Action) as the California Environmental Quality Act Environmentally Superior Alternative. The Final EIR/EIS contained the same findings and stated the Record of Decision would identify the National Environmental Policy Act (NEPA) environmentally preferred alternative.

## 4.3 Environmentally Preferable Alternative

The "environmentally preferable alternative," is the alternative that would promote the national environmental policy, as expressed in NEPA Section 101. Ordinarily, this means the alternative that would cause the least damage to the biological and physical environment; however, it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources. The environmentally preferable alternative is identified as the Selected Alternative for the following reasons:

- The Selected Alternative maximizes the use of designated ROW utility corridors and overlaps with existing ROW grants held by the applicant. Using previously disturbed lands and existing ROW will minimize physical damage and surface disturbance.
- The Selected Alternative utilizes a microwave link for the redundant telecommunications pathway that avoids disturbing additional lands that would be required to string the telecommunications via a hard wire connection described in the Alternatives.

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## 5. Agency and Public Involvement

The agency and public involvement processes for the Eldorado Ivanpah Transmission Project (EITP) focused on two main processes: scoping and comments on the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS).

### 5.1 Scoping

The scoping process for the EITP EIR/EIS consisted of the following four main elements:

1. Publication of the Notice of Intent (NOI) to prepare an EIS published in the Federal Register on July 27, 2009, initiated a formal public scoping process.
2. Establishment of public information repositories for scoping and project documents, including a website and an electronic mail address for comments.
3. Hosting of two public scoping meetings, one in Primm, Nevada, on July 28, 2009, and a second in Las Vegas, Nevada, on July 29, 2009. Additionally an inter-agency consultation meeting was held in advance of the public scoping meetings on July 1, 2009. Representatives from the Federal Aviation Administration; Mojave National Preserve; United States Fish and Wildlife Service; California Department of Fish and Game; California Department of Transportation; Nevada Division of Wildlife; Clark County Department of Aviation; Clark County Department of Planning; Clark County Desert Conservation Program; Boulder City, Nevada; and the Town of Laughlin, Nevada, Manager's Office.
4. Documentation of all public and agency comments received in a Scoping Summary Report.

The public scoping process was intended to allow the public, interested parties, and regulatory agencies an opportunity to comment on the scope of the EIR/EIS and to identify issues that should be addressed in the document. Federal, state, regional, and city agencies; Native American tribes and communities; businesses; and interested groups and individuals were given the opportunity to participate in the scoping process by providing comments and recommendations at the scoping meetings or via the EITP scoping comment repositories.

After deciding that an EIR/EIS was needed, both the state and federal lead agencies were required to prepare and distribute a notice informing interested parties that an EIR or EIS, respectively, will be prepared. The California Environmental Quality Act (CEQA) requires that the state lead agency prepare a Notice of Preparation (NOP), and the National Environmental Policy Act (NEPA) requires that the federal lead agency prepare an NOI.

Pursuant to the state and federal requirements discussed above, an NOP and an NOI were distributed for the EITP. The California Public Utilities Commission (CPUC) provided an NOP to the California State Clearinghouse for release on July 23, 2009. The NOP was mailed to 133 government agencies, as well as 96 residents and nongovernmental organizations to inform the public of the proposed project and provide notice of the public scoping meetings. The Bureau of Land Management (BLM) published an NOI for NEPA in the Federal Register on July 27, 2009, but did not duplicate the mailing to those that received the NOP since the meeting information and timing were identical for both notices.

The NOP and NOI were provided as an appendix to the Scoping Summary Report in Appendix E of the EIR/EIS.

## 5.2 Scoping Meetings

CEQA recommends that public scoping be combined to the extent possible with consultation with responsible agencies, as required under 14 California Code of Regulations 15802. Consultation is conducted with agencies that will be involved in the environmental review process locally, as well as state and federal agencies and tribal governments, as appropriate.

Therefore, the CPUC and the BLM conducted joint public scoping meetings along the proposed route in Nipton, California, on Tuesday, July 28, 2009, and in Las Vegas, Nevada, on Wednesday, July 29, 2009. The format for the scoping meetings included an open house, a PowerPoint presentation describing the EITP, and an opportunity to provide verbal or written comments. Approximately three people attended the meeting at the Primm Valley Golf Club, and approximately seven people attended the Las Vegas meeting. No formal comments were submitted in either of the scoping meetings.

Four primary areas of concern were identified during the public scoping process: (1) impacts of the project on several biological resources, especially desert tortoise; (2) compatibility with regional land uses such as the planned Southern Nevada Supplemental Airport; (3) compatibility with other existing right-of-way designations; and (4) cumulative impacts.

## 5.3 Draft EIS and Public Comment Period

A 45-day public comment period for the DEIR/EIS was initiated between April 30, 2010, and June 26, 2010. The NOA described information regarding the 45-day public review period and included notice of public meetings. The purpose of the DEIR/EIS public hearings/meetings was to inform the public about the project's environmental effects, describe alternatives to the proposed action under consideration in the decision-making process, and provide interested parties with an opportunity to submit oral and written comments to the DEIR/EIS.

The CPUC and the BLM conducted joint public comment meetings along the proposed route in Nipton, California, and Las Vegas, Nevada, on Wednesday, May 26, 2010. The format for the public meetings included a PowerPoint presentation describing the findings of the environmental analysis. Comment cards were provided to encourage public verbal or written comment to the DEIR/EIS and informational sheets about environmental impacts of the proposed project were made available to the public at each venue. Each public meeting included presentations by the CPUC and the BLM describing the purpose and preparation stages of the EITP EIR/EIS under the CEQA/NEPA process followed by a description of other local and state entities which contributed to the preparation of the document.

Comments on the DEIS ranged from requests for clarification on the applicant's project description to requests for additional resource-specific information for several resource sections (e.g., air quality, biology, hazards and safety, and land use), comments on the Whole of the Action / Cumulative Action approach, and comments on the range of project alternatives. Comments were received from the following governmental entities:

- U.S. Environmental Protection Agency;
- California Department of Fish and Game;
- California Department of Transportation;
- California Department of Toxic Substances Control;
- California State Lands Commission;
- Clark County Department of Aviation;

- Mojave Desert Air Quality Management District; and
- Nevada Department of Wildlife.

Comments were received from the following interested parties:

- BrightSource Energy;
- Center for Biological Diversity, San Francisco Office;
- Desert Conservation Program;
- Powers Engineering;
- Sierra Club;
- Southern California Edison; and
- Western Watersheds Project

A list of the persons and agencies that were consulted during the preparation of the EIS is listed on pages 7-6 and 7-7 of the Final EIR/EIS (FEIR/EIS). In addition, responses to all comments received on the DEIS are contained in Appendix G of the FEIS. This appendix provides a copy of the original comment letter along with responses to the issue raised in the comment.

## 5.4 Final EIS

The U.S. Environmental Protection Agency published a Notice of Availability (NOA) of the FEIS on December 17, 2010. The BLM's NOA appeared in the Federal Register on December 21, 2010. The FEIR/EIS was distributed to a variety of federal, State, local government agencies, and Native tribal governments, and notices describing how to obtain the document were sent to other interested parties. The CPUC posted the FEIR/EIS on their project website in early November 2010 as part of the CPUC decision process. Five parties have provided BLM with comments on the FEIS. Those comments and responses to them are included in Appendix 1 of this Record of Decision (ROD).

BLM also distributed a news release about the NOA in the local and regional media. BLM will publish an NOA announcing the availability of this ROD along with further local and regional media announcements. The ROD will be available on BLM websites and hard copies or CDs will be provided upon request.

## 5.5 Summary of Consultation with Other Agencies and Entities

The BLM and the right-of-way applicant have been consulting and coordinating with public agencies that may be requested to take action on the EITP and other interested parties as part of one or more of the following project phases: planning, scoping, public review of the DEIS, and/or public review of the FEIS. Those consultation and coordination activities are addressed throughout this ROD and are summarized in the following sections.

### 5.5.1 U.S. Fish and Wildlife Service Consultation

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction to protect threatened and endangered species under the Endangered Species Act (ESA). Formal consultation with the USFWS under Section 7 of the ESA is required for any federal action that may adversely affect a federally-listed species. The desert tortoise (*Gopherus agassizii*), which occurs in the proposed project area, is a federally-listed threatened species, and therefore, formal consultation with the USFWS is required. This consultation was initiated through the preparation and submittal of a Biological Assessment (BA) which describes the proposed project to the USFWS. Following review of the BA, the USFWS

issued its Biological Opinion (BO), titled "Biological Opinion for the Eldorado-Ivanpah Power Transmission Project" File No. 84320-2010-F-0448 [CACA-49834], concluding that the action would not jeopardize the continued existence of the desert tortoise. The BO also includes terms and conditions that will be followed by the applicant to reduce any anticipated adverse impacts. The final BO is included in Appendix 2 of this ROD.

### **5.5.2 National Historic Preservation Act Consultation**

A key part of a cultural resources analysis under NEPA and Section 106 of the National Historic Preservation Act of 1966 is to determine which of the cultural resources that a proposed or alternative action may affect are important or historically significant.

In accordance with 36 CFR Part 800.14(b), the BLM has prepared a Programmatic Agreement (PA) in consultation with the Advisory Council on Historic Preservation, the State Historic Preservation Officers in California and Nevada, and other interested parties. The PA addresses adverse effects and mitigation regarding the Management of Historic Electric Power Conveyance Systems in the States of California and Nevada. The executed PA is provided in Appendix 3, Programmatic Agreement. No other eligible properties will be adversely affected by the EITP. All other cultural resources have been avoided by the project.

### **5.5.3 Native American Tribal Consultation**

The BLM initiated consultation with Native American tribes and groups that may have knowledge of the cultural resources of the proposed project area, in accordance with Section 106 of the National Historic Preservation Act. Twenty-three contacts from the following 11 Native American groups received letters and follow-up calls notifying them of the proposed project as the first step in the consultation process:

- Chemehuevi Indian Tribe;
- Colorado River Indian Tribes;
- Fort Mojave Tribal Council;
- Las Vegas Paiute Tribe;
- Moapa Band of Paiute Indians;
- Morongo Band of Mission Indians;
- Pahrump Paiute Tribe;
- San Manuel Band of Mission Indians;
- Serrano Nation of Indians;
- Timbisha Shoshone; and
- Twenty-Nine Palms Band of Mission Indians.

A search of the Native American Heritage Commission's Sacred Lands File (SLF) was conducted to determine any known Native American cultural resources in the proposed project area. The SLF search failed to indicate the presence of any Native American cultural resources in the proposed project area. As of the date of this document, tribal consultation did not result in the identification of cultural resources or historic properties to which the tribes attach religious or cultural significance within the proposed project area.

The 11 tribes were provided follow-up letters and copies of both the DEIR/EIS and the Final EIR/EIS. None of the tribes commented during the environmental review process and no tribes requested further information or provided comments related to cultural resources or historic properties within the project area.

## **5.5.4 State of California Coordination**

### **5.5.4.1 California Public Utilities Commission**

The DEIR/EIS and FEIR/EIS for this proposed project was developed as a joint environmental review document pursuant to a Memorandum of Understanding between the CPUC and the BLM dated August 25, 2008. The DEIR/EIS was circulated for agency and public review, and the comments received on the Draft and responses to those comments were provided in Appendix G of the FEIS. Subsequent to the publication of the joint FEIR/EIS, the BLM and the CPUC processes have been conducted separately. The CPUC continued its Commission Certification process through the release of a proposed decision and publication of their final certification in December 2010.

### **5.5.4.2 California Department of Fish and Game**

The California Department of Fish and Game (CDFG) has the authority to regulate potential impacts to species that are protected under the California Endangered Species Act (CESA). The applicant must file an application for authorization for incidental take of the desert tortoise under Section 2081(b) of the CESA. The requirement to file with CDFG is included as a recommended Mitigation Measure.

### **5.5.4.3 Other**

The U.S. Army Corps of Engineers (USACE) has jurisdiction to protect water quality and wetland resources under Section 404 of the Clean Water Act. Under that authority, USACE reviews proposed projects to determine whether they may impact such resources, and/or be subject to a Section 404 permit. The USACE has been consulted and the applicant has prepared a report delineating waters of the U.S. The USACE has not rendered a final opinion but has indicated the project will likely fall under Nationwide Permit 12, so each crossing of ephemeral drainages to Ivanpah Dry Lake will require its own Nationwide Permit. This process would not hold up the NEPA or CEQA environmental review process. The requirement to comply with requirements of the USACE is term and condition in this ROD.

The National Park Service manages the Mojave National Preserve (MNP), which is located near the proposed project area. Because of the proximity of the MNP, the National Park Service was invited to participate in scoping meetings and public workshops, and was provided the opportunity to review and provide comment on the EIR/EIS. Preliminary alternative routes identified by the applicant included alternatives that would have placed segments of the telecommunication line within the boundary of the MNP. None of the Alternatives that affected the MNP were carried forward for further consideration in the EIR/EIS due to permitting constraints.

BLM entered into a Cooperating Agency Memorandum of Understanding with Clark County for the EITP. The main concerns expressed by Clark County related to the proposed Southern Nevada Supplemental Airport and therefore key contacts were made with the Clark County Department of Aviation (CCDOA). The CCDOA provided comments on the Administrative DEIR/EIS, the DEIR/EIS and on the FEIR/ EIS. In addition, the Clark County Desert Conservation Program provided input on the project's effect on conservations easements in the Eldorado Valley. BLM continues to provide Clark County with project-related documentation for their review and evaluation.

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## 6. Final Agency Action

### 6.1 Right-of-Way Authorization

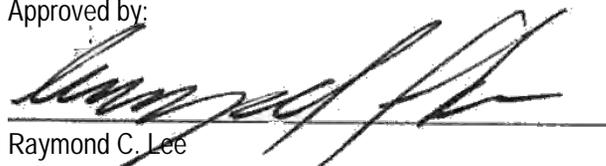
It is my decision to grant an electric transmission line right-of-way (ROW) grant CACA-49834 to Southern California Edison, subject to the terms, conditions, stipulations, Plan of Development, and environmental protection measures developed by the Department of the Interior. In addition, an amendment to existing ROW NVN-016656 will be granted by the Las Vegas Field Office Manager for the redundant telecommunications cable being installed on the Eldorado Lugo transmission line. In general, a decision of the BLM is not effective during the time in which an adversely affected person may file a notice of appeal (43 CFR 4.21[a][1]). However, according to regulation, Bureau of Land Management decisions issued under 43 CFR Part 2800 are and remain in effect pending appeal (43 CFR 2801.10[b]). Since this ROW decision was issued under 43 CFR Part 2800, it is and remains in effect as of the date of issuance.

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4. If an appeal is taken, your notice of appeal must be filed with the Field Manager, Bureau of Land Management, Needles Field Office, 1303 Highway 95 South, Needles, California, 92363 or hand delivered to the above, within 30 days from the date of this decision. The appellant has the burden of showing that the decision appealed is in error.

If you wish to file a petition pursuant to regulations at 43 CFR 2801.10 or 43 CFR 2881.10 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed in this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

See Appendix 7 for filing information related to appeals and requesting a stay.

Approved by:



Raymond C. Lee  
Needles Field Manager  
Bureau of Land Management  
U.S. Department of the Interior

19 May 11  
Date

I concur:



Robert B. Ross Jr.  
Las Vegas Field Manager  
Bureau of Land Management  
U.S. Department of the Interior

5/19/11  
Date

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***Appendix 1***  
***FEIS Comment Responses***

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## Appendix 1: Response to Comments

The following are responses to comment letters received after the publication of the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) published in November 2010. Although not required by the Federal Land Policy and Management Act (FLPMA), the National Environmental Policy Act (NEPA), or any applicable plan, policy or program, the Bureau of Land Management (BLM) voluntarily offered in the Dear Reader letter that accompanied the FEIR/EIS to accept public comment on the FEIR/EIS for 30 days after the Environmental Protection Agency published the Notice of Availability of the FEIR/EIS in the Federal Register, and to respond to all substantive comments in the Record of Decision. Comment letters are labeled 0028 through 0033 and are located at the end of this Appendix (comment letters received during scoping and letters received in response to the Draft EIR/EIS [DEIR/EIS], 0001 through 0027, are included in Appendix G of the FEIR/EIS).

### *List of Commenters*

0028 – **Center for Biological Diversity:** Ileene Anderson

0030 – Western Watersheds Project: Michael J. Connor

0031 – **Basin and Range Watch:** Kevin Emmerich

0032 – **Clark County Department of Aviation:** Teresa R. Motley

0033 – Western Watersheds Project: Michael J. Connor

### *Comment Responses*

#### **0028 Comment Responses: Center for Biological Diversity**

0028-1 Purpose and Need

A similar comment was addressed in Response to Comments 0023-2 in Appendix G of the FEIR/EIS. The following addresses the utility of the EITP: On a state level, the Eldorado Ivanpah Transmission Project (EITP) would be consistent with planning efforts to facilitate delivery of renewable energy, many of which include considerations of potential environmental effects in analyzing and ranking renewable energy potential. These analyses and reports are described in Section 1.2.2 of the EIR/EIS and consider a number of factors including generation potential, permitting feasibility (e.g., environmental concerns), interconnection points into the grid (e.g., existing transmission infrastructures), and the cost of generation and transmission. The EITP would be located in the Mountain Pass Competitive Renewable Energy Zone (CREZ) and would upgrade a portion of the Mountain Pass line segment group, which provides access to renewable energy in the Mountain Pass CREZ and may improve the power transfer capability between Arizona, Nevada, and California (RETI 2010). In addition, sufficient indicators exist—such as environmental reviews, recently approved projects (Ivanpah Solar Electric Generating System [ISEGS] and Silver State, among others), Large Generator Interconnection Agreements, Purchase Power Agreements, American Recovery and Reinvestment Act funding, and Department of Energy loan guarantees—to suggest that a number of projects are likely to be approved in the Ivanpah Valley in the near future. In order to be timely and meet demand/generation interconnection requirements and contractual agreements, transmission planning must occur in anticipation of needed development. Refer to Section 1.2.2 of the FEIR/EIS for additional information on renewable energy generation goals and planning.

1  
2 0028-2 Biological Resources

3  
4 Thank you for your comment.

5  
6 0028-3 Biological Resources

7  
8 Section 3.4.3.5 of the FEIR/EIS addresses desert tortoise impacts and describes the large home ranges that desert  
9 tortoise inhabit; therefore, it is not inconceivable that translocated tortoise from other solar projects would traverse the  
10 EITP project area. However, the details and locations associated with translocation activities for other future solar  
11 projects are not currently known (and thus cannot be analyzed) and would be coordinated with the appropriate  
12 Wildlife Agencies (U.S. Fish and Wildlife Service [USFWS], California Department of Fish and Game, Nevada  
13 Department of Wildlife). Similarly, MM BIO-12 of the FEIR/EIS states that this same consultation process with Wildlife  
14 Agencies must occur prior to construction activities for the EITP. During this process, Wildlife Agencies review and  
15 analyze the most current research data/recommendations (e.g., translocation issues) and issue stringent measures  
16 to be included as conditions of construction to protect the species.

17  
18 0028-4 Biological Resources

19  
20 Section 3.4.3.5 of the FEIR/EIS addresses desert tortoise impacts and includes potential impacts associated with  
21 relocation and handling of tortoise. MM BIO-12 of the FEIR/EIS provides measures to alleviate potential impacts from  
22 handling tortoise and associated relocation activities. It also requires consultation with Wildlife Agencies prior to  
23 construction activities for the EITP. During this process, Wildlife Agencies review and analyze the most current  
24 research data/recommendations (e.g., relocation issues) and issue stringent measures to be included as conditions  
25 of construction to protect the species and reduce significant mortality. Desert tortoise would be moved out of harm's  
26 way from construction equipment and monitored during construction activities.

27  
28 0028-5 Cumulative Impacts

29  
30 Section 5.2 of the FEIR/EIS describes the criteria for inclusion of a cumulative project in the cumulative scenario. The  
31 FEIR/EIS, which was published prior to December 2010, states the following:

32  
33 The projects that make up the cumulative scenario are located in close proximity to the EITP within the  
34 cumulative study area and are (1) completed, (2) approved and under construction, (3) approved but not yet  
35 under construction, or (4) proposed but not approved. A project is included in this cumulative analysis if  
36 information on the project was available in the BLM's database or identified during agency scoping or in  
37 another published cumulative analysis as of July 30, 2010. The Kern River Pipeline Company filed a ROW  
38 application with the BLM for an 8-inch diameter lateral pipeline on October 29, 2010, one week prior to the  
39 CPUC publication of their Notice of Availability of the FEIR/EIS. The FEIR/EIS was being printed before  
40 Kern River filed their application so it is easy to understand why this pipeline was not included in the  
41 cumulative analysis for EITP. A supplemental FEIS is not warranted as the impacts of the proposed pipeline  
42 are being analyzed in a separate NEPA analysis which can address the cumulative impacts.

43  
44 **0030 Comment Responses: Western Watersheds Project**

45  
46 0030-1 General

47  
48 Thank you for your comment. Cumulative impacts, including impacts on desert tortoise within the Northern Mojave  
49 Desert Tortoise Recovery Unit, are addressed in Section 5.3.3 of the FEIR/EIS.

1  
2 0030-2 Project Description

3  
4 This comment is similar to Comment 0023-1 included in Appendix G of the FEIR/EIS. As described in Chapter 1,  
5 “Purpose and Need,” in addition to the project as proposed by Southern California Edison (SCE), the EIR/EIS  
6 considers the environmental impacts of the ISEGS project as a Cumulative Action under NEPA and as part of the  
7 Whole of the Action under the California Environmental Quality Act (CEQA). The environmental impacts of other  
8 projects in the vicinity of the proposed project are assessed, in conjunction with the environmental impacts of the  
9 EITP, in Chapter 5, “Cumulative Scenario and Impacts.” Refer to response to Comment 0023-1 for additional  
10 information on the rationale for including or not including specific projects as a Cumulative Action and as part of the  
11 Whole of the Action.  
12

13 0030-3 Biological Resources

14  
15 Section 3.4.3.8 of the FEIR/EIS discussed Transmission Alternative B, which does not pass through critical habitat  
16 for desert tortoise. This alternative, along with the proposed project and other alternatives, passes through suitable  
17 habitat that is likely occupied by desert tortoise. With the exception of the dry lake beds, high mountain passes, and  
18 developed areas around Primm, the majority of the Ivanpah Valley provides suitable habitat for desert tortoise, thus  
19 making it very difficult to find feasible alternatives that do not pass through potential desert tortoise habitat. The  
20 ISEGS solar plant will be located in suitable habitat for desert tortoise, making it impossible to formulate a  
21 transmission alternative that would not also impact suitable habitat.  
22

23 0030-4 Alternatives

24  
25 This comment is similar to comment 0023-3 in Appendix G of the FEIR/EIS and Comment 0031-19 on the FEIR/EIS.  
26 Two non-transmission system subalternatives are discussed in the Alternative Screening Report (ASR) (Appendix A-  
27 1 of the EIR/EIS) but not carried forward for analysis in the EIR/EIS. These subalternatives are discussed in Section  
28 3.2.1 of the ASR and have been expanded in the FEIR/EIS to clarify the generation potential of non-transmission  
29 programs. The revised ASR in the FEIR/EIS includes an expanded discussion of 1) an In-Basin Generation  
30 Subalternative, which includes the development of in-basin generation, such as new solar, wind, and/or geothermal  
31 power plants, instead of developing new and upgraded transmission facilities to interconnect solar generation from  
32 the Ivanpah Dry Lake Area; and 2) a Demand-Side Subalternative, which includes demand-side programs such as  
33 ultraclean distributed generation and energy efficiency programs as outlined in the California Public Utilities  
34 Commission (CPUC) Code 1002.3. The In-Basin Generation Subalternative was eliminated because it could  
35 potentially result in transmission upgrades on the same scale as EITP; additionally, this subalternative would not  
36 meet the project objective to connect renewable resources in the Ivanpah Valley. Additionally, consideration of an in-  
37 basin generation alternative would require a programmatic-level environmental analysis that is outside the scope of  
38 the EITP EIR/EIS. The Demand-Side Subalternative was eliminated because it would not meet the project objectives  
39 of complying with California Senate Bill 1078 and California Senate Bill 107, which establish renewable portfolio  
40 standards for investor-owned utilities in California, including SCE. Additionally, this alternative is considered  
41 speculative and technically infeasible. For more information on non-transmission alternatives, refer to Appendix A-1  
42 of the FEIR/EIS.  
43

44 0030-5 Biological Resources

45  
46 Impacts on special status nesting birds, bats, and reptiles from changes in air quality are generally discussed in the  
47 FEIR/EIS in Section 3.4.3.5. APM AES-7 would provide for reduction of potential impacts through measures to  
48 suppress fugitive dust. Specific to the desert tortoise, MM BIO-11 requires that dust suppression activities prevent  
49 random water pools from occurring, which can inadvertently attract desert tortoise. The connection between fugitive  
50 dust, vehicle emissions, and the desert tortoises’ increased susceptibility to respiratory disease is not specifically

1 discussed. However, due to the temporary nature of linear work in any one area, the dust suppression activities  
2 described in APM AES-7, and the desert tortoise clearance and handling procedures that would be performed in  
3 advance of construction (MM BIO-12), there is a low probability of desert tortoise contracting respiratory illness  
4 during construction. Operation and maintenance procedures would be similar to current procedures; therefore, the  
5 probability of desert tortoise contracting respiratory illness during operation would also be low.

6  
7 0030-6 Biological Resources  
8

9 Potential impacts to special status species from implementation of the EITP are discussed in Section 3.4.3.5 of the  
10 FEIR/EIS. Required mitigation measures to be employed to avoid and/or minimize those potential impacts are  
11 provided in Section 3.4.4. Specific to desert tortoise, APM BIO-11 and MM BIO-12 require Wildlife Agency  
12 consultation and issuance of a Biological Opinion, which will clearly outline the compensation ratios that the Agencies  
13 require. Federal tortoise compensation requirements in California for BLM are determined by the Northern and  
14 Eastern Mojave Desert Management (NEMO) Plan amendment to the California Desert Conservation Area Plan. The  
15 NEMO plan specifies a 1:1 compensation ratio for non-critical desert tortoise habitat and a 5:1 compensation ratio in  
16 critical habitat. The EITP will result in approximately 51 acres of disturbance to habitat in California: 2 acres of critical  
17 habitat and 49.7 acres of non-critical habitat. Compensation in Nevada for the BLM is established at a rate of  
18 \$774/acre with a multiplier factor for habitat quality (Hastey et al. 1991). Total payments to the BLM will be  
19 approximately \$489,744 and estimated payments to the Clark County Desert Conservation Program will be \$6,811.  
20 Total acreage requiring compensation in Nevada is 220 acres of non-critical habitat and 93.6 acres of critical habitat.  
21 Acquisition requirements for rare plants are provided for in MM BIO-3.

22  
23 0030-7 Biological Resources  
24

25 Section 3.4.3.5 of the FEIR/EIS discusses impacts associated with potential invasion of noxious weeds due to project  
26 ground disturbance. The existing right-of-way (ROW) where most of the work will take place has been surveyed for  
27 the presence of invasive plants and the results of this survey submitted to the BLM. MM BIO-1 requires a further pre-  
28 construction noxious weed inventory, and APM BIO-10 and MM BIO-4 require the production and implementation of  
29 an Invasive Plant Management Plan to prevent the potential establishment of a 'weed corridor' due to project  
30 construction. As described in Section 5.3.3.2, invasive and noxious weed species have been identified throughout the  
31 cumulative impact area due to past physical disturbances on the landscape and the use of existing ROWs. It would  
32 be difficult to accurately quantify the potential loss of habitat from invasive plants due to the existing disturbed state of  
33 the landscape.

34  
35 0030-8 Cultural Resources  
36

37 As described in Section 3.05 of the FEIR/EIS, a cultural resources survey was conducted for all areas that would be  
38 disturbed by project construction and operation. Cultural Resources 36-10315 (CA-SBR-10315H) would be  
39 permanently disturbed by construction of the EITP; however, MM CR-2 would mitigate this impact by documenting  
40 the resource according to Historic American Engineering Record level 2 standards. MM CR-1, which requires a  
41 cultural monitor during construction, would ensure that no impacts would occur due to the unanticipated discovery of  
42 subsurface cultural resources that were not recorded as part of the survey. Cumulative impacts on cultural resources  
43 are discussed in Section 5.3.4 of the FEIR/EIS.

44  
45 0030-9 Hazards and Safety  
46

47 The preferred alternative for EITP is not located in the vicinity of these spills, so there is no potential for release of  
48 contamination from construction of EITP.

49  
50 0030-10 Cumulative Impacts

1  
2 Cumulative effects are assessed in Chapter 5 of the FEIR/EIS. Tables 5-1 and 5-2 comprise the complete list of  
3 projects considered in the cumulative analysis; these projects are shown on Figure 5-1.  
4

5 The portion of the EITP that would be located within the Ivanpah Desert Wildlife Management Area (DWMA) includes  
6 a segment of the telecommunications line, where it would be installed underground adjacent to Nipton Road and the  
7 microwave tower. In the FEIR/EIS, the cumulative analysis of impacts to biological resources was completed  
8 holistically without breaking out impacts for specific locations or project components. The telecommunications line  
9 would be installed within a roadway maintained by the San Bernardino County Road Department and Nevada  
10 Department of Transportation along the edge of the critical habitat. The total disturbance for the EITP within the  
11 DWMA is approximately 2 acres. The projects considered in the cumulative analysis that are located within the  
12 Ivanpah DWMA include the Molycorp wastewater pipeline, the Molycorp evaporation pond, and the Ivanpah Dry Lake  
13 Recreation Area. The recreation area is a land use designation, and both the Molycorp wastewater pipeline and the  
14 Molycorp evaporation pond pre-date the NEMO.  
15

### 16 **0031 Comment Responses: Basin and Range Watch**

#### 17 18 0031-1 Alternatives

19  
20 Thank you for your comment. The EITP would be located within designated utility corridors, as shown in Chapter 1  
21 and 3 of the FEIR/EIS (Figure 1-2 and Figure 3.9-1).  
22

#### 23 0031-2 Air Quality

24  
25 Thank you for your comment. The detailed calculations of greenhouse gas (GHG) emissions for both construction  
26 and operation of the project are included in Appendix D of the FEIR/EIS. Appendix D also includes a list of  
27 assumptions used in determining the GHG emissions associated with the EITP, including one percent annual sulfur  
28 hexafluoride (SF<sub>6</sub>) leakage.  
29

30 Calculation of loss of desert carbon sequestration would be speculative and beyond the scope of the EIR/EIS. The  
31 capability of a desert ecosystem to store carbon has not been firmly established. Further, there are no data to  
32 suggest that the project would interfere with the current mechanisms of carbon flux in the desert ecosystem.  
33

#### 34 0031-4 Biological Resources

35  
36 Thank you for the information provided.  
37

#### 38 0031-5 Biological Resources

39  
40 Thank you for the information provided.  
41

#### 42 0031-6 Biological Resources

43  
44 In Section 3.4.3.5 of the FEIR/EIS, the importance of avoiding soil disturbance in stabilizing native vegetation  
45 communities and preventing invasive weed encroachment is discussed. MM BIO-2 requires the production and  
46 implementation of a Reclamation Plan that includes criteria for treatment of topsoil.  
47

#### 48 0031-7 Biological Resources

1 Section 3.4.1.1 of the FEIR/EIS discusses the noxious and invasive weeds found on the project site through  
2 inventory surveys. Some of the invasive plant species indicated in Comment 0031-7 were found onsite (see Table  
3 3.4-3). Invasive plant control is required as outlined in MM BIO-1 and MM BIO-4.

4  
5 0031-8 Biological Resources  
6

7 Concerning invasive plants, please see the answer to Comments 31-6 and 31-7. Regarding avian impacts, these  
8 impacts are discussed under Birds in Section 3.4.3.5 of the FEIR/EIS. The discussion includes increased risk of  
9 death of adult raptors and larger non-raptor species by collision with new transmission line towers. APM BIO-8 would  
10 be implemented by the EITP to reduce potential avian collisions with transmission structures.

11  
12 0031-9 Biological Resources  
13

14 Section 3.4.1.1, under Birds, discusses the potential nesting habitat present for special status birds in the Clark  
15 Mountains. Additionally, APM BIO-7 and MM BIO-15 would be implemented to avoid and minimize impacts to nesting  
16 birds on the project site, including the Clark Mountains.

17  
18 0031-10 Biological Resources  
19

20 Cumulative impacts due to the introduction of new sources of light and glare are discussed in Section 5.3.1.4 of the  
21 FEIR/EIS. The proposed Ivanpah Substation would have a negligible contribution to cumulative impacts under this  
22 criterion because the lighting would be infrequent, shielded to prevent light spillage, and directed downward.  
23 Currently, no other components of the EITP would require permanent lighting.

24  
25 0031-11 Biological Resources  
26

27 Please see response to Comment 0031-10.  
28

29 0031-12 Biological Resources  
30

31 Potential impacts on Bald and Golden Eagles are discussed in Section 3.4.3.5. In addition to Applicant Proposed  
32 Measures (APMs) and Mitigation Measures (MMs) designed to reduce impacts on biological resources and avian  
33 species, MM BIO-19 is required. MM BIO-19 requires development and implementation of an Avian Protection Plan  
34 according to recent USFWS guidance (USFWS 2010). The Plan must be submitted and approved by the BLM and  
35 USFWS prior to construction activities. This Plan will outline steps and conservation measures to prevent and reduce  
36 impacts on Golden Eagles and other large raptors. Implementation of this measure would provide compliance with  
37 the 'no net loss' standard for Golden Eagles identified in the Eagle Act Rule.

38  
39 0031-13 Biological Resources  
40

41 Analysis of the potential impacts to bighorn sheep and their movement corridors is discussed in Section 3.4.3.5 of the  
42 FEIR/EIS under NEPA and CEQA determinations. MM BIO-13 was developed in direct consultation with the Wildlife  
43 Agencies and institutes avoidance and minimization measures to protect the sheep. MM BIO-13 requires that pre-  
44 construction surveys be performed for bighorn sheep in the project area prior to construction and a biological monitor  
45 be present during the duration of the construction to monitor bighorn sheep in all suitable habitat. Sensitive bighorn  
46 sheep habitat in the mountain ranges would also be avoided during critical life cycles of the sheep. Additionally, the  
47 majority of the project would be located in an existing ROW that already bisects bighorn ranges.

48  
49 0031-14 Biological Resources  
50

1 Cumulative impacts on desert tortoise are discussed in Section 5.3.3.4, and Figure 5-5 shows both suitable and  
2 critical desert tortoise habitat in relation to projects considered in the cumulative scenario. As shown in Table 5-7, the  
3 EITP's contribution to cumulative impacts on desert tortoise habitat would be approximately 0.06 percent on suitable  
4 habitat and 0.055 percent on critical habitat. To mitigate these effects, MM BIO-12 would require the applicant to  
5 coordinate with the Wildlife Agencies, provide rigorous clearance surveys and construction monitoring for desert  
6 tortoise, and limit human/equipment interactions with individual tortoises. With the implementation of these measures  
7 and because the EITP's contribution to effects on suitable and critical habitat would be minimal, EITP's contribution to  
8 cumulative impacts would be reduced to less than significant or minor levels. Comments that relate to direct and  
9 indirect impacts to desert tortoise that were made for the ISEGS and Silver State projects, recommended changes in  
10 BLM land use designations, solar project translocation plans, and California Energy Commission hearings and  
11 testimony are outside the scope of the EITP cumulative impact analysis.  
12

#### 13 0031-15 Biological Resources

14  
15 Please see response to Comment 0031-14 for the EITP's contribution to cumulative impacts on desert tortoise.  
16

#### 17 0031-16 Biological Resources

18  
19 Please see response to Comment 0031-14 for the EITP's contribution to cumulative impacts on desert tortoise.  
20

#### 21 0031-17 Biological Resources

22  
23 Please see response to Comment 0031-14 for the EITP's contribution to cumulative impacts on desert tortoise.  
24

#### 25 0031-18 Biological Resources

26  
27 Thank you for your comment. The USFWS issued a Biological Opinion for the EITP in compliance with Section  
28 7(a)(2) of the Endangered Species Act.  
29

#### 30 0031-19 Biological Resources

31 Please see response to Comment 0031-14 for the EITP's contribution to cumulative impacts on desert tortoise.  
32

#### 33 0031-20 Alternatives

34  
35 This comment is similar to Comment 0023-3 in Appendix G of the FEIR/EIS and Comment 0030-4 of the FEIR/EIS.  
36 Please see response to Comment 0030-4 above.  
37

### 38 **0032 Comment Responses: Clark County Department of Aviation**

#### 39 0032-1 Aesthetics

40  
41  
42 The power towers that would need to be lighted to comply with Federal Aviation Administration regulations are part of  
43 the ISEGS project. Section 3.2.6 of the FEIR/EIS includes a discussion of the combined effects of the ISEGS project  
44 and the EITP.  
45

46 Although a land transfer for the Southern Nevada Supplemental Airport (SNSA) has been completed, the  
47 environmental review for the SNSA has not been completed. Therefore, lighting requirements for EITP transmission  
48 towers due to proximity to the SNSA are discussed in Section 5.1.3 of the Cumulative Scenario and Impacts chapter.  
49

1 0032-2 Land Use

2  
3 Thank you for your comment. This document considers all projects that have not completed an environmental review  
4 as "proposed projects."  
5

6 0032-3 Land Use

7  
8 Thank you for your comment. This document does not differentiate between "currently on hold," "on hold indefinitely,"  
9 and "temporarily suspended." The Clark County Department of Aviation has not provided any information to indicate  
10 when the SNSA environmental review process will begin again.  
11

12 0032-4 Cumulative Impacts

13  
14 Table 5-2, of Chapter 5 of the FEIR/EIS, states that the additional land for the Ivanpah Airport Environs Overlay is  
15 conditional upon project approval. Due to differences in status between the SNSA and the Ivanpah Airport Environs  
16 Overlay, they are treated as separate projects in the cumulative analysis.  
17

### 18 **0033 Comment Responses: Western Watersheds Project**

19  
20 0033-0 Cumulative Impacts

21  
22 Section 5.2 of the FEIR/EIS describes the criteria for inclusion of a cumulative project in the cumulative scenario. The  
23 FEIR/EIS, which was published prior to December 2010, states the following:  
24

25       The projects that make up the cumulative scenario are located in close proximity to the EITP within the  
26 cumulative study area and are (1) completed, (2) approved and under construction, (3) approved but not yet  
27 under construction, or (4) proposed but not approved. A project is included in this cumulative analysis if  
28 information on the project was available in the BLM's database or identified during agency scoping or in  
29 another published cumulative analysis as of July 30, 2010. The Kern River Pipeline Company filed a ROW  
30 application with the BLM for an 8-inch diameter lateral pipeline on October 29, 2010, one week prior to the  
31 CPUC publication of their Notice of Availability of the Final EIR/EIS. The Final EIR/EIS was being printed  
32 before Kern River filed their application so it is easy to understand why this pipeline was not included in the  
33 cumulative analysis for EITP. A supplemental Final EIS is not warranted as the impacts of the proposed  
34 pipeline are being analyzed in a separate NEPA analysis that can address the cumulative impacts.  
35

36 0033-1 Cumulative Impacts

37  
38 Cumulative effects are assessed in Chapter 5 of the FEIR/EIS. Tables 5-1 and 5-2 comprise the complete list of  
39 projects considered in the cumulative analysis; these projects are shown on Figure 5-1.  
40

41 The portion of the EITP that would be located within the Ivanpah DWMA includes a segment of the  
42 telecommunications line, where it would be installed underground adjacent to Nipton Road and the microwave tower.  
43 In the FEIR/EIS, the cumulative analysis of impacts to biological resources was completed holistically without  
44 breaking out impacts for specific locations or project components. The telecommunications line would be installed  
45 within a roadway maintained by the San Bernardino County Road Department and Nevada Department of  
46 Transportation along the edge of the critical habitat. The total disturbance for the EITP within the DWMA is  
47 approximately 2 acres. The projects considered in the cumulative analysis that are located within the Ivanpah DWMA  
48 include the Molycorp wastewater pipeline, the Molycorp evaporation pond, and the Ivanpah Dry Lake Recreation

1 Area. The recreation area is a land use designation, and both the Molycorp wastewater pipeline and the Molycorp  
2 evaporation pond pre-date the NEMO.

3

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5

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***Appendix 2***  
***Biological Opinion***

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## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Nevada Fish and Wildlife Office  
4701 North Torrey Pines Drive  
Las Vegas, Nevada 89130  
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

April 29, 2011  
File No. 84320-2010-F-0448

### Memorandum

To: Assistant Field Manager, Needles Field Office, Bureau of Land Management,  
Needles, Nevada

Assistant Field Manager, Las Vegas Field Office, Bureau of Land Management,  
Las Vegas, Nevada

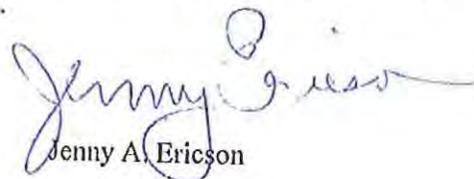
From: Acting State Supervisor, Nevada Fish and Wildlife Office, Reno, Nevada

Subject: Formal Consultation for the Eldorado-Ivanpah Power Transmission Project, Clark  
County, Nevada and San Bernardino County, California

This transmits the Fish and Wildlife Service's (Service) biological opinion in response to your memorandum received August 17, 2010, requesting initiation of formal consultation for the Eldorado-Ivanpah Power Transmission Project. The Bureau of Land Management (BLM) determined that the proposed issuance of a right-of-way for the subject project may adversely affect the desert tortoise (*Gopherus agassizii*) (Mojave population), a species listed as threatened under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) and its critical habitat. The Nevada Fish and Wildlife Office is the lead Service office for this consultation in coordination with the Ventura Fish and Wildlife Office. BLM's Las Vegas Field Office is the lead Federal agency for the consultation.

The attached biological opinion is based on information provided in your memorandum dated August 16, 2010; the August 7, 2010, biological assessment for the project; discussions between the Service and BLM; and our files. A complete project file of this consultation is available in the Service's Nevada Fish and Wildlife Office in Las Vegas.

If you require additional assistance, please contact Michael Burroughs in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230. Please reference File No. 84320-2010-F-0448 in future correspondence concerning this consultation.

  
Jenny A. Ericson

TAKE PRIDE  
IN AMERICA 

Attachment

cc:

Adaptive Management Coordinator, Desert Conservation Program, Las Vegas, Nevada

Supervisory Biologist – Habitat, Nevada Department of Wildlife, Las Vegas, Nevada

Wildlife Biologist, California Department of Fish and Game, Palmdale, California

District Manager, California Desert District, Bureau of Land Management, Moreno Valley,  
California

Field Supervisor, Ventura Field Office, Fish and Wildlife Service, Ventura, California

## **ATTACHMENT**

### **BIOLOGICAL OPINION File No. 84320-2010-F-0448**

#### **A. CONSULTATION HISTORY**

On August 17, 2010, the Service received a memorandum from the Bureau of Land Management (BLM), dated August 16, 2010, requesting initiation of formal consultation and determined that the information provided in the biological assessment (BA) was sufficient to initiate formal consultation on that date.

On August 23, 2010, BLM submitted the first draft raven management plan to the Service for review. Several draft raven management plans followed with numerous conference calls and meetings involving consultants for the project proponent, BLM, Nevada Department of Wildlife, and the Service. The Service received the final plan (Appendix A) from BLM on February 8, 2011.

On December 8, 2010, the Service extended the consultation period for the consultation to include an additional 30 days to allow for review of drafts and respond to comments.

On December 14, 2010, Clark County provided fee payment instructions to the Service and BLM for inclusion in the proposed action to apply towards habitat disturbance within the Boulder City Conservation Easement (BCCE). BLM accepted the language on December 28, 2010.

On December 20, 2010, Clark County submitted a recommended measure to include in the proposed action addressing fees for disturbance of 8.8 acres of non-critical desert tortoise habitat outside the BLM utility corridor but within the BCCE.

On January 18, 2011, the Service provided a draft biological opinion to BLM for review and comments. On January 27, 2011, BLM submitted comments on the draft to the Service.

On February 8, 2011, the Service provided a second draft biological opinion to BLM and the project proponent, Southern California Edison (SCE). Comments on the draft were provided to the Service on March 21, 2011. BLM requested that SCE consider burying the 33-kilovolt (kV) line to power a microwave station in Nipton, California instead of constructing overhead transmission lines and associated towers.

On March 22, 2011, BLM provided the Service an analysis of the effects to desert tortoise habitat for burying the 33-kV line. BLM continued to work with SCE to minimize raven effects including a modified power pole design.

On April 11, 2011, the Service received a modified power pole design from SCE and BLM for the 33-kV overhead power distribution to Nipton, California. As requested by BLM, the Service included the modified pole structure into the proposed action for the overhead 33-kV line to Nipton (SCE 2011).

## **B. DESCRIPTION OF THE PROPOSED ACTION**

### **1. Summary**

BLM proposes to a right-of-way (ROW) grant for the Eldorado-Ivanpah Transmission Project (EITP) to SCE to construct and maintain the project. The EITP would be located in the Eldorado and Ivanpah valleys and require ROWs from both the Las Vegas and California Desert offices of the BLM. The EITP would provide the electrical facilities necessary to transmit up to 1,400 megawatts (MW) of new solar generation in the Ivanpah Dry Lake Area. The EITP consists of the construction of a new approximately 35-mile double-circuit 220-kV transmission line between the Ivanpah Dry Lake Area and the existing Eldorado Substation, a subtransmission line to connect the proposed Ivanpah Substation to the existing 115-kV subtransmission system, and a telecommunication system including a microwave site (Figure 1). Approximately 2.5 miles of the telecommunications line would occur within the Ivanpah Critical Habitat Unit (CHU), and 11.3 miles of the transmission line and 14.1 miles of the telecommunications line would occur in the Piute-Eldorado CHU. Approximately 7.1 miles of the proposed transmission line and 5.6 miles of the telecommunication route are located within the boundary of the BCCE.

The Service determined that the action area consists of the ROW for the transmission and distribution lines, the Eldorado-Lugo 500-kV transmission line upon which an optical ground wire (OPGW) will be installed and towers to be reinforced, a 600-800-foot subtransmission line, and microwave tower, and communication site. Also included in the action area are construction yards and helicopter staging areas, access roads, the Ivanpah Substation, and the Ivanpah Solar Electric Generating System (ISEGS) Project in Ivanpah Valley, California which will be connected to the project transmission infrastructure. The effects to desert tortoise as a result of the ISEGS and the Ivanpah Substation are being evaluated by the Service's Ventura Fish and Wildlife Office; the EITP will be part of the environmental baseline for that consultation.

A detailed description of the proposed project is available in the BA (BLM 2010) and is hereby incorporated by reference.

### **2. Facilities and Construction**

The EITP consists of three main components: (1) remove and replace the existing Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line with the new Eldorado-Ivanpah 220-kV double-circuit transmission line; (2) installation of a fiber-optic telecommunication route and microwave transmitters; and (3) a subtransmission line to connect the proposed Ivanpah Substation to the existing 115-kV subtransmission system. The EITP also includes construction of the new Ivanpah Substation; however, effects to the desert tortoise

associated with this component of the EITP are being evaluated during reinitiation of consultation for the ISEGS Project by the Service's Ventura Fish and Wildlife Office.

Site preparation and construction would be accomplished using many different types of equipment and vehicles to facilitate multiple project efforts such as road clearing and grading, dismantling and removal of existing facilities, moving equipment and material, and installing project components. Equipment to be used would include small vehicles, such as pick-up trucks, up to large semi-trucks for hauling equipment, material, and personnel, specialized trucks for specific work elements such as drill rigs, concrete mixers, pumping trucks, bucket trucks, as well as a boom crane, rough terrain crane, truck cranes and other support trucks for moving and erecting the towers and substation equipment. Helicopters will potentially be used in areas where access is limited or impractical for particular activities and for transmission line stringing operations. Tensioning, pulling, and splicing equipment will be used for wire stringing operations. The transmission line, telecommunication, and subtransmission line components and anticipated disturbance are summarized below and in Table 1-3 of the BA.

### **3. Transmission Line**

The transmission line rebuild involves the removal of approximately 35 miles of the existing SCE Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line and installation of a new double-circuit 220-kV transmission line between the proposed Ivanpah Substation in California and the existing Eldorado Substation in Nevada (Figure 1).

The proposed Eldorado-Ivanpah 220-kV transmission line begins at the existing Eldorado Substation located in the Eldorado Valley, Nevada. The line exits the substation to the north using the existing 115-kV transmission line ROW. The EITP will be constructed within an existing SCE transmission line ROW which contains areas of pre-existing ground disturbance. However, the existing SCE 70- to 100-foot-wide ROW will need to be widened to a minimum 100-foot to 130-foot-wide ROW to accommodate the 220-kV transmission line. At major utility transmission line crossings, a 250-foot ROW would be required for side-by-side single-circuit 220-kV steel H-frame structures. New spur roads will be required for the new towers since the existing towers have no spur roads (they were built in 1930 - 1931). There is a possibility that existing transmission lines of other utilities may have to be modified in order to facilitate the crossing of the proposed 220-kV transmission line.

#### Pre-construction Technical Surveys

Technical pre-construction surveys would be required to complete the detailed engineering designs, to evaluate necessary erosion and other environmental controls, and to determine final locations of the proposed transmission structures. During this phase, the project design would be modified to avoid environmentally sensitive areas, including desert tortoise habitat, or to ensure structural integrity and sustainability. During the surveys, crews would locate spur road centerlines, grades, and soil boring locations. Using results from the pre-construction surveys, SCE would make final determinations of road location curvature, cuts and fills, grades and

drainage, and necessary erosion controls in accordance with design standards and practices and/or landowner requirements.

#### Construction Yards and Helicopter Staging Locations

Project construction would begin with establishment of up to seven temporary construction yards and two helicopter landing sites located at strategic points along the route. Providing yard space for equipment and materials storage and staging will involve clearing and possibly grading (Table 1 of BA). However, construction yard sites were selected and may be further configured with consideration of avoiding habitat impacts when practical and the majority of the proposed sites are located in previously-disturbed or developed areas. Two construction yards are proposed to be located in California, including one in Nipton for construction of telecommunication features, and the other five construction yards would be in Nevada. The identified locations of each of the construction yards and helicopter landing zones are illustrated in Appendix C of the BA. During the peak construction period, approximately 80 private commuting vehicles and the construction vehicles/equipment would also be parked at the construction yards. Crews would load materials onto work trucks and drive to the current construction location. At the end of each day, crews would return to the yard in their work vehicles and depart in their private vehicles.

Helicopters would be mainly used during the transmission line stringing activities and in areas with limited access. Two helicopter landing zones have been identified east and west of the McCullough Range. These sites may be refined or relocated as required with consideration of minimizing habitat impacts when practical.

#### Access and Spur Roads

Transmission line roads consist of access roads and spur roads. Access roads occur between tower sites and serve as a main transportation route along the transmission line ROW. Spur roads usually lead from the access roads and terminate at one or more structure sites.

Approximately 35 miles of existing main roads would be utilized to support the proposed 220-kV line construction and operations. In addition, more access roads would be required for construction and maintenance of the telecommunications facilities, as well as additional access roads for connecting the project facilities to support and logistics areas, such as the road coming from Jean to the project ROW.

Additionally, 1.2 miles of new access roads and 1.7 miles of new spur roads would be constructed to allow passage of construction vehicles to the construction sites (Appendix C of BA). Upgrades and new construction may require vegetation clearing and grading based on site conditions. The new spur roads would be a minimum of 14 feet wide. Most spur roads would be left in place to access the facilities for operations and maintenance.

The existing access and spur roads in the project area are generally in good condition due to regular maintenance; however, some roads might require reconstruction and maintenance prior to construction activities. Reconstruction work would include clearing, grading, and compacting the existing roads to remove potholes, ruts, and other surface irregularities to provide a smooth

and dense surface capable of supporting heavy equipment. Specific locations for reconstruction work would depend on impacts of weather conditions over the existing roads and final project engineering design.

#### Steps Required for Dismantling and Removal of Existing 115-kV Transmission Facilities

- Rehabilitation and grading of existing roads.
- Wire-pulling sites would be located every 15,000 feet along the existing utility corridor, and would include locations at dead-end structures and turning points.
- Cable removal – A 3/8-inch pulling cable would be used to remove the old conductor.
- Structure Removal – A crane truck or rough-terrain crane would be used to support the structure during removal; a crane pad of approximately 50 by 50 feet may be required to allow a removal crane to be set up adjacent to the structure.
- Footing Removal – The existing lattice steel tower (LST) and H-frame footings would be removed to a depth of approximately 1 to 2 feet. Holes would be filled with removed soil and compacted, and then the area would be smoothed to match the surrounding grade.

#### Site Preparation

Installation of the 220-kV transmission line would require construction of approximately 216 new LSTs and approximately 21 steel H-frame structures. SCE would grade and/or clear the pad to create a vegetation-free surface for footing construction. Grading would be conducted so that water would run in the direction of the natural drainage avoiding ponding and/or erosion. Soils in the graded area would be compacted to support heavy vehicular traffic.

Where feasible, SCE would apply alternative methods such as drive and crush, mowing, and trimming of the laydown areas instead of clearing vegetation. The structure locations and the 25-foot clearance area around the structures would require clearing. The LSTs and steel H-frame structures would be assembled in an approximately 200-by-200-foot laydown area. To erect either the LSTs or the steel H-frame structures, a crane pad (a flat, vegetation-free area) may need to be established within the laydown area.

Each of the new LSTs and H-frame structures for the project would require multiple drilled, poured-in-place concrete footings to form the structure foundation. The size of the foundation would depend on the type of structure, soils conditions, and topography. LST foundations would consist of four concrete footings, while H-frames would have two concrete footings. On average, each footing for an LST and steel H-frame structure would project approximately 1 to 4 feet above ground level. The actual depth of footings would depend on specific site soil conditions and topography and would be determined during final engineering; however, the maximum anticipated depth below ground surface is 45 feet. Where excavation holes need to be drilled in soft or loose soil or if they extend into groundwater, they would be stabilized with casings or drilling mud slurry. The drilling/slurry mud would be disposed at an approved facility, in accordance with SCE's waste management practices.

In areas not accessible by road, equipment and material could be deposited at structure sites using helicopters or by workers on foot, and crews could prepare the footings using hand labor

assisted by hydraulic or pneumatic equipment or other methods; approximately 15 towers in the McCullough Range may be difficult to access by road. Following excavation of the foundation footings, steel reinforced cages and stub angles would be set, survey positioning would be verified, and concrete would then be placed. Steel reinforced cages and stub angles would be assembled at laydown yards and delivered to each structure location by flatbed truck. Equipment would include a central mixer unit (drum type); three silos for injecting concrete additives, fly ash, and cement; a water tank; portable pumps; a pneumatic injector; and a loader for handling concrete additives not in the silos. Dust emissions would be controlled by watering the area and by sealing the silos and transferring the fine particulates pneumatically between the silos and the mixers.

#### Structure Assembly and Erection

Structural components of the LSTs and H-frames would be trucked to the individual sites. LSTs and H-frames would be assembled at laydown areas at each site, and then erected and bolted to the foundations. Ground disturbance would generally be limited to the laydown areas, which would typically occupy an area of 200-by-200 feet. As necessary, vegetation would be removed and the areas would be graded.

For steel H-frame structures, steel work would consist of hauling the poles in sections to their designated sites using semi-trucks with 40-foot trailers and rough-terrain cranes. At the site, the poles would be set on the foundations once the concrete foundation had been cured. The poles could either be assembled into a complete structure or set one piece at a time by stacking and jacking them together, depending on the terrain and available equipment. Laydown areas would be established for the assembly process at each H-frame structure location. Where road access is available, assembled sections would be lifted into place by a crane. The crane pad would be located transversely to the structure and set up approximately 60 feet from its centerline. The crane would move along the ROW to erect subsequent structures. For structures that would be located in terrain inaccessible to a crane, helicopters may be used for structure erection.

Helicopter use is expected only in the McCullough Pass area and for line stringing. The area of operations for helicopters would be limited to helicopter staging areas near construction locations that are considered safe locations for landing. Final siting of staging areas would be conducted with the input of the helicopter contractor and affected private landowners and land management agencies.

#### Conductor Installation

Stringing includes all activities associated with installation of the transmission line conductors and OPGW onto the LSTs and/or the steel H-frames. The dimensions of the area needed for the stringing setups associated with conductor installation depend on terrain.

An overhead OPGW would be installed on the transmission line for shielding and communication. On the EITP 220-kV transmission line, the pulling and tensioning sites would be used for both wire and OPGW installations, while the proposed stringing activities on the Eldorado–Lugo 500-kV line would be for the OPGW installation only.

The puller, tensioner, and splicing set-up locations would be temporary and the land would be restored to its previous condition following completion of pulling and splicing activities. When possible, existing level areas and existing roads would be used, to minimize the need for grading and cleanup.

The typical areas needed for pulling, tensioning, and splicing equipment setup sites would be:

- 150 by 500 feet for tensioning equipment,
- 150 by 200 feet for pulling equipment, and
- 150 by 100 feet for splicing equipment.

Guard structures are temporary facilities that protect underlying areas during wire stringing operations. They are designed to stop the movement of a conductor if it falls during installation. Typical guard structures are 60- to 80-foot wooden poles. Temporary nets also could be installed to protect some structures located under the transmission lines. Guard structures are usually removed once a conductor is installed. SCE has estimates that approximately 16 guard structures would be necessary.

#### **4. Telecommunication Line**

Telecommunications facilities associated with the Ivanpah Substation and the new 220-kV transmission line will be constructed using two diverse telecommunication paths. The first telecom line will use OPGW on the new 220-kV transmission line. The second telecom line would consist of OPGW on the existing Eldorado-Lugo 500-kV transmission line from Eldorado Substation to Nipton Road (Highway 164), where it will then be installed underground in the road shoulder on the north side of Nipton Road to the town of Nipton. Installing the OPGW on the 500-kV transmission line will require approximately 45 transmission towers to be reinforced to support the additional wind loading of the OPGW. All towers on the 500-kV line have existing access and spur roads. At Nipton, the telecom line extends underground to the north approximately 0.6 mile to a new microwave tower and then by microwave to the Ivanpah Substation. The microwave site at Nipton will also require installing a wood pole distribution line for power. A construction yard will be located at Nipton.

Permanent impacts include: underground vault locations for the underground fiber-optic cable; wood distribution pole locations; and the microwave site. Temporary impacts include: OPGW pulling, splicing, and tensioning locations and work areas around towers requiring retrofitting; underground fiber-optic cable installation, pulling and splicing areas; installation of wood poles and conductors for the distribution line; and the construction yard.

Contractors would construct the telecommunication system and SCE would be responsible for administration and inspection. During some stages of the proposed project, multiple locations would be under construction simultaneously. Modifications of the existing Eldorado-Lugo

500-kV towers might include reinforcing or extending the structure body, installing horizontal diaphragms, and reinforcing structure legs. SCE would develop detailed engineering drawings and procedures for fabrication and installation for each of the structure modifications.

#### Optical Ground Wire Installation

For proposed project communications, OPGW segments would be installed on both the EITP 220-kV transmission line structures and along a redundant path that extends 25 miles to the south on the Eldorado–Lugo 500-kV transmission line. OPGW installation would be performed in the same manner as the conductor installation, as described above for the transmission line.

OPGW is typically installed in continuous segments, each up to 19,000 feet long, depending on various factors including line direction, inclination, and accessibility. Pulling and tensioning sites for the telecommunications line would be the same as those proposed for the 220-kV conductor installation. The eastern ground wire would be replaced with OPGW on the existing Eldorado–Lugo 500-kV line from Nipton Road to Eldorado Substation.

Distribution line poles would be replaced if a pole did not meet wind load requirements with addition of fiber cable. Replacing a distribution line pole requires a five-person crew, one pole trailer truck, one pole digger truck, and one crew truck. An approximately 30-by-40-foot work area is required for the work. A hole about 8 feet deep would be drilled next to the existing pole, and a new pole would be erected. A conductor would be transferred from the existing pole to the new pole and the old pole would be cut or removed.

#### Underground Installation

Following installation of the OPGW, on the last tower at each end of the transmission line, the overhead fiber-optic would be spliced to another section of fiber cable that would run in underground conduit from the splice box into the communication room inside the adjacent substation. A 40-by-60 foot work area, two splice trucks with pulling equipment, and a four-person crew would be required for the underground cable installation. In addition, a three-person crew would be required to complete the fiber-optic splicing.

#### Fiber-Optic Cable Installation

The overhead fiber-optic cable would be installed by attaching cable to structures in a manner similar to that described above for the transmission line stringing. Installation would involve attaching the cable to cross arms on distribution poles. This would require the use of a bucket line truck. The dimensions of the area needed for stringing setups vary depending on the terrain; however, a typical stringing setup is 40 by 60 feet. Where necessary due to space limitations, crews can work from within a smaller area.

#### Installation of Microwave Tower and Communication Site

An approximately 100-by-100-foot area would be required for constructing each new communication site. Chain link fencing would be installed around the communication site perimeter. A typical communication site consists of a communication building, microwave tower, and generator/fuel tank. A typical communication building is either a block wall-type

building to be constructed on site or a prefabricated building delivered to the site. Prefabricated buildings are set on a concrete foundation using a crane. The typical building size is 36 by 12 feet; the building consists of a generator room and an equipment room. Dimensions of the communication building would be determined during final engineering design. A separate concrete pad with a 10-foot separation from the communication building would be constructed for fuel tank installation.

The required area for a typical free-standing, four-legged lattice steel communication tower is 25 by 25 feet. For the proposed project, the tower would be built outside the communication room or next to the mechanical and electrical equipment room (MEER) within the substation. Concrete footings would be installed to support the tower. Heavy equipment needed for construction would include ready-mixed concrete trucks for the footings and a crane for tower erection and antenna installation.

#### Subtransmission Line

A new 600- to 800-foot section of 115-kV line would be strung from a connection point at milepost 34 on the existing Eldorado–Baker–Cool Water–Dunn Siding–Mountain Pass 115-kV line to a new rack position at the proposed Ivanpah Substation, to create the Cool Water–Baker–Dunn Siding–Mountain Pass–Ivanpah 115-kV subtransmission line. At the transition point of the proposed project transmission line route going north into the Ivanpah Substation, seven existing LST H-frame structures would be removed and replaced with one single-circuit engineered tubular steel pole (TSP) and six lightweight steel (LWS) H-frames within the existing Eldorado–Baker–Cool Water–Dunn Siding–Mountain Pass 115-kV transmission line ROW. In addition, six LWS H-frames would be installed at replaced structures to meet current requirements. Approximately three single-circuit engineered TSPs would be installed and looped in to the proposed Ivanpah 115-kV rack position. These TSPs would require concrete footings. The LWS H-frames would be buried and backfilled with native soils. Construction of these structures would follow the general steps described for the transmission line above for site preparation, foundation installation, structure assembly, and conductor installation.

### **5. Distribution Lines**

A 33-kV distribution line would be installed to provide reliable lighting and power service to the new Ivanpah Substation. This component would consist of approximately 4,800 feet of new underground and approximately 1,600 feet of new overhead 33-kV circuitry, and two new remote control switches that would be installed adjacent to Densmore Drive at the California State line, near Primm, Nevada. One of the switches would be located south of the Ivanpah Substation and the second would be located next to the Primm Valley Golf Club's Desert Course.

In addition, approximately 4,300 feet of a new 33-kV overhead line would be installed between the town of Nipton and the new microwave site proposed to be located northeast of Nipton. A transformer would be installed on an overhead pole connecting to the microwave site using an underground duct. The overhead line would be installed along the side of an existing unnamed

dirt road. SCE will use design features for this portion of the overhead distribution line that would minimize perching opportunities by utilizing a vertical configuration of the insulators to eliminate the perching opportunities associated with cross members (Figure 2).

### Ivanpah Substation Construction

BrightSource, the ISEGS proponent, will prepare the site for the proposed Ivanpah Substation for construction by SCE. Site preparation by BrightSource will include conducting desert tortoise clearance surveys, fencing the perimeter of the substation site, and rough grading. SCE substation construction will include final grading of the site to substation specifications, installation of an 8-foot perimeter fence with tortoise fencing, installation of a ground grid, substation equipment installation, paving of internal driveways, and covering unpaved surfaces with crushed rock.

Two transmission line access areas, approximately 1,015 by 400 feet (approximately 9 acres) each, would be included within the proposed substation site outside the fenced substation perimeter. These areas would provide room for the 115-kV and 220-kV transmission lines to turn into the station from the adjacent ROWs. Ground disturbance within these areas by SCE construction would be limited to that needed for construction and access to the structure erection locations, staging/pulling areas, and unpaved access roads.

## **6. Site Cleanup**

SCE would restore all areas that were temporarily disturbed by project activities, including temporary access routes, material staging yards, pulling and tension sites, splicing sites and tower removal and construction areas following the completion of construction. Restoration will take place according to the Reclamation, Restoration and Revegetation Plan (RRRP) to be developed for the project and would include grading, restoring sites to original contours, and reseeded or planting, where appropriate. In addition, all construction materials and debris would be removed from the area and recycled or properly disposed off site. SCE will monitor restoration for a given period after reclamation, to assure that cleanup activities were successfully completed and satisfactory reclamation was achieved. During construction, water trucks would be used to minimize the quantity of airborne dust created by construction activities. Any damage to existing roads as a result of construction would be repaired once construction was completed.

## **7. Operation and Maintenance**

### Transmission Line

Following the completion of EITP construction, operation and maintenance of the new lines would commence. Operation and maintenance activities would occur at least once per year, as required by current SCE Transmission Operations and Maintenance Policies and Procedures. SCE operations and maintenance activities are broken down into four classes:

1. Class 1 – Regular Maintenance Activities that do not involve ground or vegetation disturbances. Class 1 inspection and maintenance activities would include the following:
  - Routine line patrols by both aircraft and truck
  - Routine, patrol-identified structure and wire maintenance
  - Routine, patrol-identified earth and sand abatement from footings
  - Routine ROW road maintenance
2. Class 2 – Repairs of Existing Facilities that involve limited ground or vegetation disturbance. These activities include repairing or replacing poles and towers and re-stringing conductors, tree and brush trimming, and weed control. These are temporary impacts that may occur from time to time and would not result in a net disturbance of land beyond that estimated for the EITP project.
3. Class 3 – Installation of New Facilities not considered “routine,” is considered new projects, and therefore is not covered in this consultation.
4. Class 4 – Emergency Repairs necessary to respond to emergency situations such as high winds, storms, wildfires and other natural disasters and accidents. They typically involve repairing downed lines, poles, and towers, or re-stringing conductors. Temporary impacts would be similar to construction of new facilities with respect to laydown areas, stringing, pulling, and tensioning.

#### Substations

Considering the EITP’s specific features and the typical climate conditions of the proposed project area, the Ivanpah Substation would require 14 visits per year for operational activities, and 20 to 25 visits per year for maintenance.

Operation of the Ivanpah Substation would require use of electric, fuel, transportation, solid waste, and communication services. Electric service would be provided by the two distribution systems described under distribution lines. In addition, an emergency backup generator would be placed at the microwave communication site and would store 499 gallons of fuel.

Currently, SCE does not anticipate the need for a permanent water supply at the Ivanpah Substation during operations. The applicant is evaluating options for a portable or permanent self-contained restroom facility for use during operation and maintenance activities. Either restroom facility would have a self-contained holding tank or the wastewater would be disposed of by contract service personnel. During construction, the site would be serviced by portable restroom facilities and the wastewater would be disposed of weekly or more frequently depending on the number of construction personnel and usage. The physical location and type (portable or permanent) of self-contained restroom facilities would be determined during final engineering.

Solid waste handling and disposal procedures at the substation sites would be conducted as specified in the applicant’s Waste Disposal Plan, the Salvage Services Manual, and the Waste

Management Manual. The applicant would manage, control, and dispose of all potentially hazardous materials generated as a result of project operations and maintenance in accordance with applicable regulatory requirements and standard procedures.

Specialized personnel would visit the new Ivanpah Substation to conduct routine maintenance activities. Current regular maintenance activities at the existing Eldorado Substation would also continue after the proposed upgrades. Other visits to the substation might be required to support repairs, outages, and other related work activities as required by maintenance, testing, and engineering personnel. The applicant would mobilize vehicles from other locations to the Ivanpah Substation for both routine and emergency maintenance activities, as required.

#### Telecommunication System

Maintenance personnel would conduct routine maintenance for the proposed telecommunication equipment and facilities, including the microwave communication site, the emergency generator, and the mechanical and electrical equipment room at the Ivanpah Substation. Additional visits to the telecommunication facilities may be necessary for repairs.

Routine maintenance to the telecommunication facilities at the Ivanpah Substation would be performed once a year. In addition, the following maintenance activities would be performed once a year at the proposed microwave site in Nipton:

- Telecom equipment
- Propane tank refuel (contractor)
- Air-conditioning service (contractor)
- Building maintenance (contractor)

### **8. Removal and Restoration**

Prior to removal or abandonment of the facilities described above that would be permitted to be constructed on BLM lands or within a reasonable time following termination of the BLM ROW grant, SCE would prepare a RRRP. The RRRP would include a description of removal of SCE facilities from the permitted area, and any requirements for habitat restoration and revegetation. The RRRP would be approved by BLM before implementation.

### **9. Proposed Minimization Measures**

BLM and SCE propose measures to avoid and minimize effects to desert tortoises and their habitat, described in detail in the BA and summarized below:

- a. Authorized desert tortoise biologists will conduct preconstruction surveys according to the most current Service protocol (Service 2009).
- b. Minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation will be flagged for avoidance.
- c. Crews will use Best Management Practices where applicable.

- d. Biological monitors will be provided throughout construction activities in all construction zones with the potential for presence of sensitive biological resources. Biological monitors will clear all active work sites ahead of construction crews. Results of biological monitoring and status of construction will be detailed in daily reports by biological monitors.
- e. A Worker Environmental Awareness Program will be prepared and presented to all workers.
- f. Final tower and spur road locations will be adjusted to avoid sensitive biological resources to the greatest extent feasible.
- g. An invasive plant management plan will be developed to reduce the potential for spreading invasive plant species during construction activities. The plan will be developed and modeled on the plan developed by BLM's Las Vegas Field Office.
- h. All work area boundaries associated with temporary and permanent disturbances will be conspicuously staked, flagged, or otherwise marked to minimize surface-disturbance activities. All workers will strictly limit activities and vehicles to the designated work areas.
- i. Crushing of perennial vegetation in work areas will be avoided to the maximum extent practicable.
- j. All trash and food items generated by construction and maintenance activities will be promptly contained and regularly removed from the project site(s) to reduce the attractiveness of the area to common ravens.
- k. Pets will not be allowed in working areas unless restrained in a kennel.
- l. Where possible, motor vehicles will be limited to maintained roads and designated routes.
- m. Vehicle speed within the project area will not exceed 20 miles per hour. Speed limits will be clearly marked and all workers will be made aware of these limits.
- n. Constructed road berms will be less than 12 inches in height and have slopes of less than 30 degrees.
- o. Construction monitoring will employ a designated field contact representative (FCR) for the construction phase of the project. Authorized desert tortoise biologists will monitor all construction activities year-round in desert tortoise habitat, regardless of the time of year or weather conditions, as tortoises are often active outside their "active" season. The FCR and authorized biologists will have direct access to BLM and Service staff.
- p. Water used for fugitive dust control will not be allowed to pool on access roads or other project areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.
- q. Any tortoise found on the surface will be relocated within 1,000 feet.
- r. If a potential tortoise burrow were required to be excavated, the biologist will proceed according to Service protocol.
- s. Steep-walled trenches or excavations will be covered during construction to prevent entrapment of tortoises. No overnight hazards to desert tortoises (e.g., auger holes, trenches, pits, or other steep-sided depressions) will be left unfenced

- or uncovered. Earthen escape ramps will be maintained at intervals of no greater than 0.25 miles.
- t. Any incident occurring during project activities that was considered by the biological monitor to be in non-compliance with this biological opinion will be documented immediately by the biological monitor. The FCR will ensure that appropriate corrective action was taken, and will report to the BLM and Service.
  - u. Parked vehicles will be inspected prior to being moved.
  - v. Should any desert tortoise be injured or killed, all activities in the area will be halted, and the FCR and/or authorized desert tortoise biologist immediately contacted.
  - w. A report to the Service will be produced reporting all tortoises seen, injured, killed, excavated, or handled. GPS locations of live tortoises will be reported.
  - x. The applicant will implement a Raven Management Program.
  - y. The applicant will develop an RRRP that will guide restoration and revegetation activities for all disturbed lands associated with construction of the project and the eventual termination and decommissioning of the project. Post-construction monitoring will be performed for one to 5 years, depending on the disturbance level and restoration level as required by BLM.
  - z. If drainages cannot be avoided by infrastructure placement, then the applicant will design drainage crossings to accommodate estimated peak flows and ensure that natural volume capacity can be maintained throughout construction and upon post-construction restoration. This measure is necessary to minimize the amount of erosion and degradation to which drainages are subject.
  - aa. No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95 degrees Fahrenheit (35 degrees Celsius). No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95 degrees Fahrenheit before handling or processing can be completed. For translocation, captured tortoises may be held overnight and moved the following morning within these temperature constraints.
  - bb. During all handling procedures, desert tortoises must be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, hyperactivity, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being.
  - cc. If a desert tortoise voids its bladder as a result of being handled, the animal shall be rehydrated.
  - dd. If a desert tortoise is injured as a result of project-related activities, it shall be immediately taken to an approved wildlife rehabilitation or veterinary facility.

Proposed compensation for habitat disturbance in California:

BLM compensation requirements for new disturbance in desert tortoise habitat is specified in the land use plans as 1:1 land replacement outside of designated critical habitat and 5:1 within designated critical habitat. The proposed project is expected to result in 49.7 acres of

disturbance to habitat not designated as desert tortoise critical habitat and 2.01 acres disturbance to designated desert tortoise critical habitat (DTCH). Therefore, compensation lands will equal 49.7 acres for the non-DTCH disturbance (1:1) and 10.05 acres for the DTCH disturbance (5:1).

The lands will be purchased either by the applicant or the applicant can deposit funds with the National Fish and Wildlife Foundation (NFWF) under the Renewable Energy Action Team (REAT) account governed by the REAT/NFWF memorandum of agreement (MOA). If funds are deposited with the NFWF, a compensation fee will be assessed based on current fair market appraised value for the specific geographic area in which the acquisition occurs. The acquired lands will occur in desert tortoise habitat with equivalent function and value. The replacement habitat is intended to benefit the population of desert tortoise adversely affected by the project. BLM, the Service, and CDFG will coordinate to reach mutual agreement on the selection and ownership/ management of acquired lands.

If funds are provided to NFWF, the (1) compensation funds will be provided prior to project construction, (2) lands will be acquired prior to completion of project construction, and (3) lands will be conserved in perpetuity by a legal mechanism agreed to by the three agencies. If conservation lands are acquired directly by the applicant, steps 2 and 3 will apply.

Regardless of the acquisition method (by applicant or NFWF), the applicant will establish a management fund for the agency that owns and manages the acquired lands. The management fund will consist of an interest-bearing account (as described in the REAT/NFWF MOA), with the amount of capital commensurate to generate sufficient interest to fund all monitoring, management, and protection of the acquired lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and other actions designed to protect or improve the habitat values of the acquired lands. A Property Analysis Record, as described at: [http://cnlm.org/cms/index.php?option=com\\_content&task=view&id=21&Itemid=155](http://cnlm.org/cms/index.php?option=com_content&task=view&id=21&Itemid=155) or comparable method, will be conducted by SCE and reviewed by BLM, the Service, and CDFG, to determine the management needs and costs described above, which then will be used to calculate the amount of capital needed for the management fund. This management fund will be held and managed by NFWF or another entity approved by BLM, the Service, and CDFG.

#### Proposed compensation for habitat disturbance in Nevada:

The EITP would disturb 220 acres of non-DTCH and 93.6 acres of DTCH in Nevada which included 8.8 acres of the BCCE. The applicant will pay compensation for disturbance of habitat prior to surface-disturbing activities associated with the proposed project. Disturbance of DTCH will be compensated at the current rate of \$3,537 per acre (factor of 4.5 x base rate of \$786). The multiplier used in this rate calculation was derived from Hasty *et al.* (1991), and consists of a multiplier of 3.0 for habitat quality (*i.e.*, critical habitat), plus

0.5 for growth-inducing effects of the project, plus 1.0 for long-term effects of the action (>10 years), resulting in a total factor of 4.5. The disturbance of non-DTCH will be compensated at \$786 per acre of disturbance.

Fees for the 8.8 acres of disturbance of BCCE land shall be donated to the Clark County Desert Conservation Program to be applied towards costs associated with desert tortoise habitat enhancement within the BCCE, because this area is protected by the County for the benefit of desert tortoise and their habitat. The Federal agency or project proponent shall contact the Desert Conservation Program at the address below for specific instruction on submitting payment. The total fee for BCCE disturbance outside the BLM corridor is \$6,916.80.

Clark County Desert Conservation Program  
333 North Rancho, Suite 625  
Las Vegas, Nevada 89106

Total remuneration fees to be paid to BLM for the project based on the current base rate of \$786 per acres are \$497,066.40 (\$503,983.20- \$6,916.80 for BCCE disturbance). These funds will be used for management actions expected to provide a benefit to the desert tortoise over time. Actions may involve habitat acquisition, population or habitat enhancement, increasing knowledge of the species biological requirements, reducing loss of individual animals, documenting the species' current status and trends, and preserving distinct population attributes. Specific actions to be funded will be determined during annual meetings between the BLM and Service to identify and prioritize management actions, which may include implementation of rangewide tortoise monitoring, and management of the Desert Tortoise Conservation Center (BLM and Service 2010).

The fee rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31st of each year. The next adjustment shall occur on January 31, 2012, and will become effective March 1, 2012. Fees assessed or collected for projects covered under this biological opinion after March 1st of each year will be adjusted based on the CPI-U. Information on the CPI-U can be found on the Internet at: <http://stats.bls.gov/news.release/cpi.nws.htm>.

These funds are independent of any other fees collected by BLM for desert tortoise conservation planning. The payment to BLM shall be accompanied by the attached Section 7 Land Disturbance Fee Payment Form (Appendix B), and completed by the payee.

## **C. Analytical Framework for the Service's Determinations**

### **Jeopardy Determination**

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of

listed species. “Jeopardize the continued existence of” means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed Federal action, and any cumulative effects, on the rangewide survival and recovery of the desert tortoise. It relies on four components: (1) the Status of the Species, which describes the rangewide condition of the desert tortoise, the factors responsible for that condition, and its survival and recovery needs; (2) the Environmental Baseline, which analyzes the condition of the desert tortoise in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the desert tortoise; (3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the desert tortoise; and (4) the Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the desert tortoise.

### **Adverse Modification Determination**

Section 7(a)(2) of the Endangered Species Act also requires that Federal agencies ensure that any action they authorize, fund, or carry out does not result in the destruction or adverse modification of designated critical habitat. Our analysis of effects to desert tortoise designated critical habitat follows Service-issued guidance: *Application of the “Destruction or Adverse Modification” Standard under section 7(a)(2) of the Endangered Species Act* issued on December 9 2004. The guidance addresses the 9<sup>th</sup> Circuit Court of Appeals ruling in *Gifford Pinchot Task Force v U.S. Fish and Wildlife Service*, No. 03-35279 (August 6, 2004) and states that an evaluation of effects to designated critical habitat should consider the concepts embodied in the sections 3 (definitions of “critical habitat” and “conservation”), 4 (the procedures for delineating and adjusting areas included in a designation) and 7 (the substantive standard in paragraph (a)(2) and the procedures in paragraph (b)) and focus on the function and conservation role of both the affected CHU as well as the entire designation.

### **D. Status of the Species and Critical Habitat Rangewide**

The rangewide status of the desert tortoise consists of information on its listing history, species account, recovery plan, recovery units, distribution, reproduction, and numbers. This information is dated September 23, 2010, and represents the current rangewide status of the desert tortoise and its critical habitat. This information is provided on the Service’s website at: [http://www.fws.gov/nevada/desert\\_tortoise/dt\\_life.html](http://www.fws.gov/nevada/desert_tortoise/dt_life.html). If unavailable on this web site, contact the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230, and provide File No. 84320-2010-F-0448 along with the date of September 23, 2010.

## **E. Environmental Baseline**

The action area is defined as all areas to be affected directly or indirectly by the Federal action, including interrelated and interdependent actions, and not merely the immediate area involved in the action (50 CFR § 402.02). Subsequent analyses of the environmental baseline, effects of the action, cumulative effects, and levels of incidental take are based upon the action area as determined by the Service. Regulations implementing the Act define the environmental baseline as the past and present effects of all Federal, State, or private actions and other human activities in the action area (50 CFR § 402.02). Also included in the environmental baseline are the anticipated effects of all proposed Federal projects in the action area that have undergone section 7 consultation, and the effects of State and private actions that are contemporaneous with the consultation in progress.

The action area for the EITP includes less than 100 acres of designated critical habitat. When critical habitat was designated in 1994, most of the action area occurred within an existing utility corridor with infrastructure. Desert tortoise habitat conditions in the action area are similar to those in 1994. Vegetation for shelter and to a lesser extent forage, have been removed from much of the utility corridor. Undisturbed designated critical habitat in the action area retains the Primary Constituent Elements (PCEs) of critical habitat as discussed below. The disturbed portion of the action area contributes toward recovery by providing space and habitat connectivity, allowing unobstructed tortoise movements across contiguous desert tortoise home ranges. Although the action area continues to provide habitat connectivity, tortoises that cross the disturbed ROW would be exposed to predators, particularly smaller tortoises.

### **1. Status of the Desert Tortoise in the Action Area**

The desert tortoise is distributed throughout the action area with the exception of the dry lakes and developed areas as indicated by the presence of tortoise sign, including burrows, scats, tracks, bone elements, or other desert tortoise sign (BLM 2010).

Surveys for desert tortoise were conducted in the action area using the Service-approved protocol in the spring of 2008, 2009, and 2010 (EPG 2010). The surveys included the proposed transmission line alignment and ancillary facilities, the proposed telecommunication route, work areas, staging areas, and access roads. Results of desert tortoise surveys are provided in Appendix B of the BA, and summarized below.

Tortoise sign was observed along the route of the transmission line and telecommunication line, except for Ivanpah Dry Lake. In 2008 and 2009, a total of 304 tortoise sign were observed along the proposed routes, including 18 tortoises, 180 burrows, 74 scat, 20 carcasses or shell parts and 12 other types of sign (e.g., tracks, drinking depressions). Most of the sign was observed in three areas in Nevada: on the east side of the McCullough Range; on the northern edge of the Lucy Gray Mountains; and southeast of Roach Lake. In 2010, a total of 168 tortoise sign were observed, including 9 tortoises, 142 burrows, 2 scat, and 15 carcasses or shell parts. An estimate of desert tortoise density for the transmission line area was calculated using the

100-percent coverage tortoise survey data from 2008 and 2009 with the tortoise density calculator in the Service survey guidance (Service 2009). Using this tool, tortoise density for the approximately 55.8 kilometer length of the proposed transmission line route was found to be approximately 2.0 tortoises per square kilometer. By comparison, desert tortoise density for the ISEGS Project located just north of the proposed EITP-Ivanpah Substation was estimated to be 1.4 tortoises per square kilometer. Because the tortoise density calculator uses only live tortoises located within the 100-percent survey coverage areas, an estimate can only be made for the proposed transmission route; tortoise density for the remaining project elements could not be estimated using the calculator.

We recognize that the survey data used for these estimates represents a single point in time and the number of individuals in these areas will change in response to environmental conditions. Efforts to accurately estimate the number of desert tortoises that may be encountered on long, linear projects such as the EITP are difficult. Variables that affect the number of tortoises that may occur or enter the ROW include habitat quality, season, temperature, and precipitation. All desert tortoises may not have been detected during the survey; some desert tortoises may die or may leave the proposed project area before construction of the proposed project commences; other unaccounted desert tortoises may move onto the site before construction begins; and undetected hatchling desert tortoises may emerge from rodent burrows or nests on, or adjacent to the ROW. However, the information above provides the best available data to establish a baseline for analysis.

Areas disturbed in the action area may contain desert tortoise nests with eggs. Based on studies performed in Ivanpah Valley and the Goffs study site in California that identified a sex ratio of 1:1 (Turner *et al.* 1984, Turner *et al.* 1987), we estimate that approximately half of the sub-adult and adult population is composed of reproductive females. However, it is difficult to estimate the number of eggs that may be within the proposed project area based on the number of reproductive females because: 1) some territories of female desert tortoises may extend beyond the proposed project area and their nests may be established outside the area; 2) fewer eggs may be present on the proposed project site at the time of construction depending on the time of the year; 3) the number of eggs that can be produced in a season is dependent on a variety of environmental and physiological factors; and 4) not all reproductive females produce eggs every year. Therefore, we are unable to estimate the number of eggs that may occur on the proposed project area.

Existing disturbances and impacts to desert tortoises in the action area include construction and continued use of major highways including Interstate 15, secondary roads, unimproved roads, trails, pipelines, Union Pacific Railroad, electrical transmission lines and substations, and utility corridors; recreational opportunities; casinos and retail businesses, a solar project and other facilities developed around Primm, Nevada. Developed areas cover about 12 percent of the action area and dry lake bed covers about 2.7 percent of the area (Karl 2010).

In addition, global climate change may affect recovery of the desert tortoise. The following information is summarized from the draft revised recovery plan for the desert tortoise (Service

2008). Global climate change and drought are potentially important long-term considerations with respect to recovery of the desert tortoise. Sufficient evidence exists that recent climatic changes have affected a broad range of organisms with diverse geographical distributions (Walther et al. 2002 in Service 2008). Although we do not have information regarding specific direct effects of climate change on the desert tortoise or its habitat, the Intergovernmental Panel on Climate Change has suggested a 3.5 to 4.0° C (6.3 to 7.2° F) increase in annual mean temperature, with the greatest increases occurring in summer (June-July-August mean up to 5° C (9° F) increase) (Christensen et al. 2007 in Service 2008). Precipitation likely will decrease by 5 to 15 percent annually in the region, with winter precipitation decreasing in the range of 5 to 20 percent (Christensen et al. 2007 in Service 2008).

Because germination of the desert tortoise's food plants is highly dependent on stable winter precipitation and temperature, the forage base could be reduced due to increasing temperatures and decreasing or unreliable precipitation during critical winter months. Winter precipitation in the Mojave Desert is much more reliable than the summer rains. One potential scenario is that the winter precipitation would shift to the north over time, leading to drier winters in the Mojave Desert, negatively impacting the growth of the spring annual plants. Spring annual plants, which are dependent on winter precipitation, provide essential forage for the desert tortoise. However, rainfall patterns may change in unpredictable ways, some areas may get wetter and other areas drier, with both situations altering desert tortoise habitat. Areas with increased rainfall would likely have increased growth of non-native, invasive species, altering the mixture of plants available for desert tortoise forage and changing the fire regime. Therefore, desert tortoise habitat may potentially change over the life of EITP due to climate change. Further predictions need to be developed specifically for the desert tortoise to help inform recovery efforts.

## **2. Status of the Critical Habitat in the Action Area**

Desert tortoise critical habitat is composed of specific geographic areas that contain the PCEs of critical habitat, consisting of the biological and physical attributes essential to the species' conservation within those areas. The critical habitat within the action area is both undisturbed and disturbed as a result of previous power transmission and other projects.

Below are the specific PCEs of desert tortoise critical habitat and their status in the action area.

1. *PCE: Sufficient space to support viable populations within each of the six recovery units, and to provide for movement, dispersal, and gene flow.*

Status: The action area is linear and includes areas disturbed by previous utility projects. Although the project area has been impacted by previous development, sufficient space occurs to allow tortoises to move freely within and across the action area.

2. *PCE: Sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species.*

Status: Disturbances in the action area are mostly void of native plants important for desert tortoises. Undisturbed areas provide forage and proper soil conditions for tortoises.

3. *PCE: Suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites.*

Status: Although suitable substrates occur in the disturbed portion of the action area, desert tortoise likely nest and shelter in undisturbed areas within the action area.

4. *PCE: Sufficient vegetation for shelter from temperature extremes and predators.*

Status: This PCE occurs only in the undisturbed portion of the action area. Tortoises that use the disturbed area will be exposed to greater predation risk particularly from avian predators.

5. *PCE: Habitat protected from disturbance and human-caused mortality.*

Status: Critical habitat within the designated utility corridors has little protection from disturbance; however, projects proposed with a Federal nexus include measures to reduce human-caused mortality during construction. The telecommunications component of the proposed action does not occur in a designated corridor and critical habitat here is afforded protection from major disturbances and human-caused mortality through BLM land use plans and designation as areas of critical environmental concern (ACEC) for tortoise conservation.

The vegetation present in critical habitat within the undisturbed action area at lower elevations is characteristic of creosotebush scrub with large portions dominated by creosotebush-white bursage (*Larrea tridentata-Ambrosia dumosa*). Other vegetation types include saltbush scrub, blackbrush scrub, blackbrush and Joshua tree woodland, and desert wash. Saltbush scrub consists of members of the genus *Atriplex* and other salt tolerant species. Blackbrush scrub dominated by blackbrush (*Coleogyne ramosissima*) is common at the upper elevations of the project. Some of this community is co-dominate with Joshua trees, indicative of Joshua tree woodland. Desert wash habitat can be found in many of the incised washes present throughout the action area and consists of ephedra (*Ephedra* sp.), cheesebush (*Ambrosia salsola*), and sweetbush (*Bebbia juncea*), with widely scattered catclaw acacia (*Acacia greggii*).

### **3. Factors Affecting the Species and its Critical Habitat in the Action Area**

The Nevada portion of the transmission line corridor is predominantly on BLM lands, but the BCCE would be crossed near the Eldorado Substation lands, and private lands would be crossed at Primm, Nevada. Small segments of the telecommunications line action area crosses private parcels at Nipton, California. In Nevada, the Eldorado-Lugo line passes through the Piute-

Eldorado CHU and ACEC, and is located between, but does not cross, the South McCullough and Wee Thump Joshua Tree Wilderness Areas.

A portion of the transmission line corridor crosses the BCCE immediately south of Boulder City, which includes BLM ownership and private lands within Clark County and Boulder City, Nevada. The BCCE is an area conserved for desert tortoise recovery as mitigation for the Clark County Multiple Species Habitat Conservation Plan (MSHCP) and Environmental Impact Statement (RECON 2000) and incidental take permit. The 2,000-foot-wide utility corridor occurs along its southernmost edge from the western side of the BCCE until it deviates outside of the BLM corridor in a southerly direction for less than 1 mile along an existing 70-foot ROW. The line then re-enters an adjacent 3,000-foot-wide corridor, continues to the northeast, and terminates at the Eldorado Substation (Figure 1).

The action area is primarily vacant and undeveloped with the exception of several high-voltage transmission lines and ancillary access roads that are located throughout the BLM designated utility corridor within which the new transmission line would be primarily located. The predominant land use in the action area for the Piute-Eldorado CHU is the existing utility corridors. In California only the telecommunications line crosses critical habitat (Ivanpah CHU). Other uses include casual off-highway vehicle (OHV) and recreation use, and other non-motorized recreation such as hiking, biking, and equestrian, sand and gravel extraction. Seasonal grazing occurs in the Ivanpah CHU but not the Piute-Eldorado CHU.

Several BLM permitted recreation events occur in the Jean/Roach Dry Lake area, which include competitive OHV races and other non-motorized specialized sport organized events. The existing utility roadways through the McCullough Range, including the North McCullough Pass, are used for some of these recreational activities. Casual OHV use and other recreational activities in the area are high.

a. Section 7 Consultations Affecting the Proposed Project Area

The following consultations address areas that overlap the action area addressed in this biological opinion.

- On November 25, 1997, the Service issued a Programmatic Biological Opinion (Service File No. 1-5-97-F-251) to BLM for implementation of various land management programs within the Las Vegas District planning area excluding desert tortoise critical habitat and ACECs, and outside the Las Vegas Valley. Activities proposed that may affect the desert tortoise in the action area include issuance of ROW, Recreation and Public Purposes leases, mineral material sales and leases, and mining plans of operation. The programmatic consultation is limited to activities which may affect up to 240 acres per project, and a cumulative total of 10,000 acres excluding land exchanges and sales. Only land disposals by sale or exchange in Clark County (but outside the Las Vegas Valley) are covered under the consultation up to a cumulative total of 14,637 acres. Thus,

a maximum total of 24,637 acres of desert tortoise habitat may be affected by the proposed programmatic activities.

- On June 18, 1998, the Service issued a Programmatic Biological Opinion (Service File No. 1-5-98-F-053) to BLM for implementation of various land management programs within desert tortoise habitat and the Las Vegas planning area, including desert tortoise critical habitat and ACECs. Activities that were proposed that may affect the desert tortoise in the action area include recreation; designation of utility corridors and mineral material extraction areas and designation of the Piute-Eldorado desert tortoise ACEC.
- On January 17, 2002, the Service issued a biological opinion to BLM regarding the effects to the desert tortoise of the implementation of the California Desert Conservation Area (CDCA) Plan (File No. 1-8-01-F-16). The biological opinion exempted incidental take for desert tortoises as a result of proposed activities including livestock grazing, management of burros, entrapment of desert tortoises in managed waters and guzzlers, and casual use associated with recreation and mining. Although the biological opinion did not anticipate a specific level of injury or mortality that would likely occur due to these activities, it required BLM to reinitiate consultation if more than five desert tortoises were killed or injured during any 12-month period. Due to a court challenge, the Service issued another biological opinion on the CDCA Plan on March 31, 2005 (File No. 1-8-04-F-43R). The new biological opinion did not change the threshold for reinitiation of consultation identified in the 2002 biological opinion. The action area for the California portion of the EITP is located within the planning area considered in both CDCA consultations.
- On October 1, 2010, the Service's Ventura Field Office issued a biological opinion to BLM's Desert District for a proposed ROW for the BrightSource Energy ISEGS Project in San Bernardino County, California. Electrical energy generated by the ISEGS Project would be transmitted by EITP infrastructure. The ISEGS Project would involve construction, operation, maintenance, and decommissioning of a 370-megawatt solar thermal power plant and associated infrastructure and facilities on public land managed by BLM. The project would be constructed over a 4-year period and consist of three solar electric generating plants and associated infrastructure including the Ivanpah Substation which would be the southwestern terminus of the EITP. The Service anticipates that 3,322 acres of long-term and 122 acres of short-term disturbance of tortoise non-critical habitat would occur as a result of the project. The Service determined that 32 sub-adult/adult tortoises would be displaced and up to 9 killed or injured as a result of the ISEGS Project.

During initial desert tortoise surveys for Phase I of the ISEGS Project, more desert tortoises were found than anticipated in the biological opinion. Consequently, on February 24, 2011, BLM requested reinitiation of consultation for the project. As of April 15, 2011, reports account for 35 desert tortoises that have been handled on the project. The EITP will become part of the environmental baseline for the ISEGS Project during the reinitiation of consultation.

b. Habitat Conservation Plans

Since the Mojave population of the desert tortoise was first listed under the Endangered Species Act in 1989, three regional-level habitat conservation plans (HCPs) have been implemented for development of desert tortoise habitat in Clark County, Nevada. Approximately 89 percent of Clark County consisted of public lands administered by the Federal government, thereby providing little opportunity for mitigation for the loss of desert tortoise habitat under an HCP on non-Federal lands. Alternatively, funds are collected under HCPs and spent to implement conservation and recovery actions on Federal lands as mitigation for impacts that occur on non-Federal lands. Lands managed by BLM are included in these areas where mitigation funds are used to promote recovery of the desert tortoise. Actions taken in relation to the HCPs mentioned here are/were taken in areas that overlap the action area addressed in this biological opinion.

On November 22, 2000, the Service issued an incidental take permit (TE-034927) to Clark County, Nevada, including cities within the County and Nevada Department of Transportation (NDOT). This HCP is the only regional HCP in place that overlaps the action area. The incidental take permit allows incidental take of desert tortoise for a period of 30 years on 145,000 acres of non-Federal land in Clark County, and within NDOT rights-of-way, south of the 38th parallel in Nevada. The MSHCP and Environmental Impact Statement (RECON 2000), serves as the permittees' HCP and details their proposed measures to minimize, mitigate, and monitor the effects of covered activities.

As partial mitigation under the MSHCP, the County purchased a conservation easement from the City of Boulder City in 1994. The term of the BCCE is for 50 years and it will be retained in a natural condition for recovery of the desert tortoise and conservation of other species in the area. Certain uses shall be prohibited within the BCCE including motor vehicle activity off designated roads, livestock grazing, and any activity that is inconsistent with the purposes of the BCCE. Much of the BCCE is also designated desert tortoise critical habitat. Within the boundary of the BCCE, Boulder City reserved the Solar Energy Zone for energy development projects in addition to adjacent energy generation facilities described previously.

## **F. Effects of the Proposed Action on the Desert Tortoise and its Designated Critical Habitat**

### **1. Desert Tortoise**

Direct effects are the immediate, often obvious effect of the proposed action on the desert tortoise or its designated critical habitat. Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. (50 CFR. § 402.02). In contrast to direct effects, indirect effects can often be more subtle, and may affect desert tortoise populations and habitat quality over an extended period of time, long after project activities have been completed. Indirect effects are of particular concern for long-lived species such as the desert tortoise, because project-related effects may not become evident in individuals or populations until years later.

Project activities could result in direct mortality, injury, or harassment of individuals as a result of encounters with vehicles or heavy equipment. Desert tortoises may take shelter under parked vehicles and be killed, injured, or harassed when the vehicle is moved. Other direct effects could include individual desert tortoises or their eggs being crushed or entombed in burrows. Desert tortoises may be collected or vandalized. Open excavations for tower foundations or trenches for underground fiber-optic installation may create a trap hazard for tortoises. Construction or operation of facilities may disrupt behavior due to noise or vibrations from the heavy equipment; lead to injury or mortality from encounters with workers' pets; and trash that may attract predators such as ravens and coyotes. Desert tortoises may also be attracted to the construction area by application of water to control dust, placing them at higher risk of injury or mortality. Desert tortoises found in harm's way will be moved a safe distance (e.g., less than 1,000 feet) but will not be translocated as a result of the project. Measures proposed by BLM should ensure these potential effects are minimized or avoided, which include: (1) preconstruction clearance surveys, (2) project monitors, (3) worker education, (4) speed limits, (5) covering trenches and other excavations, and (6) checking underneath vehicles.

Capturing, handling, and moving desert tortoises from harm's way would result in harassment and may also result in death or injury. Desert tortoises may die or become injured by relocation if these methods are performed improperly, particularly during extreme temperatures, or if they void their bladders. No desert tortoise will be translocated outside of their home ranges as a result of the proposed action. Averill-Murray (2001) determined that desert tortoises that voided their bladders during handling had significantly lower overall survival rates (0.81-0.88) than those that did not void (0.96). If multiple desert tortoises are handled by biologists without the use of appropriate protective measures and procedures, such as reused latex gloves, pathogens may be spread among the desert tortoises. If burrows are not properly excavated, desert tortoises may be killed or injured. Measures proposed by BLM should ensure these potential effects are minimized or avoided, which include: (1) Service-approved guidelines are followed when desert tortoises are handled or removed from burrows, and (2) authorized desert tortoise biologists will be responsible for handling tortoises.

Transmission poles would provide perching and nesting opportunities for ravens. Natural predation rates may be altered or increased when natural habitats are disturbed or modified. Common raven populations in some areas of the Mojave Desert have increased 1,500 percent from 1968 to 1988 in response to expanding human use of the desert (Boarman 2002). Since ravens were scarce in the Mojave Desert prior to 1940, the current level of raven predation on juvenile desert tortoises is considered to be an unnatural occurrence (BLM 1990). BLM proposes to implement the Raven Management Plan (Appendix A) to minimize potential effects of ravens which will include raven monitoring and nest removal when appropriate. Human activities may provide food in the form of trash and litter or water that attracts desert tortoise predators such as the common raven, desert kit fox, feral dogs, and coyote (Berry 1986; BLM 1990). In addition to ravens, feral dogs have emerged as significant predators of the tortoise. Feral dogs may range several miles into the desert and have been found digging up and killing desert tortoises (Service 1994, Evans 2001). Domestic dogs brought to the project site by visitors may harass, injure, or kill desert tortoises, particularly if allowed off leash to roam freely in occupied desert tortoise habitat (Service 1994, Evans 2001). BLM proposes to prohibit roaming pets and remove trash and food from work areas to minimize this threat.

The project would result in disturbance of 269.7 acres of non-DTCH (Table 1) which includes 75 acres of disturbance within the BCCE. A portion of the telecommunication line and Eldorado-Lugo transmission line, and the microwave tower occur within the Ivanpah and Piute-Eldorado DWMA. The Ivanpah DWMA was established by BLM in their Northern and Eastern Mojave Plan (BLM 2002) and the Piute-Eldorado DWMA was established by the 1998 Las Vegas District BLM Resource Management Plan (RMP). Removal of habitat and the activities associated with that disturbance within the home range of a desert tortoise would likely result in stress that could result in loss of health, increased risk of predation, reduced reproduction, and death. Measures proposed by BLM should ensure these potential effects are minimized or avoided, which include: (1) flagging native vegetation for avoidance, (2) locating towers and spur roads to avoid sensitive resources, (3) marking or flagging work areas, and restricting work activities to these areas, (4) avoiding damage to perennial vegetation where possible, (5) restoring disturbed habitat, and (6) providing project oversight through monitors, biologists, and field contact representatives (FCRs).

Direct mortality of tortoises by construction traffic on access roads or tower spurs could occur. During the construction period, there would be heavy traffic, including small and large trucks, bulldozers, and other construction vehicles on access and spur roads, at tower sites, and at pulling and tensioning sites. Equipment used to create new spur roads and tower pads could crush tortoises, or collapse dens. Use of water for dust-control or other project-related activities may attract desert tortoises to work areas. Any tortoise in these areas during construction would be at risk for take. This could be aggravated by the presence of water not normally available to tortoises, which may be used for dust control or cleaning of equipment. Construction debris and hazardous materials products that come in contact with desert tortoises could have serious or fatal effects. Measures proposed by BLM should ensure these potential effects are minimized or avoided, which include: (1) requiring workers to attend a worker education and awareness program (WEAP), (2) providing project oversight through monitors, biologists, and FCRs,

(3) marking or flagging work areas, and restricting work activities to these areas, (4) locating towers and spur roads to avoid sensitive resources, (5) conducting pre-construction clearance surveys, and (6) not allowing water to pool and repairing leaks on water trucks.

New access roads or tower spurs would increase access to tortoise habitat by the public which could result in harassment, crushing or collection of tortoises, collapse of burrows, compaction and erosion of soils, and proliferation of weeds, including grasses that can fuel wildfires. Wildfires likely remove the native plant community and provide suitable conditions for colonization by non-native invasive plant species, which could compete with native plant species of value to tortoise for forage and cover, and may increase the risk of future fires. Construction activities and operation and maintenance activities could result in accidental fires that spread into adjacent desert tortoise habitat. Accidental fires associated with project construction, such as those resulting from discarded smoking materials or equipment-induced fires, could be fatal to or result in loss of forage and shelter for desert tortoises. Measures proposed by BLM should ensure these potential effects are minimized or avoided, which include: (1) requiring workers to attend WEAP training, (2) restoring temporary disturbances, and (3) implementing an Invasive Weed Management Plan.

BLM is proposing to require compensation for implementation of raven management actions and additional compensation for loss of habitat, and acquisition of private lands containing desert tortoise habitat. Although acquisition of suitable desert tortoise habitat through these compensation requirements will not create new habitat, it will result in a net increase in the amount of desert tortoise habitat managed for the conservation of this species. In addition, the funding of management actions and regional management of common ravens is likely to result in restoration and rehabilitation of degraded habitat, protection of existing habitat from future sources of degradation, and a reduction in the direct mortality of desert tortoises. In general, the actions proposed with project compensation are identified in the original and draft revised recovery plans (Service 1994, 2008) and memorandum of understanding between the BLM and Service (BLM and Service 2010) as being necessary for the recovery of the desert tortoise.

## **2. Critical Habitat**

The Nevada portion of the transmission line passes through approximately 11.3 miles of DTCH within the Piute-Eldorado CHU eastward from the McCullough Range summit, and the telecommunication route passes through approximately 14.1 miles of DTCH within the same CHU east of the McCullough Range. The California segment of the transmission line does not pass through DTCH; however, a section of the telecommunications line and the microwave tower at Nipton cross DTCH within the Ivanpah CHU.

Project equipment may compact soils and transport weeds into the project area where they may become established, thus reducing the capability of critical habitat to serve its role for recovery of the tortoise. Additionally, the introduction of noxious weeds may lead to increased wildfire risk (Brooks *et al.* 2003). Measures proposed by BLM to restore disturbances, and develop and implement a weed management plan should minimize or avoid these potential effects.

### 3. Effect on Recovery

The proposed project would result in displacement of approximately 28 desert tortoises, injury or mortality of two desert tortoises, impact desert tortoise habitat, including critical habitat, and traverse priority conservation areas identified in the 1994 Recovery Plan and 2008 draft revision. However, we do not anticipate the proposed project would impede the recovery potential of the species because: (1) the impacts would mostly occur within an existing utility corridor degraded by construction and operation and maintenance of existing utility infrastructure, (2) the project would not result in additional habitat fragmentation, (3) less than 0.02 percent of the Piute-Eldorado CHU in Nevada and approximately 0.0003 percent of the Ivanpah CHU in California will be impacted,<sup>1</sup> and (4) raven impacts would be monitored and managed to ensure that the project will not result in an increase in ravens in the action area. We anticipate that few, if any, adult desert tortoises will be lost due to project actions in consideration of the conservation measures proposed by the BLM and that the small number that may be lost will not impede the recovery potential of the species. Given the difficulty in detecting eggs and hatchlings, we anticipate that most eggs and hatchlings in the areas to be disturbed would be lost due to project activities. The size and scope of the proposed action and its footprint is relatively small when compared to the range of the species, thus this loss would not impede the recovery potential of the species.

The project would result in disturbance of 95.6 acres of DTCH (Table 1). Of this, 13.4 acres will be long-term (“permanent”) and 82.2 acres will be temporary disturbance; temporary disturbance will be rehabilitated. The PCEs of critical habitat that provide forage, shelter, and nesting conditions for tortoises will be removed from the undisturbed portion of the action area; however, if proposed restoration is successful and precipitation levels are sufficient to promote vegetation growth these PCEs should return in 5 to 10 years. If precipitation is below average levels, the PCEs may not return for decades. Substantial adverse effects to critical habitat essential for movement, dispersal, and gene flow are not expected because desert tortoises readily move across dirt access and spur roads beneath utility lines, and ample adjacent suitable habitat is available along the transmission and telecommunication line alignments.

### G. Cumulative Effects

Cumulative effects are those effects of future non-Federal (State, tribal, local government, or private) activities that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

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<sup>1</sup> Critical habitat for the desert tortoise consists of approximately 6.4 million acres in portions of the Mojave and Colorado deserts. The designation includes primarily federal lands in southwestern Utah, northwestern Arizona, southern Nevada, and southern California (59 FR 5820). The Piute-Eldorado CHU (in Nevada) and the Ivanpah CHU (in California) total approximately 1,149,200 acres of designated critical habitat.

Table 1. Anticipated New Disturbance of Desert Tortoise Critical Habitat (DTCH) and Non-DTCH

| Desert Tortoise Habitat | Telecommunication Route |                   |                  | Transmission Line Route |                   |                  | Project Total     |                   |               |
|-------------------------|-------------------------|-------------------|------------------|-------------------------|-------------------|------------------|-------------------|-------------------|---------------|
|                         | Temporary (Acres)       | Long-term (Acres) | Subtotal (Acres) | Temporary (Acres)       | Long-term (Acres) | Subtotal (Acres) | Temporary (Acres) | Long-term (Acres) | Total (Acres) |
| DTCH in California      | 1.78                    | 0.23              | 2.01             | 0.0                     | 0.0               | 0.0              | 1.78              | 0.23              | 2.01          |
| DTCH in Nevada          | 13.5                    | 0.00              | 13.5             | 66.9                    | 13.2              | 80.1             | 80.4              | 13.2              | 93.6          |
| Total DTCH              | <i>15.3</i>             | <i>0.23</i>       | <i>15.5</i>      | <i>66.9</i>             | <i>13.2</i>       | <i>80.1</i>      | <i>82.2</i>       | <i>13.4</i>       | <i>95.6</i>   |
| Non-DTCH in California  | 0.02                    | 0.0               | 0.02             | 43.7                    | 6.0               | 49.7             | 43.7              | 6.0               | 49.7          |
| Non-DTCHt in Nevada     | 11.6                    | 0.0               | 11.6             | 186.0                   | 22.4              | 208.4            | 197.6             | 22.4              | 220.0         |
| Total Non-DTCH          | <i>11.6</i>             | <i>0.00</i>       | <i>11.6</i>      | <i>229.7</i>            | <i>28.4</i>       | <i>258.1</i>     | <i>241.3</i>      | <i>28.4</i>       | <i>269.7</i>  |
| <i>Total California</i> | <i>1.8</i>              | <i>0.23</i>       | <i>2.03</i>      | <i>43.7</i>             | <i>6.0</i>        | <i>49.7</i>      | <i>45.5</i>       | <i>6.23</i>       | <i>51.7</i>   |
| <i>Total Nevada</i>     | <i>25.1</i>             | <i>0.0</i>        | <i>25.1</i>      | <i>252.9</i>            | <i>35.6</i>       | <i>288.5</i>     | <i>278.0</i>      | <i>35.6</i>       | <i>313.6</i>  |
| Grand Total             | 26.9                    | 0.23              | 27.1             | 296.6                   | 41.6              | 338.2            | 323.5             | 41.8              | 365.3         |

Projects that do not have a Federal nexus include four proposed solar energy facilities on Boulder City, Nevada lands and a small mining operation. The four proposed solar sites would comprise a total of approximately 8,692 acres and the mine site is 15 acres.

Increased development would cause continued habitat loss, degradation, and fragmentation for the local desert tortoise population; as well as increased harm and harassment of individual desert tortoises, contributing to the cumulative degradation of the area. Planned future actions such as future industrial solar power plants would likely continue this trend. However, we know of no specific proposal by any non-Federal entity in the action area. The Service determined that most other future actions in the action area would likely require section 7 consultation since the action area is managed by BLM, a Federal agency.

## **H. Conclusion**

After reviewing its status, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the desert tortoise nor is not likely to adversely modify designated critical habitat for the desert tortoise. We have reached this conclusion because:

1. Numerous measures will be implemented by BLM to ensure that most tortoises are located and moved out of harm's way and potential desert tortoise injury and mortality is minimized on project work sites (i.e., clearance surveys, authorized desert tortoise biologists, desert tortoise monitors, etc.).
2. The number of desert tortoises to be injured and killed as a result of the project will likely be small (i.e., one during construction and one during operation and maintenance activities) relative to the number of desert tortoises that occur across the range of the species. No tortoises will be translocated beyond their home ranges and those moved from harm's way should remain in the wild with only short-term adverse effects.
3. A raven management plan will be implemented to reduce the potential for increased predation by common ravens.
4. The potential spread of non-native plant species will be minimized through a proposed invasive weed management plan.
5. This project would not result in a substantial increase in fragmentation of desert tortoise habitat; sufficient habitat will remain to provide connectivity of tortoise habitat.
6. PCEs of critical habitat will be adversely affected but not to the extent they will no longer function within the affected CHU or reduce the capability of the CHU to support the current number of tortoises in the CHU; temporary disturbances will be restored.
7. Compensation requirements through BLM will be a beneficial effect to the desert tortoise and will result in an increase in the quantity and quality of habitat managed for the

conservation of the desert tortoise including restoration of lost or degraded habitat within these areas.

## INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the Terms and Conditions of an incidental take statement.

The measures described below are nondiscretionary and must be implemented by BLM, or other jurisdictional Federal agencies, so that they become binding conditions of any project, contract, grant, or permit issued by BLM as appropriate, in order for the exemption in section 7(o)(2) to apply. The Service's evaluation of the effects of the proposed actions includes consideration of the measures developed by BLM, and repeated in the *Description of the Proposed Action* portion of this biological opinion, to minimize the adverse effects of the proposed action on the desert tortoise. Any subsequent changes in the minimization measures proposed by BLM, or other jurisdictional Federal agencies, may constitute a modification of the proposed action and may warrant reinitiation of formal consultation, as specified at 50 CFR § 402.16. These Reasonable and Prudent Measures are intended to clarify or supplement the protective measures that were proposed by BLM as part of the proposed action.

BLM, and other jurisdictional Federal agencies, have a continuing duty to regulate the activities covered by the Incidental Take Statement in the biological opinion. If BLM, or other jurisdictional Federal agencies, fail to include the Terms and Conditions of this Incidental Take Statement as enforceable conditions of its discretionary action, the protective coverage of section 7(o)(2) may lapse. To monitor the effect of incidental take, BLM must report the progress of its action and its effects on the desert tortoise to the Service as specified in the Incidental Take Statement [50 *Code of Federal Regulations* 402.14(i)(3)].

## **A. Amount or Extent of Take Anticipated**

Based on the scope of the proposed action, the desert tortoise survey data, analysis of impacts provided above, measures proposed by BLM, and the anticipated project duration, the Service anticipates that the following take could occur as a result of the proposed action:

1. We estimate that approximately 28 desert tortoises are anticipated to be captured and relocated during construction of the project. If the number of tortoises encountered and moved reaches our estimate, BLM shall notify the Service at which time we will evaluate the risk of injury and mortality to tortoises and determine if any additional measures are appropriate. We anticipate desert tortoises moved from harm's way will remain in their home range as part of the affected tortoise population.
2. No more than two (2) adult, sub-adult, or juvenile desert tortoise, and an unknown number of undetected hatchling tortoises are anticipated to be killed or injured during project construction activities.
3. An unknown number of desert tortoises will be taken in the form of indirect mortality through predation by ravens or other subsidized predators drawn to the project area. We anticipate this number will be small considering the raven management plan should ensure that raven numbers will not increase as result of the project, and surveys conducted to date do not indicate that ravens use the existing transmission facilities that would be replaced by the proposed project.
4. Following project construction, the Service estimates that no more than one desert tortoise will be accidentally injured or killed for maintenance and operation activities including travel on access roads.
5. An unknown number of tortoise eggs in one nest may be destroyed or relocated as a result of project activities.

## **B. Effect of Take**

In the accompanying biological opinion, the Service has determined that this level of anticipated take will not jeopardize the continued existence of the desert tortoise.

Our evaluation of the proposed action includes consideration of the protective measures described in the Description of the Proposed Action section of the accompanying biological opinion. Consequently, any changes in these protective measures may constitute a modification of the proposed action that causes an effect to the desert tortoise that was not considered in the biological opinion and requires reinitiation of consultation, pursuant to the implementing regulations of the section 7(a)(2) of the Act (50 CFR § 402.16).

## C. Reasonable and Prudent Measures with Terms and Conditions

The Service believes that the Reasonable and Prudent Measures (RPMs) below are necessary and appropriate to minimize take of desert tortoises. In order to be exempt from the prohibitions of section 9 of the Act, BLM, or other jurisdictional Federal agencies, must ensure full compliance with Terms and Conditions, which follow and implement the RPMs below. These conditions are non-discretionary.

RPM 1: *The BLM, or other jurisdictional Federal agencies as appropriate, shall ensure that desert tortoises in harm's way are located, properly handled, and moved to safety; other measures will be in place to avoid and protect tortoises within the action area but not in harm's way.*

### Terms and Conditions:

- 1.a. A desert tortoise education program shall be presented to all personnel onsite during construction activities. This program will contain information concerning the biology and distribution of the desert tortoise, its legal status and occurrence in the proposed project area, the definition of take and associated penalties, measures designed to minimize the effects of construction activities, the means by which employees can facilitate this process, and reporting requirements to be implemented when desert tortoises are encountered.
- 1.b. Authorized desert tortoise biologists and designated FCR shall be onsite during all construction activities to ensure compliance with this biological opinion, including avoidance of inadvertently harming any desert tortoises that may wander onto the construction site. The FCR and authorized biologists will have direct access to BLM and Service staff. The authorized desert tortoise biologist and FCR shall be responsible for: (1) enforcing the litter-control program; (2) ensuring that desert tortoise habitat disturbance is restricted to authorized areas; (3) ensuring that all equipment and materials are stored within the boundaries of the construction zone or within the boundaries of previously-disturbed areas or designated areas; (4) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; and (5) ensuring compliance with the Terms and Conditions of this biological opinion.

The authorized desert tortoise biologist shall also capture, handle, and relocate tortoises from harm's way in accordance with the Desert Tortoise Field Manual (Service 2009). Potential authorized biologists must submit their statement of qualifications to the Service's Nevada Fish and Wildlife Office and CDFG for approval, allowing a minimum of 30 days for Service response. The form is available on the internet at:

[http://www.fws.gov/nevada/desert\\_tortoise/auth\\_dt\\_form.htm](http://www.fws.gov/nevada/desert_tortoise/auth_dt_form.htm)

- 1.c. Prior to surface-disturbing activities, an authorized desert tortoise biologist potentially assisted by project monitors, shall conduct a clearance survey to locate and remove desert tortoises using techniques providing full coverage of all areas. Two passes of complete coverage will be accomplished. All desert tortoise burrows, and other species burrows that may be used by desert tortoises, will be examined to determine occupancy of each burrow by desert tortoises. Any desert tortoises or eggs found in the project footprint will be relocated offsite by an authorized desert tortoise biologist in accordance with approved protocol (Service 2009). Desert tortoise burrows that occur immediately outside work areas that can be avoided by project activities shall be clearly marked or flagged to prevent crushing.
- 1.d. All burrows found within areas proposed for disturbance, whether occupied or vacant, shall be excavated by an authorized desert tortoise biologist and collapsed or blocked to prevent desert tortoise re-entry. All burrows will be excavated with hand tools to allow removal of desert tortoises or desert tortoise eggs. All desert tortoise handling and excavations, including nests, will be conducted by an authorized desert tortoise biologist in accordance with Service-approved protocol (Service 2009).
- 1.e. All located desert tortoises in harm's way shall be relocated to safe areas up to 1,000 feet from the point of capture. Desert tortoises found aboveground will be placed under a bush in the shade. A desert tortoise located in a burrow will be placed in an existing unoccupied burrow of the same size and orientation as the one from which it was taken. If a suitable natural burrow is unavailable or the occupancy status of the burrow is in question, a qualified desert tortoise biologist will construct one of the same size and orientation as the one from which it was removed using the protocol for burrow construction (Service 2009).

Desert tortoises shall be handled according to Service-approved protocol (Service 2009) which includes instruction for tortoise encounters during high temperatures. If a tortoise is injured as a direct or indirect result of project activities, it shall be immediately transported to a veterinarian or wildlife rehabilitation facility such as the Desert Tortoise Conservation Center in Las Vegas.

- 1.f. Any desert tortoise found within one hour before nightfall shall be placed in a separate, clean cardboard box and held in a cool, predator-free location. The box will be covered and kept upright at all times to minimize stress to the tortoise. Each box will be used once and then disposed properly. The desert tortoise will be released the next day in the same area from which it was collected and using the procedures described above. Each desert tortoise will be handled with new disposable latex gloves. After use, the gloves will be properly discarded and a fresh set used for each subsequent desert tortoise handling.

- 1.g. Project activities that may endanger a desert tortoise shall cease if a desert tortoise is found on the project site. Project activities will resume after an authorized desert tortoise biologist removes the desert tortoise from danger or after the desert tortoise has moved to a safe area.
- 1.h. If a tortoise is found, the authorized desert tortoise biologist, monitor, or FCR shall inform workers in the area to be particularly watchful for the tortoise as it may return to the work area.
- 1.i. Final tower and spur road locations will be adjusted to avoid potentially active tortoise burrows to the greatest extent feasible.
- 1.j. Areas underneath parked project vehicles and equipment will be inspected for desert tortoises before moving them.
- 1.k. Steep-walled trenches or excavations will be monitored, covered, or fenced to exclude all tortoises during construction to prevent entrapment of tortoises.
- 1.l. Vehicle speed within the project area will not exceed 20 miles per hour. Speed limits will be clearly marked and all workers will be made aware of these limits.
- 1.m. Water used for fugitive dust control will not be allowed to pool on access roads or other project areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.
- 1.n. Should any desert tortoise be injured or killed, all activities in the area will be halted, and the FCR and/or authorized desert tortoise biologist immediately contacted, who will notify the appropriate office of the Service.

**RPM 2:** *The BLM, or other jurisdictional Federal agencies as appropriate, shall ensure implementation of measures to minimize predation on desert tortoises by ravens or other desert tortoise predators attracted to the project area.*

**Terms and Conditions:**

- 2.a. A litter control program shall be implemented to reduce the attractiveness of the area to opportunistic predators such as desert kit fox, coyotes, and common ravens. Trash and food items will be disposed properly in predator-proof containers with re-sealing lids. Trash containers will be emptied and construction waste will be removed daily from the project area and disposed of in an approved landfill.
- 2.b. Dogs will be prohibited in all project work areas.

- 2.c. BLM shall ensure that the Raven Management Plan is implemented (Appendix A).

**RPM 3:** *The BLM, or other jurisdictional Federal agencies as appropriate, shall ensure implementation of measures to minimize loss and long-term degradation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, or introduction of non-native invasive plants or weeds as a result of project activities.*

**Terms and Conditions:**

- 3.a. Perennial native vegetation will be flagged and avoided to the extent feasible.
- 3.b. Cross-country travel and travel outside designated access roads and project construction areas shall be prohibited.
- 3.c. Prior to surface-disturbing activities associated with the proposed project, BLM shall ensure that all compensation commitments for habitat disturbance, in the Description of the Proposed Action of this biological opinion are fulfilled by the applicant. For disturbance in Nevada, the applicant shall submit fee payment with the fee payment form (Appendix B).
- 3.d. The applicant will salvage and relocate cacti, and yuccas for onsite and offsite restoration efforts as directed by the BLM.
- 3.e. All work area boundaries will be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. All workers, equipment, vehicles, and construction materials shall remain within the ROW, existing roads, and designated areas. Staging areas will be located in previously-disturbed areas whenever possible.
- 3.f. The applicant will develop an RRRP that will guide restoration and revegetation activities for all disturbed lands associated with construction of the project and the eventual termination and decommissioning of the project. Post-construction monitoring will be performed annually unless BLM determine less frequent monitoring is appropriate.
- 3.g. An Invasive Plant Management Plan will be developed and implemented. The plan will be modeled on BLM's Las Vegas Office DRAFT Weed Plan (BLM 2006).

**RPM 4:** *The BLM, or other jurisdictional Federal agencies as appropriate, shall ensure implementation of measures to ensure compliance with the Reasonable and Prudent Measures, Terms and Conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.*

### **Terms and Conditions:**

- 4.a. The authorized desert tortoise biologist shall record each observation of desert tortoise handled. Information will include the following: location (GPS), date and time of observation, whether desert tortoise was handled, general health and whether it voided its bladder, location desert tortoise was moved from and location moved to, and unique physical characteristics of each tortoise. Reports documenting effectiveness and compliance with the desert tortoise protection measures will be prepared and submitted to appropriate agencies every 6 months.

The reporting requirements would include the submission of an assessment after construction is completed. The report would outline the schedule that was followed for implementing the minimization measures as well as biological observations (as stated above) and the general success of each of the minimization measures and the maintenance activities that occurred over that period.

A final report will be submitted to the Service's Las Vegas and Ventura offices within 90 days of completion of construction of the project. An annual report regarding the effects of the operation and maintenance of EITP on the desert tortoise and the results of the raven monitoring program will be submitted to these offices by January 31 of each year.

- 4.b. Any incident occurring during project activities that was considered by the biological monitor to be in non-compliance with this biological opinion will be documented immediately by the authorized desert tortoise biologist. The FCR will document the incident in the report in Term and Condition 4.a. along with the appropriate corrective action taken.

### **D. Reporting Requirements**

Upon locating a dead or injured desert tortoise within the action area, notification must be made to the Service's Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230. Care should be taken in handling sick or injured desert tortoises to ensure effective treatment and in handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of injured desert tortoises or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by the Service to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed. All deaths, injuries, and illnesses of desert tortoises, whether associated with project activities or not, will be summarized in an annual report.

The following actions should be taken for injured or dead desert tortoises if directed by the Service:

1. Injured desert tortoises shall be delivered to any qualified veterinarian for appropriate treatment or disposal.

2. Dead desert tortoises suitable for preparation as museum specimens shall be frozen immediately and provided to an institution holding appropriate Federal and State permits per their instructions.
3. Should no institutions want the desert tortoise specimens, or if it is determined that they are too damaged (crushed, spoiled, *etc.*) for preparation as a museum specimen, then they may be buried away from the project area or cremated, upon authorization by the Service.
4. BLM, or other jurisdictional Federal agencies as appropriate, shall bear the cost of any required treatment of injured desert tortoises, euthanasia of sick desert tortoises, or cremation of dead desert tortoises.
5. Should sick or injured desert tortoises be treated by a veterinarian and survive, they may be transferred as directed by the Service.

## **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Service suggests the following conservation recommendations:

- *BLM should continue to protect and manage desert tortoise ACECs and critical habitat for recovery and equally protect and conserve habitat that connects these important areas.*
- *BLM should work with power companies to include structure designs that minimize raven perching and nesting substrate.*

## **REINITIATION NOTICE**

This concludes formal consultation on the actions outlined in your August 16, 2010, request. As required by 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over an action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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## Appendix A. Raven Management Plan

**Raven Management Plan (RMP):** There is a potential for predation increase on the desert tortoise (DT) and other sensitive species by common ravens exploiting transmission towers for perching, roosting, and nesting. SCE will implement a Raven Management Plan (RMP) to minimize avian predation on DT for the Eldorado-Ivanpah Transmission Project (EITP, project). The purpose of the RMP is to utilize methods to deter raven depredation of juvenile desert tortoises, and other wildlife species. The RMP is not intended to eliminate or control raven populations, rather to target offending ravens that have been found to prey upon the DT. The RMP will incorporate an adaptive management strategy for immediate implementation following EITP construction. The RMP will be evaluated after years of monitoring or as needed, depending on the survey findings and field conditions, or if avian predation becomes apparent. The following activities will be implemented as part of the RMP: (1) *Common Raven Nest/Power line Monitoring*, and (2) *Raven Control Contribution*. Mutual and timely cooperation between SCE and the Bureau of Land Management (BLM), U.S. Fish & Wildlife Service (USFWS) and state wildlife agencies (California Department of Fish and Game [CDFG] and Nevada Division of Wildlife [NDOW]) is central to effective implementation of the RMP.

**Common Raven Nest/Power Line Monitoring:** The name and qualifications of a Qualified Biologist(s) will be submitted to the BLM, USFWS, CDFG and NDOW for approval 30 days prior to commencement of monitoring each year. A Qualified Biologist(s) or USFWS/State approved SCE designee with expertise identifying common raven nests and DT sign in DT modeled\*, critical, and occupied habitat will conduct:

Nest surveys will be performed once per month, between the 15<sup>th</sup> and last day of each month, during the primary common raven nest building period (February to May) and will begin the first common raven nesting season following the completion of construction in DT habitat. In the event that a common raven is documented initiating a new nesting attempt during the May surveys, follow up visits to that nest will be made in the subsequent months to establish whether or not the pair is bringing DT back to the nest. Surveying once per month is expected to identify potential nests prior to hatching of chicks, considering an incubation time of approximately 4 - 5 weeks. Nest removal by SCE would occur at the time of offending raven removal, depending upon impacts to personnel safety or system reliability. If eggs or chicks are found in a removed nest, the eggs or chicks would be humanely disposed.

Surveys for the presence of common raven nests on EITP tower structures and for the presence of DT remains within a 15-meter radius of each tower. Nest survey methods may include aerial surveys, vehicular windshield surveys or pedestrian surveys as appropriate.

If DT remains are found below an active nest, SCE will document the remains and verify the nesting status of the common ravens (e.g., incubating, feeding nestlings) and notify the BLM, Service, and CDFG and/or NDOW verbally (via phone call) and in writing (via email or fax) within 24 hours of documenting the remains. SCE will mark or collect the DT remains after verification with the Service. Upon being notified, the Service will contact the Common Raven Management Working Group which will coordinate immediate removal of the offending common raven(s) in California.

## *Appendix A. Raven Management Plan*

In addition, SCE will establish a Cooperative Service agreement with USDA/APHIS facilitating Wildlife Services' (WS) performance of removal efforts of offending common raven(s) and nests on EITP structures. SCE will be responsible for expenses attributed to removal of common ravens and nests on EITP structures. The Cooperative Agreement would allow the removal of offending ravens and their nests through a depredation permit held by APHIS-WS. Nest removal of offending ravens will occur at the time of raven removal to the greatest extent possible depending upon impacts to personnel safety or system reliability. Also, at least once per year and outside of the avian breeding season and the DT's most active season, where personnel safety or system reliability does not pose a threat, SCE will remove all other raven nests (e.g., inactive or non-offending ravens) identified during the monthly surveys. SCE will dispose of nesting material so that it is no longer available for nest building (e.g., removal to a landfill, or disposal at a SCE facility). APHIS-WS intends to respond to nest removal within 2 - 3 days following notification of nest(s) identified on EITP tower structures belonging to offending raven(s). However, Agency response time may be limited by available personnel or other unavoidable factors out of the scope of this RMP. The joint Cooperative Agreement when prepared between SCE and APHIS-WS will establish working timeframes to manage ravens documented to negatively impact the DT.

The Qualified Biologist(s) or FWS-approved SCE designee will also conduct nest surveys at the Eldorado and Ivanpah substations.

Surveys will begin in February and will continue through May, occurring between the 15<sup>th</sup> and last day of each month.

If an active common raven nest is located, searches for the presence of DT remains within a 15-meter radius of the nest will be conducted.

If DT remains are found, SCE will follow the same procedure outlined above; provided that personnel safety or system reliability is not of concern. Similarly, common ravens nesting on the substation facilities will be removed in accordance with the aforementioned procedures.

SCE will annually submit progress reports to the USFWS, BLM, CDFG and NDOW within 90 days of the years' last survey effort. The annual report would contain nest survey monitoring and raven removal results including GIS layer(s) of all the nests recorded / destroyed and ravens removed during the year. After 3 years of compiling nest survey and raven removal activities, an effectiveness evaluation of this conservation measure will be performed by SCE inclusive of identification of appropriate adaptive measures for SCE's implementation in the next breeding season. Based on the effectiveness of initial conservation measures, SCE will implement adaptive management measures after timely consultation with the BLM, USFWS, CDFG, and NDOW.

The frequency and type of surveys implemented may increase or decrease depending on survey results and the effectiveness of monitoring and removal efforts. If avian predation concerns become apparent interim to the third-year RMP evaluation, adaptive measures addressing the situation would be identified and implemented with the agencies concurrence. Nest monitoring and common raven removal will be conducted for the life of the project or

*Appendix A. Raven Management Plan*

until SCE demonstrates, and the agencies agree, that any or all of these actions are no longer necessary based on the results of nest monitoring surveys and raven removals.

An evaluation of the effectiveness of this conservation measure will be reviewed by SCE, BLM, USFWS, CDFG, and NDOW on an annual basis in order to develop appropriate adaptive measures for EITP for the next breeding season. The frequency and type of surveys implemented may increase or decrease depending on survey results and the effectiveness of the monitoring and removal. SCE will implement adaptive management measures after consultation with the Service based on the effectiveness of conservation measures. Nest monitoring and removal, searches for desert tortoise remains, and common raven removal will be conducted for the life of the project or until SCE demonstrates, and the Service agrees, that any or all of these actions are no longer necessary based on the results of the nest monitoring surveys.

**Raven Control Contribution:** SCE will establish a contract with USDA/APHIS-WS and fund raven depredation activities.

## Appendix B. NEVADA BLM SECTION 7 LAND DISTURBANCE FEE PAYMENT FORM

**Biological Opinion File Number:** 84320-2010-F-0448  
**Biological Opinion Issued By:** Nevada Fish and Wildlife Office, Las Vegas, Nevada  
**Species:** Desert Tortoise (*Gopherus agassizii*) (Mojave population)  
**Project Name:** Eldorado-Ivanpah Transmission Project  
**Project Proponent:** Southern California Edison  
**Phone Number:** \_\_\_\_\_

| Payment Calculations:                               | Clark County     |                      | _____ County     |                      | _____ County     |                      |
|---|------------------|----------------------|------------------|----------------------|------------------|----------------------|
|   | Critical habitat | Non-critical habitat | Critical habitat | Non-critical habitat | Critical habitat | Non-critical habitat |
| # acres anticipated to be disturbed on federal land | 93.6             | 211.2                |                  |                      |                  |                      |
| Fee rate (per acre)                                 | \$3,537.00       | \$786.00             |                  |                      |                  |                      |
| Subtotals   | \$331,063.20     | \$166,003.20         |                  |                      |                  |                      |
| Total cost per county                               | \$ 497,066.40    |                      | \$               | -                    | \$               | -                    |

**Amount paid:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Check/Money Order #:** \_\_\_\_\_  
**Authorizing agencies:** Bureau of Land Management, Las Vegas Nevada  
**Make check payable to:** Bureau of Land Management  
**Deliver check to:**

|  |   |
|--|---|
| <u>Physical Address</u><br>Bureau of Land Management<br>Attn: Information Access Ctr<br>1340 Financial Blvd.<br>Reno, NV 89502 | <u>PO Box</u><br>Bureau of Land Management<br>Attn: Information Access Ctr<br>PO Box 12000<br>Reno, NV 89520-0006 |
|--|---|

For BLM Public Room

**Process check to:**  
 Contributed Funds-All Other  
 WBS: LVTF1000800  
 7122 FLPMA  
 All other Res. Dev. Project and Management

Remarks: LLNV9300000 L71220000.JP0000 LVTF1000800 Desert Tortoise Conservation Program

Please provide a copy of this completed payment form and the payment receipt to NV-930, Attn: T&E Program Lead

**\*\*T&E Program Lead will provide a copy to the appropriate District Office(s)**

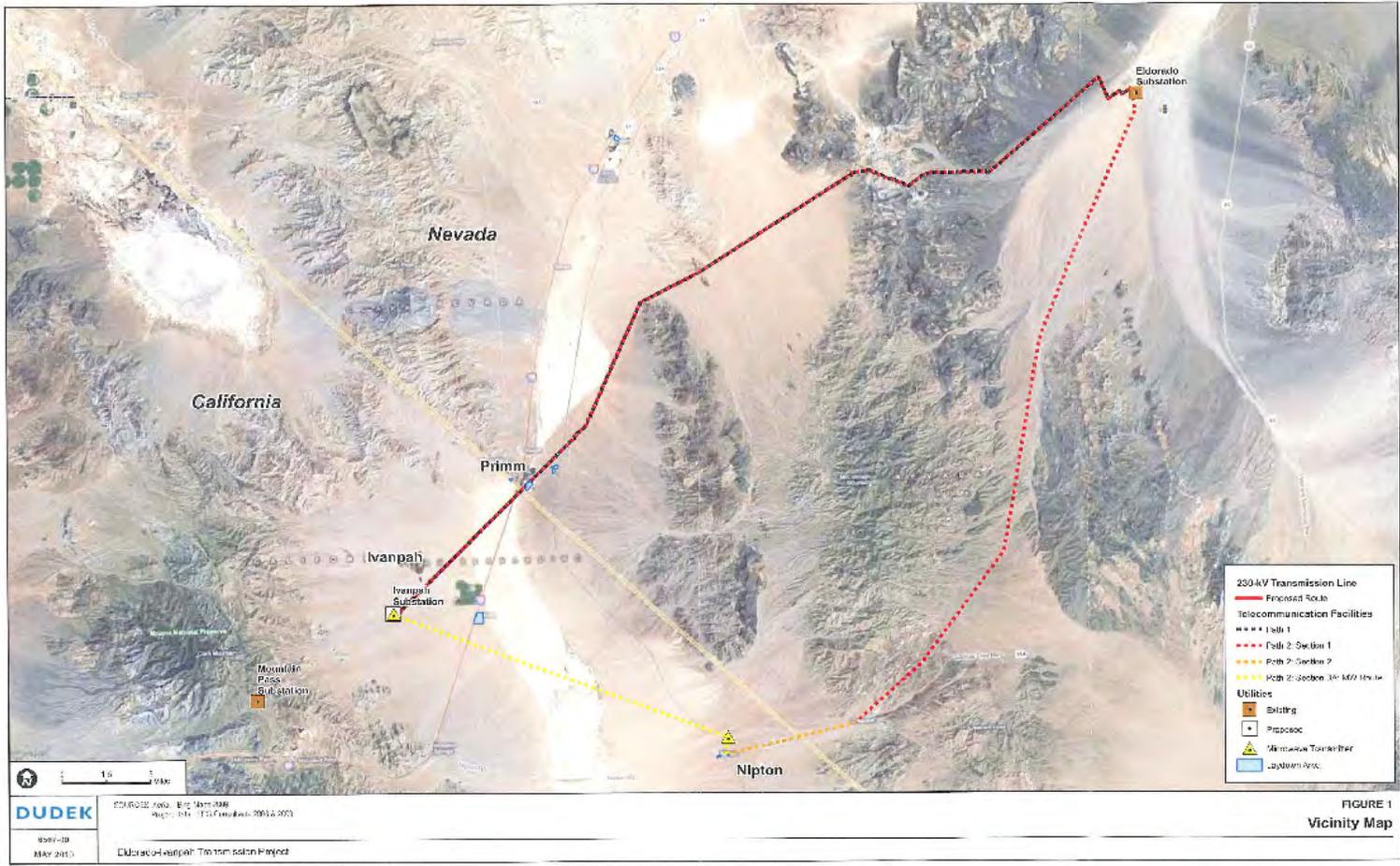


Figure DC-24: 3Ø Single Circuit 12/16 kV 4-Wire

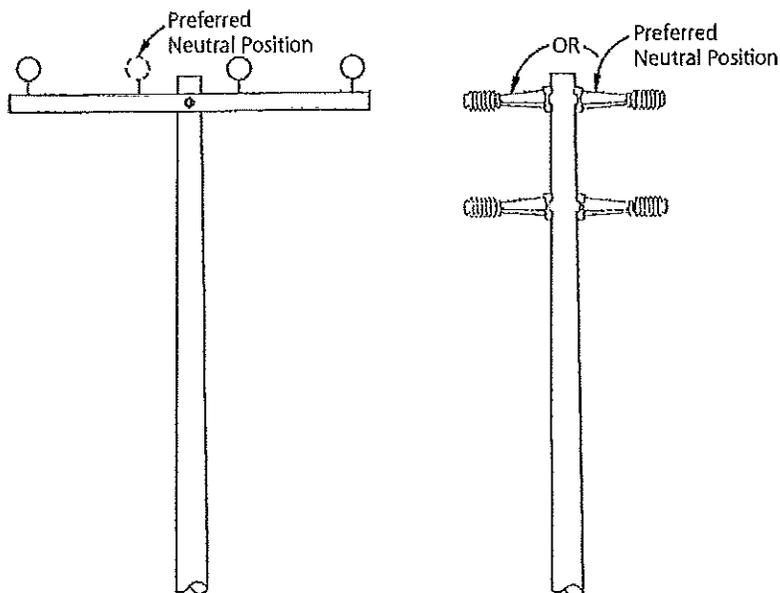
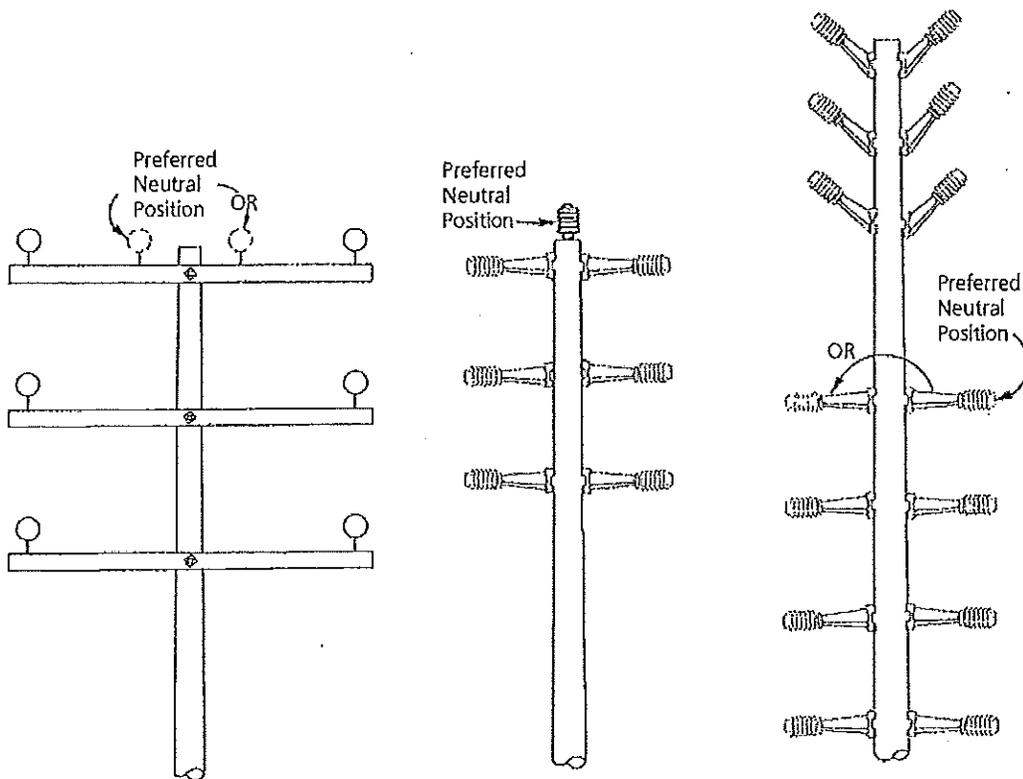


Figure DC-25: 3Ø Double Circuit 12/16 kV 4-Wire



Effective Date 10-29-2004

12/16 kV 4-Wire Straight Line — Typical

Approved

DC510

**DOH**

Distribution Overhead Construction Standards

*PhH*

Page DC-28

► SCE Internal ◀

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***Appendix 3***  
***Programmatic Agreement***

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**PROGRAMMATIC AGREEMENT  
AMONG  
THE BUREAU OF LAND MANAGEMENT,  
THE SOUTHERN CALIFORNIA EDISON COMPANY,  
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER,  
AND THE NEVADA STATE HISTORIC PRESERVATION OFFICER  
REGARDING THE MANAGEMENT OF  
HISTORIC ELECTRIC POWER CONVEYANCE SYSTEMS  
IN THE STATES OF CALIFORNIA AND NEVADA**

**WHEREAS**, the Southern California Edison Company (hereinafter, "SCE") holds and applies for right-of-way (ROW) grants and permits on public lands managed by the Bureau of Land Management in California and Nevada (hereinafter, "the BLM") in accordance with the Federal Land Policy and Management Act (P.L. 940-579, as amended; hereinafter, "FLPMA") for the purpose of constructing, operating, maintaining, modifying, or replacing electrical power distribution and conveyance facilities, some of which are included in or may be eligible for inclusion in the National Register of Historic Places (hereinafter, "historic properties" and "the NRHP"); and

**WHEREAS**, the BLM considers requests to grant a ROW or issue permits to other applicants for actions which may require the modification, removal, or replacement of electric power conveyance systems and related facilities owned by SCE and other historic properties that may be affected by such Undertakings; and

**WHEREAS**, the BLM has determined that the modification, removal, or replacement of electric power conveyance systems and related facilities owned by the SCE located on BLM lands or subject to BLM approval is an "Undertaking" as defined in 36 CFR 800.16(y) requiring a ROW grant or Federal permit, which are Federal actions as described at 36 CFR 800.3(a), which may result in similar, redundant, and repeated types of adverse effects on electric power conveyance facilities that are historic properties owned by SCE; and

**WHEREAS**, this Programmatic Agreement (Agreement) provides a programmatic approach that effectively, efficiently, and consistently takes into account the effects of Undertakings on electric power conveyance facilities that are historic properties and the background and intent of the Agreement are further described in Appendix A; and

**WHEREAS**, the BLM has consulted with the California and Nevada State Historic Preservation Officers (SHPO), to participate in consultation to resolve the potential adverse effects of an Undertaking on historic properties and the BLM chooses to continue its assessment of an Undertaking's potential adverse effect and resolve any such effect through the implementation of this Agreement; and

**WHEREAS**, in accordance with regulations at 36 CFR 800.14(b)(3), the BLM has notified and invited the Advisory Council on Historic Preservation (hereinafter, "ACHP") per 36 CFR 800.6(a)(1)(C) to participate in consultation to resolve the potential effects of an Undertaking on Historic Properties, and as per their letter dated December 14, 2009, the ACHP has elected not to participate in this Agreement; and

**WHEREAS**, SCE has participated in consultation per 36 CFR 800.2(c)(4), is willing to carry out the stipulations of this Agreement under the oversight of the BLM, and is an Invited Signatory to this Agreement; and

**WHEREAS**, SCE maintains a document and photographic archive at the Huntington Museum, Pasadena, California, which provides documentation and curation of SCE records and demonstrates SCE's commitment to preservation of historic records about historic projects and infrastructure; and

**WHEREAS**, the stipulations of this Agreement shall be appended to and made a part of any BLM Environmental Impact Statement/Record of Decision authorizing any Undertaking including but not limited to other Programmatic or Memorandum of Agreements that intends to use this Agreement to resolve adverse effects to historic properties that are the subject of this Agreement; and

**NOW, THEREFORE**, the BLM and the California and Nevada State Historic Preservation Officers (hereinafter, "Signatories) and the SCE, as an Invited Signatory, agree that Undertakings shall be implemented in accordance with the following stipulations in order to take into account the effects on historic properties.

## **STIPULATIONS**

BLM agrees to ensure the following stipulations are carried out:

### **I. DEFINITIONS**

The definitions found at 36 CFR 800.16 apply throughout this Agreement except where another definition is offered as follows:

**"Related undertaking"** or **"related project"** is an Undertaking requiring the grant of a ROW or issuance of a permit by the BLM to an applicant other than SCE that may require the modification or replacement of components of electric power conveyance systems which may be historic properties owned or managed by SCE.

**"Consulting parties"** means collectively the Signatories and Invited Signatories to this Agreement, without implying any change regarding the authorities of any of those parties to amend or terminate this Agreement.

**“Cultural resources”** refers to an object or location of human activity, occupation, or use identifiable through field inventory, historical documentation, or oral evidence. Cultural resources are prehistoric, historic, archaeological, or architectural sites, structures, buildings, places, or objects and definite locations of traditional cultural use by specified social and/or culture groups. Cultural resources include the entire spectrum of resources, from artifacts to cultural landscapes, without regard to eligibility for inclusion in the NRHP.

**“Electric power conveyance facilities”** refers to transmission power lines that typically carry at least 115 kV of electricity, sub-transmission lines that convey between 66 and 115 kV, distribution lines that carry less than 66 kV, and substations/switching stations that serve all three levels of power transmission. Electric power conveyance facilities include the wood poles and lattice steel towers, H-frame structures (of wood or steel construction) and any other types of poles or towers that support the electrical lines above the ground, and substations, buildings, other types of structures or objects that contribute to the physical transmission, or delivery of electrical power.

**“Invited Signatories”** include consulting parties (e.g., SCE) who have responsibilities within the consultation process described in this Agreement. Invited Signatories have the same rights with regard to seeking amendments or termination of this Agreement as the other Signatories.

**“Right-of-Way”** or **“Right-of-Way Corridor”** (ROW) is as defined in FLPMA (Section 501 [43 U.S.C. 1761], “Grant, Issue or Renewal of Rights-of-Ways” and 503 [43 U.S.C. 1763], “Right-of-Way Corridors”, respectively), and means an area of land designated by a federal land management agency for use by a grantee for the construction, operation and maintenance of a project.

**“Signatories”** refers to the BLM and the SHPOs. Signatories have responsibilities within the consultation process described in this Agreement. Signatories have the sole authority to execute, amend or terminate this Agreement.

## II. SCOPE OF THIS AGREEMENT

- a) Unless otherwise agreed to by the consulting parties through the process described in Stipulation XII, this Agreement will apply only to:
  - i) elements of SCE electric power conveyance facilities located on lands managed by the BLM, unless the Federal action extends to non-Federal lands where an Undertaking lacks independent utility.
  - ii) the identification and treatment of adverse effects to certain types of electric power conveyance facilities associated with SCE electric power systems included in, or eligible for inclusion in the NRHP, including lattice steel towers, H-frame structures (of wood or steel construction), wood poles, and associated substation/switching stations that are contributing elements to historic properties. This Agreement does

not include buildings, structures or objects not associated with electric power conveyance systems, or archaeological sites unless they are components of or the remains of components of an electric power conveyance facility; and

- b) The treatment measures prescribed in this Agreement shall supersede any other prior Programmatic Agreement or Memorandum of Agreement that might otherwise be applicable to the treatment of adverse effects to the historic properties subject to this Agreement.
- c) The terms of this Agreement may be used to resolve the specific adverse effects described in this Agreement for a Undertaking proposed by SCE, or in consultation with SCE, another Applicant whose Undertaking may have an adverse effect on an SCE electric power conveyance facility.
  - i) This Agreement may stand alone to resolve the effects for an Undertaking where adverse effects to a component of an SCE electric power conveyance facility are the only effects to be resolved.
  - ii) This Agreement may be referenced or included as an appendix to another Agreement to resolve the effects for an Undertaking where adverse effects to a component of an SCE electric power conveyance facility is not the only effect to be resolved.

### **III. AREA OF POTENTIAL EFFECTS**

- a) The Area of Potential Effect (APE) is defined as the total geographic area or areas within which the undertaking may directly or indirectly cause alterations in the character or use of historic properties per 36 CFR 800.16(d).
  - i) The APE is limited to those elements of SCE's electric power conveyance facilities which contain historic properties subject to this Agreement that could sustain direct and indirect physical effects as a result of the undertaking.
    - (1) Direct effects may result from the modification, removal, or replacement of electric power conveyance facilities.
      - (a) Where modification, removal or replacement of multiple electric power conveyance facilities may occur, the APE shall be defined in a manner to consider effects to a historic landscape embodied by the facilities.
    - (2) Indirect effects may result from alterations in the character or use of an electric power conveyance facility or a historic landscape of which an electric power conveyance facility is a component.

- (a) Where introduction of visual, auditory, or atmospheric elements diminish the integrity of a property's significant historic features.
  - (b) Where removal of an electric power conveyance facility diminish the integrity of values that define a historic landscape.
- ii) The APE may be amended by written agreement of the Signatories, in consultation with SCE.

#### **IV. ROLES AND RESPONSIBILITIES**

- a) The BLM shall be responsible for ensuring compliance with Section 106 of the NHPA, providing oversight of this Agreement, coordinating the roles of other consulting parties, participating in the resolution of objections among the consulting parties, and providing technical assistance and guidance as needed to the other consulting parties to this Agreement.
  - i) The BLM California Desert District Office (CDDO) will assume primary management and responsibility for implementing the terms of this Agreement, and will coordinate with the BLM Field Offices on implementation of this Agreement on lands under their management responsibility.
  - ii) SCE projects or other projects that may utilize the provisions of this Agreement within a single State may be managed by the appropriate BLM Field Office.
  - iii) The BLM CDDO will coordinate with all offices utilizing this Agreement for Undertakings that occur in both California and Nevada.
  - iv) Any District or Field Office within the California Desert District or Southern Nevada District of BLM may be the lead Federal agency for an Undertaking which may utilize the terms of this Agreement.
- b) The BLM shall be responsible for reviewing and approving all actions covered by this Agreement carried out by SCE or other Applicants to comply with Section 106 of the NHPA, including:
  - i) identification of cultural resources within the APE of each Undertaking;
  - ii) evaluations of NRHP eligibility of cultural resources and consultation with SHPOs regarding NRHP eligibility;
  - iii) determinations of effects on historic properties;
  - iv) implementation of treatment measures to resolve any adverse effects on historic properties per this Agreement; and

- v) other historic preservation measures for which an Applicant may be made responsible under this Agreement.
- c) Unless otherwise agreed to by the consulting parties, the following procedures and timing will apply to activities carried out per the terms of this Agreement.
  - i) Minor modifications as outlined in Appendix C to properties listed in Appendix B shall be managed by standard recordation treatment and documented in an annual report of activities authorized under this Agreement and submitted to the SHPOs by BLM.
  - ii) Upon the submission of any documents or at the request of the SCE, BLM will have 20 days to review and comment. SCE will have 10 days to respond to BLM comments. Upon review and acceptance of any document or report required by this Agreement, BLM will submit the document or report to the SHPO(s) who will have 30 days to comment.
  - iii) The BLM will have 20 days to review and comment on any SCE recommendations. If the BLM disagrees with any SCE recommendation, BLM may direct SCE to reconsider or the BLM and SCE may consult with the appropriate SHPO(s) to resolve the disagreement.
  - iv) The SHPO(s) will have 30 days from receipt of adequate documentation to respond to the BLM's determinations of eligibility.

## V. STANDARDS AND QUALIFICATIONS

- a) **PROFESSIONAL QUALIFICATIONS.** All actions prescribed by this Agreement shall be carried out by or under the direct supervision of a person or persons meeting, at a minimum, the *Secretary of the Interior's Professional Qualifications Standards (PQS)* for archaeology, history, or architectural history, as appropriate (48 FR. 44739). Those actions include the identification, evaluation, analysis, recordation, treatment, monitoring, and disposition of historic properties and that involve the reporting and documentation of such actions in reports, forms or other records. However, nothing in this stipulation may be interpreted to preclude any party qualified under the terms of this paragraph from using the services of properly supervised persons who do not meet the PQS.
- b) **DOCUMENTATION STANDARDS.** Reporting and documenting the actions cited in Paragraph IV(a) of this stipulation shall conform to every reasonable extent with the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR. 44716-44740). The BLM will ensure that recordation and documentation of appropriate cultural resources is consistent with California Department of Parks & Recreation (hereinafter, DPR) form 523, Nevada Cultural Resource

Information System (hereinafter, NVCRIS) form HRIF, National Park Service (hereinafter, "NPS") Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey (hereinafter, "HABS/HAER/HALS") Guidelines (e.g., Federal Register vol. 68, no. 139, pp. 43159-43162 <http://edocket.access.gpo.gov/2003/03-8197.htm>); and <http://www.nps.gov/history/hdp/standards/index.htm>); and ACHP archaeological guidance at <http://www.achp.gov/archguide/>, the BLM 8100 Manual, and the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, as applicable.

## VI. EVALUATION OF ELECTRIC POWER CONVEYANCE FACILITIES

- a) The BLM will consult with both SHPOs, as appropriate, regarding the NRHP eligibility of any SCE electric power conveyance facility that extends across the line demarcating the states of California and Nevada and that includes structures that may be adversely affected by an Undertaking subject to this Agreement.
  - i) For any historic property located entirely within one State, the BLM will consult with the SHPO for that State.
  - ii) Pursuant to the process provided at Stipulation IV(c), the SHPOs may comment on the NRHP eligibility of unevaluated properties or properties previously evaluated.
  - iii) The BLM will coordinate with the SHPOs to manage historic properties in a consistent manner in both states. Prior determinations of eligibility in either State made in consultation with the appropriate SHPO shall remain in force unless the BLM and the appropriate SHPO consult and agree to amend the prior determinations.
- b) SCE will assess whether the electric power conveyance facilities within the APE and subject to this Agreement retain historical integrity, taking into account that such facilities have historically undergone modification as part of periodic and routine maintenance. Past periodic and routine maintenance shall be considered a historic activity. Such modifications shall not be considered to have affected the historic integrity of the properties if:
  - i) electric power conveyance structures are original construction or substantially retain their original fabric, look, and feel; and
  - ii) all post-period-of-significance modifications were in-kind and retain original design integrity, for example original porcelain insulators have been replaced with porcelain insulators (i.e., the presence of porcelain insulators is sufficient for integrity to be maintained); and modifications such as retro-installed concrete tower footings have been installed to ensure original tower stability and meet safety requirements.

- c) The BLM, in consultation with SCE, may treat a SCE electric power conveyance facility as eligible for the NRHP for project management purposes and proceed to assess the effects of an Undertaking on those historic properties consistent with Stipulation VIII of this Agreement.

## **VII. TREATMENT OF HISTORIC PROPERTIES / STANDARD TREATMENT MEASURES**

- a) SCE will develop historic contexts for portions of its electric power conveyance systems subject to this Agreement as provided for in Stipulation VII(b). Such contexts shall establish the historical significance of any property within the APE and identify its period of significance. SCE may develop a comprehensive historic context for its generation and distribution systems that may be applied to any historic properties subject to this Agreement provided that the historic context presents a level of detail so that all types of structures within the APE are described and their historical significance evaluated.
- b) SCE will develop a typology of structures for properties within the APE sufficient to distinguish among structure types and assist in structure evaluation by taking into account design, engineering, function, materials and methods of construction and any other variables that differentiate the function of structures in a distribution system.
  - i) Within six months of the date of execution of this Agreement, SCE will submit the following to the Signatories.
    - (1) The following shall be included in Appendix B to this Agreement.
      - (a) An initial list of historic transmission lines, segments, or known historic properties that SCE recommends be subject to the terms of this Agreement and a justification for their inclusion.
        - (i) SCE may modify or add to the list of historic facilities subject to the terms of this Agreement at any time by notifying the Signatories, providing a description of the facility and justification for its inclusion.
      - (b) An initial list of structure typologies and historic contexts.
      - (c) An initial list of historic properties that will be affected by current projects and a summary of actions taken or to be taken to resolve adverse effects per the terms of this Agreement.
    - (2) The following shall be included in Appendix C to this Agreement.
      - (a) An initial list of minor actions affecting NRHP eligible SCE electric conveyance system features that will be subject, without further consultation, to standard treatment measures, and reported to the consulting parties annually.

- c) SCE may submit structure typologies, historic contexts, and resource evaluations for any specific Undertaking separately or concurrently.

### **VIII. MANAGEMENT OF EFFECTS ON HISTORIC PROPERTIES**

- a) The BLM will apply the criteria of adverse effect found at 36 CFR 800.5(a)(1) to historic properties within the APE to assess whether any electric power conveyance facility that is a contributing element of any proposed historic property may sustain adverse effects of any Undertaking subject to this Agreement.
  - i) If the BLM finds an adverse effect, the BLM will proceed to resolve the adverse effect consistent with the terms of this Agreement.
  - ii) Removal of wood distribution system poles from any historic property will be considered not adverse if poles are replaced with wood poles of similar size on a one-for-one basis with no alignment change.
- b) In the event that an Undertaking subject to this Agreement causes adverse effects on a historic property, the resolution of adverse effects on the historic property shall be as follows.
  - i) For each type of structure identified in the typology per Stipulation VII(b) and approved by BLM and the SHPOs per Stipulation IV(c), SCE will, in California, prepare a DPR Form 523 and Building/Structure/Object supplement for review by the BLM. Upon BLM approval, the form will be submitted to the appropriate California Historical Resources Information System (CHRIS) Information Center as directed by BLM. For each type of structure in Nevada, SCE will prepare a Historic Resources Inventory Form (HRIF), provide the form for review to the BLM, and upon approval by the BLM submit the form to the Nevada SHPO.
  - ii) Consistent with Stipulation VI(b), SCE will recommend the level of HABS/HAER/HALS documentation that is appropriate to record any historic structure types or landscapes that may sustain adverse effects and submit to BLM a proposal to implement the recordation.
    - (1) Unless otherwise agreed to or required by the Signatories, the HABS/HAER/HALS documentation for an Undertaking may be classed as “informal,” meaning that although prepared to National Archive standards, the final documents are submitted only to the California State Library, SHPO, the California Historical Resources Information System, the Huntington Museum, the Nevada State Museum in Las Vegas, or other facilities as agreed upon by the consulting parties.

- (2) Upon completion of the HABS/HAER/HALS recording and assembling of records, drawings, etc. for archiving, SCE will submit the HABS/HAER/HALS recording and an executed agreement between SCE and a library, archives or other repository stipulating that SCE will donate the appropriate items.
  - (3) For effects to an individual structure type, one example of each type of structure that contributes to the NRHP eligibility shall be documented according to HABS/HAER standards. One example shall be sufficient treatment for all such structures associated with a given Undertaking subject to this Agreement.
  - (4) HABS/HAER recordation will be required only once for each state for any given type of structure as defined in the historic context for the affected historic property, regardless where it is on a given SCE project or if it also occurs on other SCE projects. If SCE proposes to remove or modify a type of structure already documented, SCE will notify the BLM in writing, provide a written and photographic description of the structure(s) to be affected, and reference the previous HABS/HAER recordation. SCE will also present a graphic representation of the affected distribution line indicating what if any other structures have been previously treated, indicating the position on the line of the structures to be modified or removed. If the structures have been recorded on separate SCE projects, SCE will provide a graphic of the project showing the number and location of structures previously treated. In case records and files for individual SCE projects are archived separately, SCE will also indicate to the BLM if there are any additional records, drawings or other materials that pertain to the affected structures that should be added to the archives and submit proof that such materials have been archived.
  - (5) Where modification, removal or replacement of multiple electric power conveyance facilities may occur and such facilities constitute a historic landscape, HALS documentation of the historic landscape shall be the appropriate treatment.
- c) For each Undertaking resulting in a modification of a historic property subject to this Agreement and affecting a structure type already addressed per Stipulation VIII(b), SCE will provide to the BLM, a brief report documenting original compliance with Stipulation VIII(b). Minor modifications as outlined in Appendix C to properties listed in Appendix B shall be subject to standard treatment and reported annually to the consulting parties.

## **IX. RESOLVING OBJECTIONS**

- a) Should a Signatory or Invited Signatory object at any time, to the manner in which the terms of this Agreement are implemented, the BLM will immediately notify the consulting parties and request their comments on the objection within 30 days, and then proceed to consult with the Signatory or Invited Signatory for no more than 30 days to resolve the objection.

- b) If the objection can be resolved within the consultation period, the BLM may authorize the disputed action to proceed in accordance with the terms of such resolution.
- c) If at the end of the 30 day consultation period, the BLM determines that the objection cannot be resolved through such consultation, the BLM will forward all documentation relevant to the objection to the ACHP per 36 CFR 800.2(b)(2). Any comments provided by the ACHP within 30 days after its receipt of all relevant documentation will be taken into account by the BLM in reaching a final decision regarding the objection. The BLM will notify the consulting parties and the ACHP in writing of its final decision within 14 days after it is rendered. The BLM shall have the authority to make the final decision resolving the objection. The BLM's responsibility to carry out all other actions under this Agreement that are not the subject of the objection will remain unchanged.
- d) At any time during implementation of the terms of this Agreement, should an objection pertaining to the Agreement be raised by a member of the public, the BLM shall immediately notify the SHPOs about the objection and take the objection into account. The other Signatories and Invited Signatories may comment on the objection to the BLM. The BLM shall consult with the objecting party(ies) for no more than 30 days. Within 14 days following closure of consultation, the BLM will render a decision regarding the objection and notify all parties of its decision in writing. In reaching its final decision, the BLM will take into account all comments from the parties regarding the objection. The BLM shall have the authority to make the final decision resolving the objection.
- e) Any dispute pertaining to the NRHP eligibility of historic properties or cultural resources covered by this Agreement will be addressed by the BLM per 36 CFR 800.4(c)(2). A determination of eligibility by the Keeper of the National Register will be the final determination in the matter and will be accepted by all consulting parties to this Agreement.

## **X. REPORTING AND ACCOUNTABILITY**

- a) The BLM CDDO will coordinate all reporting required by this Agreement.
- b) By December 1 of each year following the execution of this Agreement until it expires or is terminated, the BLM CDDO shall provide the consulting parties to this Agreement a summary report detailing work undertaken pursuant to its terms. Such report shall include a summary of actions taken pursuant to this Agreement, any scheduling changes proposed, any problems encountered, and any disputes and objections received in the BLM's efforts to carry out the terms of this Agreement.
  - i) On or after October 1 of each year, the SCE shall provide the BLM CDDO a summary of actions taken pursuant to this Agreement, including an account of the SCE projects that utilized the provisions of this Agreement, an account of the adverse

effects to historic properties resolved under the terms of this Agreement, and a summary of the actions taken to resolve effects pursuant to this Agreement.

- c) Reporting pursuant to this Agreement may be incorporated in the annual reporting requirements for the BLM California Protocol Agreement. BLM Nevada may separately submit the annual report for this Agreement to the Nevada SHPO as part of its reporting requirements for the BLM Nevada Protocol Agreement.

## **XI. DURATION OF THIS AGREEMENT**

- a) This Agreement will expire if the stipulations of this Agreement have not been initiated within five (5) years from the date of its execution. Prior to the expiration date of this Agreement, the BLM may consult with the other consulting parties to extend the Agreement or reconsider the terms of the Agreement and amend it in accordance with Stipulation XII. The BLM shall notify the Signatories as to the course of action the agency will pursue within 30 days of the expiration of the Agreement.
- b) This Agreement expires 25 years from its effective date unless extended by written agreement of the Signatories. The Signatories and Invited Signatories shall consult at year 10 to review this Agreement. Additionally, the Signatories and Invited Signatories shall consult not less than one year prior to the expiration date to reconsider the terms of this Agreement and, if acceptable, have the Signatories extend the term of this Agreement. Reconsideration may include continuation of the Agreement as originally executed or amended, or termination. Extensions are treated as amendments to the Agreement under Stipulation XII.
- c) Unless the Agreement is terminated pursuant to Stipulation XIII or another agreement executed for the a specific undertaking supersedes it, this Agreement will remain in full force and effect until BLM, in consultation with the other Signatories and Invited Signatories, determines that implementation of all aspects of the undertaking has been completed and that all terms of this Agreement and any subsequent tiering requirements have been fulfilled in a satisfactory manner. At such time, BLM will notify the consulting parties of this Agreement in writing of the agency's determination. This Agreement will terminate and have no further force or effect on the day that BLM so notifies the Signatories to this Agreement.

## **XII. AMENDMENT**

- a) Any Signatory or Invited Signatory to this Agreement may at any time propose amendments, whereupon all Signatories shall consult to consider such amendments pursuant to 36 CFR 800.6(c)(7) and 800.6(c)(8). This Agreement may be amended only upon written agreement of the signatories.

- b) Amendments to this Agreement shall take effect on the date of full execution by the Signatories.
- c) Modifications, additions, or deletions to the appendices made as a result of continuing consultation among the consulting parties shall not require the Agreement to be amended.

### **XIII. TERMINATION**

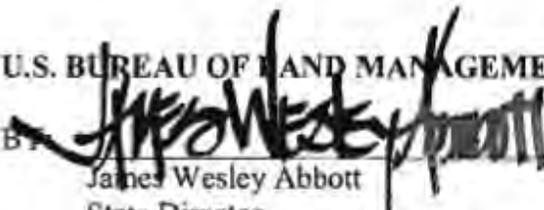
- a) Only Signatories and Invited Signatories may terminate this Agreement. If this Agreement is not amended as provided for in Stipulation XII, or if a Signatory or Invited Signatory proposes termination of this Agreement for other reasons, the party proposing termination shall notify the other consulting parties in writing, explain the reasons for proposing termination, and consult for no more than 30 days to seek alternatives to termination.
- b) Should such consultation result in an agreement on an alternative to termination, the Signatories and Invited Signatories shall proceed in accordance with that agreement.
- c) Should such consultation fail, the Signatory or Invited Signatory proposing termination may terminate this Agreement by promptly notifying the other parties in writing.
- d) Should this Agreement be terminated, the BLM shall either consult in accordance with 36 CFR 800.14(b) to develop a new Agreement or request the comments of the ACHP pursuant to 36 CFR 800.4-800.6.
- e) Beginning with the date of termination, the BLM shall ensure that until and unless a new Agreement is executed for the undertakings covered by this Agreement, such undertakings shall be reviewed individually in accordance with 36 CFR 800.4-800.6.
- f) This Agreement will terminate and have no further force or effect when BLM, in consultation with the other Signatories and Invited Signatories, determines that all terms of this Agreement have been fulfilled in a satisfactory manner on the day that BLM so notifies the other Signatories and Invited Signatories to the Agreement.

**Execution and implementation of this Agreement** is evidence that BLM has afforded the ACHP a reasonable opportunity to comment on the undertaking and its effects on historic properties. The Signatories to this Agreement represent that they have the authority to sign for and bind the entities on behalf of whom they sign.

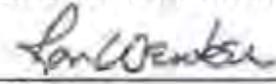
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**SIGNATORY PARTIES**

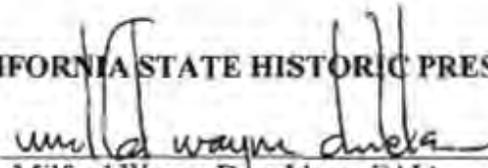
**U.S. BUREAU OF LAND MANAGEMENT (California)**

BY:  DATE: 9/27/10  
James Wesley Abbott  
State Director

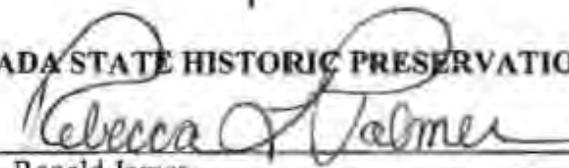
**U.S. BUREAU OF LAND MANAGEMENT (Nevada)**

BY:  DATE: 9/27/10  
Ron Wenker  
State Director

**CALIFORNIA STATE HISTORIC PRESERVATION OFFICER**

BY:  DATE: 27 SEP 2010  
Milford Wayne Donaldson, FAIA  
State Historic Preservation Officer

**NEVADA STATE HISTORIC PRESERVATION OFFICER**

BY:  DATE: 9/27/10  
*for* Ronald James  
State Historic Preservation Officer

**INVITED SIGNATORY**

**SOUTHERN CALIFORNIA EDISON COMPANY**

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Paul Multari  
Director, Project Management Organization

## **APPENDIX A: BACKGROUND AND INTENT**

SCE provides reliable electric service to more than 13 million people in 180 cities in 50,000 square miles of service area in central, coastal and southern California. Electric power conveyance facilities are constantly subject to maintenance, modification, reconfiguration and replacement in order to continue to serve as viable system components.

Several of SCE's electric power conveyance facilities are situated on and cross Bureau of Land Management (BLM) land in California and Nevada. The BLM must grant ROWs or permits to build and operate facilities on BLM land in accordance with the Federal Land Policy and Management Act (P.L. 940-579). The BLM must also comply with Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) (NHPA) prior to issuing ROWs or permits to build or modify these electric power facilities.

Many of the facilities throughout SCE's electric power systems were constructed in the early- to mid-20th century, and some of these are listed or eligible for the National Register of Historic Places (NRHP), while many other such resources have not been evaluated. Electric power conveyance facilities that are contributing elements to historic properties may be modified repeatedly as the result of adding new generation capacity into the electrical grid or for other reasons to meet federal and state efficiency and reliability standards.

The maintenance, modification or replacement of NRHP listed and eligible electric power conveyance facilities may adversely affect historic properties. Numerous proposed and future energy projects, system reconfigurations, and maintenance activities involve BLM lands with effects to historic properties that are similar and repetitive in nature. Accordingly, the BLM and State Historic Preservation Officers for California and Nevada (SHPOs) have determined that implementation of this Programmatic Agreement (hereinafter, "Agreement") prepared pursuant to 36 CFR 800.14(b)(1)(i) and (iii), will fulfill the requirements of NHPA Section 106 for multiple undertakings by effectively, efficiently, and consistently considering the effects of those undertakings on electric power conveyance facilities that are historic properties.

### **Highlights of this Agreement**

The treatment of adverse effects under this Agreement is limited to electric power conveyance facilities (transmission, sub-transmission, and distribution line structures, and substation/switching stations) associated with SCE electric power systems listed in, or eligible for listing in the NRHP, including lattice steel towers, H-frame structures (of wood or steel construction), wood poles, switch racks, circuit breakers, transformers, and other ancillary features that are contributing elements to historic properties. This Agreement does not include buildings, other types of structures, objects or archaeological sites that are historic properties unless they are directly associated with the Historic Property/Historic District electric power conveyance system. If historic properties not related to the electric power conveyance system are present and would be adversely affected by an Undertaking, a separate agreement or treatment plan would be necessary.

This Agreement describes a programmatic approach that:

- (1) stipulates roles and responsibilities of participating agencies and others;
- (2) facilitates identification of historic properties;
- (3) determines adverse effects,
- (4) establishes treatment and mitigation measures; and
- (5) streamlines the resolution of adverse effects.

SCE has specific responsibilities for managing historic properties according to this Agreement, including:

- (1) certain routine historic properties management activities (per 36 CFR 800.14(b)(1)(iv));
- (2) development of a typology for electrical towers that will facilitate their evaluation and allow SCE to determine the types and number of towers of various types that may be affected by undertakings;
- (3) development of historic contexts for electrical power systems that provides the background for evaluation;
- (4) implementing standard treatment measures stipulated in this Agreement including various levels of resource recordation such as California DPR forms and HABS/HAER recording of only one of each type of structure, or HALS recording where a group of structures may constitute a historic landscape, to take into account routine and repetitive adverse effects of undertakings on historic properties (per 36 CFR 800.14(b)(1)(v)); and
- (5) producing an annual report of activities undertaken under the terms of this Agreement including certain routine activities listed in Appendix C for which SHPO notification is the only regulatory requirement.

The stipulations of this Agreement may be appended to and made a part of the BLM's Record of Decision authorizing any SCE project or non-SCE project that would utilize the terms of this Agreement, after consultation with SCE.

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***Appendix 4***  
***Mitigation, Monitoring and Compliance Program***

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## Appendix 4 Mitigation, Monitoring and Compliance Plans

This appendix includes:

1. A list of the standard terms, conditions, and stipulations that will be made contained in the approved right-of-way (ROW) grant for the Eldorado-Ivanpah Transmission Project (EITP).
2. A list of all agency Mitigation Measures (MMs) and Applicant Proposed Mitigation (APM) carried forward from the Final EIR/EIS that are adopted by the Bureau of Land Management (BLM) and made part of the Record of Decision and ROW grant. **These measures have previously been incorporated into the California Public Utilities Commission (CPUC) Decision.**
3. A DRAFT Mitigation Monitoring Compliance Reporting Program for the EITP project. This plan will be finalized and incorporated into the applicant's final Plan of Development.

### Standard Terms, Conditions and Stipulations

1. The holder shall submit a final plan of development that describes in detail the construction, operation, maintenance, and termination of the ROW and its associated improvements and/or facilities. The plans will be reviewed, and if appropriate, modified and approved by the Authorized Officer. Once approved by the Authorized Officer, the plan of development shall be made a part of the ROW grant. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this ROW in strict conformity with the approved Plan of Development, as amended or supplemented by approval of the Authorized Officer. Any surface disturbing activity, additional construction, or use that is not in accord with the approved Plan of Development shall not be initiated without the prior written approval of the Authorized Officer. A copy of the complete ROW lease/grant, including all stipulations and approved Plan of Development, shall be made available on the ROW area during construction, operation, and decommissioning. Noncompliance with the above will be grounds for immediate temporary suspension of activities if it constitutes a threat to public health or safety or the environment.
2. The holder shall not initiate any construction or other surface disturbing activities on the ROW without the prior written authorization of the Authorized Officer. Such authorization shall be a written **Notice to Proceed** issued by the Authorized Officer. Any Notice to Proceed shall authorize construction or use only as therein expressly stated and only for the particular location or use therein described.
3. The holder will arrange and schedule a preconstruction conference(s) with the BLM Authorized Officer prior to the holder's commencing construction and/or surface disturbing activities on the ROW or specific construction phase of the ROW. The holder and/or his representatives will attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the ROW, will also attend this conference to review the stipulations of the authorization, including the Plan of Development, as applicable. The holder shall notify the Authorized Officer of the schedule for any preconstruction conference at least 14 calendar days in advance of the preconstruction conference.
4. The holder shall designate a representative(s) who shall have the authority to act upon and to implement instructions from the authorized officer. The holder's representative shall be available for communication with the Authorized Officer within a reasonable time when construction or other surface disturbing activities are underway.
5. A bond, acceptable to the Authorized Officer, shall be furnished by the holder prior to issuance of a Notice to Proceed with construction or at such earlier date as may be specified by the Authorized Officer. The amount of this bond shall be determined by the Authorized Officer based upon the holder's final Plan of Development and Reclamation, Restoration, and Revegetation Plan. This bond must be maintained in effect until removal of improvements and restoration of the ROW have been accepted by the Authorized Officer.

The holder agrees that all monies deposited with the Authorized Officer as security for holder's performance of the terms and conditions of this grant may, upon failure on the holder's part to fulfill any of the requirements herein set forth or made a part hereof, be retained by the United States to be applied as far as may be needed to the satisfaction of the holder's obligations assumed hereunder, without prejudice whatever to any other rights and remedies of the United States.

Should the bond delivered under this grant become unsatisfactory to the Authorized Officer, the holder, shall, within 30 days of demand, furnish a new bond.

6. The holder shall comply with the CPUC Certificate of Public Convenience and Necessity, and any changes made thereto, issued by the CPUC on December 16, 2010. Noncompliance with the requirements of the Certificate of Public Convenience and Necessity will be grounds for immediate temporary suspension of activities and operations within the ROW by the Authorized Officer.
7. The holder shall be bound by the Reasonable and Prudent Measures and Terms and Conditions contained in the Biological Opinion for listed and proposed species associated with this project signed by the U.S. Fish and Wildlife Service (USFWS, or the Service) on April 29, 2011. Failure to comply with the requirements of the Biological Opinion shall be cause for suspension or termination of the ROW grant.
8. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder. The holder shall also comply with the Programmatic Agreement titled, "Programmatic Agreement for Historic Steel Lattice Towers," signed and executed by all parties and effective on September 28, 2010.
9. The holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the holder shall obtain an individual permit from the appropriate office of the Army Corps of Engineers and provide the Authorized Officer with a copy of same. Failure to comply with this requirement shall be cause for suspension or termination of the ROW grant.
10. Unless otherwise agreed to in writing by the Authorized Officer, powerlines shall be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Powerlines"(APLIC 2006). The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "eagle safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modifications or additions to all powerline structures placed on this ROW, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.
11. The holder shall protect all survey markers found within the ROW. Survey markers include, but are not limited to, Public Land Survey System line and corner markers, other property boundary line and corner markers, and horizontal and vertical geodetic monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the Authorized Officer and the respective installing authority if known. Where any of the above survey markers are obliterated or disturbed during operations, the Authorized Officer will determine how the marker is to be restored. The holder will be instructed to secure the services of a registered land surveyor or informed that an official survey will be executed by the BLM. All surveying activities will be in conformance with the Manual of Surveying Instructions and appropriate State laws and regulations. Surveys by registered land surveyors will be examined by the Authorized Officer and the BLM State Office Chief Cadastral Surveyor for conformance with the Manual of Surveying Instructions and State laws and regulations before being filed in the

appropriate State or county offices of record. The holder shall be responsible for all administrative and survey costs.

12. Use of pesticides and herbicides shall comply with all applicable federal and State laws. Pesticides and herbicides shall be used only in accordance with their registered uses within limitations imposed by the Secretary of the Interior. Prior to the use of the pesticides, the holder shall obtain from the Authorized Officer, written approval of a Pesticide Use Proposal Plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, locations of storage and disposal of containers, and any other information deemed necessary by the Authorized Officer.
13. Only those chemicals (pesticides and herbicides) listed on the BLM approved label list are authorized for use on public lands. A Pesticide Use Proposal must be submitted for each chemical used, and it cannot be used until approval has been obtained in writing from the Authorized Officer. The proposal needs to identify any surfactants or dyes used in the spraying operation. Applicator(s) of chemicals used must have completed pesticide certification training and have a current up to date Certified Pesticide Applicator's License. Pesticide and herbicide application records for the areas and acres treated must be submitted to the Authorized Officer each year. This includes the following:
  - Brand or Product name,
  - EPA registration number,
  - Total amount applied (use rate #A.l./acre),
  - Date of application,
  - Location of application,
  - Size of area treated,
  - Method of treatment (air/ground),
  - Name of applicator,
  - Certification number and dates,
  - Costs to treatment, and
  - Amount of surfactants or dyes used in spraying operation.

The record information must be recorded no later than 14 calendar days following the pesticide or herbicide application and must be maintained for ten years.

14. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. 'Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment. A litter policing program shall be implemented by the holder which covers all roads and sites associated with the ROW.
15. The holder shall comply with all applicable federal, State and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any Hazardous Materials, as defined in this paragraph, that will be used, produced, transported or stored on or within the ROW, or used in the construction, operation, maintenance or decommission of the ROW or any of its facilities. 'Hazardous material' means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any 'hazardous waste' as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. 6901 et seq. and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended. 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in CERCLA, 42

U.S.C. 9601, *et seq.* or RCRA, 42 U.S.C. 6901 *et seq.*) on the ROW (unless the release or threatened release is wholly unrelated to the ROW holder's activity on the ROW). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

16. Within 90 calendar days of completion of construction, the holder will submit to the Authorized Officer as-built drawings and a certification of construction verifying that the facility has been constructed in accordance with the design, plans, specifications, and applicable laws and regulations.
17. The holder will be liable for all fire suppression costs resulting from fires caused during construction or operations. The holder shall comply with all guidelines and restrictions imposed by agency fire control officials.
18. The holder shall fund in accordance with 43 CFR 2805.16 a third party Compliance and Inspection Program as deemed necessary by the Authorized Officer to ensure compliance with the terms, conditions, and stipulations of this ROW lease/grant and applicable laws and regulations.
19. The holder shall not initiate any construction or other surface disturbing activities as a minor change to the ROW or Plan of Development without prior written approval of the Authorized Officer, or his/her delegate. Such authorization shall be a written Change of Condition or Variance. Each Change of Condition/Variance shall authorize construction or use only as therein expressly stated and only for the particular location and use therein described. All Changes of Condition/Variations are subject to such terms and conditions as deemed necessary by the Authorized Officer at the time of approval. Approved changes authorize construction or use only as therein expressly stated and only for the particular location, phase, area, or use described. The Authorized Officer may by written notice suspend or terminate in whole or in part any change of condition/variance which has been approved, when in the Authorized Officer's judgment, unforeseen conditions arise which result in the approved terms and conditions being inadequate to protect the public health and safety or to protect the environment.
20. The USFWS has notified the BLM that due to the proximity of known occupied Golden Eagle territories, and that the potential effects of power lines on Bald and Golden Eagles is unknown, this project has the potential to take an eagle. Due to the distance of the project site to known eagle territories, available mitigation measures, and habitat compensation associated with other species (i.e. desert tortoise), USFWS believes that this project can reach the "no net loss" standard for Golden Eagles identified in the Eagle Act Rule if the applicant submits and implements an Avian Protection Plan. The holder shall submit an Avian Protection Plan for review and approval of the USFWS and Authorized Officer prior to initiating construction.
21. The holder must ensure full compliance with the following Reasonable and Prudent Measures (RPMs) with implementing Terms and Conditions as described in the Biological Opinion for the project. Full compliance by the holder with these Terms and Conditions is required and is non-discretionary.

RPM 1: *The BLM, or other jurisdictional federal agencies as appropriate, shall ensure that desert tortoises in harm's way are located, properly handled, and moved to safety; other measures will be in place to avoid and protect tortoises within the action area but not in harm's way.*

Terms and Conditions:

- a. A desert tortoise education program shall be presented to all personnel onsite during construction activities. This program will contain information concerning the biology and distribution of the desert tortoise, its legal status and occurrence in the proposed project area, the definition of take and associated penalties, measures designed to minimize the effects of construction activities, the means by which employees can facilitate this process, and reporting requirements to be implemented when desert tortoises are encountered.
- b. Authorized desert tortoise biologists and a designated Field Construction Representative (FCR) shall be onsite during all construction activities to ensure compliance with this biological opinion, including avoidance of inadvertently harming any desert tortoises that may wander onto the construction site.

The FCR and authorized desert tortoise biologist will have direct access to BLM and Service staff. The authorized desert tortoise biologist and FCR shall be responsible for: (1) enforcing the litter-control program; (2) ensuring that desert tortoise habitat disturbance is restricted to authorized areas; (3) ensuring that all equipment and materials are stored within the boundaries of the construction zone or within the boundaries of previously-disturbed areas or designated areas; (4) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; and (5) ensuring compliance with the Terms and Conditions of this biological opinion.

The authorized desert tortoise biologist shall also capture, handle, and relocate tortoises from harm's way in accordance with the Desert Tortoise Field Manual (Service 2009). Potential authorized biologists must submit their statement of qualifications (Appendix C) to the Service's Nevada Fish and Wildlife Office and the California Department of Fish and Game (CDFG) for approval, allowing a minimum of 30 days for Service response. The form is available on the internet at: [http://www.fws.gov/nevada/desert\\_tortoise/auth\\_dt\\_form.htm](http://www.fws.gov/nevada/desert_tortoise/auth_dt_form.htm).

- c. Prior to surface-disturbing activities, an authorized desert tortoise biologist potentially assisted by project monitors, shall conduct a clearance survey to locate and remove desert tortoises using techniques providing full coverage of all areas. Two passes of complete coverage will be accomplished. All desert tortoise burrows, and other species burrows that may be used by desert tortoises, will be examined to determine occupancy of each burrow by desert tortoises. Any desert tortoises or eggs found in the fence line will be relocated offsite by an authorized desert tortoise biologist in accordance with approved protocol (Service 2009). Desert tortoise burrows that occur immediately outside work areas that can be avoided by project activities shall be clearly marked or flagged to prevent crushing.
- d. All burrows found within areas proposed for disturbance, whether occupied or vacant, shall be excavated by an authorized desert tortoise biologist and collapsed or blocked to prevent desert tortoise re-entry. All burrows will be excavated with hand tools to allow removal of desert tortoises or desert tortoise eggs. All desert tortoise handling and excavations, including nests, will be conducted by an authorized desert tortoise biologist in accordance with Service-approved protocol (Service 2009).
- e. All located desert tortoises in harm's way shall be relocated to safe areas up to 1,000 feet from the point of capture. Desert tortoises found aboveground will be placed under a bush in the shade. A desert tortoise located in a burrow will be placed in an existing unoccupied burrow of the same size and orientation as the one from which it was taken. If a suitable natural burrow is unavailable or the occupancy status of the burrow is in question, a qualified desert tortoise biologist will construct one of the same size and orientation as the one from which it was removed using the protocol for burrow construction (Service 2009).

Desert tortoises shall be handled according to Service-approved protocol (Service 2009) which includes instruction for tortoise encounters during high temperatures. If a tortoise is injured as a direct or indirect result of project activities, it shall be immediately transported to a veterinarian or wildlife rehabilitation facility such as the Desert Tortoise Conservation Center in Las Vegas. In California, the veterinarian or facility must be approved by CDFG.

- f. Any desert tortoise found within one hour before nightfall shall be placed in a separate, clean cardboard box and held in a cool, predator-free location. The box will be covered and kept upright at all times to minimize stress to the tortoise. Each box will be used once and then disposed properly. The desert tortoise will be released the next day in the same area from which it was collected and using the procedures described above. Each desert tortoise will be handled with new disposable latex gloves. After use, the gloves will be properly discarded and a fresh set used for each subsequent desert tortoise handling.
- g. Project activities that may endanger a desert tortoise shall cease if a desert tortoise is found on the project site. Project activities will resume after an authorized desert tortoise biologist removes the desert tortoise from danger or after the desert tortoise has moved to a safe area.

- h. If a tortoise is found, the authorized desert tortoise biologist, monitor, or FCR shall inform workers in the area to be particularly watchful for the tortoise as it may return to the work area.
- i. Final tower and spur road locations will be adjusted to avoid potentially active tortoise burrows to the greatest extent feasible.
- j. Areas underneath parked project vehicles and equipment will be inspected for desert tortoises before moving them.
- k. Steep-walled trenches or excavations will be monitored, covered, or fenced to exclude all tortoises during construction to prevent entrapment of tortoises.
- l. Vehicle speed within the project area will not exceed 20 miles per hour. Speed limits will be clearly marked and all workers will be made aware of these limits.
- m. Water used for fugitive dust control will not be allowed to pool on access roads or other project areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.
- n. Should any desert tortoise be injured or killed, all activities will be halted, and the FCR and/or authorized desert tortoise biologist immediately contacted, who will notify the appropriate office of the Service.

RPM 2: *The BLM, or other jurisdictional federal agencies as appropriate, shall ensure implementation of measures to minimize predation on desert tortoises by ravens or other desert tortoise predators attracted to the project area.*

Terms and Conditions:

- a. A litter control program shall be implemented to reduce the attractiveness of the area to opportunistic predators such as desert kit fox, coyotes, and common ravens. Trash and food items will be disposed properly in predator-proof containers with re-sealing lids. Trash containers will be emptied and construction waste will be removed daily from the project area and disposed of in an approved landfill.
- b. Dogs will be prohibited in all project work areas.
- c. The BLM shall ensure that the Raven Management Plan is implemented (Appendix B).

RPM 3: *The BLM, or other jurisdictional federal agencies as appropriate, shall ensure implementation of measures to minimize loss and long-term degradation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, or introduction of non-native invasive plants or weeds as a result of project activities.*

Terms and Conditions:

- a. Perennial native vegetation will be flagged and avoided to the extent feasible.
- b. Cross-country travel and travel outside designated access roads and project construction areas shall be prohibited.
- c. Prior to surface-disturbing activities associated with the proposed project, the BLM shall ensure that all compensation commitments for habitat disturbance, in the Description of the Proposed Action of this biological opinion are fulfilled by the applicant. For disturbance in Nevada, the applicant shall submit fee payment with the fee payment form (Appendix A).
- d. The BLM and applicant shall coordinate to salvage and relocate cacti, yuccas, and shrubs for onsite and offsite restoration efforts.
- e. All work area boundaries will be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. All workers, equipment, vehicles, and construction materials shall remain

- within the ROW, existing roads, and designated areas. Staging areas will be located in previously-disturbed areas whenever possible.
- f. The applicant will develop a Reclamation, Restoration, and Revegetation Plan (RRRP) that will guide restoration and revegetation activities for all disturbed lands associated with construction of the project and the eventual termination and decommissioning of the project. Post-construction monitoring will be performed for one to five years, depending on the disturbance level and restoration level as outlined in the BLM's 2001 Restoration Plan for Energy Projects, version 2 (BLM 2004). Post-construction monitoring will be performed annually unless the BLM determines less frequent monitoring is appropriate.
  - g. An Invasive Plant Management Plan will be developed and implemented. The plan will be modeled on the BLM's Las Vegas Office DRAFT Weed Plan (BLM 2006).

RPM 4: *The BLM, or other jurisdictional federal agencies as appropriate, shall ensure implementation of measures to ensure compliance with the Reasonable and Prudent Measures, Terms and Conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.*

Terms and Conditions:

- a. The authorized desert tortoise biologist shall record each observation of desert tortoise handled. Information will include the following: location (GPS), date and time of observation, whether desert tortoise was handled, general health and whether it voided its bladder, location desert tortoise was moved from and location moved to, and unique physical characteristics of each tortoise. Reports documenting effectiveness and compliance with the desert tortoise protection measures will be prepared and submitted to appropriate agencies every six months.
  - b. The reporting requirements would include the submission of an assessment after construction is completed. The report would outline the schedule that was followed for implementing the minimization measures as well as biological observations (as stated above) and the general success of each of the minimization measures and the maintenance activities that occurred over that period.
  - c. A final report will be submitted to the Service's Las Vegas and Ventura offices within 90 days of completion of construction of the project. An annual report regarding the effects of the operation and maintenance of EITP on desert tortoise and the results of the raven monitoring program will be submitted to these offices by January 31 of each year.
  - d. Any incident occurring during project activities that was considered by the biological monitor to be in non-compliance with this biological opinion will be documented immediately by the authorized desert tortoise biologist. The FCR will document the incident in the report in Term and Condition 4.a. along with the appropriate corrective action taken.
22. The holder shall compensate the BLM for disturbance to Desert Tortoise habitat in accordance with the following guidelines for California and Nevada:

**California Lands:**

BLM compensation requirements for new disturbance in desert tortoise habitat is specified in the California Desert Conservation Area Plan, as amended as 1:1 land replacement outside of designated critical habitat and 5:1 within designated critical habitat. The proposed project is expected to result in 49.7 acres of disturbance to habitat not designated as desert tortoise critical habitat and 2.01 acres disturbance to designated desert tortoise critical habitat (DTCH). Therefore, compensation lands will equal 49.7 acres of non-DTCH (1:1) and 10.05 acres of DTCH (5:1).

The lands will be purchased either by the applicant or the applicant can deposit funds with the National Fish and Wildlife Foundation (NFWF) under the Renewable Energy Action Team (REAT) account governed by the REAT/NFWF memorandum of agreement (MOA). If funds are deposited with the NFWF, a

compensation fee will be assessed based on current fair market appraised value for the specific geographic area in which the acquisition occurs. The acquired lands will occur in desert tortoise habitat with equivalent function and value. The replacement habitat is intended to benefit the population of desert tortoise adversely affected by the project. The BLM, the Service, and the CDFG will coordinate to reach mutual agreement on the selection and ownership/management of acquired lands.

If funds are provided to NFWF, the (1) compensation funds will be provided prior to project construction, (2) lands will be acquired prior to completion of project construction, and (3) lands will be conserved in perpetuity by a legal mechanism agreed to by the three agencies. If the conservation lands are acquired directly by the applicant, steps 2 and 3 will apply.

Regardless of the acquisition method (by applicant or NFWF), the applicant will establish a management fund for the agency that owns and manages the acquired lands. The management fund will consist of an interest-bearing account (as described in the REAT/NFWF MOA), with the amount of capital commensurate to generate sufficient interest to fund all monitoring, management, and protection of the acquired lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and other actions designed to protect or improve the habitat values of the acquired lands. A Property Analysis Record, as described at:

[http://cnlm.org/cms/index.php?option=com\\_content&task=view&id=21&Itemid=155](http://cnlm.org/cms/index.php?option=com_content&task=view&id=21&Itemid=155), or comparable method, will be conducted by Southern California Edison (SCE) and reviewed by the BLM, the Service, and the CDFG, to determine the management needs and costs described above, which then will be used to calculate the amount of capital needed for the management fund. This management fund will be held and managed by NFWF or another entity approved by the BLM, the Service, and the CDFG.

#### **Nevada Lands:**

The EITP would disturb 220 acres of non-DTCH and 93.6 acres of DTCH in Nevada which included 8.8 acres of the Boulder City Conservation Easement (BCCE). The applicant will pay compensation for disturbance of habitat prior to surface-disturbing activities associated with the proposed project. Disturbance of DTCH will be compensated at the current rate of \$3,537 per acre (factor of 4.5 x base rate of \$786). The multiplier used in this rate calculation was derived from Hastey et al. (1991), and consists of a multiplier of 3.0 for habitat quality (i.e., critical habitat), plus 0.5 for growth-inducing effects of the project, plus 1.0 for long-term effects of the action (>10 years), resulting in a total factor of 4.5. The disturbance of non-DTCH will be compensated at \$786 per acre of disturbance.

Fees for the 8.8 acres of disturbance of BCCE land shall be donated to the Clark County Desert Conservation Program (DCP) to be applied towards costs associated with desert tortoise habitat enhancement within the BCCE, because this area is protected by the County for the benefit of desert tortoise and their habitat. The federal agency or project proponent shall contact the Desert Conservation Program at the address below for specific instruction on submitting payment. The total fee for BCCE disturbance outside the BLM corridor is \$6,916.80.

Clark County Desert Conservation Program  
333 North Rancho, Suite 625  
Las Vegas, Nevada 89106

Total remuneration fees to be paid to the BLM for the project based on the current base rate of \$786 per acres, are \$497,066.40 (\$503,983.20- \$6,916.80 for BCCE disturbance). These funds will be used for management actions expected to provide a benefit to the desert tortoise over time. Actions may involve habitat acquisition, population or habitat enhancement, increasing knowledge of the species biological requirements, reducing loss of individual animals, documenting the species' current status and trends, and preserving distinct population attributes. Specific actions to be funded will be determined during annual meetings between the BLM and the Service to identify and prioritize management actions, which may

include implementation of rangewide tortoise monitoring, and management of the Desert Tortoise Conservation Center (BLM and Service 2010).

The fee rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31st of each year. The next adjustment shall occur on January 31, 2012, and will become effective March 1, 2012. Fees assessed or collected for projects covered under this biological opinion after March 1st of each year will be adjusted based on the CPI-U. Information on the CPI-U can be found on the Internet at: <http://stats.bls.gov/news.release/cpi.nws.htm>.

These funds are independent of any other fees collected by the BLM for desert tortoise conservation planning. The payment to BLM shall be accompanied by the attached Section 7 Land Disturbance Fee Payment Form (Appendix A), and completed by the payee.

## **MITIGATION MEASURES AND APPLICANT PROPOSED MITIGATION that have been adopted in this Decision as taken from the FEIS:**

### **3.2 Visual Resources**

#### **Mitigation Measures**

**MM AES-1: Painting the Ivanpah Substation.** Prior to construction, the applicant will consult with the BLM to select an appropriate color from the BLM approved palette to paint any enclosed structures that would be constructed for the Ivanpah Substation. The applicant will submit photographs following substation construction to the BLM and the CPUC to document compliance with this measure.

**MM AES-2: Rock Staining near the Ivanpah Substation.** For areas that are cleared and/or graded to construct the Ivanpah Substation, the applicant would consult with the BLM regarding feasible methods to treat the exposed rock to match the overall color of the adjacent weathered rock.

**MM AES-3: Microwave Dish Color.** Prior to construction, the color of the microwave dishes or covers must be approved by the BLM. White dishes or covers will be avoided to minimize color contrast with the existing landscape.

#### **Applicant Proposed Measures**

**APM AES-1: Road Cut Rock Staining.** Where new roads are required in the South McCullough Mountains to access new or existing transmission and subtransmission towers, the applicant would consult with the BLM regarding feasible methods to treat the exposed rock to match the overall color of the adjacent weathered rock.

**APM AES-2: Seeding and Inter-Planting.** Where new roads are required in the South McCullough Mountains to access new or existing transmission and subtransmission towers, road cuts would be treated by seeding and/or inter-planting into the disturbed areas to restore the area to an appearance that would blend back into the overall landscape context.

**APM AES-3: Non-Reflective Finish.** Lightweight steel towers and tubular steel poles would be constructed of steel that was galvanized and treated at the factory to create a dulled finish that would reduce reflection of light off of the tower members. As appropriate to the environment, the galvanized coating would also be treated to allow the towers to blend into the backdrops. Non-specular transmission cable would be installed for the new transmission line to minimize conductor reflectivity.

**APM AES-4: Regrade/Revegetate Construction Sites.** Areas around new or rebuilt transmission and subtransmission structures that must be cleared during the construction process would be regraded and revegetated to restore them to an appearance that would blend back into the overall landscape context.

**APM AES-5: Use Existing Access Roads.** To the extent feasible, existing access roads would be used.

**APM AES-6: Minimize Road Modifications.** Widening and grading of roads would be kept to the minimum required for access by proposed project construction equipment.

**APM AES-7: Dust Suppression.** During the construction period, dust suppression measures would be used to minimize the creation of dust clouds potentially associated with the use of the access roads.

**APM AES-8: Substation Lighting Control.** The substation lighting would be designed to be manually operated only when required for non-routine nighttime work. The lighting would be directed downward and shielded to eliminate offsite light spill at times when the lighting might be in use.

### 3.3. Air Quality

#### **Mitigation Measures**

**MM AIR-1: Low-emission Construction Equipment.** All construction equipment with a rating between 100 and 750 horsepower (hp) will be required to use engines compliant with U.S. EPA Tier 2 non-road engine standards. In addition, all off-road and portable construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program that have a rating of 50 hp or more will meet, at a minimum, the Tier 2 California non-road engine standards unless that engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine will be equipped with a Tier 1 engine. The applicant will substitute small electric-powered equipment for diesel- and gasoline-powered construction equipment where feasible. The applicant will maintain construction equipment according to manufacturing specifications and use low-emission equipment.

**MM AIR-2: Enhanced Dust Control Measures.** In addition to the dust control requirements by Mojave Desert Air Quality Management District (MDAQMD) and Clark County Department of Air Quality and Environmental Management (CC-DAQEM), the following measures will be implemented for mitigation:

- Frequent watering or stabilization of excavations, spoils, access roads, storage piles, and other sources of fugitive dust (parking areas, staging areas, other) if construction activity causes persistent visible emissions of fugitive dust beyond the work area;
- Pre-watering of soils prior to clearing and trenching;
- Pre-moistening of, prior to transport, import and export dirt, sand, or loose materials;
- Dedication of water truck or high-capacity hose to any soil screening operations;
- Minimization of drop height of material through screening equipment;
- Reduction of the amount of disturbed area where possible; and
- Planting of vegetative ground cover in disturbed areas after construction activities have ceased within a time period that is consistent with the project's Reclamation Plan as described in MM BIO-2.

**MM AIR-3: Best Management Practices for Greenhouse Gas (GHG) Reduction.** The applicant would be required to enforce and follow limits for idling time for commercial vehicles, including delivery and construction vehicles. The applicant would also be required to consider the following best management practices (BMPs) to reduce the potential for GHG emissions:

- Joining U.S. EPA's SF6 Emission Reduction Partnership for Electric Power Systems (<http://www.epa.gov/highgwp/electricpower-sf6/basic.html>);
- Performing annual inspections and estimation of SF6 emissions using an emission inventory protocol;
- For equipment that would contain SF6, purchasing only new equipment that meets International Council on Large Electric Systems (CIGRE) standards for leak rates;
- Implementing SF6 recovery and recycling;
- Ensuring that only knowledgeable personnel handle SF6; and
- Providing a vanpool for construction workers.

## 3.4 Biological Resources

### Mitigation Measures

**MM BIO-1: Preconstruction Surveys.** Preconstruction surveys will be conducted by USFWS-approved biologists according to the most current USFWS protocols, where available by species. These surveys will include surveying brush clearing areas and ground disturbance areas within habitat deemed suitable for sensitive species by a qualified biologist. As part of the pre-construction surveys, the composition of the vegetation community will be surveyed to establish baseline conditions prior to construction for post-construction restoration efforts. These surveys will be conducted for the presence of special-status plants, the presence of noxious weeds, and the presence of general and special-status wildlife species, to prevent direct loss of vegetation and wildlife and to prevent the spread of noxious plant species. For the noxious weeds survey, the level of effort and extent of the surveys will be outlined by the Invasive Plant Management Plan (MM BIO-4).

**MM BIO-2: Reclamation Plan.** The applicant will develop a Reclamation, Restoration, and Revegetation Plan (RRRP) prior to adoption of the Final EIR/EIS that will guide restoration and revegetation activities for all disturbed lands associated with construction of the project and the eventual termination and decommissioning of the project. The RRRP will be part of the applicant's final Plan of Development for the project and should address all federal and private land disturbances, including areas where restoration activities have been funded by the Clark County Multiple Species Habitat Conservation Plan (MSHCP) and initiated by resource agencies. The RRRP will be developed in consultation with appropriate agencies (BLM, CPUC, CDFG, and Clark County DCP) and be provided to these agencies for review and approval prior to preparation of the Final EIR/EIS. The Nevada Department of Wildlife (NDOW) and the BLM Las Vegas Field Office will be consulted for restoration efforts concerning Nevada State protected cacti and yucca species, which may include preparation of a separate Cactus and Yucca Reclamation Plan. The RRRP will also provide details including but not limited to topsoil segregation and conservation, vegetation treatment and removal, salvage of succulent species, revegetation methods including seed mixes, rates and transplants, and criteria to monitor and evaluate revegetation success. Post-construction monitoring will be performed for 1 to 5 years, depending on the disturbance level and restoration level as outlined in the BLM's 2001 Restoration Plan for Energy Projects in the Las Vegas Field Office.

**MM BIO-3: Special-Status Plants Restoration and Compensation.** The applicant will mitigate for the loss of special-status plant species within the project area following the completion of all construction activities at a particular site and within 1 year of post-construction according to the requirements of resource agency authorizations (e.g., CDFG 2081 permit). Special-status plants will be restored by relocation of plants and/or re-seeding, replacing topsoil with existing topsoil that was removed, and re-grading to pre-existing soil contours. Measures to restore special-status plants will be implemented through the Reclamation Plan (MM BIO-2). Additionally, that plan will provide a matrix showing how the applicant will address each species considered sensitive or special-status in terms of mitigation type (e.g., seed collection, transplanting, fencing certain population, and compensation measures). The CDFG will likely require land compensation and enhancement and endowment fees for the project in addition to restoration. If special-status plant communities cannot be restored, the applicant will provide compensation if required, in consultation with appropriate agencies (USFWS, BLM, CDFG, NDOW, and CPUC). In order to ensure enforceability, documentation of consultations with all appropriate agencies will be provided to the CPUC (the California Environmental Quality Act [CEQA] lead agency).

**MM BIO-4: Model Invasive Plant Management Plan on the BLM Las Vegas Office DRAFT Weed Plan.** The Invasive Plant Management Plan to be developed (APM BIO-10) will be modeled on the BLM Las Vegas Office DRAFT Weed Plan. The plan will include operation and maintenance activities, as well as construction activities. The content of the plan will include results of the noxious weed inventory, identification of problem areas, preventative measures, treatment methods, agency-specific requirements, monitoring requirements, and herbicide treatment protocol. The plan will include BMPs that require that any biological material brought onsite (e.g., hay bales that may be used for controlling stormwater under APM GEO-2, and native mixes for vegetation in MM BIO-2) will be certified weed-free. The plan will be submitted to both the California and the Nevada resource agencies and to the CPUC for approval prior to construction authorization.

**MM BIO-5: Jurisdictional Delineation.** Conduct a formal jurisdictional delineation within the boundaries of the project area once final engineering for the location of project-specific features is complete. This will be conducted prior to construction and is required in order to apply for permits, if needed, with the United States Army Corps of Engineers (USACE), California Regional Water Quality Control Boards (RWQCBs), and CDFG. A copy of the jurisdictional delineation will be provided to the CPUC.

**MM BIO-6: Drainage Crossings Design.** If drainages cannot be avoided by infrastructure placement, then the applicant will design drainage crossings to accommodate estimated peak flows and ensure that natural volume capacity can be maintained throughout construction and upon post-construction restoration. This measure is necessary to minimize the amount of erosion and degradation to which drainages are subject.

**MM BIO-7: Mitigation Monitoring Plan for Affected Jurisdictional Areas.** The applicant will develop a Mitigation Monitoring Plan for affected jurisdictional areas within established riparian areas, as needed, for submittal to the USACE for review and approval. The plan will outline measures to accomplish restoration, provide criteria for restoration success, and/or provide compensation ratios. This measure is needed to compensate for loss of waters and riparian vegetation that provide suitable habitat for special-status and sensitive species, and provide important hydrological and water quality functions in the desert environment. Monitoring and reporting, likely for up to 3 to 5 years post-construction, will be required, pending consultation with agencies. A copy of the approved Mitigation Monitoring Plan will be provided to the CPUC and CDFG.

**MM BIO-8: Reduce Night Lighting.** Night lighting will be reduced in all natural areas to avoid unnecessary visual disturbance to wildlife. Night lighting during construction, operations, and maintenance will be reduced in natural areas using directed lighting, shielding methods, and/or reduced lumen intensity. The applicant will indicate anticipated measures to resource agencies for approval prior to construction. The approved measures will be provided to the CPUC.

**MM BIO-9: Cover Steep-walled Trenches or Excavations during Construction.** To prevent entrapment of wildlife, all steep-walled trenches, auger holes, or other excavations will be covered at the end of each day. Fencing will be maintained around the covered excavations at night. For open trenches, earthen escape ramps will be maintained at intervals of no greater than 0.25 miles. A biological monitor will inspect all trenches, auger holes, or other excavations a minimum of twice per day during non-summer months and a minimum of three times per day during the summer (hotter) months, and also immediately prior to back-filling. Any wildlife species found will be safely removed and relocated out of harm's way, using suitable tools such as a pool net when applicable. For safety reasons, biological monitors will under no circumstance enter open excavations.

**MM BIO-10: Biological Monitors.** Biological monitors will be provided throughout construction activities in all construction zones with the potential for presence of sensitive biological resources. A minimum of one monitor per crew is needed for construction crews using heavy equipment (e.g., backhoes, large trucks). One roving monitor will monitor multiple times per day in other active construction zones where heavy equipment is not in use.

**MM BIO-11: Water Usage.** Water used for fugitive dust control will not be allowed to pool on access roads or other project areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.

**MM BIO-12: Desert Tortoise Impacts Reduction Measures.** To reduce impacts on desert tortoise, the following will be done:

- The applicant cannot begin construction until issuance and acceptance of the USFWS Biological Opinion, the CDFG 2081 permit, and NDOW authorization. A copy of the USFWS Biological Opinion and documentation of any compliance discussions with Clark County and Boulder City will be provided to the CPUC and the Clark County DCP.
- Construction monitoring will employ a designated field contact representative (FCR), authorized biologist(s), and qualified biologist(s) approved by the USFWS, NDOW, and CDFG during the construction phase of the project. BLM will recommend qualified, authorized biologists to the USFWS and will approve all biological monitors.

- Qualified and/or authorized biologists will monitor all construction activities year-round in desert tortoise habitat, regardless of the time of year or weather conditions, as tortoises are often active outside their “active” season.
- Qualified and/or authorized biologists will conduct preconstruction surveys according to the most current USFWS protocol.
- Authorized biologists will handle desert tortoises following the most current Desert Tortoise Council handling guidelines (2009 or newer).
- Prior to commencing desert tortoise relocation activities, authorization will be obtained from NDOW, CDFG, and USFWS. The authorized biologist will not be required to receive approval to move individual desert tortoises during construction.
- Desert tortoise relocations will only occur from an active construction zone to an area that is not under active construction by the EITP project or any other planned project.
- Biological monitors will clear ahead of construction crews in desert tortoise habitat during all clearing and grading activities, or during any activity where undisturbed vegetation would be crushed. In addition, biological monitors will clear ahead of larger, non-rubber-tired equipment when that equipment is being driven on access and spur roads.
- Biological monitors will clear all active work sites located in desert tortoise habitat each morning before construction begins and throughout the day if crews move from construction site to construction site.
- Results of biological monitoring and status of construction will be detailed in daily reports by biological monitors. These reports will be submitted to the authorized biologist on a daily basis and to the FCR on a weekly basis (at minimum). The authorized biologist will notify the FCR within 24 hours of any action that involves harm to a desert tortoise, or involves a blatant disregard by construction personnel for the APMs or MMs designed to minimize impacts on desert tortoise or other wildlife. The authorized biologist will submit to the USFWS, NDOW, CDFG, and CPUC a summary of all desert tortoises seen, injured, killed, excavated, and handled at the end of the project or within two working days of when desert tortoises are harmed.
- No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95 degrees Fahrenheit (35 degrees Celsius). No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95 degrees Fahrenheit before handling or processing can be completed. If the ambient air temperature exceeds 95 degrees Fahrenheit during handling or processing, desert tortoises shall be kept shaded in an environment which does not exceed 95 degrees Fahrenheit, and the animals shall not be released until ambient air temperature declines to below 95 degrees Fahrenheit. For relocation, captured tortoises may be held overnight and moved the following morning within these temperature constraints.
- During all handling procedures, desert tortoises must be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, hyperactivity, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises must be kept shaded at all times until it is safe to release them. Ambient air temperature must be measured in the shade, protected from wind, and at a height of 2 inches above the ground surface.
- If a desert tortoise voids its bladder as a result of being handled, the animal shall be rehydrated. The process of rehydrating a desert tortoise will take place at the location where the animal was captured (or to be released, for translocated tortoises), and consist of placing the desert tortoise in a tub with a clean plastic disposable liner. The amount of water that is placed in the lined tub shall not be higher than the lower jaw of the animal. Each desert tortoise shall be rehydrated for a minimum of 10 to 20 minutes. During the period when the desert tortoise is in the tub, the tub will be placed in a quiet protected area. Desert tortoises shall be soaked individually.
- If a desert tortoise is injured as a result of project-related activities, it shall be immediately taken to a CDFG-approved wildlife rehabilitation or veterinary facility. The applicant shall identify the facility prior to the start of

ground- or vegetation-disturbing activities. The applicant shall bear any costs associated with the care or treatment of such injured covered species. The applicant shall notify CDFG of the injury immediately unless the incident occurs outside of normal business hours. In that event CDFG shall be notified no later than noon on the next business day. Notification to CDFG shall be via telephone or email, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident, and the name of the facility where the animal was taken.

- The applicant will produce a Raven Management Plan that is acceptable to the BLM and the CPUC. Details in the plan will include information on procedures, frequency, and recommended season for conducting Raven nest surveys, procedures and responsibilities for Raven nest removal, USFWS/NDOW/CDFG authorization and/or permitting requirements for conducting Raven control, and compensation measures for Raven reduction programs in California and Nevada. The plan will be submitted to the BLM and the CPUC at least 60 days prior to construction for review and approval.

**MM BIO-13: Desert Bighorn Sheep Impacts Reduction Measures.** To reduce impacts on desert bighorn sheep, the following will be done:

- Conduct preconstruction survey for desert bighorn sheep within suitable bighorn sheep habitat within one week prior to construction activities in the McCullough Range, Clark Mountain Range, and the southern portion of the Eldorado Valley between the Highland Range and the Southern McCullough Range. The occurrence and location of any desert bighorn sheep will be reported to NDOW for sightings in Nevada and reported to CDFG for sightings in California.
- Conduct biological monitoring by a qualified biologist for desert bighorn sheep during duration of construction within suitable bighorn sheep habitat. The occurrence and location of any desert bighorn sheep will be reported to NDOW for sightings in Nevada and reported to CDFG for sightings in California. If bighorn are found to be within 500 feet of construction activities, construction in that area will be stopped until the sheep vacate the project area.
- Avoid all construction activities (with the exception of vehicle use of access roads during emergencies) in lambing areas from January to May in the North McCullough Pass area (approximately MP 9 to MP 12) during the duration of construction and all maintenance events.

**MM BIO-14: American Badger Impacts Reduction Measures.** To reduce impacts to American badger, the following will be done:

- Qualified biologists will be notified if badgers are observed within the project area during construction activities. Work will immediately be stopped in the area if the biologists find occupied burrows within 100 feet of construction activities during preconstruction surveys.
- Qualified biologists will ensure passive relocation of the occupied burrow by installing one-way trap doors on the burrow. The burrow will be collapsed after the badger vacates.
- During the spring months when young may be present in burrows, burrows must be checked for young before the installation of the one-way trap door. If young are present during relocation efforts, all work will stop within 100 feet of the burrow until the young have left the burrows within the project area.
- Work will be allowed to resume once the badger has relocated outside the 100-foot zone.

**MM BIO-15: Migratory Birds and Raptors Impacts Reduction Measures.** To reduce impacts on migratory birds and raptors, the following will be done:

- Biological monitors will monitor and enforce disturbance buffers around all active bird nests (for raptors and species protected by the Migratory Bird Treaty Act found in project areas during construction. The general bird breeding season for this area is late February to early July. For raptors specifically, the applicant will use the USFWS Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (1999) to determine appropriate survey areas and disturbance buffers for active nests, except for Burrowing Owl nests, for

which the applicant will be in compliance with the minimum distances outlined by the California Burrowing Owl Consortium Protocol. For all non-raptor bird species, biologists will survey within project areas. Because there are no standardized disturbance buffers for active non-raptor bird nests, SCE will consult with the appropriate agencies (BLM, USFWS, CDFG, and NDOW) on a case-by-case basis when active nests are found in project areas, unless directed to do otherwise by these same agencies.

- Active bird nests will not be moved during breeding season, unless the project is expressly permitted to do so by the USFWS, BLM, CDFG, or NDOW depending on the location of the nest.
- All active nests and disturbance or harm to active nests will be reported within 24 hours to the USFWS, BLM, CDFG, and NDOW upon detection.
- The biological monitor will halt work if it is determined that active nests would be disturbed by construction activities, until further direction or approval to work is obtained from the appropriate agencies.
- Seasonal work stoppages may be required by NDOW for project areas that pass the Wee Thump Joshua Tree Wilderness if construction activities occur within the breeding season. The applicant will consult with NDOW prior to construction.
- As outlined by the Suggested Practices for Avian Protection on Power Lines (APLIC 2006), the following avian safe practices will be employed during construction: cover phase conductors with manufactured covers, include perch discouragers on crossarms and on top of poles, exceed the minimal distance between phase conductors to prevent electrocution by perched birds and their wingspan, utilize longer horizontal insulators, suspend phase conductors on pole top and cross arms, install horizontal jumper support to increase the phase-to-ground separation, replace tension members with fiberglass or non-conducting materials, cover tension members with dielectric material, utilize fiberglass poles or switches, and install standard nest discouragers.

**MM BIO-16: Burrowing Owl Impacts Reduction Measures.** To reduce impacts on Burrowing Owl, the following will be done:

- A qualified biologist will conduct preconstruction surveys within 30 days prior to construction for Burrowing Owl within suitable habitat prior to breeding season (February 1 through August 31). All areas within 50 meters (approximately 150 feet) of the project area will be surveyed.
- If an active nest is identified, there will be no construction activities within 50 meters (approximately 150 feet) of the nest location to prevent disturbance until the chicks have fledged, as determined by a qualified biologist.
- The occurrence and location of any Burrowing Owl will be documented by biological monitors in daily reports and submitted to the authorized biologist on a daily basis. The authorized biologist will report all incidents of disturbance or harm to Burrowing Owls within 24 hours to the appropriate resource agencies (USFWS, BLM, NDOW, CDFG).

If Burrowing Owls are found onsite in the California portion of the project, the following additional measures will be included:

- 1) As compensation for the direct loss of Burrowing Owl nesting and foraging habitat, the project proponent shall mitigate by acquiring and permanently protecting known Burrowing Owl nesting and foraging habitat at the following ratio:
  - (a) Replacement of occupied habitat with suitable habitat at 1.5 x 6.5 acres per pair or single bird;
  - (b) Replacement of occupied habitat with habitat contiguous with occupied habitat at 2 x 6.5 acres per pair or single bird; and/or
  - (c) Replacement of occupied habitat with suitable unoccupied habitat at 3 x 6.5 acres per pair or single bird.
- 2) A Burrowing Owl Mitigation and Monitoring Plan shall be submitted to CDFG for review and approval prior to relocation of owls. The Burrowing Owl Mitigation and Monitoring Plan shall describe proposed relocation and

monitoring plans. The plan shall include the number and location of occupied burrow sites and details on adjacent or nearby suitable habitat available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation of artificial burrows (numbers, location, and type of burrows) shall also be included in the plan. The plan shall also describe proposed offsite areas to preserve to compensate for impacts to burrowing owls/occupied burrows at the project site as required under Condition 1. A copy of the approved plan will be provided to the CPUC.

**MM BIO-17: Gila Monster Compliance.** The most current NDOW construction site protocols for the Gila monster (NDOW 2007) will be followed by the applicant in both Nevada and California portions of the project. To reduce impacts on Gila monster, all locations of Gila monster found within the project area during surveys and construction work will be reported to NDOW and the CDFG.

**MM BIO-18: Avian Protection Plan.** To reduce impacts on golden eagles and raptors, the applicant shall submit an Avian Protection Plan for approval to the BLM within six months of the issuance of any ROW grant for the project. The Plan shall be prepared according to guidance provided by the USFWS (USFWS 2010). The Avian Protection Plan must be implemented within one year from the date of any ROW grant Notice to Proceed.

### **Applicant Proposed Measures**

**APM BIO-1: Conduct Preconstruction Surveys.** Preconstruction biological clearance surveys would be conducted by qualified biologists to identify special-status plants and wildlife.

**APM BIO-2: Minimize Vegetation Impacts.** Every effort would be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation would be flagged for avoidance.

**APM BIO-3: Avoid Impacts on State and Federal Jurisdiction Wetlands.** Construction crews would avoid impacting the streambeds and banks of streams along the route to the extent possible. As applicable, the necessary permits would be obtained from the appropriate agencies. Impacts would be mitigated based on the terms of the permits. No streams with flowing waters capable of supporting special-status species would be expected to be impacted by the proposed project.

**APM BIO-4: Best Management Practices.** Crews would be directed to use Best Management Practices (BMPs) where applicable. These measures would be identified prior to construction and incorporated into the construction operations.

**APM BIO-5: Biological Monitors.** Biological monitors would be assigned to the project in areas of sensitive biological resources. The monitors would be responsible for ensuring that impacts on special-status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors would flag the boundaries of areas where activities would need to be restricted in order to protect native plants and wildlife or special-status species. Those restricted areas would be monitored to ensure their protection during construction.

**APM BIO-6: Worker Environmental Awareness Program (see CR-2b, PALEO-3, W-11).** A Worker Environmental Awareness Program (WEAP) would be prepared. All construction crews and contractors would be required to participate in WEAP training prior to starting work on the project. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all trained personnel would be maintained.

**APM BIO-7: Avoid Impacts on Active Bird Nests.** SCE would conduct project-wide raptor and nesting bird surveys and remove trees or other vegetation, if necessary, outside of the nesting season (nesting season in the project area is late February to early July). If vegetation or existing structures containing a raptor nest or other active nest needed to be removed during the nesting season, or if work was scheduled to take place in close proximity to an active nest on an existing transmission or subtransmission tower or pole, SCE would coordinate with the USFWS, CDFG, and/or the NDOW as appropriate to obtain written verification prior to moving the nest.

**APM BIO-8: Avian Protection.** All transmission and subtransmission towers and poles would be designed to be avian-safe in accordance with the Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006 (APLIC 2006).

**APM BIO-9: Facility Siting.** Final tower and spur road locations would be adjusted to avoid sensitive biological resources to the greatest extent feasible.

**APM BIO-10: Invasive Plant Management.** An invasive plant management plan would be developed to reduce the potential for spreading invasive plant species during construction activities.

**APM BIO-11: Desert Tortoise Measures.** The applicant or a qualified consultant would provide for the following to reduce impacts on desert tortoise:

- The applicant cannot begin construction until issuance and acceptance of the USFWS Biological Opinion, the CDFG 2081 permit, and NDOW authorization. Additionally, compliance discussions with Clark County and Boulder City must occur prior to construction that resolve and outline the specific compensation fees or additional mitigation measures needed for loss of desert tortoise habitat. A copy of the USFWS Biological Opinion and documentation of any compliance discussions with Clark County and Boulder City will be provided to the CPUC.
- A FCR would be designated and would oversee compliance monitoring activities and coordination with authorizing agency(s). Compliance activities would at a minimum include conducting preconstruction surveys, assuring proper removal of desert tortoise, staffing biological monitors on construction spreads, and upholding all conditions authorized. The FCR would also oversee all compliance documentation including daily observation reports, non-compliance and corrective action reports, and final reporting to any authorized agency upon project completion.
- All work area boundaries associated with temporary and permanent disturbances would be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. All workers would strictly limit activities and vehicles to the designated work areas.
- Crushing/removal of perennial vegetation in work areas would be avoided to the maximum extent practicable.
- All trash and food items generated by construction and maintenance activities would be promptly contained and regularly removed from the project site(s) to reduce the attractiveness of the area to common ravens.
- Pets would not be allowed in working areas unless restrained in a kennel.
- Where possible, motor vehicles would be limited to maintained roads and designated routes.
- Vehicle speed within the project area, along ROW maintenance routes, and along existing access roads would not exceed 20 miles per hour. Speed limits would be clearly marked and all workers would be made aware of these limits.
- Constructed road berms would be less than 12 inches in height and have slopes of less than 30 degrees.
- Construction monitoring would employ a designated FCR, authorized biologist(s), and qualified biologist(s) approved by the BLM during the construction phase. At a minimum, qualified biologist(s) would be present during all activities in which encounters with tortoises could occur. A qualified biologist is defined as a person with appropriate education, training, and experience to conduct tortoise surveys, monitor project activities, provide worker education programs, and supervise or perform other implementing actions. An authorized biologist is defined as a wildlife biologist who has been authorized to handle desert tortoises by the USFWS. A FCR is defined as a person designated by the project proponent who is responsible for overseeing compliance with desert tortoise protective measures and for coordination with agency compliance officer(s).
- Preconstruction clearance surveys would be conducted within 48 hours of initiation of site-specific project activities, following USFWS protocol (USFWS 1992). The goal of a clearance survey is to find all tortoises on the surface and in burrows that could be harmed by construction activities. Surveys would cover 100 percent of the

acreage to be disturbed. All potential tortoise burrows within 100 feet of construction activity would be marked. Tortoise burrows would be avoided to the extent practicable, but would be excavated if they would be crushed by construction activities.

- Any tortoise found on the surface would be relocated to less than 1,000 feet away. Tortoises would be handled carefully following the guidelines given in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council 1999). Tortoises would be handled with new latex gloves each time to avoid transmission of disease, and handlers would especially note guidelines for precautions to be taken during high-temperature periods.
- If a potential tortoise burrow were required to be excavated, the biologist would proceed according to the guidelines given in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council 1999). Tortoises removed from burrows would be relocated to an artificial burrow (Desert Tortoise Council 1999). The entrance of the artificial burrow would be blocked until construction activities in the area were over (Desert Tortoise Council 1999).
- For activities conducted between March 15 and November 1 in desert tortoise habitat, all activities in which encounters with tortoises might occur would be monitored by a qualified or authorized biologist. The biologist would be informed of tortoises relocated during preconstruction surveys so that he or she could watch for the relocated tortoises in case they attempted to return to the construction site. The qualified or authorized biologist would watch for tortoises wandering into the construction areas, check under vehicles, examine excavations and other potential pitfalls for entrapped animals, examine exclusion fencing, and conduct other activities to ensure that death or injuries of tortoises were minimized.
- No overnight hazards to desert tortoises (e.g., auger holes, trenches, pits, or other steep-sided depressions) would be left unfenced or uncovered; such hazards would be eliminated each day prior to the work crew and biologist leaving the site. Large or long-term project areas would be enclosed with tortoise-proof fencing. Fencing would be removed when restoration of the site was completed.
- Any incident occurring during project activities that was considered by the biological monitor to be in non-compliance with the mitigation plan would be documented immediately by the biological monitor. The FCR would ensure that appropriate corrective action was taken. Corrective actions would be documented by the monitor. The following incidents would require immediate cessation of the construction activities causing the incident, including (1) imminent threat of injury or death to a desert tortoise; (2) unauthorized handling of a desert tortoise, regardless of intent; (3) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and (4) conducting any construction activity without a biological monitor where one was required. If the monitor and FCR did not agree, the federal agency's compliance officer would be contacted for resolution. All parties could refer the resolution to the federal agency's authorized officer.
- Results of biological monitoring and status of construction will be detailed in daily reports by biological monitors. These reports will be submitted to the authorized biologist on a daily basis and to the FCR on a weekly basis (at minimum). The authorized biologist will notify the FCR within 24 hours of any action that involves harm to a desert tortoise, or involves a blatant disregard by construction personnel for the APMs or MMs designed to minimize impacts on desert tortoise or other wildlife. The authorized biologist will submit to the USFWS, NDOW, CDFG, and CPUC a summary of all desert tortoises seen, injured, killed, excavated, and handled at the end of the project or within two working days of when desert tortoises are harmed.
- All construction personnel, including subcontractors, would complete a WEAP. This instruction would include specific desert tortoise training on distribution, general behavior and ecology, identification, protection measures, reporting requirements, and protections afforded by state and federal endangered species acts.
- Parked vehicles would be inspected prior to being moved. If a tortoise were found beneath a vehicle, the authorized biologist would be contacted to move the animal from harm's way, or the vehicle would not be moved until the desert tortoise left of its own accord. The authorized biologist would be responsible for taking

appropriate measures to ensure that any desert tortoise moved in this manner was not exposed to temperature extremes that could be harmful to the animal.

- Should any desert tortoise be injured or killed, all activities would be halted, and the FCR and/or authorized biologist immediately contacted. The FCR and/or authorized biologist would be responsible for reporting the incident to the authorizing agencies.
- A report to the USFWS would be produced reporting all tortoises seen, injured, killed, excavated, or handled. GPS locations of live tortoises would be reported.
- The applicant would implement a Raven Management Program that would consist of: (1) an annual survey to identify Raven nests on towers and any tortoise remains at tower locations; this information would be relayed to the BLM so that the Ravens and/or their nests in these towers could be targeted for removal, (2) SCE making an annual or one time contribution to an overall Raven reduction program in the California or Nevada desert, with an emphasis on Raven removal in the vicinity of this project.

**APM BIO-12: Desert Bighorn Sheep Measures.** The applicant would consult with the BLM, USFWS, and NDOW regarding conservation measures to avoid impacts on desert bighorn sheep during construction. Project areas with the potential to impact bighorn sheep include the proposed transmission line route through the McCullough Range and the telecommunication route segment in the southern Eldorado Valley between the Highland Range and the Southern McCullough Range. Avoidance and minimization measures could include such elements as preconstruction surveys, biological monitoring, and timing construction activities to avoid bighorn sheep active seasons. Construction requiring the use of helicopters would be conducted outside of bighorn lambing season (April through October) and the dry summer months when bighorn may need to access artificial water sources north of the propose route in the McCullough Range (June through September).<sup>1</sup>

**APM BIO-13: Western Burrowing Owl Measures.** Where project ground-disturbing activities would occur prior to the Burrowing Owl breeding season (mid-March to August), all burrows, holes, crevices, or other cavities in suitable habitat on the project, within the limits of proposed ground disturbance, would be thoroughly inspected by a qualified biologist before being collapsed. This would discourage owls from breeding on the construction site. Other species using burrows would be relocated prior to collapsing burrows. If construction were to be initiated after the commencement of the breeding season and Burrowing Owls could be seen within areas to be affected by ground construction activities, a qualified biologist would observe behavior to determine their breeding status. If breeding were observed, the nest area would be avoided, with an appropriately sized buffer sufficient to prevent disturbance during construction activities until the chicks fledged.

**APM BIO-14: Gila Monster and Chuckwalla Measures.** The following measures are the current NDOW construction site protocols for the Gila monster (NDOW 2005).<sup>2</sup> These protocols are applicable for the Gila monster in both the Nevada and California sections of the project, and applicable for the chuckwalla in the Nevada section of the project.

Through the WEAP, workers and other project personnel should (at a minimum) know how to (1) identify Gila monsters and distinguish them from other lizards such as chuckwallas and banded geckos, (2) report any observations of Gila monsters (in Nevada) to the biological monitor for notification of the NDOW, (3) be alerted to the consequences of a bite resulting from carelessness or unnecessary harassment, and (4) be aware of protective measures provided under state law.

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<sup>1</sup> The date of bighorn lambing season has been amended per MM BIO-13 to be January to May.

<sup>2</sup> The date of the most current NDOW Gila monster protocols has been amended per MM BIO-17 to be 2007.

- Live Gila monsters found in harm's way on the construction site would be captured and then detained in a cool, shaded environment (<85 degrees Fahrenheit) by the project biologist or equivalent personnel until an NDOW biologist could arrive for documentation purposes. Although a Gila monster is venomous and can deliver a serious bite, its relatively slow gait allows for it to be easily coaxed or lifted into an open bucket or box, carefully using a long handled instrument such as a shovel or snake hook (note: it is not the intent of NDOW to request unreasonable action to facilitate captures; additional coordination with NDOW will clarify logistical points). A clean 5-gallon plastic bucket with a secure, vented lid; an 18-inch x 18-inch x 4-inch plastic sweater box with a secure, vented lid; or a tape-sealed cardboard box of similar dimension may be used for safe containment. Additionally, written information identifying the mapped capture location (e.g., GPS record), date, time, and circumstances (e.g., biological survey or construction) and habitat description (vegetation, slope, aspect, and substrate) would also be provided to NDOW.
- Injuries to Gila monsters may occur during excavation, blasting, road grading, or other construction activities. If a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses would not be covered by NDOW. However, NDOW would be immediately notified during normal business hours. If an animal were killed or found dead, the carcass would be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, habitat, and mapped location.
- Should NDOW's assistance be delayed, biologists or equivalent acting personnel on site may be requested to remove and release the Gila monster out of harm's way. Should NDOW not be immediately available to respond for photo-documentation, a 35-mm camera or equivalent (5 mega-pixel digital minimum preferred) would be used to take good quality images of the Gila monster in situ at the location of live encounter or dead salvage. The pictures, preferably on slide film (.tif or .jpg digital format) would be provided to NDOW. Pictures would include the following information: (1) Encounter location (landscape with Gila monster in clear view); (2) a clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view and be in sharp focus); (3) a clear, overhead close-up of the head (head should fill camera's field of view and be in sharp focus).

## 3.5 Cultural Resources

### Mitigation Measures

**MM CR-1: Cultural Resources Monitoring.** The applicant will retain a cultural resources monitor who meets the Secretary of the Interior Standards of a Qualified Professional Archaeologist prior to commencing construction or geotechnical test trenching on the project. The archaeologist will need to be approved by the BLM and will provide construction monitoring for any geotechnical studies that require trench excavation. As mentioned in APM GEO-1, five of the tower installations and 20 percent of the ground-trenching activities are in archaeologically sensitive areas. Monitoring in these areas will be determined by the BLM prior to construction.

Monitoring is necessary because a potential for cultural resources beneath desert pavement surfaces on alluvial planes was recently determined. Such conditions exist throughout much of the EITP project area. This monitoring effort would be used to protect potential resources and to provide data to help confirm or deny the theory of desert pavement development that would allow for buried cultural resources. BLM reserves the right to increase the amount of monitoring at any time if conditions reveal the necessity.

The archaeologist will present to the BLM for approval, no less than 60 days prior to commencement of construction, a monitoring plan; copies of which will also be submitted to the CPUC by the archaeologist. The archaeologist will also provide a report of findings after the monitoring has been completed. Because this geoarchaeological sensitivity has not been widely tested, the BLM is requiring only a small sample of monitoring at this time; further monitoring will only be required if the need is proven.

**MM CR-2: Historic American Engineering Record (HAER) Recordation.** Prior to construction of the EITP, the applicant will retain a cultural resources specialist qualified to conduct HAER recordation, meeting the Secretary of the Interior Standards. The qualified cultural resources specialist will conduct HAER recordation on Cultural Resource 36-10315 (CA-SBR-10315H). HAER recordation will be conducted in accordance the Secretary of the Interior's Standards for Architectural and Engineering Documentation, following Documentation Criteria Level II, as appropriate, for the level of significance assigned to the resources.

**MM CR-3: Archaeological Resources Protection Act (ARPA) Training.** Prior to construction, the applicant will provide ARPA training with the preconstruction Worker Environmental Awareness Program (WEAP; APM CR-2b). As required for the WEAP, ARPA training will be presented to all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the National Register of Historic Places (NRHP). This includes construction supervisors as well as field construction personnel. No construction worker would be involved in ground-disturbing activities without having participated in the ARPA training portion of the WEAP.

### **Applicant Proposed Measures**

**APM CR-1: Conduct Archaeological Inventory of Areas that May Be Disturbed.** Conduct an intensive archaeological inventory of all areas that may be disturbed during construction and operation of the proposed project. A complete cultural resources inventory of the project area has been conducted, details of which are contained in a technical report. Should the project substantially change and areas not previously inventoried for cultural resources become part of the construction plan, the applicant would ensure that such additional areas are inventoried for cultural resources prior to any disturbance. All surveys would be conducted and documented according to applicable laws, regulations, and professional standards.

**APM CR-2: Avoid and Minimize Impacts on Significant Cultural Resources Wherever Feasible.** Avoid and minimize impacts on significant or potentially significant cultural resources wherever feasible. To the extent practical, the applicant would avoid or minimize impacts on archaeological resources, regardless of its California Register of Historic Resources (CRHR) or NRHP eligibility status. This includes siting all ground-disturbing activities and other project components outside a buffer zone established around each recorded archaeological site within or immediately adjacent to the ROW.

**APM CR-2a. Avoid Direct Impacts on Significant Cultural Resources through Project Final Design.** Project Final Design would avoid direct impacts on significant or potentially significant cultural resources. To the extent practical, all ground-disturbing activities and other project components would be sited to avoid or minimize impacts on cultural resources listed as or potentially eligible for listing as, unique archaeological sites, historical resources, or historic properties.

**APM CR-2b. Conduct a Preconstruction Worker Environmental Awareness Program (see BIO-6, PALEO-3, and W-11).** The program would be presented to all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the CRHR or NRHP. This includes construction supervisors as well as field construction personnel. No construction worker would be involved in ground-disturbing activities without having participated in the WEAP.

**APM CR-2c. Protective Buffer Zones.** Establish and maintain a protective buffer zone around each recorded archaeological site within or immediately adjacent to the ROW. A protective buffer zone would be established around each recorded archaeological site and treated as an "environmentally sensitive area" within which construction activities and personnel are not permitted. Monitoring would be conducted to ensure that the protective areas are maintained.

**APM CR-3. Evaluate Significance of Unavoidable Cultural Resources.** Evaluate the significance of all cultural resources that cannot be avoided. Cultural resources that cannot be avoided and which have not been evaluated to determine their eligibility for listing in the CRHR or NRHP would be evaluated to determine their historical significance. Evaluation studies would be conducted and documented according to applicable laws, regulations, guidelines, and professional standards.

**APM CR-3a. Evaluate Significance of Potentially Eligible Archaeological Resources.** Evaluate the significance of archaeological resources potentially eligible for CRHR or NRHP listing. Evaluation of archaeological sites could include scientific excavation of a sample of site constituents sufficient to understand the potential of a site to yield information to address important scientific research questions per CRHR eligibility Criterion 4 and NRHP eligibility Criterion D. Sites with rock art would be evaluated to consider their eligibility per CRHR Criterion 1 and NRHP Criteria A, C, and D.

**APM CR-3b. Evaluate Significance of Potentially Eligible Buildings and Structures.** Evaluate the significance of buildings and structures potentially eligible for CRHR or NRHP listing. Evaluation would take into account engineering, aesthetic, architectural, and other relevant attributes of each property. Buildings and structures would be evaluated for historical significance per CRHR eligibility Criteria 1, 2, and 3, and NRHP Criteria A, B, and C. A report of the evaluation of each building or structure would be prepared providing a rationale for an assessment of significance consistent with professional standards and guidelines. The report would be filed with the appropriate Information Center of the California Historical Resources Information System.

**APM CR-3c. Assist with Native American Consultations.** If necessary, the applicant would assist the BLM in consultations with Native Americans regarding traditional cultural values that may be associated with locations within the Area of Potential Effect (APE). Archaeological or other cultural resources associated with the project may have cultural values ascribed to them by Native Americans. The applicant would assist the BLM during consultation with Native Americans regarding Native American cultural remains.

**APM CR-4. Minimize Unavoidable Impacts on Significant Cultural Resources, including Unique Archaeological Sites, Historical Resources, and Historic Properties.** The applicant would make reasonable efforts to avoid adverse project effects to unique archaeological sites, historical resources, and historic properties. Nevertheless, it may not be possible to situate all proposed project facilities to completely avoid impacts on significant cultural resources. Impacts on significant cultural resources would be minimized by implementing the measures listed in APM CR-4a.

**APM CR-4a. Implement Measures to Minimize Impacts on Significant Archaeological Sites.** Prior to construction and during construction, the following measures would be implemented by the applicant to minimize unavoidable impacts on significant archaeological sites:

- To the extent practical, all activities would minimize ground surface disturbance within the bounds of significant archaeological sites, historical resources, or historic properties.
- Portions of significant archaeological sites, historical resources, or historic properties that can be avoided would be protected as environmentally sensitive areas and would remain undisturbed by construction activities.
- Monitoring by qualified professionals and/or Native Americans to ensure that impacts on sites are minimized would be carried out at each affected cultural resource for the period during which construction activities pose a potential threat to the site, and for as long as there is the potential to encounter unanticipated cultural or human remains.
- Additional archaeological studies would be carried out at appropriate sites to ascertain whether project facilities could be located on a portion of a site and cause the least amount of disturbance to significant cultural materials.
- If impacts on significant archaeological (NRHP- or CRHR-eligible) sites eligible under NRHP Criterion D or CRHR Criterion 4 cannot be avoided, archaeological data recovery would be carried out in the portions of affected significant sites that would be impacted. A data recovery plan would be prepared, reviewed by the appropriate agencies, and then implemented in order to recover an adequate sample of cultural remains that can be used to address important eligibility research questions for CRHR Criterion 4 or NRHP Criterion D. Archaeological data recovery would involve scientific excavations; identification of recovered cultural and ecological remains; cataloging, scientific analysis, and interpretation of recovered materials; and preparation of a scientific technical report that describes the methods and results of the data recovery program.

- Reports of any excavations at archaeological sites would be filed with the BLM and the appropriate Information Center of the California Historical Resources Information System.

**APM CR-4b. Implement Measures to Minimize Impacts on Significant Buildings and Structures.** Prior to construction and during construction, the applicant would implement the following measures to minimize unavoidable impacts on significant buildings and structures:

- Locate proposed project facilities to minimize effects on significant buildings or structures.
- If impacts on significant buildings or structures cannot be avoided, document significant architectural and engineering attributes consistent with the documentation standards of the National Park Service Historic American Buildings Survey/Historic American Engineering Record.
- File reports and other documentation with the BLM, the National Park Service, if appropriate, and appropriate Information Center of the California Historical Resources Information System.

**APM CR-5. Prepare and Implement a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.** During construction it is possible that previously unknown archaeological or other cultural resources or human remains could be discovered. Prior to construction, the applicant would prepare a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan to be implemented if an unanticipated discovery is made. At a minimum the plan would detail the following elements:

- Worker and supervisor training in the identification of cultural remains that could be found in the proposed project area, and the implications of disturbance and collection of cultural resources pursuant with the Archaeological Resources Protection Act of 1979;
- Worker and supervisor response procedures to be followed in the event of an unanticipated discovery, including appropriate points of contact for professionals qualified to make decisions about the potential significance of any find;
- Identities of persons authorized to stop or redirect work that could affect the discovery, and their on-call contact information;
- Procedures for monitoring construction activities in archaeologically sensitive areas;
- A minimum radius around any discovery within which work would be halted until the significance of the resource has been evaluated and mitigation implemented as appropriate;
- Procedures for identifying and evaluating the historical significance of a discovery;
- Procedures for consulting Native Americans when identifying and evaluating the significance of discoveries involving Native American cultural materials; and
- Procedures to be followed for treatment of discovered human remains per current state law and protocol developed in consultation with Native Americans.

**APM CR-6. Inadvertent Discovery of Human Remains.** Any human remains discovered during project activities in California would be protected in accordance with current state law, specifically Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641. If human remains determined not to be Native American are unclaimed, they would be treated under the appropriate State of Nevada statutes, including but not limited to Nevada Revised Statutes Chapter 440 and the regulations of the applicable land management agency. In the event that human remains are recovered on private lands, the landholder would have the right to designate the repository for the remains if they are determined not to be Native American or if their family affiliation cannot be determined.

The provisions of the Native American Grave Protection and Repatriation Act are applicable when Native American human remains are found on federal land (BLM land in California and Nevada). The discovery of human remains would be treated as defined in the Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.

**APM CR-7. Native American Participation.** Prior to construction, the BLM would consult with Native Americans identified by the Native American Heritage Commission (NAHC) as having cultural ties to particular areas of the proposed project. Native Americans would be invited to participate in significance evaluations and data recovery excavations at archaeological sites with Native American cultural remains, as well as in monitoring during project construction. Native Americans would be consulted to develop a protocol for working with each group should human remains affiliated with that group be encountered during project activities.

## 3.6 Geology, Soils, Minerals, and Paleontology

### Mitigation Measures

**MM GEO-1: Monitor and Mitigate Damage to Tower Structures.** SCE will contact the California Department of Water Resources and the Nevada Division of Water Resources on an annual basis to determine if groundwater withdrawals pose a potential for threatening to cause ground subsidence within the project area. If physical evidence proves groundwater withdrawals are threatening tower locations, SCE will develop a plan, following their operations and maintenance policies, to mitigate potential damage to tower structures using standard foundation remediation techniques available.

**MM GEO-2: Geotechnical Engineering Study.** The applicant will prepare a geotechnical engineering study prior to the final project design to identify site-specific geological conditions and potential geologic hazards. The data collected from the study will be used to guide sound engineering practices and to mitigate potential geologic hazards.

**MM GEO-3: Preparation and Implementation of a Stormwater Pollution Prevention Plan (SWPPP).** The applicant will prepare a SWPPP for review and approval by the Lahontan Regional Water Quality Control Board (Region 6) and the Clark County Stormwater Quality Management Committee that addresses construction and post-construction project-related ground disturbances and associated erosion. The plan will provide the necessary engineering controls and procedures to minimize impact to the ground surface caused by construction, operation, and maintenance activities. A copy of the approved plan will also be submitted to the CPUC.

**MM GEO-4: Expansive Soils Mitigation.** The applicant will prepare a geotechnical study of the areas of expansive soil(s) identified in APM GEO-1 to develop appropriate design and mitigation measures prior to construction.

### Applicant Proposed Measures

**APM GEO-1: Geotechnical Engineering and Engineering Geology Study.** Prior to final design of substation facilities and transmission and subtransmission line tower foundations, a combined geotechnical engineering and engineering geology study would be conducted to identify site-specific geologic conditions and potential geologic hazards in sufficient detail to support sound engineering practices.

**APM GEO-2: Recommended Practices for Seismic Design of Substations.** For new substation construction, specific requirements for seismic design would be followed based on the Institute of Electrical and Electronics Engineers Standard 693, "Recommended Practices for Seismic Design of Substations," which includes probabilistic earthquake hazard analysis. Other project elements would be designed and constructed in accordance with the appropriate industry standards, as well as good engineering and construction practices and methods.

**APM GEO-3: Project Construction Stormwater Pollution Prevention Plan Protection Measures Regarding Soil Erosion/Water Quality.** Transmission line and substation construction activities would be conducted in accordance with the soil erosion/water quality protection measures to be specified in the project construction SWPPP. New access roads would be designed to minimize ground disturbance from grading. They would follow natural ground contours as closely as possible, and would include specific features for road drainage. Measures could include water bars, drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings would be constructed, they would be restored and repaired as soon as possible after completion of the discrete action associated with construction of the line in the area.

**APM PALEO-1: Retention of Paleontologist and Preparation of a Paleontological Resource Management**

**Plan.** Prior to construction, a certified paleontologist would be retained by SCE to supervise monitoring of construction excavations and to produce a Paleontological Resource Management and Monitoring Plan (PRMMP) for the proposed project. This PRMMP would be prepared and implemented under the direction of the paleontologist and would address and incorporate APMs PALEO-2 through PALEO-8. Paleontological monitoring would include inspection of exposed rock units and microscopic examination of matrix to determine whether fossils are present. The monitor would have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens. More specific guidelines for paleontological resource monitoring could be found in the PRMMP.

**APM PALEO-2: Pre-construction Paleontological Field Survey.** The paleontologist and/or his or her designated representative would conduct a pre-construction field survey of the project area underlain by Tertiary rock units and older alluvium. Results of the field inventory and associated recommendations would be incorporated into the PRMMP.

**APM PALEO-3: Worker Environmental Awareness Program (see BIO-6, CR-2b, W-11).** A Worker Environmental Awareness Program would be provided to construction supervisors and crew for awareness of requirements regarding the protection of paleontological resources and procedures to be implemented in the event fossil remains are encountered by ground-disturbing activities.

**APM PALEO-4: Construction Monitoring.** Ground-disturbing activities would be monitored on a part-time or full-time basis by a paleontological construction monitor only in those parts of the project area where these activities would disturb previously undisturbed strata in rock units of moderate and high sensitivity. Quaternary alluvium, colluvium, and Quaternary landslide deposits have a low paleontological sensitivity level and would be spot-checked on a periodic basis to ensure that older underlying sediments were not being penetrated. Monitoring would not be implemented in areas underlain by younger alluvium unless these activities had reached a depth 5 feet below the present ground surface and fine-grained strata were present. Ground-disturbing activities in areas underlain by rock units of low sensitivity would be monitored on a quarter-time basis or spot-checked if fine grained strata were present.

**APM PALEO-5: Recovery and Testing.** If fossils were encountered during construction, construction activities would be temporarily diverted from the discovery and the monitor would notify all concerned parties and collect matrix for testing and processing as directed by the project paleontologist. In order to expedite removal of fossil-bearing matrix, the monitor may request heavy machinery to assist in moving large quantities of matrix out of the path of construction to designated stockpile areas. Construction would resume at the discovery location once the necessary matrix was stockpiled, as determined by the paleontological monitor. Testing of stockpiles would consist of screen washing small samples to determine if important fossils were present. If such fossils were present, the additional matrix from the stockpiles would be water screened to ensure recovery of a scientifically significant sample. Samples collected would be limited to a maximum of 6,000 pounds per locality.

**APM PALEO-6: Monthly Progress Reports.** The project paleontologist would document interim results of the construction monitoring program with monthly progress reports. Additionally, at each fossil locality, field data forms would record the locality, stratigraphic columns would be measured, and appropriate scientific samples would be submitted for analysis.

**APM PALEO-7: Analysis of and Preparation of Final Paleontological Resource Recovery Report.** The project paleontologist would direct identification, laboratory processing, cataloging, analysis, and documentation of the fossil collections. When appropriate, and in consultation with SCE, splits of rock or sediment samples would be submitted to commercial laboratories for microfossil, pollen, or radiometric dating analysis. After analysis, the collections would be prepared for curation (see APM PALEO-8). A final technical report would be prepared to summarize construction monitoring and present the results of the fossil recovery program. The report would be prepared in accordance with SCE, Society of Vertebrate Paleontology guidelines, and lead agency requirements. The final report would be submitted to SCE, the lead agency, and the curation repository.

**APM PALEO-8: Curation.** Prior to construction, SCE would enter into a formal agreement with a recognized museum repository, and would curate the fossil collections, appropriate field and laboratory documentation, and final Paleontological Resource Recovery Report in a timely manner following construction.

## 3.7 Hazards, Health, and Safety

### Mitigation Measures

**MM HAZ-1: Worker Health and Safety and Environmental Training and Monitoring Program.** Prior to construction, the applicant will conduct a worker safety and environmental training program. As part of the program, the applicant will develop and implement a Health and Safety Plan. The Health and Safety Plan should address all potential situations that workers could encounter during construction and maintenance, including safety issues that may be unique to any of the alternatives. The Health and Safety Plan, at minimum, must require that first aid kits be stored in each construction vehicle and that a worker trained in first aid be included in each work group. The purpose and goal of the worker safety and environmental training will be to communicate project-related environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and BMPs, to all field and construction personnel prior to the start of construction. Training will also encompass environmental training related to road designations, speed limits, and restrictions on camping within the surrounding Boulder City Conservation Easement to ensure compatibility with neighboring land uses, promote “good neighbor” policies, and institute BMPs for construction. SCE will also conduct health and safety training for Operation and Maintenance activities.

**MM HAZ-2: Comply with Federal Aviation Administration (FAA) Requirements Upon Construction of the SNSA.** The applicant will comply with all FAA requirements upon construction of the Southern Nevada Supplemental Airport (SNSA).

**MM HAZ-3: Agency Coordination and Approvals.** Before initiating the Phase I Environmental Site Assessment, site investigation under the Soil Management Plan, and/or any remediation work, the applicant will develop and submit a work plan to the appropriate federal, state, and local regulatory authority to oversee hazardous waste investigations or cleanups. No work will begin without approval of the appropriate regulatory authorities. The applicant will submit results of all analytical reports to the appropriate regulatory authorities in a report that summarizes the sampling results in reference to regulatory standards. The applicant will submit all closure certification or remediation approval reports to the appropriate regulatory authorities.

**MM HAZ-4: Disposal of Demolition Materials.** All debris generated during project-related demolition of structures, buildings, asphalt, or concrete-paved surface areas must be tested for the presence of hazardous chemicals, mercury, asbestos, and any other materials that may be deemed hazardous before disposal. The applicant will ensure that the materials are properly disposed of depending on the sampling results.

**MM HAZ-5: Backfill Material.** If backfill material is used, it will be sampled and determined to be contaminant-free before it is used to fill excavations.

**MM HAZ-6: EPA Identification Number.** If it is determined that hazardous waste will be generated during construction, the applicant will obtain an EPA Identification Number before construction begins. Before construction begins, the applicant will also determine whether the treatment or the handling or the storing of hazardous materials will require authorization of the local Certified Unified Program Agency (CUPA). If necessary, the applicant must receive authorization from the local CUPA before construction begins.

### Applicant Proposed Measures

**APM HAZ-1: Phase I Environmental Site Assessment.** A Phase I Environmental Site Assessment would be performed at each new or expanded substation location and along newly acquired transmission or subtransmission line ROWs. The Phase I Environmental Site Assessment would include an electronic records search of federal, state, and local databases. The electronic records search would be contracted to a company which specializes in this type

of work and who would produce a comprehensive report (Report) for the new or expanded ROW. The Report is used to identify sites located on federal, state, and local government agency databases which may have the potential to impact the proposed project.

The Report would be reviewed and, based on such review, any potential areas of concern along the ROW would be identified for further assessment. In addition, a Phase I Environmental Site Assessment which is compliant with ASTM 1927-05 (ASTM 2005) would be performed on all property to be acquired.

Based on the results of the Phase I Environmental Site Assessment, additional assessment, characterization, and remediation of potential or known subsurface impacts may be conducted prior to construction activities. Such remediation could include the relocation of transmission line structures as necessary to avoid impacted areas, or the removal and disposal of impacted soils and/or groundwater according to applicable regulations.

**APM HAZ-2: Hazardous Materials and Waste Handling Management.** Hazardous materials used and stored onsite for the proposed construction activities, as well as hazardous wastes generated onsite as a result of the proposed construction activities, would be managed according to the specifications outlined below as follows:

- **Hazardous Materials and Hazardous Waste Handling Program:** A project-specific hazardous materials management and hazardous waste management program would be developed prior to initiation of the project. The program would outline proper hazardous materials use, storage and disposal requirements, as well as hazardous waste management procedures. The program would identify types of hazardous materials to be used during the project and the types of wastes that would be generated.

All project personnel would be provided with project-specific training. This program would be developed to ensure that all hazardous materials and wastes were handled in a safe and environmentally sound manner. Hazardous wastes would be handled and disposed of according to applicable rules and regulations. Employees handling wastes would receive hazardous materials training and shall be trained in: hazardous waste procedures; spill contingencies; waste minimization procedures; and toxic substance disposal facility (TSDF) training in accordance with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard and 22 CCR. SCE would use landfill facilities that are authorized to accept treated wood pole waste in accordance with HSC 25143.1.4(b).

- **Construction Stormwater Pollution Prevention Plan:** A project-specific construction SWPPP would be prepared and implemented prior to the start of construction of the transmission line and substations. The SWPPP would use BMPs to address the storage and handling of hazardous materials and sediment runoff during construction activities.
- **Transport of Hazardous Materials:** Hazardous materials that would be transported by truck include fuel (diesel fuel and gasoline), and oil and lubricants for equipment. Containers used to store hazardous materials would be properly labeled and kept in good condition. Written procedures for the transport of hazardous materials used would be established in accordance with the United States Department of Transportation (USDOT), the California Department of Transportation (CalTrans), and Nevada Department of Transportation (NDOT) regulations. A qualified transporter would be selected to comply with federal and state transportation regulations.
- **Fueling and Maintenance of Construction Equipment:** Written procedures for fueling and maintenance of construction equipment would be prepared prior to construction. Vehicles and equipment would be refueled onsite or by tanker trucks. Procedures would include the use of drop cloths made of plastic, drip pans, and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground.

Refueling stations would be located in designated areas where absorbent pads and trays would be available. The fuel tanks would also contain a lined area to ensure that accidental spillage does not occur. Drip pans or other collection devices would be placed under the equipment at night to capture drips or spills. Equipment would be inspected daily for potential leakage or failures. Hazardous materials such as paints, solvents, and penetrants would be kept in an approved locker or storage cabinet.

- **Fueling and Maintenance of Helicopters:** Written procedures for fueling and maintenance of helicopters would be prepared prior to construction. Helicopters would be refueled at helicopter staging areas or local airports. Procedures would include the use of drop cloths made of plastic, drip pans, and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Refueling areas would be located in designated areas where absorbent pads and trays are available.
- **Emergency Release Response Procedures:** An Emergency Response Plan detailing responses to releases of hazardous materials would be developed prior to construction activities. It would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. All hazardous materials spills or threatened release, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of the quantity spilled, would be immediately reported if the spill has entered a navigable water, stream, lake, wetland, or storm drain if the spill impacted any sensitive area, including conservation areas and wildlife preserved, or if the spill causes injury to a person or threatens injury to public health. All construction personnel, including environmental monitors, would be aware of state and federal emergency response reporting guidelines.

**APM HAZ-3: Soil Management Plan.** A Soil Management Plan would be developed and implemented for construction of the project. The objective of the Soil Management Plan is to provide guidance for the proper handling, onsite management, and disposal of impacted soil that might be encountered during construction activities. The plan would include practices that are consistent with the California Title 8, OSHA regulations, as well as appropriate remediation standards that are protective of the planned use. Appropriately trained professionals would be onsite during preparation, grading, and related earthwork activities to monitor soil conditions encountered. The Soil Management Plan would provide guidelines for the following:

- Identifying impacted soil,
- Assessing impacted soil,
- Soil excavation,
- Impacted soil storage,
- Verification sampling, and
- Impacted soil characterization and disposal.

In the event that potentially contaminated soils were encountered within the footprint of construction, soils would be tested and stockpiled. In California, the CUPA would determine whether further assessment is warranted. In Nevada, the Nevada Department of Environmental Protection (NDEP) BCA Spill Hotline (888-331- 6337) would be contacted if the quantity of impacted material is greater than 3 cubic yards.

**APM HAZ-4: Fire Management Plan.** The Fire Management Plan developed by SCE and presented in the PEA as Appendix K would be implemented.

**APM HAZ-5: Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan.**

- **Spill Prevention, Countermeasure, and Control Plan (SPCC).** In accordance with Title 40 of the CFR, Part 112, SCE would prepare a SPCC Plan for proposed and/or expanded substations. The plan would include engineered and operational methods for preventing, containing, and controlling potential releases, and provisions for quick and safe cleanup.
- **Hazardous Materials Business Plans (HMBPs).** Prior to operation of new or expanded substations, SCE would prepare or update and submit, in accordance with Chapter 6.95 of CCR and Title 22 CCR, a HMBP. The required documentation would be submitted to the designated CUPA in California (an HMBP or similar documentation is not required by the State of Nevada.) The HMBPs would include hazardous materials and hazardous waste management procedures, and emergency response procedures including emergency spill cleanup supplies and equipment.

## 3.8 Hydrology and Water Quality

### Mitigation Measures

**MM W-1: Erosion Control Plan and Compliance with Water Quality Permits.** The applicant will employ a professional engineer to develop and implement an Erosion Control Plan and monitor construction activities to ensure compliance with federal and state water quality permits. The Erosion Control Plan will comply with or exceed BMPs commonly used on projects in the California/Nevada area and those outlined in county plans. Copies of the Erosion Control Plan will be submitted to CPUC. MM W-1 will also serve to strengthen APMs W-1, W-4, and W-5 to include all intermittent and ephemeral streams and desert washes as depicted on United States Geological Survey (USGS) and National Hydrography Dataset (NHD) mapping and those identified during the applicant's field reconnaissance surveys. The intent of this MM is to minimize the impact of construction on surface water quality in the basins surrounding the proposed project. This MM will apply to all construction sites for the duration of construction and restoration activities.

**MM W-2: Water Use Maximum.** The applicant has estimated using a maximum of between 32,000 and 40,000 gallons per day of water for the construction phase of the project. This translates to between 30.6 and 38.3 acre-feet/year. The applicant has stated that no water would be used during the operational phase of the project. Under MM W-2, the applicant will limit construction phase water use to a maximum of 45 acre feet per annum. The applicant will not use water during the operational phase of the project. Emergency water uses, including fire suppression, are excluded from these maxima. If the applicant requires additional water for construction or operation of the project, the applicant must submit a request to the CPUC and the BLM.

**MM W-3: Onsite Flow Model and Channel System.** The applicant will employ a hydrologist to develop an Onsite Flow Model to predict any alteration in flow path that would result from construction and operation and maintenance of the proposed project. The applicant will also develop a channel system to prevent erosion and to mitigate altered flow paths. The Onsite Flow Model and channel system design will be submitted to the CPUC for review at least three months prior to the start of construction. The intent of this MM is to ensure that stormwater runoff will not cause flooding. The applicant will monitor the channel system throughout construction to assess effectiveness and ensure compliance with the designed system. Additionally, the applicant will coordinate with BLM and CPUC on model parameters and assumptions used in modeling.

**MM W-4: Dry Lake Restoration Plan.** The applicant will employ a hydrologist and a restoration specialist to develop a Restoration Plan for disturbance of dry lake beds. The proposed project would cross through Ivanpah Lake. Construction would disturb the flat dry lake bed surface that is used for recreation. The intent of this MM is to ensure that the dry lake bed is restored to preconstruction conditions. The BLM will review the plan prior to the start of construction. The BLM would also assess the success of the restoration and determine whether the Ivanpah Lake surface had been restored to preconstruction conditions. In addition, the applicant will coordinate with the BLM the submission of the plan to the CDFG for review. The applicant will provide the CPUC with a copy of the Restoration Plan.

**MM W-5: Historical Hydrological Model of Alluvial Fan.** In the PEA, the applicant completed a historical hydrological model on site area alluvial fan(s) based on similar work on alluvial fans performed near Laughlin, Nevada (House 2005). The applicant extrapolated the data by applying the methodology from the Laughlin area model to the California portion of the project area. This study will be used to determine the active and inactive portions of the alluvial fans in the site area relative to surface water, sediment transport, and flash flooding. Where feasible, the applicant will locate towers, substations, and other permanent site features on inactive portions of the alluvial fan to minimize risk associated with flash flooding and alluvial fan failure.

**MM W-6: DESC, SWPPP, and Grading and Storm Water Management Plan for Ivanpah Substation.** The applicant will be required to submit copies of the approved Drainage, Erosion, and Sediment Control Plan (DESC) and Storm Water Pollution Prevention Plan (SWPPP) to CPUC three months prior to the start of construction, and implement those plans as part of the EITP.

### **Applicant Proposed Measures**

**APM W-1: Avoid Stream Channels.** Construction equipment would be kept out of flowing stream channels.

**APM W-2: Erosion Control and Hazardous Material Plans.** Erosion control and hazardous material plans would be incorporated into the construction bidding specifications to ensure compliance.

**APM W-3: Project Design Features.** Appropriate design of tower footing foundations, such as raised foundations and/or enclosing flood control dikes, would be used to prevent scour and/or inundation by a 100-year flood. Where floodplain encroachment is required by the CPUC and/or the BLM, and potential impacts require non-standard designs, hydrology/channel flow analysis would be performed.

**APM W-4: Avoid Active Drainage Channels.** Towers would be located to avoid active drainage channels, especially downstream of steep hillslope areas, to minimize the potential for damage by flash flooding and mud and debris flows.

**APM W-5: Diversion Dikes.** Diversion dikes would be required to divert runoff around a tower structure or a substation site if (a) the location in an active channel (or channels) could not be avoided; and (b) where there is a very significant flood scour/deposition threat, unless such diversion is specifically exempted by the CPUC and/or the BLM Authorized Officer.

**APM W-6: Collect and Divert Runoff.** Runoff from roadways would be collected and diverted from steep, disturbed, or otherwise unstable slopes.

**APM W-7: Ditch and Drainage Design.** Ditches and drainage devices would be designed to handle the concentrated runoff and located to avoid disturbed areas. They would have energy dissipations at discharge points that might include rip-rap, concrete aprons, and stepped spillways. Where diversion dikes are required to protect towers or other project structures from flooding or erosion, these dikes would be designed to avoid increasing the risk of erosion or flooding onto adjacent property.

**APM W-8: Minimize Cut and Fill Slopes.** Cut and fill slopes would be minimized by a combination of benching and following natural topography where possible.

**APM W-9: Prepare and Implement an Approved SWPPP.** As a part of the SWPPP, soil disturbance at tower construction sites and access roads would be the minimum necessary for construction and designed to prevent long-term erosion through the following activities: restoration of disturbed soil, re-vegetation, and/or construction of permanent erosion control structures. BMPs in the project SWPPP would be implemented during construction to minimize the risk of an accidental release.

**APM W-10: Emergency Release Response Procedures.** The Emergency Release Response Procedures developed pursuant to APM HAZ-1 would be maintained onsite (or in vehicles) during construction of the project.

**APM W-11: Conduct a Worker Environmental Awareness Program (see BIO-6, CR-2b, PALEO-3).** A Worker Environmental Awareness Program (WEAP) would be conducted to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper BMP implementation, to all field personnel prior to the start of construction. This training program would emphasize site-specific physical conditions to improve hazard prevention. It would include a review of all site-specific plans, including but not limited to the project's SWPPP and Hazardous Substances Control and Emergency Response Plan. The applicant would document compliance and maintain a list of names of all construction personnel who had completed the training program.

**APM W-12: Properly Dispose of Hazardous Materials.** All construction and demolition waste, including trash and litter, garbage, and other solid waste, would be removed and transported to an appropriately permitted disposal facility. Petroleum products and other potentially hazardous materials would be removed and transported to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

**APM W-13: Identify Location of Underground Utilities Prior to Excavation.** Prior to excavation, the applicant or its contractors would locate overhead and underground utility lines, such as natural gas, electricity, sewage,

telephone, fuel, and water lines, or other underground structures that may reasonably be expected to be encountered during excavation work.

**APM W-14: Prepare or Update Spill Prevention, Control, and Countermeasure (SPCC) Plans.** The applicant would prepare or update SPCC plans for substations to minimize, avoid, and/or clean up unforeseen spill of hazardous materials during facility operations.

### 3.9 Land Use

#### Mitigation Measures

**MM LU-1: Obtain Approval from Clark County and the City of Boulder City for Activities Outside of BLM-Designated Utility Corridors in the BCCE.** Prior to construction, the applicant must consult with and obtain permission from Clark County and the City of Boulder City regarding construction outside of BLM-designated utility corridors in the BCCE. In addition, the applicant will comply with all land use restrictions, such as speed limits, in consultation with the BCCE, and will fully comply with the Amendment to the Interlocal Agreement, including Exhibit D. The applicant will submit a record of this consultation to the BLM and the CPUC prior to construction.

#### Applicant Proposed Measures

**APM LU-1: Aeronautical Considerations.** The applicant would submit notice to FAA electronically, in accordance with FAA procedures, and as far in advance of construction as possible.

### 3.10 Noise

#### Mitigation Measures

**MM NOI-1: Conduct Construction Activities during Daytime Hours.** The applicant will conduct construction activities only during daytime hours (7 a.m. to 7 p.m.) while in the vicinity of the Desert Oasis Apartment Complex.

**MM NOI-2: Relocate Stationary Construction Equipment.** The applicant will locate stationary construction equipment at a site location that is as far away from the Desert Oasis Apartment Complex as is feasible.

**MM NOI-3: Turn off Idling Equipment.** The applicant will turn off idling equipment when not in use.

**MM NOI-4: Notify Adjacent Residences.** The applicant will notify residents within 200 feet of the transmission line in advance of construction work.

**MM NOI-5: Install Acoustic Barriers.** The applicant will install acoustic barriers around stationary construction noise sources near sensitive receptors.

#### Applicant Proposed Measures

**APM NOI-1: Compliance with Local Noise Ordinances.** The proposed construction would comply with local noise ordinances. There may be a need to work outside the aforementioned local ordinances to take advantage of low electrical draw periods during the nighttime hours. The applicant would comply with variance procedures requested by local authorities if required.

**APM NOI-2: Construction Equipment Working Order.** Construction equipment would be in good working order.

**APM NOI-3: Construction Equipment Maintenance.** Construction equipment would be maintained per manufacturer's recommendations.

**APM NOI-4: Construction Equipment Muffled.** Construction equipment would be adequately muffled.

**APM NOI-5: Construction Equipment Idling Minimized.** Idling of construction equipment and vehicles would be minimized during the construction.

**APM NOI-6: Hearing Protection for Workers.** Workers would be provided appropriate hearing protection, if necessary, as described in the Health and Safety Plan.

### 3.11 Public Services and Utilities

#### Mitigation Measures

**MM PUSVC-1: Construction Waste Disposal Plan.** The applicant will prepare a Construction Waste Disposal Plan for all nonhazardous wastes generated during construction of the proposed project and submit the plan to the BLM and the CPUC for review and approval no less than 30 days prior to start of construction. The plan will contain the following, at a minimum:

A description of all nonhazardous solid and liquid construction wastes, including:

- Estimated amounts to be disposed of in a landfill by weight or volume and;
- Estimated amounts that can be recycled or salvage by weight or volume;
- Recycling, salvage, and waste minimization/source reduction plans;
- Management methods to be used for each type of waste, including temporary onsite storage, housekeeping and BMPs to be employed, and methods of transportation and packaging; and
- A description and list of all contracts and plans made with waste contractors, landfills, and wastewater treatment facilities.

The applicant may refer to internal salvage and waste manuals in the Construction Waste Management Plan where applicable. The plan is necessary to ensure that solid waste is recycled or salvaged to the maximum extent possible. In addition, the applicant would need to observe the Nevada Legislature's goal to recycle 25 percent of total solid waste generated within each municipality of Nevada.

**MM PUSVC-2: Notification of Utility Service Interruption.** If a utility service interruption is known to be unavoidable, the applicant will notify by postal mail members of the public, the jurisdiction, and the service providers who would be affected. The applicant will also publish notices in newspapers circulated in each jurisdiction that would be affected. The postal mail and newspaper notices will specify the estimated duration of each service interruption and be mailed or published no later than seven days prior to the first interruption. Copies of the notices will be provided to the BLM and CPUC no later than 30 days following notification.

#### Applicant Proposed Measures

**APM PUSVC-1: Work Around High Pressure Pipelines.** No mechanical equipment will be permitted to operate within 3 feet of the high-pressure pipelines, and work within 3 feet must be done by hand or as otherwise directed by the pipeline company.

**APM PUSVC-2: Monitoring by Pipeline Companies.** A representative of applicable owners and operators of major pipeline companies must observe the excavation around or near their facilities to ensure protection and to record pertinent data necessary for operations.

### 3.12 Recreation

#### Mitigation Measures

**MM REC-1: Limit Construction Workspace in Wildlife and Recreational Areas.** The applicant will not site extra workspace areas such as contractor yards in Recreation Areas to minimize impacts on recreational users during construction. In addition, the applicant will coordinate with the BLM, as well as organizers of BLM-permitted races and events in the project area, to ensure that project construction will not interrupt events.

**MM REC-2: Notify the Nevada Department of Wildlife of Any Road Closures During Hunting Season.** To allow access for hunters in the area, the applicant will not close the southern ROW of the McCullough Pass during construction. The applicant will notify NDOW of any road closures during hunting season at least 30 days prior to closure.

**MM REC-3: Display Appropriate "Closed" Signage for New Spur and Access Roads Constructed.** The applicant will coordinate with BLM Field Offices on displaying appropriate "closed" signage at the entrance to new spur roads to tower locations and access roads. This includes temporary signs during the construction phase of the project and permanent signs and/or vehicle barriers that will close the spur routes to public travel.

### **Applicant Proposed Measures**

**APM REC-1: Recreation Area Closures.** When temporary short-term closures to recreational areas are necessary for construction activities, the applicant would coordinate those closures with recreational facility owners. To the extent practicable, the applicant would schedule construction activities to avoid heavy recreational use periods (e.g., holidays or tournaments). The applicant would post notice of the closure onsite 14 calendar days prior to the closure.

## **3.14 Transportation and Traffic**

### **Mitigation Measures**

**MM TRANS-1: No Lane Closures on I-15 during Friday Peak Usage.** The applicant will limit construction activities on Friday afternoon from noon to 10 p.m. so as not to require lane closures on I-15.

**MM TRANS-2: Helicopter Flight Plan and Safety Plan.** At least 30 days prior to construction of the project, the applicant will coordinate with the FAA for review and approval of any helicopter flight plans that would take place during construction and operation. The applicant will then provide information to the BLM and the CPUC regarding the intended need and use of helicopters during construction and operation of the project, including the flight and safety plan; the number of days and hours that the helicopter would operate; the type and number of helicopters that would be used; the location, size, and number of staging areas for helicopter take off and landing; and written approval from property owners for use of helicopter staging areas. The applicant will review the helicopter flight and safety plan with the FAA and the Clark County Department of Aviation (CCDOA) at least 30 days prior to the start of SNSA construction and resubmit the revised plan to the BLM and the CPUC.

**MM TRANS-3: Traffic Control Plan.** Prior to start of construction of the EITP, the applicant will prepare and implement a Traffic Control Plan for the project to address staggering of deliveries on I-15 during peak traffic times.

### **Applicant Proposed Measures**

**APM TRA-1: Obtain Permits.** If any work requires modifications or activities within local roadway and railroad ROWs, appropriate permits will be obtained prior to the commencement of construction activities, including any necessary local permits and encroachment permits.

**APM TRA-2: Traffic Management and Control Plans.** Traffic control and other management plans will be prepared where necessary to minimize project impacts on local streets and railroad operations.

**APM TRA-3: Minimize Street Use.** Construction activities will be designed to minimize work on, or use of, local streets.

# DRAFT Mitigation Monitoring Compliance Reporting Program

## 1. Overview and Purpose

The Environmental Impact Report/ Environmental Impact Statement (Final EIR/EIS) for the Southern California Edison's (SCE) Eldorado-Ivanpah Transmission Project (EITP), as adopted by the California Public Utilities Commission (CPUC) and the Bureau of Land Management (BLM), includes procedures for preparing and implementing a Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) to ensure compliance with mitigation measures approved in the Final EIR/EIS. Chapter 9 of the Final EIR/EIS provides the recommended framework for the implementation of the MMCRP by the California Environmental Quality Act (CEQA) Lead Agency (CPUC) and the National Environmental Policy Act (NEPA) Lead Agency (BLM), and describes the roles and responsibilities of responsible agencies in implementing and enforcing adopted mitigation measures. This MMCRP includes the information provided in Chapter 9, as well as specific protocols, guidelines, and standardized procedures for environmental compliance to be followed prior to and during construction by a CPUC and BLM third-party Compliance Manager (CM), CMs that report to the CPUC/BLM CM, and SCE Environmental monitors and project staff. The goal of the MMCRP is to provide a clear understanding of the project's organization, establish lines of communication related to mitigation monitoring, and establish a method to effectively document and report compliance with all of the mitigation measures.

The project's MMCRP includes direct participation and commitment from EITP and the CPUC/BLM CM and Compliance Monitors. The success of the program depends on cooperation between the project management staff, monitors, and construction contractor personnel. The procedures have been developed in coordination with SCE, CPUC, BLM, and Compliance Monitors to help define the reporting protocol, provide detailed information about the roles and responsibilities of the project's environmental compliance team members, define compliance reporting procedures, and establish a communication protocol.

### 1.1 Regulatory Background

Under CEQA Guidelines Section 15097, for any project for which Findings are made in conjunction with approval of the project, the Lead Agency (in this case, the CPUC) is responsible for developing a mitigation monitoring or reporting program to ensure that all project revisions and mitigation measures described in the Findings are implemented. Monitoring, which refers to the ongoing or periodic oversight process, ensures that project compliance is checked on a regular basis; reporting, which comprises written compliance reviews presented to the decision-making body or a designated staff person, ensures that the approving agency is informed of compliance with the mitigation requirements. The CPUC views the MMCRP as a working guide to facilitate not only the implementation of mitigation measures by SCE, but also the monitoring, compliance, and reporting activities of the CPUC and its monitors. The CEQA Guidelines encourage cooperation in mitigation monitoring and reporting between lead and responsible agencies, where possible.

The Council on Environmental Quality (CEQ) Regulations, which are issued pursuant to NEPA, state that a Lead Agency (in this case, the BLM) may "provide for monitoring to assure that their decisions are carried out and should do so in important cases" (40 CFR 1505.3). The CEQ Regulations further state that for decisions based on an EIS, "a monitoring and enforcement program shall be adopted...where applicable for any mitigation" ((40 CFR 1505.2). On January 14, 2011, the CEQ released a memorandum on the appropriate use of mitigation and monitoring. The memorandum provides recommendations on how to ensure that mitigation commitments are implemented; how to monitor the effectiveness of mitigation commitments; how to remedy failed mitigation; and how to involve the public in mitigation planning.

This document was prepared in compliance with both CEQA Guidelines and CEQ Regulations to fulfill the CPUC's and BLM's mitigation monitoring and reporting obligations under CEQA and NEPA, respectively.

## 1.2 Project Overview

### 1.2.1 Construction Components

The project has been divided into three components, as shown in Table 1.

**Table 1: Summary of EITP Components**

| EITP Major Components    |  | Features  | Location/<br>Extension  |
|--------------------------|--|---|---|
| Powerlines               | Eldorado–Ivanpah Transmission Line   | Double-circuit 230-kV line replacing a portion of the existing Eldorado–Baker–Cool Water–Dunn Siding–Mountain Pass 115-kV transmission line   | Nevada: 28 miles<br>California: 7 miles   |
|                          | Subtransmission Line   | Single-circuit 115-kV line connecting the Ivanpah Substation to the existing 115-kV Eldorado–Baker–Cool Water–Dunn Siding–Mountain Pass 115-kV transmission line  | California: 600 to 800 feet   |
|                          | Distribution Lines   | <ul style="list-style-type: none"> <li>Additional 33-kV distribution circuitry to provide power to Ivanpah Substation; and</li> <li>New 33-kV overhead line to supply light and power to the proposed microwave communication site (northeast of Nipton)</li> </ul>   | California (total length of 33-kV line): approximately 5,200 feet of underground and 5,900 feet of overhead   |
| Substations              | Ivanpah Substation   | Connector hub for solar energy generated in the Ivanpah Valley area. Major components: <ul style="list-style-type: none"> <li>230-kV and 115-kV switchracks</li> <li>Mechanical and electrical equipment room</li> <li>Microwave tower</li> </ul>   | California (near Primm, Nevada): 1,650 by 1,015 feet  |
|                          | Eldorado Substation Upgrades   | Extension of the existing switchyard to install two 230-kV line positions to accommodate the new double-circuit line  | Nevada (14 miles from Boulder City)   |
| Telecommunication System | Fully diverse and redundant telecommunication paths: <ul style="list-style-type: none"> <li>Optical ground wire</li> <li>Combined optical ground wire and microwave</li> </ul> | <p>Support the Special Protection System (SPS) under specific outage contingencies, and the operation and monitoring of the substation and transmission line equipment</p> <p>Overhead optical ground wire path:</p> <ul style="list-style-type: none"> <li>Path 1: Overhead optical ground wire along the Eldorado–Ivanpah alignment</li> <li>Path 2, Section 1: Overhead optical ground wire along the Eldorado–Lugo transmission line</li> </ul> <p>Combined optical ground wire and microwave path:</p> <ul style="list-style-type: none"> <li>Path 2, Section 2: Underground duct between Eldorado–Lugo 500-kV line and a new communication site in Nipton, California</li> <li>Path 2, Section 3: Microwave telecommunication path between Nipton and the Ivanpah Substation</li> </ul> | <p>Path 1 (overhead)<br/>Nevada: 28 miles<br/>California: 7 miles</p> <p>Path 2, Section 1 (overhead)<br/>Nevada: 25.5 miles</p> <p>Path 2, Section 2 (underground)<br/>California: 3 miles<br/>Nevada: 2 miles</p> <p>Path 2, Section 3 (microwave)<br/>California: 12 miles</p> |

**Table 1: Summary of EITP Components**

| EITP Major Components |   | Features  | Location/<br>Extension                                  |
|-----------------------|---|---|---|
|                       | Communication facilities: <ul style="list-style-type: none"> <li>• Microwave communications site in Nipton</li> <li>• Telecommunication facilities at Eldorado Substation</li> <li>• Communication Room (MEER) at Ivanpah Substation</li> </ul> | Support the SPS under specific outage contingencies, and the operation and monitoring of the substation and transmission line equipment | California: Nipton and proposed Ivanpah Substation site |

Key: kV = kilovolt; SPS = Special protection system

The mitigation measures listed in Section 4.3 include the location and project component(s) in which the mitigation measure applies. In general, the mitigation measures are applicable to all project components; however, certain mitigation measures are component specific (e.g., aesthetics measures proposed for the substation location). SCE will work closely with contractor staff to ensure that site-specific mitigation measures are clearly identified.

### 1.2.2 Notice-to-Proceed and Approval of the Right-of-Way Grant

Project-related construction activities will not begin until preconstruction mitigation measures and submittals have been satisfied. Once preconstruction mitigation measures have been completed, SCE shall submit a request to the CPUC for a Notice-to-Proceed (NTP) for each and all phases of construction. The construction activities to be completed as part of each NTP have been determined by SCE based on the construction schedule, the anticipated schedule for permit approvals, and other considerations. The CPUC will issue an NTP for the applicable project components upon evaluation of SCE's request and confirmation that all applicable preconstruction mitigation measure requirements have been completed. The NTP may include CPUC or other agency conditions or requirements that must be satisfied prior to the start of work or during construction. Section 4.3 lists the mitigation measures, the timing for completion, applicable NTP, and whether CPUC review or approval is required before construction can commence. Table 2 shows SCE's estimated construction schedule by activity and applicable NTPs that will be required for construction to commence. In the event the BLM approves the EITP, a right-of-way (ROW) grant will be issued to SCE. SCE filed an application with the BLM for a ROW grant pursuant to the Federal Land Policy and Management Act (FLPMA). Under FLPMA Title V (Rights-of-Way), the Secretary of Interior is authorized to grant ROWs for the purpose of allowing systems for generation, transmission, and distribution of electric energy. Any grant issued by the BLM will also be subject to a NTP issued by the BLM Authorized Officer. No construction or surface disturbing activities can occur on public land until a NTP is approved. BLM NTP's may be phased to approve and recognize separate project components or phases.

| Construction Activities  | Duration (months) | Anticipated Start Date | Notice to Proceed |
|--|-------------------|------------------------|-------------------|
| Substation Construction: <ul style="list-style-type: none"> <li>• Ivanpah Substation</li> <li>• Eldorado Substation Upgrades</li> </ul>                                      | 16                | July 2011              | 1                 |
| Powerline Construction: <ul style="list-style-type: none"> <li>• Eldorado-Ivanpah Transmission Line</li> <li>• Subtransmission Line</li> <li>• Distribution Lines</li> </ul> | 16                | July 2011              | 2                 |

| Construction Activities   | Duration (months) | Anticipated Start Date | Notice to Proceed |
|---|-------------------|------------------------|-------------------|
| IT/Telecom Construction: <ul style="list-style-type: none"> <li>• Fully diverse and redundant telecommunications paths</li> <li>• Communication facilities</li> </ul> | 12                | TBA                    | 3                 |

The applicant's targeted operating date is July 2013. Work activities would commence upon approval of the project by the CPUC, the BLM, and other permitting agencies. Construction is currently scheduled to commence in July 2011 and to take approximately 19 months to complete, including time for inspection and testing.

### 1.2.3 Project Compliance Requirements

This Plan is intended to provide pertinent information necessary to successfully implement the MMCRP during construction. The mitigation measures listed in Section 4.3 of this report are also found in Sections 3.2 through 3.14 of the Final EIR/EIS. Detailed discussions on the intent of each mitigation measure and the potential impacts that could result if the mitigation measures are not implemented properly also are provided in these sections. In addition to the Final EIR/EIS, construction activities must be conducted in accordance with the requirements stipulated in the following documents:

- Stormwater Pollution Prevention Plan (SWPPP);
- Road encroachment permits;
- Clean Water Act (CWA) Section 404 nationwide permit from the U.S. Army Corps of Engineers (USACE);
- CWA Section 401 water quality certification from the Central Valley Water Board (all Section 404 permits require a Section 401 water quality certification from the Regional Water Quality Control Board [RWQCB]);
- CWA Section 402 National Pollutant Discharge Elimination System (NPDES) permit from the State Water Board (requiring preparation of a SWPPP);
- Section 1602 Streambed Alteration Agreement and 2081 Agreement from the California Department of Fish and Game (CDFG); and
- Biological Opinion from the U.S. Fish and Wildlife Service (USFWS).

## 1.3 Agency Jurisdiction

In addition to the CPUC and BLM, several local, state, and federal agencies have jurisdiction over lands within the project area. The CPUC and the BLM, as joint Lead Agencies, are responsible for ensuring that mitigation measures reviewed and approved by jurisdictional agencies during the environmental review process are implemented throughout construction. However, jurisdictional agencies may visit the project site and request information regarding the status of a mitigation measure. SCE is responsible for satisfying requests from jurisdictional agencies and will notify and copy the CPUC and BLM on all correspondences related to final approvals and verifications for the project if not otherwise copied on the correspondence. Additional information on communication protocols can be found in Section 2.3. Table 3 lists contacts from jurisdictional agencies associated with the project:

**Table 3: Contact Information for Agencies Consulted during the Environmental Review**

| Name   | Title   | Organization/Agency  | Address   | Phone Number               |
|--|---|--|---|----------------------------|
| <b><i>Air Quality</i></b>                              |   |  |   |                            |
| Alan De Salvio   | Supervising Air Quality Engineer                | Mojave Desert Air Quality Management District                            | 14306 Park Avenue,<br>Victorville, CA<br>92392                        | (760)<br>245-1661<br>x6726 |
| <b><i>Biological Resources</i></b>                     |   |  |   |                            |
| Michael Burroughs                                      | Lead Tortoise Biologist                         | United States Fish and Wildlife Service                                  | 4701 N. Torrey Pines Drive,<br>Las Vegas, NV<br>89130                 | (702)<br>515-5230          |
| Becky Jones  | Environmental Scientist                         | California Department of Fish and Game                                   | 36431 41 <sup>st</sup> Street,<br>East Palmdale,<br>CA 93552          | (661)<br>285-5867          |
| Brad Hardenbrook                                       | Supervisory Biologist                           | Nevada Department of Wildlife (Southern Region)                          | 4747 Vegas Drive,<br>Las Vegas, NV<br>89107                           | (702)<br>486-5127          |
| <b><i>Public Services and Utilities</i></b>            |   |  |   |                            |
| Michael R. Richardson                                  | Supervisor/Compliance and Enforcement Branch    | Nevada Division of Environmental Protection (Bureau of Waste Management) | 2030 East Flamingo Road,<br>Suite 230,<br>Las Vegas, NV<br>89119-0818 | (702)<br>486-2850<br>x227  |
| Mark Harris  | Resource Planning Engineer                      | Nevada Public Utilities Commission                                       | 1150 E. William Street,<br>Carson City, NV<br>89701                   | (775)<br>684-6165          |
| <b><i>Clark County Desert Conservation Program</i></b> |   |  |   |                            |
| Susan Wainscott  | Adaptive Management Coordinator/Project Manager | Clark County Desert Conservation Program                                 | 333 North Rancho Drive, Suite 625<br>Las Vegas, NV<br>89106           | (702)<br>455-3859          |
| <b><i>Land Use</i></b>                                 |   |  |   |                            |
| Dionicio Gordillo                                      | Principal Planner                               | Clark County Department of Planning                                      |   |                            |

**Table 3: Contact Information for Agencies Consulted during the Environmental Review**

| Name                                      | Title                                | Organization/Agency  | Address  | Phone Number   |
|---|--------------------------------------|--|--|----------------|
| Carrie Hyke                               | Supervising Planner                  | San Bernardino County Planning Department                                  | 385 N. Arrowhead Avenue, First Floor, San Bernardino, CA 92415-0182. | (909) 387-4147 |
| Brok Armantrout                           | Director                             | Boulder City Community Development   | City Hall, 401 California Avenue, Boulder City, NV 89005             | (702) 293-9282 |
| <b><i>Transportation and Aviation</i></b> |                                      |  |  |                |
| David Kessler (AWP-610.1)                 | Environmental Protection Specialist  | Federal Aviation Administration, Western Pacific Region, Airports Division | P.O. Box 92007, Los Angeles, CA 90009-2007                           | (310) 725-3615 |
| Dan Kopulsky                              | Senior, Special Studies and IGR/CEQA | California Department of Transportation                                    | 464 West 4 <sup>th</sup> Street, San Bernardino, CA 92401            | (909) 383-4557 |
| Teresa Motley                             | Airport Planning Manager             | Clark County Department of Aviation  | P.O. Box 11005, Las Vegas, NV 89111-1005                             | (702) 261-5706 |

## 2. Roles and Responsibilities

This section describes the roles and responsibilities of key project personnel with respect to the MMCRP. Figure 1 provides an organizational chart of project members responsible for implementing the MMCRP and their relationship to other staff working on the project. The organization chart also establishes preliminary lines of communication between members of the project team.

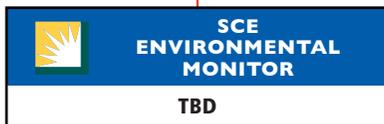


Figure 1  
**Mitigation Monitoring, Compliance and Reporting Program**  
 Eldorado – Ivanpah Transmission Project

## **2.1 Organization Overview**

### **2.1.1 SCE Project Manager**

The SCE Project Manager provides the overall direction, management, leadership, and corporate coordination for the construction project. The Project Manager's responsibilities related to the environmental program include, but are not limited to:

- Coordination between engineering, construction management, and environmental staff;
- Providing leadership by integrating environmental responsibilities into all levels of the project organization;
- Ensuring compliance with project policies, guidelines, and procedures; and
- Communicating project activities, schedules, and public relation issues to the project team.

### **2.1.2 SCE Field Representative**

The SCE Field Representative provides support to the Project Manager and oversees activities of the construction staff. The Field Representative will be available in the field on a daily basis. Specific responsibilities of the Field Representative include, but are not limited to:

- Ensuring compliance with company specifications, permit conditions, construction contracts, and applicable codes;
- Notifying Environmental Monitors of project and schedule changes;
- Working with Environmental Monitors to evaluate and improve the implementation of the MMCRP, as construction progresses; and
- Regularly facilitating project field meetings.

### **2.1.3 SCE Environmental Manager**

The SCE Environmental Manager is responsible for providing the appropriate level of resources for successful implementation of the MMCRP. The Environmental Manager is responsible for directing the development and implementation of the preconstruction environmental planning, permitting, and compliance activities, environmental inspection program, and environmental training.

### **2.1.4 CPUC Project Manager, BLM Authorizing Officer, and BLM Compliance Project Manager**

The CPUC Project Manager will determine the effectiveness of the MMCRP based on the success criteria included in the mitigation monitoring table (Table 5). During construction, the CPUC will assign monitoring and reporting responsibilities to a third-party contractor, as described below in Section 2.1.5, and will oversee the work of the third-party contractor through review of daily and weekly status reports. The CPUC Project Manager will be notified of noncompliance situations and may suggest measures to help resolve the issue(s). All variance requests will be submitted to the CPUC Project Manager for review and approval.

The BLM Needles Field Manager will serve as the BLM Authorized Officer (AO) and has signing authority for the ROW grant and authority for accepting and approving project-related changes. The BLM Compliance Project Manager is a member of the BLM staff designated by the BLM AO as the point of contact for compliance-related issues.

### **2.1.5 CPUC and BLM Compliance Managers and Monitors**

The CPUC and BLM will assign monitoring and reporting responsibilities to a third-party contractor that reports to the agencies. The third-party contractor designated by the CPUC and BLM to monitor compliance issues and review environmental compliance-related deliverables will assign a Compliance Manager (CPUC/BLM CM) as the

designated point of contact. The CPUC/BLM CM will report to the CPUC Project Manager, the BLM AO, and the BLM Compliance Project Manager. The CPUC/BLM CM will consult with the CPUC and BLM AO to determine the appropriate level of inspection frequency. The CPUC/BLM CM will also oversee one or more Compliance Monitors, the on-the-ground personnel responsible for observing and reporting compliance with the terms and conditions of the CPUC Certificate of Public Convenience and Necessity (CPCN) and the BLM ROW grant. The number of Compliance Monitors and frequency of site inspections will depend on the number of concurrent construction activities and their locations. The CPUC/BLM CM will be an integral part of the project team and will stay apprised of construction activities, schedule changes, and construction progress. The Compliance Monitors and CM will document compliance through weekly reports and use of a mitigation measure tracking table.

### **2.1.6 SCE Environmental Monitors**

The SCE monitoring team will include a Mitigation Monitoring Coordinator who will coordinate the activities of the lead, biological, paleontological, cultural, and hazardous materials monitors, as needed, to comply with each mitigation measure. SCE Environmental Monitors will work closely with construction personnel to ensure preconstruction surveys are completed and mitigation measures are implemented correctly. SCE Environmental Monitors will also work closely with the Compliance Monitors to determine the effectiveness of mitigation measures and whether adjustments need to be made to provide adequate protection for sensitive resources.

### **2.1.7 Construction Personnel**

The construction Contractor has significant responsibilities for compliance with the environmental requirements of the project. The Contractor will be responsible for incorporating all project environmental requirements into their day-to-day construction activities.

Key environmental responsibilities for Contractor staff include, but are not limited to:

- Verifying that all construction workers attend the project's environmental training program prior to beginning work on the ROW.
- Reviewing and understanding the environmental requirements.
- Implementing environmental protection requirements and conditions during construction and maintaining compliance with project requirements.
- Responding to the SCE Environmental Monitors' requests during construction.

### **2.1.8 Mitigation Monitoring Program Contact List**

A project contact list is included as Attachment A. The contact list includes the names of SCE Environmental Monitors, CPUC/BLM CM, Compliance Monitors, project managers, supervisory staff, and other members of the project team. The list also includes phone numbers, fax numbers, and email addresses where project members can be reached during construction. The contact list will be updated periodically and redistributed to the project team.

## ***2.2 Responsibilities***

### **2.2.1 Monitoring**

As the Lead Agencies under CEQA and NEPA, the CPUC and BLM are required to monitor this project to ensure that the required mitigation measures and applicant-proposed measures (APMs) are implemented. The CPUC and BLM will be responsible for ensuring full compliance with the provisions of this monitoring program and have primary responsibility for implementing the monitoring program. As previously mentioned, the CPUC and BLM have assigned monitoring responsibilities to a third-party monitoring program. The Compliance Monitor(s), under the supervision of the CPUC/BLM CM, will be in the field on a regular basis, particularly when construction activities have the potential to impact a sensitive resource.

Several mitigation measures require a qualified specialty monitor during construction. Table 4 provides an overview of the measures that require SCE to provide an onsite monitor.

**Table 4 Specialty Monitors Required during Construction**

| Mitigation Measure or APM Number | Resource                  | Monitor                           | Project Components <sup>1</sup>   |
|----------------------------------|---------------------------|-----------------------------------|---|
| APM BIO-5                        | Biological Resources      | Biological Monitor                | All   |
| MM BIO-10                        | Biological Resources      | Biological Monitor                | All   |
| MM CR-1                          | Cultural Resources        | Cultural Resources Monitor        | Geotechnical studies that require trench excavation   |
| APM PALEO-4                      | Paleontological Resources | Paleontological Resources Monitor | Project areas where activities would disturb previously undisturbed strata in rock units of moderate and high sensitivity; ground-disturbing activities in areas underlain by rock units of low sensitivity would be monitored on a quarter-time basis or spot-checked. |

<sup>1</sup>See Section 1.3.2 for a description of project components.

Environmental monitors will assist construction crews with interpreting mitigation measures and correcting compliance problems in a timely manner. Environmental Monitors would also provide environmental training through the Worker Environmental Awareness Program (WEAP), as required under APM BIO-6, APM CR-2b, APM PALEO-3, and APM W-11, as new workers arrive on the project.

### 2.2.2 Enforcement

The CPUC and BLM are responsible for enforcing the procedures adopted for monitoring through the Compliance Monitors operating under the supervision of the CPUC/BLM CM. The Compliance Monitors shall note problems with monitoring, notify designated project members, and report the problems to the CPUC Project Manager and the BLM Compliance Project Manager.

The CPUC and BLM have the authority to halt any construction activity associated with the EITP if the activity is determined to be a deviation from the approved project or adopted mitigation measures. The CPUC and the BLM have assigned this authority to the Compliance Monitors in the field.

### 2.2.3 Mitigation Compliance

SCE is responsible for successfully implementing all the adopted mitigation measures listed in this MMCRP. The MMCRP contains criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Additional mitigation success thresholds may be imposed by applicable agencies with jurisdiction through the permitting process.

SCE shall inform the CPUC and BLM and their monitors in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC and BLM, in coordination with their monitors, will assess whether alternative mitigation is appropriate and specify to SCE the subsequent actions required.

## 2.3 Communication

Communication is a critical component of a successful environmental compliance program. In order to avoid project delays and possible shutdowns, environmental and construction representatives will need to interact regularly and maintain professional, responsive communications at all times. Similarly, SCE representatives will need to coordinate closely with the Compliance Monitors to address and resolve issues in a timely manner. Therefore, Section 2.3 of this MMCRP provides a communication protocol to accurately disseminate information regarding on-going surveys and mitigation measures, construction activities, contractors, and planned or upcoming work to all levels of the project. Attachment D includes a communication protocol summary to be used as a quick reference and to supplement the information provided in Section 2.3.

### Preconstruction Kickoff Meeting

A preconstruction meeting will be held with the CPUC; BLM; SCE and their construction contractor; and the CPUC/BLM CM, to review the MMCRP, the terms and conditions of the BLM ROW grant, and mutually agree on the project's communication protocol.

### 2.3.1 Construction Progress Meetings

It is expected that SCE will conduct construction progress field meetings with construction managers, contract administrators, and environmental representatives, as needed, to ensure compliance with the MMCRP.

### 2.3.2 Daily Communication

Many of the problems that occur during construction can be resolved in the field through regular communication between Compliance Monitors, SCE, and construction contractors. Field staff will be equipped with cell phones and available to receive phone calls at all times during construction. A project contact list is included in Attachment A. The organization chart depicted in Section 2.0 shows the general lines of communication to be used during construction. The following provides additional guidelines to ensure effective communication in the field.

#### CPUC and BLM Compliance Manager and Monitors

The Compliance Monitors' primary point of contact with SCE in the field is SCE's Field Representative. The CPUC/BLM CM will contact SCE's Field Representative if an activity is observed that conflicts with one or more of the mitigation measures, so that the situation can be corrected. If the CPUC/BLM CM cannot immediately reach SCE's Field Representative, then the SCE Environmental Monitor will be contacted to address the problem. Similarly, the CPUC/BLM CM will contact SCE's Environmental Monitor for information on where construction crews are working, the status of mitigation measures, and schedule forecasts. The CPUC/BLM CM will not direct the contractor; however, the CPUC/BLM CM has the authority to stop work, assuming it is safe to do so, if an activity poses an imminent threat or puts a sensitive resource at undue risk (e.g., stopping a clearing crew from unknowingly cutting coastal sage scrub in an exclusion area).

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SCE will provide the CPUC/BLM CM with a list of construction monitoring personnel and construction supervisory staff to contact regarding compliance issues. The contact list will include each person's title, responsibility, and whether their position is segment specific. The contact list will be updated as new project personnel are assigned to the project and redistributed, as necessary.

SCE will prepare and distribute a monthly environmental compliance status report for distribution to key project members, including the CPUC and the BLM. The CPUC/BLM CM will review the monthly report to ensure that the status of mitigation measures is consistent with observations in the field. Any questions regarding the status of mitigation measures will be directed to the SCE Field Representative. The monthly environmental compliance status report will also be a tool to keep all parties informed of construction progress and schedule changes.

### 2.3.3 Coordination with Other Agencies

As discussed in Section 1.4, several local, state, and federal agencies have jurisdiction over portions of the land in the project area. In addition, many of the mitigation measures were derived from specific permit conditions or agency input. SCE will be responsible for contacting resource agencies and immediately notifying them of mitigation compliance issues within their jurisdiction. The CPUC/BLM CM may request copies of email correspondences, phone logs, or other documentation between SCE and resource agencies to avoid direct involvement of Compliance Monitors. However, if there is an unresolved issue regarding compliance with a mitigation measure or permit requirement under the jurisdiction of a resource agency, the Compliance Monitors may elect to contact the agency to discuss resolution. The CPUC/BLM CM will coordinate this call with SCE and provide opportunity to participate in the call.

### 2.3.4 Dispute Resolution

It is expected that the MMRP will reduce or eliminate many potential disputes. However, even with the best preparation, disputes may occur. In such an event, the following procedure will be used:

**Step 1.** Disputes and complaints (including those of the public) should be directed to the CPUC Project Manager and the BLM Compliance Project Manager for resolution. The CPUC Project Manager and the BLM Compliance Project Manager will attempt to resolve the dispute.

**Step 2.** Should this informal process fail, the CPUC Project Manager and the BLM Compliance Project Manager may initiate enforcement or compliance action to address deviations from the Proposed Project or adopted Mitigation Monitoring Program.

#### Dispute Resolution

**CPUC Process.** If a dispute or complaint regarding the implementation or evaluation of the Program or the mitigation measures cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written “notice of dispute” with the CPUC’s Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants for purposes of resolving the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants. If one or more of the affected parties is not satisfied with the decision as described in the Executive Resolution, such party(ies) may appeal it to the Commission via established appeal procedures.

**BLM Process.** If a dispute or complaint regarding non-compliance with the terms of the BLM ROW grant cannot be resolved informally or through enforcement or compliance action, the BLM will issue an immediate temporary suspension of the ROW or the activity. Upon issuance of the temporary suspension, SCE must stop all construction activity on the project, and the ROW holder must meet with the BLM AO to resolve the dispute or complaint of non-compliance. If a resolution is not reached through discussions with the BLM AO, BLM will terminate the ROW grant. The ROW holder may then appeal the termination of the ROW grant to the Interior Board of Land Appeals via established appeal procedures.

Involved parties may also seek review by the Commission through existing procedures specified in the Commission’s Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

### **3. Environmental Compliance and Field Procedures**

#### ***3.1 Mitigation Measures Compliance and Reporting***

##### **3.1.1 Compliance Verification**

The Compliance Monitors will conduct routine site visits to determine compliance with the mitigation measures. Site visits may be coordinated with SCE or conducted unannounced. Supplemental information provided by SCE, including preconstruction submittals, survey reports, monthly reports, meeting notes, and agency correspondences, will also be used to verify compliance.

##### **3.1.2 Compliance Reporting**

The Compliance Monitors will document observations through the use of field notes and digital photography. In addition, field inspection forms will be utilized in the field to document compliance of specific crews, construction activities, or resource protection measures. The forms will provide a standardized checklist to facilitate inspections, as well as list mitigation measures that were verified during the site visit. Information gathered from the inspection forms and field notes will be used to generate weekly status reports and update the status of the mitigation measures listed in Section 4.3. A sample site inspection form is included in Attachment B.

##### **3.1.3 Compliance Levels**

A construction activity that deviates from permit conditions or mitigation measures, particularly when the activity puts a resource at risk, would be considered a non-compliance. In addition, a mitigation measure not implemented according to the timing restrictions listed in the mitigation table (Table 5) would be considered a non-compliance. Examples of non-compliance include, but are not limited to:

- Use of new access roads, staging areas, or extra workspaces not identified on the project drawings or approved for use during construction;
- Encroachment into an exclusion zone or sensitive resource area designated for avoidance;
- Brush clearing outside the approved work limits;
- Grading, foundation, or line work without required biological preconstruction surveys or a biological monitor onsite;
- Improper installation of erosion or sediment control structures if it puts a sensitive resource at risk; and
- Discharge of sediment-laden trench or foundation hole water into a waterbody or storm drain.

The CPUC/BLM CM will immediately notify the CPUC Project Manager, the BLM Compliance Project Manager, and the designated SCE representative of a non-compliance that requires immediate corrective action. A copy of the Compliance Monitor's Non-Compliance Report that lists actions required to bring the activity back into compliance and provides a time line for follow-up will be filed with SCE. SCE is required to contact the CPUC Project Manager and the BLM Compliance Project Manager within five working days to resolve the non-compliance. Depending on the severity of the non-compliance offense, an order to stop work or an immediate temporary suspension of the activity or ROW grant may be issued.

If a construction activity or observed resource protection measure only slightly deviates from project requirements and does not put a resource at risk, the CPUC Environmental Monitor may elect to issue an incident report to get the issue corrected. Construction activities that could result in an incident report include, but are not limited to:

- Failure to properly maintain an erosion or sediment control structure, but the structure remains functional;
- Use of an existing unapproved access road (first offense);
- Project personnel begin work without proof of training; or

- Work outside the approved work limits where the incident is within a previously disturbed area, such as a gravel lot.

Incident reports will generally not be issued twice for the same compliance issue. In other words, repeated incidences will result in a finding of non-compliance.

### **3.2 Project Changes**

At various times throughout the project, the need for extra workspace or additional access roads may be identified. Similarly, changes to the project requirements (e.g., mitigation measures, specifications, etc.) may be needed to facilitate construction or provide more effective protection of resources. The CPUC, BLM, and SCE should work together to find solutions when variations or adjustments are necessary for specific field situations to avoid conflicts with adopted mitigation measures or specifications.

The CPUC Project Manager, BLM Compliance Project Manager, and Compliance Monitors will ensure that any variance process or deviation from the procedures identified under the monitoring program is consistent with CEQA and NEPA requirements. No project variance will be approved if it creates new significant impacts. A variance should be strictly limited to minor project changes that will not trigger other permit requirements, will not increase the severity of an impact or create a new impact, and will clearly and strictly comply with the intent of the mitigation measure.

A proposed project change that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA and NEPA reviews are required. Any proposed deviation from the approved project, adopted mitigation measures, APMs, and correction of such deviation will be reported immediately to the CPUC/BLM CM for their review. The CPUC/BLM CM will review the variance request to ensure that all of the information required to process the variance has been included; they will then forward the request to the CPUC Project Manager and BLM Compliance Project Manager for review and approval. The CPUC Project Manager or the BLM Compliance Project Manager may request a site visit from the CPUC/BLM CM or need additional information to process the variance. In some cases, a variance may also require approval by jurisdictional agencies. In general, a variance request must include the following information:

- Detailed description of the location, including maps, photos, and/or other supporting documents;
- How the variance request deviates from a project requirement;
- Biological resource surveys or verification that no biological resources would be significantly impacted;
- Cultural resource surveys or verification that no cultural resources would be significantly impacted;
- Landowner approval if the location is not within SCE's ROW or property; and
- Agency approval (if necessary).

A sample variance request form is included as Attachment C.

### **3.3 Records Management**

Inspection forms will be completed for each site visit, and weekly status reports will be filed and used by the Compliance Monitors to prepare a final environmental compliance report following the completion of construction. The final report will provide a discussion on how each mitigation measure was implemented and include copies of submittals required for compliance. In addition, the success criteria will be evaluated and used for future projects.

### **3.4 Public Access to Records**

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available by the CPUC for public inspection on request. In order to facilitate the public's awareness, the CPUC will make weekly reports and other pertinent project documents available on the project Web site, available at: <http://www.cpuc.ca.gov/environment/info/ene/ivanpah/ivanpah.html>.

## **4. Mitigation Monitoring Program Table**

### ***4.1 Using the Table***

Section 4.3 lists the mitigation measures included in the Final EIR/EIS, the CPUC Findings, and the BLM Record of Decision (ROD). The Mitigation Monitoring Program table (Table 5) is the core document for environmental requirements on the project and will be the primary guideline for determining compliance with the MMCRP. A copy of the table should be kept with each crew working on the project, and all supervisory staff working on the project should be familiar with its contents.

The CPUC and BLM will use a modified version of the Mitigation Monitoring Program table to accurately track the status of mitigation measures. This table has an additional status column to be used by the SCE Environmental Monitors, Compliance Monitors, project managers, supervisory staff, and other members of the project team.

### ***4.2 Effectiveness Review***

The CPUC or BLM may conduct a comprehensive review of conditions that are not effectively mitigating impacts at any time it deems appropriate, including as a result of the Dispute Resolution procedure outlined in Section 2.3.5. If the Commission or the BLM determines that, based on the review, any conditions are not adequately mitigating significant environmental impacts caused by the project, then the Commission or the BLM may impose additional reasonable conditions to effectively mitigate these impacts. These reviews will be conducted in a manner consistent with the Commission's or BLM's rules and practices.

### ***4.3 Mitigation Measures and Applicant Proposed Measures (APMs)***

Table 5 Mitigation Monitoring Plan

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing              | Determination of Effectiveness   |
|---|---|--|---------------------|--|
| <b>3.2 Visual Resources</b>                                       |   |  |                     |  |
| <b>IMPACT AES-1:</b> Adverse Impact to a Scenic Vista             | <b>APM AES-1: Road Cut Rock Staining.</b> Where new roads are required in the South McCullough Mountains to access new or existing transmission and subtransmission towers, the applicant would consult with the BLM regarding feasible methods to treat the exposed rock to match the overall color of the adjacent weathered rock.  | Ensure that the applicant consulted with the BLM as required in APM AES-1. See additional requirements in APM AES-1. | After construction  | APM implemented.   |
| <b>IMPACT AES-1:</b> Adverse Impact to a Scenic Vista             | <b>APM AES-2: Seeding and Inter-Planting.</b> Where new roads are required in the South McCullough Mountains to access new or existing transmission and subtransmission towers, road cuts would be treated by seeding and/or inter-planting into the disturbed areas to restore the area to an appearance that would blend back into the overall landscape context.   | See requirements in APM AES-2.   | After construction  | Areas disturbed by EITP road construction activities restored to an appearance that blends into the surrounding landscape. |
| <b>IMPACT AES-1:</b> Adverse Impact to a Scenic Vista             | <b>APM AES-3: Non-Reflective Finish.</b> LSTs and TSPs would be constructed of steel that was galvanized and treated at the factory to create a dulled finish that would reduce reflection of light off of the tower members. As appropriate to the environment, the galvanized coating would also be treated to allow the towers to blend into the backdrops. Non-specular transmission cable would be installed for the new transmission line to minimize conductor reflectivity. | See requirements in APM AES-3.   | During construction | APM fully implemented as specified.  |
| <b>IMPACT AES-2:</b> Degrade Existing Visual Character or Quality | <b>APM AES-4: Regrade / Revegetate Construction Sites.</b> Areas around new or rebuilt transmission and subtransmission structures that must be cleared during the construction process would be regraded and revegetated to restore them to an appearance that would blend back into the overall landscape context.  | See requirements in APM AES-4.   | After construction  | APM fully implemented as specified.  |
| <b>IMPACT AES-2:</b> Degrade Existing Visual Character or Quality | <b>APM AES-5: Use Existing Access Roads.</b> To the extent feasible, existing access roads would be used.   | See requirements in APM AES-5.   | During construction | APM implemented.   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing                                   | Determination of Effectiveness   |
|---|--|---|--|--|
| <b>IMPACT AES-2:</b> Degrade Existing Visual Character or Quality | <b>APM AES-6: Minimize Road Modifications.</b> Widening and grading of roads would be kept to the minimum required for access by proposed project construction equipment.  | See requirements in APM AES-6.  | During construction                      | APM implemented.   |
| <b>IMPACT AES-2:</b> Degrade Existing Visual Character or Quality | <b>APM AES-7: Dust Suppression.</b> During the construction period, dust suppression measures would be used to minimize the creation of dust clouds potentially associated with the use of the access roads.   | See requirements in APM AES-7.  | During construction                      | APM fully implemented as specified.  |
| <b>IMPACT AES-2:</b> Degrade Existing Visual Character or Quality | <b>MM AES-1: Painting the Ivanpah Substation.</b> Prior to construction, the applicant will consult with the BLM to select an appropriate color from the BLM approved palette to paint any enclosed structures that would be constructed for the Ivanpah Substation. The applicant will submit photographs following substation construction to the BLM and the CPUC to document compliance with this measure. | Ensure that BLM-approved colors were used to paint enclosed Ivanpah Substation structures and photographs of the completed structures were submitted to the BLM and CPUC. | Prior to, during, and after construction | Enclosed structures for the Ivanpah Substation are painted with colors from the BLM approved palette.            |
| <b>IMPACT AES-2:</b> Degrade Existing Visual Character or Quality | <b>MM AES-2: Rock Staining near the Ivanpah Substation.</b> For areas that are cleared and/or graded to construct the Ivanpah Substation, the applicant would consult with the BLM regarding feasible methods to treat the exposed rock to match the overall color of the adjacent weathered rock.   | Ensure that BLM was consulted as required in MM AES-2. See additional requirements in MM AES-2.   | After construction                       | Rock exposed by grading for Ivanpah Substation is treated to match the overall color of adjacent weathered rock. |
| <b>IMPACT AES-3:</b> Create a New Source of Light or Glare        | <b>APM AES-8: Substation Lighting Control.</b> The substation lighting would be designed to be manually operated only when required for non-routine nighttime work. The lighting would be directed downward and shielded to eliminate offsite light spill at times when the lighting might be in use.  | See requirements in APM AES-8.  | During and after construction            | Ivanpah Substation lighting is off unless manually turned on. Lighting is directed downward and shielded.        |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                     | Determination of Effectiveness                         |
|---|--|--|----------------------------|--|
| <b>3.3 Air Quality and Greenhouse Gases</b>   |  |  |                            |  |
| <p><b>IMPACT AIR-2:</b><br/>Temporary Ambient Air Quality Impacts Caused by Construction Activities Would Violate or Contribute Substantially to an Air Quality Violation</p> | <p><b>MM AIR-1: Low-emission Construction Equipment.</b> All construction equipment with a rating between 100 and 750 horsepower (hp) will be required to use engines compliant with U.S. EPA Tier 2 non-road engine standards. In addition, all off-road and portable construction diesel engines not registered under the CARB Statewide Portable Equipment Registration Program that have a rating of 50 hp or more will meet, at a minimum, the Tier 2 California non-road engine standards unless that engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine will be equipped with a Tier 1 engine. The applicant will substitute small electric-powered equipment for diesel- and gasoline-powered construction equipment where feasible. The applicant will maintain construction equipment according to manufacturing specifications and use low-emission equipment.</p>   | <p>Ensure that applicable equipment meets U.S. EPA standards and is registered under CARB's program as specified in MM AIR-1. See additional requirements in MM AIR-1.</p> | <p>During construction</p> | <p>Each MM AIR-1 requirement is implemented.</p>       |
| <p><b>IMPACT AIR-2:</b><br/>Temporary Ambient Air Quality Impacts Caused by Construction Activities Would Violate or Contribute Substantially to an Air Quality Violation</p> | <p><b>MM AIR-2: Enhanced Dust Control Measures.</b> In addition to the dust control requirements by MDAQMD and CC-DAQEM, the following measures will be implemented for mitigation:</p> <ul style="list-style-type: none"> <li>• Frequent watering or stabilization of excavations, spoils, access roads, storage piles, and other sources of fugitive dust (parking areas, staging areas, other) if construction activity causes persistent visible emissions of fugitive dust beyond the work area</li> <li>• Pre-watering of soils prior to clearing and trenching</li> <li>• Pre-moistening of, prior to transport, import and export dirt, sand, or loose materials</li> <li>• Dedication of water truck or high-capacity hose to any soil screening operations</li> <li>• Minimization of drop height of material through screening equipment</li> <li>• Reduction of the amount of disturbed area where possible</li> <li>• Planting of vegetative ground cover in disturbed areas after construction activities have ceased within a time period that is consistent with the Project's Reclamation Plan as described in MM BIO-2.</li> </ul> | <p>Ensure that applicable MDAQMD and CC-DAQEM requirements and the additional requirements specified in MM AIR-2 are followed.</p>   | <p>During construction</p> | <p>Each MM AIR-2 requirement is fully implemented.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                | Determination of Effectiveness           |
|--|--|--|-----------------------|--|
| <b>IMPACT AIR-3:</b><br>Temporary Emission Increases of NO <sub>x</sub> , VOCs, and PM <sub>10</sub> during Construction would Contribute to a Cumulatively Considerable Net Increase of a Criteria Pollutant in a Non-Attainment Area | <b>MM AIR-1: Low-emission Construction Equipment.</b> See above.<br><b>MM AIR-2: Enhanced Dust Control Measures.</b> See above.  | See above.   | See above.            | See above.                               |
| <b>IMPACT AIR-6:</b> Generate GHG Emissions That May Have a Significant Impact on the Environment  | <b>MM AIR-3: Best Management Practices for GHG Reduction.</b> The applicant would be required to enforce and follow limits for idling time for commercial vehicles, including delivery and construction vehicles. The applicant would be also be required to consider the following best management practices to reduce the potential for GHG emissions: <ul style="list-style-type: none"> <li>• Joining U.S. EPA's SF6 Emission Reduction Partnership for Electric Power Systems (<a href="http://www.epa.gov/highgwp/electricpower-sf6/basic.html">http://www.epa.gov/highgwp/electricpower-sf6/basic.html</a>);</li> <li>• Performing annual inspections and estimation of SF6 emissions using an emission inventory protocol;</li> <li>• For equipment that would contain SF6, purchasing only new equipment that meets International Council on Large Electric Systems (CIGRE) standards for leak rates;</li> <li>• Implementing SF6 recovery and recycling;</li> <li>• Ensuring that only knowledgeable personnel handle SF6; and</li> <li>• Providing a vanpool for construction workers.</li> </ul> | Idling time limits for commercial vehicles implemented along with best management practices for limited GHG emissions. | During construction   | MM AIR-3 requirements fully implemented. |
| <b>3.4 Biological Resources</b>  |  |  |                       |  |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant   | <b>APM BIO-1: Preconstruction Surveys.</b> Preconstruction biological clearance surveys would be conducted by qualified biologists to identify special-status plants and wildlife.   | Ensure that preconstruction biological surveys were conducted as specified in APM BIO-1.                               | Prior to construction | APM fully implemented as specified.      |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                           | Determination of Effectiveness  |
|--|---|---|----------------------------------|---|
| species  |   |   |                                  |   |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species | <b>APM BIO-2: Minimize Vegetation Impacts.</b> Every effort would be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation would be flagged for avoidance.  | See requirements in APM BIO-2.  | Prior to and during construction | APM implemented.  |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species | <b>APM BIO-4: Best Management Practices.</b> Crews would be directed to use Best Management Practices (BMPs) where applicable. These measures would be identified prior to construction and incorporated into the construction operations.  | See requirements in APM BIO-4.  | Prior to and during construction | APM implemented.  |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species | <b>APM BIO-5: Biological Monitors.</b> Biological monitors would be assigned to the project in areas of sensitive biological resources. The monitors would be responsible for ensuring that impacts on special-status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors would flag the boundaries of areas where activities would need to be restricted in order to protect native plants and wildlife or special-status species. Those restricted areas would be monitored to ensure their protection during construction.          | Ensure that biological monitors are assigned as specified in APM BIO-5. See additional requirements in APM BIO-5.   | During construction              | Biological resources in restricted areas with flagged boundaries are protected. |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species | <b>APM BIO-6: Worker Environmental Awareness Program.</b> A Worker Environmental Awareness Program (WEAP) would be prepared. All construction crews and contractors would be required to participate in WEAP training prior to starting work on the project. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all trained personnel would be maintained. | Ensure that all construction crews and contractors participate in WEAP training as required in APM BIO-6, and a record of training is maintained. See additional requirements in APM BIO-6. | Prior to construction            | All construction crews and contractors participate in WEAP training.            |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or  | <b>APM BIO-9: Facility Siting.</b> Final tower and spur road locations would be adjusted to avoid sensitive biological resources to the greatest extent feasible.   | See requirements in APM BIO-9.  | During construction              | APM implemented.  |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                | Determination of Effectiveness         |
|--|---|---|-----------------------|--|
| a direct loss of habitat for listed or sensitive plant species   |   |   |                       |  |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species | <b>APM AES-4: Regrade / Revegetate Construction Sites.</b> See above.<br><b>APM AES-6: Minimize Road Modifications.</b> See above.<br><b>APM AES-7: Dust Suppression.</b> See above.  | See above.  | See above.            | See above.                             |
| <b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species | <b>MM BIO-1: Preconstruction Surveys.</b> Preconstruction surveys will be conducted by USFWS-approved biologists according to the most current USFWS protocols, where available by species. These surveys will include surveying brush clearing areas and ground disturbance areas within habitat deemed suitable for sensitive species by a qualified biologist. As part of the pre-construction surveys, the composition of the vegetation community will be surveyed to establish baseline conditions prior to construction for post-construction restoration efforts. These surveys will be conducted for the presence of special-status plants, the presence of noxious weeds, and the presence of general and special-status wildlife species, to prevent direct loss of vegetation and wildlife and to prevent the spread of noxious plant species. For the noxious weeds survey, the level of effort and extent of the surveys will be outlined by the Invasive Plant Management Plan (MM BIO-4). | Ensure that preconstruction biological surveys were conducted as specified in MM BIO-1. | Prior to construction | Preconstruction surveys are completed. |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing   | Determination of Effectiveness   |
|---|---|---|--|--|
| <p><b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species</p> | <p><b>MM BIO-2: Reclamation Plan.</b> The applicant will develop a Reclamation, Restoration, and Revegetation Plan (RRRP) prior to adoption of the Final EIR/EIS that will guide restoration and revegetation activities for all disturbed lands associated with construction of the project and the eventual termination and decommissioning of the project. The RRRP will be part of the applicant's final Plan of Development for the project and should address all federal and private land disturbances, including areas where restoration activities have been funded by the Clark County MSHCP and initiated by resource agencies. The RRRP will be developed in consultation with appropriate agencies (BLM, CPUC, CDFG, and Clark County DCP) and be provided to these agencies for review and approval prior to preparation of the Final EIR/EIS. NDOW and the BLM Las Vegas Field Office will be consulted for restoration efforts concerning Nevada State protected cacti and yucca species, which may include preparation of a separate Cactus and Yucca Reclamation Plan. The RRRP will also provide details including but not limited to topsoil segregation and conservation, vegetation treatment and removal, salvage of succulent species, revegetation methods including seed mixes, rates and transplants, and criteria to monitor and evaluate revegetation success. Post-construction monitoring will be performed for 1 to 5 years, depending on the disturbance level and restoration level as outlined in the BLM's 2001 Restoration Plan for Energy Projects in the Las Vegas Field Office.</p> | <p>Ensure that RRRP was developed as specified in MM BIO-2 and MM BIO-3.</p>  | <p>Prior to adoption of the Final EIR/EIS and after construction</p> | <p>RRRP becomes part of the Plan of Development for the proposed project and revegetation is successful as specified by the criteria outlined in the RRRP.</p> |
| <p><b>IMPACT BIO-1:</b> Direct or indirect loss of listed or sensitive plant species, or a direct loss of habitat for listed or sensitive plant species</p> | <p><b>MM BIO-3: Special-Status Plants Restoration and Compensation.</b> The applicant will mitigate for the loss of special-status plant species within the project area following the completion of all construction activities at a particular site and within 1 year of post-construction according to the requirements of resource agency authorizations (e.g., CDFG 2081 permit). Special-status plants will be restored by relocation of plants and/or re-seeding, replacing topsoil with existing topsoil that was removed, and re-grading to pre-existing soil contours. Measures to restore special-status plants will be implemented through the Reclamation Plan (MM BIO-2). Additionally, that plan will provide a matrix showing how the applicant will address each species considered sensitive or special-status in terms of mitigation type (e.g., seed</p>  | <p>Ensure that mitigation for the loss of special-status plant species occurs within 1 year of construction and as specified in MM BIO-3. Ensure that documentation of consultations with agencies is provided to the CPUC.</p> | <p>Prior to, during, and after construction</p>                      | <p>Special-status plants are restored as specified in the RRRP or compensation is provided based on consultation with appropriate agencies.</p>                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                           | Determination of Effectiveness   |
|---|--|--|----------------------------------|--|
|   | collection, transplanting, fencing certain population, and compensation measures). The CDFG will likely require land compensation and enhancement and endowment fees for the project in addition to restoration. If special-status plant communities cannot be restored, the applicant will provide compensation if required, in consultation with appropriate agencies (USFWS, BLM, CDFG, NDOW, and CPUC). In order to ensure enforceability, documentation of consultations with all appropriate agencies will be provided to the CPUC (the CEQA lead agency). |  |                                  |  |
| <b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife | <b>APM BIO-1: Preconstruction Surveys.</b> See above.<br><b>APM BIO-4: Best Management Practices.</b> See above.<br><b>APM BIO-5: Biological Monitors.</b> See above.<br><b>APM BIO-6: Worker Environmental Awareness Program.</b> See above.  | See above.   | See above.                       | See above.   |
| <b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife | <b>APM BIO-10: Invasive Plant Management.</b> An invasive plant management plan would be developed to reduce the potential for spreading invasive plant species during construction activities.  | Ensure that an Invasive Plant Management Plan was developed as specified in APM BIO-10.  | Prior to construction            | APM implemented.   |
| <b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife | <b>APM AES-6: Minimize Road Modifications.</b> See above.<br><b>APM AES-8: Substation Lighting Control.</b> See above.<br><b>APM NOI-4: Construction Equipment Muffled.</b> See below.<br><b>APM NOI-5: Construction Equipment Idling Minimized.</b> See below.<br><b>APM W-12: Properly Dispose of Hazardous Materials.</b> See below.  | See above/below.   | See above/below.                 | See above/below.   |
| <b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife | <b>MM BIO-8: Reduce Night Lighting.</b> Night lighting will be reduced in all natural areas to avoid unnecessary visual disturbance to wildlife. Night lighting during construction, operations, and maintenance will be reduced in natural areas using directed lighting, shielding methods, and/or reduced lumen intensity. The applicant will indicate anticipated measures to resource agencies for approval prior to construction. The approved measures will be provided to the CPUC.  | Ensure that the applicant submits night lighting reduction measures to resource agencies for approval prior to construction and provides the approved measures to the CPUC. See additional requirements in MM BIO-8. | Prior to and during construction | Night lighting is reduced using directed lighting, shielding methods, reduced lumen intensity, and/or other methods. |
| <b>IMPACT BIO-2:</b> Direct or  | <b>MM BIO-9: Cover Steep-walled Trenches or Excavations during</b>   | Ensure that excavations are  | During                           | Entrapment of  |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                           | Determination of Effectiveness  |
|---|--|--|----------------------------------|---|
| indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife                                | <b>Construction.</b> To prevent entrapment of wildlife, all steep-walled trenches, auger holes, or other excavations will be covered at the end of each day. Fencing will be maintained around the covered excavations at night. For open trenches, earthen escape ramps will be maintained at intervals of no greater than 0.25 miles. A biological monitor will inspect all trenches, auger holes, or other excavations a minimum of twice per day during non-summer months and a minimum of three times per day during the summer (hotter) months, and also immediately prior to back-filling. Any wildlife species found will be safely removed and relocated out of harm's way, using suitable tools such as a pool net when applicable. For safety reasons, biological monitors will under no circumstance enter open excavations. | covered, earthen escape ramps are maintained for open trenches, and monitoring takes place as specified in MM BIO-9. See additional requirements in MM BIO-9.  | construction                     | wildlife is prevented.  |
| <b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife | <b>MM BIO-10: Biological Monitors.</b> Biological monitors will be provided throughout construction activities in all construction zones with the potential for presence of sensitive biological resources. A minimum of one monitor per crew is needed for construction crews using heavy equipment (e.g., backhoes, large trucks). One roving monitor will monitor multiple times per day in other active construction zones where heavy equipment is not in use.  | Ensure a minimum of one monitor per crew for crews that use heavy equipment. See additional requirements in MM BIO-10.   | During construction              | Biological monitors are provided for construction activities in all construction zones.   |
| <b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife | <b>MM BIO-11: Water Usage.</b> Water used for fugitive dust control will not be allowed to pool on access roads or other project areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.  | See requirements in MM BIO-11.   | During construction              | Water used for fugitive dust control does not pool.   |
| <b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife | <b>MM BIO-12: Desert Tortoise Impacts Reduction Measures.</b> To reduce impacts on desert tortoise, the following will be done: <ul style="list-style-type: none"> <li>• The applicant cannot begin construction until issuance and acceptance of the USFWS Biological Opinion, the CDFG 2081 permit, and NDOW authorization. A copy of the USFWS Biological Opinion and documentation of any compliance discussions with Clark County and Boulder City will be provided to the CPUC and the Clark County Desert Conservation Program.</li> <li>• Construction monitoring will employ a designated field contact representative, authorized biologist(s), and qualified biologist(s)</li> </ul>  | <ul style="list-style-type: none"> <li>○ Ensure acceptance of biological opinion, CDFG 2081 permit, and NDOW authorization and completion of preconstruction surveys for desert tortoise.</li> <li>○ Ensure that biological monitors clear active work sites located in desert tortoise habitat each morning before construction.</li> <li>○ Ensure that the results of</li> </ul> | Prior to and during construction | Impacts on Desert Tortoise are avoided, or at minimum, active work sites are cleared of all Desert Tortoise according to the most-current applicable handling |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing | Determination of Effectiveness |
|----------------|--|--|--------|--------------------------------|
|                | <p>approved by the USFWS, NDOW, and CDFG during the construction phase of the project. BLM will recommend qualified, authorized biologists to the USFWS and will approve all biological monitors.</p> <ul style="list-style-type: none"> <li>• Qualified and/or authorized biologists will monitor all construction activities year-round in desert tortoise habitat, regardless of the time of year or weather conditions, as tortoises are often active outside their “active” season.</li> <li>• Qualified and/or authorized biologists will conduct preconstruction surveys according to the most current USFWS protocol.</li> <li>• Authorized biologists will handle desert tortoises following the most current Desert Tortoise Council handling guidelines (2009 or newer).</li> <li>• Prior to commencing desert tortoise relocation activities, authorization will be obtained from NDOW, CDFG, and USFWS. The authorized biologist will not be required to receive approval to move individual desert tortoises during construction.</li> <li>• Desert tortoise relocations will only occur from an active construction zone to an area that is not under active construction by the EITP project or any other planned project.</li> <li>• Biological monitors will clear ahead of construction crews in desert tortoise habitat during all clearing and grading activities, or during any activity where undisturbed vegetation would be crushed. In addition, biological monitors will clear ahead of larger, non-rubber-tired equipment when that equipment is being driven on access and spur roads.</li> <li>• Biological monitors will clear all active work sites located in desert tortoise habitat each morning before construction begins and throughout the day if crews move from construction site to construction site.</li> <li>• Results of biological monitoring and status of construction will be detailed in daily reports by biological monitors. These reports will be submitted to the authorized biologist on a daily basis and to the CFR on a weekly basis (at minimum). The authorized biologist will notify the CFR within 24 hours of any action that involves harm to a desert</li> </ul> | <p>biological monitoring and status of construction are detailed in daily reports submitted to the CDFG on a weekly basis.</p> <ul style="list-style-type: none"> <li>○ Ensure that California-specific Desert Tortoise Council handling guidelines are followed for project activities in California.</li> <li>○ See additional requirements in MM BIO-12.</li> </ul> |        | <p>procedures.</p>             |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements | Timing | Determination of Effectiveness |
|----------------|---|-------------------------|--------|--------------------------------|
|                | <p>tortoise, or involves a blatant disregard by construction personnel for the APMs or MMs designed to minimize impacts on desert tortoise or other wildlife. The authorized biologist will submit to the USFWS, NDOW, CDFG, and CPUC a summary of all desert tortoises seen, injured, killed, excavated, and handled at the end of the project or within 2 working days of when desert tortoises are harmed.</p> <ul style="list-style-type: none"> <li>• No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95 degrees Fahrenheit (35 degrees Celsius). No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95 degrees Fahrenheit before handling or processing can be completed. If the ambient air temperature exceeds 95 degrees Fahrenheit during handling or processing, desert tortoises shall be kept shaded in an environment which does not exceed 95 degrees Fahrenheit, and the animals shall not be released until ambient air temperature declines to below 95 degrees Fahrenheit. For relocation, captured tortoises may be held overnight and moved the following morning within these temperature constraints.</li> <li>• During all handling procedures, desert tortoises must be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, hyperactivity, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises must be kept shaded at all times until it is safe to release them. Ambient air temperature must be measured in the shade, protected from wind, and at a height of 2 inches above the ground surface.</li> <li>• If a desert tortoise voids its bladder as a result of being handled, the animal shall be rehydrated. The process of rehydrating a desert tortoise will take place at the location where the animal was captured (or to be released, for translocated tortoises), and consist of placing the desert tortoise in a tub with a clean plastic disposable liner. The amount of water that is placed in the lined tub shall not be higher than the lower jaw of the animal. Each desert tortoise shall be rehydrated for a minimum of 10 to 20 minutes. During the period</li> </ul> |                         |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements | Timing | Determination of Effectiveness |
|----------------|---|-------------------------|--------|--------------------------------|
|                | <p>when the desert tortoise is in the tub, the tub will be placed in a quiet protected area. Desert tortoises shall be soaked individually.</p> <ul style="list-style-type: none"> <li>• If a desert tortoise is injured as a result of project-related activities, it shall be immediately taken to a CDFG-approved wildlife rehabilitation or veterinary facility. The applicant shall identify the facility prior to the start of ground- or vegetation-disturbing activities. The applicant shall bear any costs associated with the care or treatment of such injured covered species. The applicant shall notify CDFG of the injury immediately unless the incident occurs outside of normal business hours. In that event CDFG shall be notified no later than noon on the next business day. Notification to CDFG shall be via telephone or email, followed by a written incident report. Notification shall include the date, time, location, and circumstances of the incident, and the name of the facility where the animal was taken.</li> <li>• The applicant will produce a Raven Management Plan that is acceptable to the BLM and the CPUC. Details in the plan will include information on procedures, frequency, and recommended season for conducting raven nest surveys, procedures and responsibilities for raven nest removal, USFWS/NDOW/CDFG authorization and/or permitting requirements for conducting raven control, and compensation measures for raven reduction programs in California and Nevada. The plan will be submitted to the BLM and the CPUC at least 60 days prior to construction for review and approval.</li> </ul> |                         |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing  | Determination of Effectiveness   |
|--|---|--|---|--|
| <p><b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife</p> | <p><b>MM BIO-13: Desert Bighorn Sheep Impacts Reduction Measures.</b> To reduce impacts on desert bighorn sheep, the following will be done:</p> <ul style="list-style-type: none"> <li>• Conduct preconstruction survey for desert bighorn sheep within suitable bighorn sheep habitat within 1 week prior to construction activities in the McCullough Range, Clark Mountain Range, and the southern portion of the Eldorado Valley between the Highland Range and the Southern McCullough Range. The occurrence and location of any desert bighorn sheep will be reported to NDOW for sightings in Nevada and reported to CDFG for sightings in California.</li> <li>• Conduct biological monitoring by a qualified biologist for desert bighorn sheep during duration of construction within suitable bighorn sheep habitat. The occurrence and location of any desert bighorn sheep will be reported to NDOW for sightings in Nevada and reported to CDFG for sightings in California. If bighorn are found to be within 500 feet of construction activities, construction in that area will be stopped until the sheep vacate the project area.</li> <li>• Avoid all construction activities (with the exception of vehicle use of access roads during emergencies) in lambing areas from January to May in the North McCullough Pass area (approximately MP 9 to MP 12) during the duration of construction and all maintenance events.</li> </ul> | <ul style="list-style-type: none"> <li>○ Ensure that preconstruction surveys for desert bighorn sheep are conducted no more than 1 week prior to construction and as specified in MM BIO-13.</li> <li>○ Ensure that all bighorn sheep occurrences are reported to NDOW and construction is stopped if a bighorn sheep is found within 500 feet of construction activities.</li> <li>○ See additional requirements in MM BIO-13.</li> </ul> | <p>Prior to, during, and after construction</p> | <p>Construction does not take place within 500 feet of any desert bighorn sheep, and construction activities in lambing areas are avoided from January to May in the North McCullough Pass area.</p> |
| <p><b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife</p> | <p><b>MM BIO-14: American Badger Impacts Reduction Measures.</b> To reduce impacts to American badger, the following will be done:</p> <ul style="list-style-type: none"> <li>• Qualified biologists will be notified if badgers are observed within the project area during construction activities. Work will immediately be stopped in the area if the biologists find occupied burrows within 100 feet of construction activities during preconstruction surveys.</li> <li>• Qualified biologists will ensure passive relocation of the occupied burrow by installing one-way trap doors on the burrow. The burrow will be collapsed after the badger vacates.</li> <li>• During the spring months when young may be present in burrows, burrows must be checked for young before the installation of the one-way trap door. If young are present during relocation efforts, all work will stop within 100 ft of the burrow until the young have left the</li> </ul>  | <p>Ensure that work is stopped if occupied burrows are found within 100 feet of construction activities. See additional requirements in MM BIO-14.</p>   | <p>Prior to and during construction</p>         | <p>All occupied American badger burrows within 100 feet of construction activities are relocated.</p>  |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing                                  | Determination of Effectiveness  |
|--|---|--|---|---|
|  | <p>burrows within the project area.</p> <ul style="list-style-type: none"> <li>• Work will be allowed to resume once the badger has relocated outside the 100-foot zone.</li> </ul>   |  |   |   |
| <p><b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife</p> | <p><b>MM BIO-15: Migratory Birds and Raptors Impacts Reduction Measures.</b> To reduce impacts on migratory birds and raptors, the following will be done:</p> <ul style="list-style-type: none"> <li>• Biological monitors will monitor and enforce disturbance buffers around all active bird nests (for raptors and species protected by the MBTA) found in project areas during construction. The general bird breeding season for this area is late February to early July. For raptors specifically, the applicant will use the USFWS Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (1999) to determine appropriate survey areas and disturbance buffers for active nests, except for burrowing owl nests, for which the applicant will be in compliance with the minimum distances outlined by the California Burrowing Owl Consortium Protocol. For all non-raptor bird species, biologists will survey within project areas. Because there are no standardized disturbance buffers for active non-raptor bird nests, SCE will consult with the appropriate agencies (BLM, USFWS, CDFG, and NDOW) on a case-by-case basis when active nests are found in project areas, unless directed to do otherwise by these same agencies.</li> <li>• Active bird nests will not be moved during breeding season, unless the project is expressly permitted to do so by the USFWS, BLM, CDFG, or NDOW depending on the location of the nest.</li> <li>• All active nests and disturbance or harm to active nests will be reported within 24 hours to the USFWS, BLM, CDFG, and NDOW upon detection.</li> <li>• The biological monitor will halt work if it is determined that active nests would be disturbed by construction activities, until further direction or approval to work is obtained from the appropriate agencies.</li> <li>• Seasonal work stoppages may be required by NDOW for project areas that pass the Wee Thump Joshua Tree Wilderness if</li> </ul> | <ul style="list-style-type: none"> <li>○ Ensure that the applicant consults with NDOW prior to construction.</li> <li>○ Ensure that work is stopped if active nests would be disturbed by construction activities.</li> <li>○ Ensure that all active nests and disturbance or harm to active nests are reported within 24 hours to the agencies specified.</li> <li>○ See additional requirements in MM BIO-15.</li> </ul> | <p>Prior to and during construction</p> | <p>Work is stopped if active nests would be disturbed, and active bird nests are not moved during the breeding season unless expressly permitted.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing   | Determination of Effectiveness   |
|--|---|--|--|--|
|  | <p>construction activities occur within the breeding season. The applicant will consult with NDOW prior to construction.</p> <ul style="list-style-type: none"> <li>As outlined by the <i>Suggested Practices for Avian Protection on Power Lines</i> (APLIC 2006), the following avian safe practices will be employed during construction: cover phase conductors with manufactured covers, include perch discouragers on crossarms and on top of poles, exceed the minimal distance between phase conductors to prevent electrocution by perched birds and their wingspan, utilize longer horizontal insulators, suspend phase conductors on pole top and cross arms, install horizontal jumper support to increase the phase-to-ground separation, replace tension members with fiberglass or non-conducting materials, cover tension members with dielectric material, utilize fiberglass poles or switches, and install standard nest discouragers.</li> </ul>  |  |  |  |
| <p><b>IMPACT BIO-2:</b> Direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife</p> | <p><b>MM BIO-16: Burrowing Owl Impacts Reduction Measures.</b> To reduce impacts on burrowing owl, the following will be done:</p> <ul style="list-style-type: none"> <li>A qualified biologist will conduct preconstruction surveys within 30 days prior to construction for burrowing owl within suitable habitat prior to breeding season (February 1 through August 31). All areas within 50 m (approximately 150 feet) of the project area will be surveyed.</li> <li>If an active nest is identified, there will be no construction activities within 50 m (approximately 150 feet) of the nest location to prevent disturbance until the chicks have fledged, as determined by a qualified biologist.</li> <li>The occurrence and location of any burrowing owl will be documented by biological monitors in daily reports and submitted to the authorized biologist on a daily basis. The authorized biologist will report all incidents of disturbance or harm to burrowing owls within 24 hours to the appropriate resource agencies (USFWS, BLM, NDOW, CDFG).</li> </ul> <p>If burrowing owls are found on site in the California portion of the project, the following additional measures will be included:</p> <ol style="list-style-type: none"> <li>As compensation for the direct loss of burrowing owl nesting and</li> </ol> | <ul style="list-style-type: none"> <li>Ensure that preconstruction surveys for burrowing owl are conducted within 30 days of construction and as specified in MM BIO-16.</li> <li>Ensure that construction activities do not occur within 150 feet of active nests.</li> <li>Ensure that all burrowing owl occurrences are reported on a daily basis to the USFWS, BLM, NDOW, and CDFG.</li> <li>Ensure that a Burrowing Owl Mitigation and Monitoring Plan is submitted to CDFG if owls are found on site in the California portion of the project.</li> <li>See additional requirements in MM BIO-16.</li> </ul> | <p>30 days prior to construction, during, and after construction</p> | <p>No construction activities occur within 150 feet of active nests, and for burrowing owls found on site in California, compensation is provided and the additional measures listed in MM BIO-16 are fully implemented.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements | Timing            | Determination of Effectiveness |
|---|--|-------------------------|-------------------|--------------------------------|
|   | <p>foraging habitat, the project proponent shall mitigate by acquiring and permanently protecting known burrowing owl nesting and foraging habitat at the following ratio:</p> <ul style="list-style-type: none"> <li>(a) Replacement of occupied habitat with suitable habitat at 1.5 x 6.5 acres per pair or single bird;</li> <li>(b) Replacement of occupied habitat with habitat contiguous with occupied habitat at 2 x 6.5 acres per pair or single bird; and/or</li> <li>(c) Replacement of occupied habitat with suitable unoccupied habitat at 3 x 6.5 acres per pair or single bird.</li> </ul> <p>2) A Burrowing Owl Mitigation and Monitoring Plan shall be submitted to CDFG for review and approval prior to relocation of owls. The Burrowing Owl Mitigation and Monitoring Plan shall describe proposed relocation and monitoring plans. The plan shall include the number and location of occupied burrow sites and details on adjacent or nearby suitable habitat available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation of artificial burrows (numbers, location, and type of burrows) shall also be included in the plan. The plan shall also describe proposed off site areas to preserve to compensate for impacts to burrowing owls/occupied burrows at the project site as required under Condition 1. A copy of the approved plan will be provided to the CPUC.</p> |                         |                   |                                |
| <p><b>IMPACT BIO-3:</b><br/>Temporary and permanent losses of native vegetation communities</p> | <p><b>APM BIO-1: Preconstruction Surveys.</b> See above.<br/> <b>APM BIO-2: Minimize Vegetation.</b> See above.<br/> <b>APM BIO-4: Best Management Practices.</b> See above.<br/> <b>APM BIO 5: Biological Monitors.</b> See above.<br/> <b>APM BIO-6: Worker Environmental Awareness Program.</b> See above.<br/> <b>APM BIO-9: Facility Siting.</b> See above.<br/> <b>APM BIO-10: Invasive Plant Management.</b> See above.<br/> <b>MM BIO-1: Preconstruction Surveys.</b> See above.<br/> <b>MM BIO -2: Reclamation Plan.</b> See above.<br/> <b>MM BIO 3: Special Status Plants Restoration and Compensation.</b> See above.</p>  | <p>See above.</p>       | <p>See above.</p> | <p>See above.</p>              |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                       | Determination of Effectiveness  |
|---|--|--|------------------------------|---|
| <p><b>IMPACT BIO-4:</b><br/>Introduction of invasive, non-native, or noxious plants species</p> | <p><b>APM BIO-1: Preconstruction Surveys.</b> See above.<br/> <b>APM BIO-2: Minimize Vegetation.</b> See above.<br/> <b>APM BIO-4: Best Management Practices.</b> See above.<br/> <b>APM BIO 5: Biological Monitors.</b> See above.<br/> <b>APM BIO-6: Worker Environmental Awareness Program.</b> See above.<br/> <b>APM BIO-9: Facility Siting.</b> See above.<br/> <b>APM BIO-10: Invasive Plant Management.</b> See above.</p>   | <p>See above.</p>  | <p>See above.</p>            | <p>See above.</p>   |
| <p><b>IMPACT BIO-4:</b><br/>Introduction of invasive, non-native, or noxious plants species</p> | <p><b>MM BIO-4: Model Invasive Plant Management Plan on the BLM Las Vegas Office DRAFT Weed Plan.</b> The Invasive Plant Management Plan to be developed (APM BIO-10) will be modeled on the BLM Las Vegas Office DRAFT Weed Plan. The plan will include operation and maintenance activities, as well as construction activities. The content of the plan will include results of the noxious weed inventory, identification of problem areas, preventative measures, treatment methods, agency-specific requirements, monitoring requirements, and herbicide treatment protocol. The plan will include best management practices that require that any biological material brought on-site (e.g. hay bales that may be used for controlling stormwater under APM GEO-2, and native mixes for vegetation in MM BIO-2) will be certified weed-free. The plan will be submitted to both the California and the Nevada resource agencies and to the CPUC for approval prior to construction authorization.</p> | <p>Ensure that an Invasive Plant Management Plan is developed as specified in MM BIO-4 and submitted to both the California and the Nevada resource agencies and to the CPUC for approval prior to construction.</p> | <p>Prior to construction</p> | <p>Invasive plant species are prevented from spreading throughout the proposed project area due to construction activities.</p> |
| <p><b>IMPACT BIO-5:</b> Adverse effects on drainages, riparian areas, and wetlands</p>          | <p><b>APM BIO-2: Minimize Vegetation Impacts.</b> See above.</p>   | <p>See above.</p>  | <p>See above.</p>            | <p>See above.</p>   |
| <p><b>IMPACT BIO-5:</b> Adverse effects on drainages, riparian areas, and wetlands</p>          | <p><b>APM BIO-3: Avoid Impacts on State and Federal Jurisdiction Wetlands. Avoid Impacts on State and Federal Jurisdiction Wetlands.</b> Construction crews would avoid impacting the streambeds and banks of streams along the route to the extent possible. As applicable, the necessary permits would be obtained from the appropriate agencies. Impacts would be mitigated based on the terms of the permits. No streams with flowing waters capable of supporting special-status species would be expected to be impacted by the</p>  | <p>Ensure that streambeds and banks of streams are minimally impacted, and the Streambed Alteration Agreement (SAA) is followed as required by the CDFG.</p>   | <p>During construction</p>   | <p>APM implemented.</p>   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                | Determination of Effectiveness   |
|---|--|--|-----------------------|--|
|   | proposed project.  |  |                       |  |
| <b>IMPACT BIO-5:</b> Adverse effects on drainages, riparian areas, and wetlands | <b>APM BIO-4: Best Management Practices.</b> See above.<br><b>APM BIO-9: Facility Siting.</b> See above.<br><b>APM HAZ-2: Hazardous Materials and Waste Handling Management.</b> See below.<br><b>APM HAZ-5: SPCCP and Hazardous Materials Business Plan.</b> See below.<br><b>APM W-1: Avoid Stream Channels.</b> See below.<br><b>APM W-2: Erosion Control and Hazardous Material Plans.</b> See below.<br><b>APM W-4: Avoid Active Drainage Channels.</b> See below.<br><b>APM W-9: Prepare and Implement an Approved SWPPP.</b> See below. | See above/below.   | See above/below.      | See above/below.   |
| <b>IMPACT BIO-5:</b> Adverse effects on drainages, riparian areas, and wetlands | <b>MM BIO-5: Jurisdictional Delineation.</b> Conduct a formal jurisdictional delineation within the boundaries of the project area once final engineering for the location of project-specific features is complete. This will be conducted prior to construction and is required in order to apply for permits, if needed, with USACE, California RWQCBs, and CDFG. A copy of the jurisdictional delineation will be provided to the CPUC.  | Ensure that the jurisdictional delineation completed and associated permits are acquired. See additional requirements in MM BIO-5. | Prior to construction | Jurisdictional delineation is completed and associated permits are acquired. |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                           | Determination of Effectiveness  |
|---|--|--|----------------------------------|---|
| <b>IMPACT BIO-5:</b> Adverse effects on drainages, riparian areas, and wetlands                         | <b>MM BIO-6: Drainage Crossings Design.</b> If drainages cannot be avoided by infrastructure placement, then the applicant will design drainage crossings to accommodate estimated peak flows and ensure that natural volume capacity can be maintained throughout construction and upon post-construction restoration. This measure is necessary to minimize the amount of erosion and degradation to which drainages are subject.  | Ensure that drainage crossings are specifically designed to accommodate estimated peak flows and natural volume capacity throughout construction and post-construction restoration.  | During and after construction    | Drainage crossings accommodate peak flows and natural volume capacity throughout construction and post-construction restoration.                    |
| <b>IMPACT BIO-5:</b> Adverse effects on drainages, riparian areas, and wetlands                         | <b>MM BIO-7: Mitigation Monitoring Plan for Affected Jurisdictional Areas.</b> The applicant will develop a Mitigation Monitoring Plan for affected jurisdictional areas within established riparian areas, as needed, for submittal to the USACE for review and approval. The plan will outline measures to accomplish restoration, provide criteria for restoration success, and/or provide compensation ratios. This measure is needed to compensate for loss of waters and riparian vegetation that provide suitable habitat for special-status and sensitive species, and provide important hydrological and water quality functions in the desert environment. Monitoring and reporting, likely for up to 3 to 5 years post-construction, will be required, pending consultation with agencies. A copy of the approved Mitigation Monitoring Plan will be provided to the CPUC and CDFG. | Ensure that a Mitigation Monitoring Plan for affected jurisdictional areas is developed and submitted for approval as specified in MM BIO-7.   | Prior to and after construction  | Monitoring and reporting for affected jurisdictional areas within established riparian areas is conducted for up to 3 to 5 years post construction. |
| <b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites | <b>APM BIO-4: Best Management Practices.</b> See above.<br><b>APM BIO-5: Biological Monitors.</b> See above.<br><b>APM BIO-6: Worker Environmental Awareness Program.</b> See above.   | See above.   | See above.                       | See above.  |
| <b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites | <b>APM BIO-7: Avoid Impacts on Active Nests.</b> SCE would conduct project-wide raptor and nesting bird surveys and remove trees or other vegetation, if necessary, outside of the nesting season (nesting season in the project area is late February to early July). If vegetation or existing structures containing a raptor nest or other active nest needed to be removed during the nesting season, or if work was scheduled to take place in close proximity to an active nest on an existing transmission or   | Ensure that project-wide raptor and nesting bird surveys are conducted, and if trees or other vegetation are removed, they are removed outside of the nesting season as specified in APM BIO-7. See additional requirements in | Prior to and during construction | Impacts on active nests are avoided or agency coordination is completed and authorizations  |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                           | Determination of Effectiveness |
|---|---|---|----------------------------------|--------------------------------|
|   | subtransmission tower or pole, SCE would coordinate with the USFWS, CDFG, and/or the NDOW as appropriate to obtain written verification prior to moving the nest.   | APM BIO-7.  |                                  | obtained.                      |
| <b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites | <b>APM BIO-8: Avian Protection.</b> All transmission and subtransmission towers and poles would be designed to be avian-safe in accordance with the Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006 (APLIC 2006).   | See requirements in APM BIO-8.  | Prior to and during construction | APM implemented.               |
| <b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites | <b>APM BIO-9: Facility Siting.</b> See above.   | See above.  | See above.                       | See above.                     |
| <b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites | <p><b>APM BIO-11: Desert Tortoise Measures.</b> The applicant or a qualified consultant would provide for the following to reduce impacts on desert tortoise:</p> <ul style="list-style-type: none"> <li>• The applicant cannot begin construction until issuance and acceptance of the USFWS Biological Opinion, the CDFG 2081 permit, and NDOW authorization. Additionally, compliance discussions with Clark County and Boulder City must occur prior to construction that resolve and outline the specific compensation fees or additional mitigation measures needed for loss of desert tortoise habitat. A copy of the USFWS Biological Opinion and documentation of any compliance discussions with Clark County and Boulder City will be provided to the CPUC.</li> <li>• A field contact representative (FCR) would be designated and would oversee compliance monitoring activities and coordination with authorizing agency(s). Compliance activities would at a minimum include conducting preconstruction surveys, assuring proper removal of desert tortoise, staffing biological monitors on construction spreads, and upholding all conditions authorized. The field contact representative would also oversee all compliance documentation including daily observation reports, non-compliance and corrective action reports, and final reporting to any authorized agency upon project completion.</li> <li>• All work area boundaries associated with temporary and permanent</li> </ul> | <ul style="list-style-type: none"> <li>○ Ensure that preconstruction surveys for Desert Tortoise are conducted within 48 hours of site-specific project activities as specified in APM BIO-11.</li> <li>○ Ensure that all compliance documentation is submitted as specified in APM BIO-11. Incidents considered to be in non-compliance must be immediately documented.</li> <li>○ Ensure that the applicant implements a Raven Management Program.</li> <li>○ Ensure that construction activities are halted in the event of injury or death to a desert tortoise or other events specified in APM BIO-11.</li> <li>○ Ensure that work area boundaries associated with temporary and permanent disturbances are marked and</li> </ul> | Prior to and during construction | See MM BIO-12.                 |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing | Determination of Effectiveness |
|----------------|--|--|--------|--------------------------------|
|                | <p>disturbances would be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. All workers would strictly limit activities and vehicles to the designated work areas.</p> <ul style="list-style-type: none"> <li>● Crushing/removal of perennial vegetation in work areas would be avoided to the maximum extent practicable.</li> <li>● All trash and food items generated by construction and maintenance activities would be promptly contained and regularly removed from the project site(s) to reduce the attractiveness of the area to common ravens.</li> <li>● Pets would not be allowed in working areas unless restrained in a kennel.</li> <li>● Where possible, motor vehicles would be limited to maintained roads and designated routes.</li> <li>● Vehicle speed within the project area, along ROW maintenance routes, and along existing access roads would not exceed 20 miles per hour. Speed limits would be clearly marked and all workers would be made aware of these limits.</li> <li>● Constructed road berms would be less than 12 inches in height and have slopes of less than 30 degrees.</li> <li>● Construction monitoring would employ a designated field contact representative, authorized biologist(s), and qualified biologist(s) approved by the BLM during the construction phase. At a minimum, qualified biologist(s) would be present during all activities in which encounters with tortoises could occur. A qualified biologist is defined as a person with appropriate education, training, and experience to conduct tortoise surveys, monitor project activities, provide worker education programs, and supervise or perform other implementing actions. An authorized biologist is defined as a wildlife biologist who has been authorized to handle desert tortoises by the USFWS. A field contact representative is defined as a person designated by the project proponent who is responsible for overseeing compliance with desert tortoise protective measures and for coordination with agency compliance officer(s).</li> </ul> | <p>crushing/removal of perennial vegetation in work areas is minimized.</p> <ul style="list-style-type: none"> <li>○ Ensure that tortoises found on the surface are relocated to less than 1,000 feet away and handled according to the Guidelines for Handling Desert Tortoise During Construction Projects (Desert Tortoise Council 1999). See also the handling requirements specified in MM BIO-12.</li> <li>○ See additional requirements in APM BIO-11.</li> </ul> |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements | Timing | Determination of Effectiveness |
|----------------|---|-------------------------|--------|--------------------------------|
|                | <ul style="list-style-type: none"> <li>• Preconstruction clearance surveys would be conducted within 48 hours of initiation of site-specific project activities, following USFWS protocol (USFWS 1992). The goal of a clearance survey is to find all tortoises on the surface and in burrows that could be harmed by construction activities. Surveys would cover 100 percent of the acreage to be disturbed. All potential tortoise burrows within 100 feet of construction activity would be marked. Tortoise burrows would be avoided to the extent practicable, but would be excavated if they would be crushed by construction activities.</li> <li>• Any tortoise found on the surface would be relocated to less than 1,000 feet away. Tortoises would be handled carefully following the guidelines given in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council 1999). Tortoises would be handled with new latex gloves each time to avoid transmission of disease, and handlers would especially note guidelines for precautions to be taken during high-temperature periods.</li> <li>• If a potential tortoise burrow were required to be excavated, the biologist would proceed according to the guidelines given in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council 1999). Tortoises removed from burrows would be relocated to an artificial burrow (Desert Tortoise Council 1999). The entrance of the artificial burrow would be blocked until construction activities in the area were over (Desert Tortoise Council 1999).</li> <li>• For activities conducted between March 15 and November 1 in desert tortoise habitat, all activities in which encounters with tortoises might occur would be monitored by a qualified or authorized biologist. The biologist would be informed of tortoises relocated during preconstruction surveys so that he or she could watch for the relocated tortoises in case they attempted to return to the construction site. The qualified or authorized biologist would watch for tortoises wandering into the construction areas, check under vehicles, examine excavations and other potential pitfalls for entrapped animals, examine exclusion fencing, and conduct other</li> </ul> |                         |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements | Timing | Determination of Effectiveness |
|----------------|--|-------------------------|--------|--------------------------------|
|                | <p>activities to ensure that death or injuries of tortoises were minimized.</p> <ul style="list-style-type: none"> <li>• No overnight hazards to desert tortoises (e.g., auger holes, trenches, pits, or other steep-sided depressions) would be left unfenced or uncovered; such hazards would be eliminated each day prior to the work crew and biologist leaving the site. Large or long-term project areas would be enclosed with tortoise-proof fencing. Fencing would be removed when restoration of the site was completed.</li> <li>• Any incident occurring during project activities that was considered by the biological monitor to be in non-compliance with the mitigation plan would be documented immediately by the biological monitor. The field contact representative would ensure that appropriate corrective action was taken. Corrective actions would be documented by the monitor. The following incidents would require immediate cessation of the construction activities causing the incident, including (1) imminent threat of injury or death to a desert tortoise; (2) unauthorized handling of a desert tortoise, regardless of intent; (3) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and (4) conducting any construction activity without a biological monitor where one was required. If the monitor and field contact representative did not agree, the federal agency's compliance officer would be contacted for resolution. All parties could refer the resolution to the federal agency's authorized officer.</li> <li>• Results of biological monitoring and status of construction will be detailed in daily reports by biological monitors. These reports will be submitted to the authorized biologist on a daily basis and to the FCR on a weekly basis (at minimum). The authorized biologist will notify the FCR within 24 hours of any action that involves harm to a desert tortoise, or involves a blatant disregard by construction personnel for the APMs or MMs designed to minimize impacts on desert tortoise or other wildlife. The authorized biologist will submit to the USFWS, NDOW, CDFG, and CPUC a summary of all desert tortoises seen, injured, killed, excavated, and handled at the end of the project or within 2 working days of when desert tortoises are harmed.</li> </ul> |                         |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements | Timing | Determination of Effectiveness |
|----------------|---|-------------------------|--------|--------------------------------|
|                | <ul style="list-style-type: none"> <li>• All construction personnel, including subcontractors, would complete a WEAP. This instruction would include specific desert tortoise training on distribution, general behavior and ecology, identification, protection measures, reporting requirements, and protections afforded by state and federal endangered species acts.</li> <li>• Parked vehicles would be inspected prior to being moved. If a tortoise were found beneath a vehicle, the authorized biologist would be contacted to move the animal from harm's way, or the vehicle would not be moved until the desert tortoise left of its own accord. The authorized biologist would be responsible for taking appropriate measures to ensure that any desert tortoise moved in this manner was not exposed to temperature extremes that could be harmful to the animal.</li> <li>• Should any desert tortoise be injured or killed, all activities would be halted, and the field contact representative and/or authorized biologist immediately contacted. The field contact representative and/or authorized biologist would be responsible for reporting the incident to the authorizing agencies.</li> <li>• A report to the USFWS would be produced reporting all tortoises seen, injured, killed, excavated, or handled. GPS locations of live tortoises would be reported.</li> <li>• The applicant would implement a Raven Management Program that would consist of: (1) an annual survey to identify raven nests on towers and any tortoise remains at tower locations; this information would be relayed to the BLM so that the ravens and/or their nests in these towers could be targeted for removal, (2) SCE making an annual or one time contribution to an overall raven reduction program in the California or Nevada desert, with an emphasis on raven removal in the vicinity of this project.</li> </ul> |                         |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing                                  | Determination of Effectiveness   |
|--|--|---|---|--|
| <p><b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites</p> | <p><b>APM BIO-12: Desert Bighorn Sheep Measures.</b> The applicant would consult with the BLM, USFWS, and NDOW regarding conservation measures to avoid impacts on desert bighorn sheep during construction. Project areas with the potential to impact bighorn sheep include the proposed transmission line route through the McCullough Range and the telecommunication route segment in the southern Eldorado Valley between the Highland Range and the Southern McCullough Range. Avoidance and minimization measures could include such elements as preconstruction surveys, biological monitoring, and timing construction activities to avoid bighorn sheep active seasons. Construction requiring the use of helicopters would be conducted outside of bighorn lambing season (April through October) and the dry summer months when bighorn may need to access artificial water sources north of the propose route in the McCullough Range (June through September).</p>  | <p>See requirements in APM BIO-12.</p>  | <p>Prior to and during construction</p> | <p>See MM BIO-13.</p>  |
| <p><b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites</p> | <p><b>APM BIO-13: Western Burrowing Owl Measures.</b> Where project ground-disturbing activities would occur prior to the burrowing owl breeding season (mid-March to August), all burrows, holes, crevices, or other cavities in suitable habitat on the project, within the limits of proposed ground disturbance, would be thoroughly inspected by a qualified biologist before collapsing. This would discourage owls from breeding on the construction site. Other species using burrows would be relocated prior to collapsing burrows. If construction were to be initiated after the commencement of the breeding season and burrowing owls could be seen within areas to be affected by ground construction activities, behavioral observations would be done by a qualified biologist to determine their breeding status. If breeding were observed, the nest area would be avoided, with an appropriately sized buffer sufficient to prevent disturbance during construction activities until the chicks fledged.</p> | <p>See requirements in APM BIO-13.</p>  | <p>During construction</p>              | <p>See MM BIO-16.</p>  |
| <p><b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites</p> | <p><b>APM BIO-14: Gila Monster and Chuckwalla Measures.</b> The following measures are the current NDOW construction site protocols for the Gila monster (NDOW 2005). These protocols are applicable for the Gila monster in both the Nevada and California sections of the project, and applicable for the chuckwalla in the Nevada section of the project. Through the WEAP, workers and other project personnel should (at a minimum) know how to: (1) identify Gila monsters and be able to</p>  | <p>Ensure that all workers are trained through the Worker Environmental Awareness Program (WEAP) about Gila Monsters as specified in APM BIO-14. Ensure that Gila Monsters are handled as</p> | <p>Prior to and during construction</p> | <p>Impacts on Gila monsters are avoided or Gila Monsters are handled as specified in APM BIO-14.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing | Determination of Effectiveness |
|----------------|---|--|--------|--------------------------------|
|                | <p>distinguish them from other lizards such as chuckwallas and banded geckos; (2) report any observations of Gila monsters (in Nevada) to the biological monitor for notification of the NDOW; (3) be alerted to the consequences of a bite resulting from carelessness or unnecessary harassment; and (4) be aware of protective measures provided under state law.</p> <ul style="list-style-type: none"> <li>• Live Gila monsters found in harm's way on the construction site would be captured and then detained in a cool, shaded environment (&lt;85 degrees Fahrenheit) by the project biologist or equivalent personnel until a NDOW biologist can arrive for documentation purposes. Despite the fact that a Gila monster is venomous and can deliver a serious bite, its relatively slow gait allows for it to be easily coaxed or lifted into an open bucket or box, carefully using a long handled instrument such as a shovel or snake hook (note: it is not the intent of NDOW to request unreasonable action to facilitate captures; additional coordination with NDOW will clarify logistical points).</li> <li>• A clean 5-gallon plastic bucket with a secure, vented lid; an 18-inch x 18-inch x 4-inch plastic sweater box with a secure, vented lid; or a tape-sealed cardboard box of similar dimension may be used for safe containment. Additionally, written information identifying the mapped capture location (e.g., GPS record), date, time, and circumstances (e.g., biological survey or construction) and habitat description (vegetation, slope, aspect, and substrate) would also be provided to NDOW.</li> <li>• Injuries to Gila monsters may occur during excavation, blasting, road grading, or other construction activities. In the event a Gila monster is injured, it should be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses would not be covered by NDOW. However, NDOW would be immediately notified during normal business hours. If an animal is killed or found dead, the carcass would be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, habitat, and mapped location.</li> </ul> | <p>specified in APM BIO-14. See additional requirements in APM BIO-14.</p> |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing                                  | Determination of Effectiveness                           |
|--|---|--|---|--|
|  | <ul style="list-style-type: none"> <li>Should NDOW's assistance be delayed, biological or equivalent acting personnel on site may be requested to remove and release the Gila monster out of harm's way. Should NDOW not be immediately available to respond for photo-documentation, a 35-mm camera or equivalent (5 mega-pixel digital minimum preferred) would be used to take good quality images of the Gila monster in situ at the location of live encounter or dead salvage. The pictures, preferably on slide film (.tif or .jpg digital format) would be provided to NDOW. Pictures would include the following information: (1) Encounter location (landscape with Gila monster in clear view); (2) a clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view and be in sharp focus); (3) a clear, overhead close-up of the head (head should fill camera's field of view and be in sharp focus).</li> </ul> |  |   |  |
| <p><b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites</p> | <p><b>MM BIO-17: Gila Monster Compliance.</b> The most current NDOW construction site protocols for the Gila monster (NDOW 2007) will be followed by the applicant in both Nevada and California portions of the project. To reduce impacts on Gila monster, all locations of Gila monster found within the project area during surveys and construction work will be reported to NDOW and the CDFG</p>   | <p>Ensure most current NDOW construction site protocols for the Gila monster (NDOW 2007) are followed and that all locations of Gila monster found within the project area during surveys and construction work are reported to NDOW and the CDFG.</p> | <p>Prior to and during construction</p> | <p>Impacts on Gila monsters are avoided.</p>             |
| <p><b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites</p> | <p><b>MM BIO-18: Avian Protection Plan.</b> To reduce impacts on golden eagles and raptors, the applicant shall submit an Avian Protection Plan for approval to the BLM within 6 months of the issuance of any ROW grant for the project. The Plan shall be prepared according to guidance provided by the USFWS (USFWS 2010). The Avian Protection Plan must be implemented within one year from the date of any ROW grant Notice to Proceed.</p>  | <p>Verify Avian Protection Plan prepared in accordance with MM BIO-18 submitted for approval to the BLM within 6 months of the issuance of any ROW grant for the project.</p>  | <p>Prior to and during construction</p> | <p>Impacts on golden eagles and raptors are avoided.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                                 | Determination of Effectiveness             |
|--|--|--|--|--|
| <p><b>IMPACT BIO-6:</b> Direct or indirect loss of migratory wildlife species, corridors, or nursery sites</p> | <p><b>MM BIO-1: Preconstruction Surveys.</b> See above.<br/> <b>MM BIO-8: Reduce Night Lighting.</b> See above.<br/> <b>MM BIO-10: Biological Monitors.</b> See above.<br/> <b>MM BIO-12: Desert Tortoise Impacts Reduction Measures.</b> See above.<br/> <b>MM BIO-13: Desert Bighorn Sheep Impacts Reduction Measures.</b> See above.<br/> <b>MM BIO-14: American Badger Impacts Reduction Measures.</b> See above.<br/> <b>MM BIO-15: Migratory Birds and Raptors Impacts Reduction Measures.</b> See above.<br/> <b>MM BIO-16: Burrowing Owl Impacts Reduction Measures.</b> See above.</p>  | <p>See above.</p>  | <p>See above.</p>                      | <p>See above.</p>                          |
| <p><b>IMPACT BIO-7:</b> Conflict with the Provisions of local ordinances or policies</p>                       | <p><b>APM BIO-2: Minimize Vegetation Impacts.</b> See above.<br/> <b>APM BIO-3: Avoid Impacts on State and Federal Jurisdiction Wetlands.</b> See above.<br/> <b>MM BIO-2: Reclamation Plan.</b> See above.<br/> <b>MM BIO-3: Special Status Plants Restoration and Compensation.</b> See above.</p>   | <p>See above.</p>  | <p>See above.</p>                      | <p>See above.</p>                          |
| <p><b>3.5 Cultural Resources and Native American Values</b></p>  |  |  |  |  |
| <p><b>IMPACT CR-1:</b> Impacts to Cultural Resource 36-10315 (CA-SBR-10315H)</p>                               | <p><b>APM CR-1: Conduct Archaeological Inventory of Areas that May Be Disturbed.</b> Conduct an intensive archaeological inventory of all areas that may be disturbed during construction and operation of the proposed project. A complete cultural resources inventory of the project area has been conducted, details of which are contained in a technical report. Should the project substantially change and areas not previously inventoried for cultural resources become part of the construction plan, the applicant would ensure that such additional areas are inventoried for cultural resources prior to any disturbance. All surveys would be conducted and documented according to applicable laws, regulations, and professional standards.</p> | <p>Ensure that an archaeological inventory is conducted as specified in APM CR-1. See additional requirements in APM CR-1.</p> | <p>Prior to and after construction</p> | <p>APM fully implemented as specified.</p> |
| <p><b>IMPACT CR-1:</b> Impacts</p>   | <p><b>APM CR-2: Avoid and Minimize Impacts on Significant Cultural</b></p>   | <p>See requirements in APM CR-2.</p>   | <p>During</p>                          | <p>APM</p>                                 |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                           | Determination of Effectiveness  |
|---|--|--|----------------------------------|---|
| to Cultural Resource 36-10315 (CA-SBR-10315H)                             | <b>Resources Wherever Feasible.</b> Avoid and minimize impacts on significant or potentially significant cultural resources wherever feasible. To the extent practical, the applicant would avoid or minimize impacts on archaeological resources, regardless of its CRHR or NRHP eligibility status. This includes siting all ground-disturbing activities and other project components outside a buffer zone established around each recorded archaeological site within or immediately adjacent to the right-of-way.  |  | construction                     | implemented.  |
| <b>IMPACT CR-1:</b> Impacts to Cultural Resource 36-10315 (CA-SBR-10315H) | <b>APM CR-3b: Evaluate Significance of Potentially Eligible Buildings and Structures.</b> Evaluate the significance of buildings and structures potentially eligible for CRHR or NRHP listing. Evaluation would take into account engineering, aesthetic, architectural, and other relevant attributes of each property. Buildings and structures would be evaluated for historical significance per CRHR eligibility Criteria 1, 2, and 3, and NRHP Criteria A, B, and C. A report of the evaluation of each building or structure would be prepared providing a rationale for an assessment of significance consistent with professional standards and guidelines. The report would be filed with the appropriate Information Center of the California Historical Resources Information System.  | Ensure that a report evaluating buildings and structures for historical significance as specified in APM CR-3b is filed with the appropriate Information Center of the California Historical Resources Information System. | Prior to construction            | All historically significant buildings or structures that may be impacted are identified and evaluated as specified in APM CR-3b. |
| <b>IMPACT CR-1:</b> Impacts to Cultural Resource 36-10315 (CA-SBR-10315H) | <b>APM CR-4b: Implement Measures to Minimize Impacts on Significant Buildings and Structures.</b> Prior to construction and during construction, the applicant would implement the following measures to minimize unavoidable impacts on significant buildings and structures: <ul style="list-style-type: none"> <li>• Locate proposed project facilities to minimize effects on significant buildings or structures.</li> <li>• If impacts on significant buildings or structures cannot be avoided, document significant architectural and engineering attributes consistent with the documentation standards of the National Park Service Historic American Buildings Survey/Historic American Engineering Record.</li> <li>• File reports and other documentation with the BLM, National Park Service, if appropriate, and appropriate Information Center of the California Historical Resources Information System.</li> </ul> | Ensure that reports are filed as specified in APM CR-4b. See additional requirements in APM CR-4b.   | Prior to and during construction | Impacts on historically significant buildings or structures are avoided or minimized.   |
| <b>IMPACT CR-2:</b> Impacts   | <b>APM CR-1: Conduct Archaeological Inventory of Areas that May Be</b>   | See above.   | See above.                       | See above.  |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                                  | Determination of Effectiveness   |
|---|--|--|---|--|
| to Previously Unidentified Cultural Resources                             | <p><b>Disturbed.</b> See above.</p> <p><b>APM CR-2b. Conduct a Preconstruction Worker Environmental Awareness Program (see BIO-6, PALEO-3, and W-11).</b> The program would be presented to all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the CRHR or NRHP. This includes construction supervisors as well as field construction personnel. No construction worker would be involved in ground-disturbing activities without having participated in the Worker Environmental Awareness Program.</p>  | <p>Ensure that all proposed project personnel who have the potential to encounter culturally-sensitive sites including construction workers have participated in the Worker Environmental Awareness Program.</p> | <p>Prior to and during construction</p> | <p>No workers involved in ground-disturbing activities without having participated in the Worker Environmental Awareness Program</p> |
| <b>IMPACT CR-2:</b> Impacts to Previously Unidentified Cultural Resources | <p><b>APM CR-5: Prepare and Implement a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.</b> During construction it is possible that previously unknown archaeological or other cultural resources or human remains could be discovered. Prior to construction, the applicant would prepare a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan to be implemented if an unanticipated discovery is made. At a minimum the plan would detail the following elements:</p> <ul style="list-style-type: none"> <li>• Worker and supervisor training in the identification of cultural remains that could be found in the proposed project area, and the implications of disturbance and collection of cultural resources pursuant with the Archaeological Resources Protection Act of 1979</li> <li>• Worker and supervisor response procedures to be followed in the event of an unanticipated discovery, including appropriate points of contact for professionals qualified to make decisions about the potential significance of any find</li> <li>• Identities of persons authorized to stop or redirect work that could affect the discovery, and their on-call contact information</li> <li>• Procedures for monitoring construction activities in archaeologically sensitive areas</li> <li>• A minimum radius around any discovery within which work would be halted until the significance of the resource has been evaluated and</li> </ul> | <p>Ensure that a Construction Monitoring and Unanticipated Cultural Resources Discovery Plan is prepared and implemented as specified in APM CR-5.</p>   | <p>Prior to and during construction</p> | <p>Impacts on culturally-sensitive resources are avoided or minimized.</p>   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements              | Timing                     | Determination of Effectiveness  |
|--|---|--------------------------------------|----------------------------|---|
|  | <p>mitigation implemented as appropriate</p> <ul style="list-style-type: none"> <li>• Procedures for identifying and evaluating the historical significance of a discovery</li> <li>• Procedures for consulting Native Americans when identifying and evaluating the significance of discoveries involving Native American cultural materials</li> <li>• Procedures to be followed for treatment of discovered human remains per current state law and protocol developed in consultation with Native Americans.</li> </ul>   |                                      |                            |   |
| <p><b>IMPACT CR-2:</b> Impacts to Previously Unidentified Cultural Resources</p> | <p><b>APM CR-6: Inadvertent Discovery of Human Remains.</b> Any human remains discovered during project activities in California would be protected in accordance with current state law, specifically Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641. If human remains determined not to be Native American are unclaimed, they would be treated under the appropriate State of Nevada statutes, including but not limited to Nevada Revised Statutes Chapter 440 and the regulations of the applicable land management agency. In the event that human remains are recovered on private lands, the landholder would have the right to designate the repository for the remains if they are determined not to be Native American or if their family affiliation cannot be determined.</p> <p>The provisions of the Native American Grave Protection and Repatriation Act are applicable when Native American human remains are found on federal land (BLM land in California and Nevada). The discovery of human remains would be treated as defined in the Construction Monitoring and Unanticipated Cultural Resources Discovery Plan.</p> | <p>See requirements in APM CR-6.</p> | <p>During construction</p> | <p>Impacts on culturally-sensitive resources are avoided or treated in accordance with all applicable laws.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                                  | Determination of Effectiveness   |
|--|---|---|---|--|
| <p><b>IMPACT CR-2:</b> Impacts to Previously Unidentified Cultural Resources</p> | <p><b>MM CR-1: Cultural Resources Monitoring.</b> The applicant will retain a cultural resources monitor who meets the Secretary of the Interior Standards of a Qualified Professional Archaeologist prior to commencing construction or geotechnical test trenching on the project. The archaeologist will need to be approved by the BLM and will provide construction monitoring for any geotechnical studies that require trench excavation. As mentioned in APM GEO-1, five of the tower installations and 20 percent of the ground-trenching activities are in archaeologically sensitive areas. Monitoring in these areas will be determined by the BLM prior to construction.</p> <p>Monitoring is necessary because a potential for cultural resources beneath desert pavement surfaces on alluvial planes was recently determined. Such conditions exist throughout much of the EITP project area. This monitoring effort would be used to protect potential resources and to provide data to help confirm or deny the theory of desert pavement development that would allow for buried cultural resources. BLM reserves the right to increase the amount of monitoring at any time if conditions reveal the necessity.</p> <p>The archaeologist will present to the BLM for approval, no less than 60 days prior to commencement of construction, a monitoring plan; copies of which will also be submitted to the CPUC by the archaeologist. The archaeologist will also provide a report of findings after the monitoring has been completed. Because this geoarchaeological sensitivity has not been widely tested, the BLM is requiring only a small sample of monitoring at this time; further monitoring will only be required if the need is proven.</p> | <p>Ensure that the cultural resources monitoring plan is presented to the BLM for approval no less than 60 days prior to commencement of construction and a copy is sent to the CPUC. See additional requirements in MM CR-1.</p> | <p>Prior to and during construction</p> | <p>Impacts on culturally-sensitive resources are avoided or minimized.</p>                                   |
| <p><b>IMPACT CR-2:</b> Impacts to Previously Unidentified Cultural Resources</p> | <p><b>MM CR-3: Archaeological Resources Protection Act (ARPA) Training.</b> Prior to construction, the applicant will provide ARPA training with the preconstruction Worker Environmental Awareness Program (WEAP; APM CR-2b). As required for the WEAP, ARPA training will be presented to all proposed project personnel who have the potential to encounter and alter unique archaeological sites, historical resources, or historic properties, or properties that may be eligible for listing in the NRHP. This includes construction supervisors as well as field construction personnel. No construction worker would be involved in</p>   | <p>Ensure that all proposed project personnel who have the potential to encounter culturally-sensitive sites including construction workers have participated in ARPA training.</p>   | <p>Prior to and during construction</p> | <p>No workers involved in ground-disturbing activities without having participated in the ARPA training.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                           | Determination of Effectiveness   |
|---|--|--|----------------------------------|--|
|   | ground-disturbing activities without having participated in the ARPA training portion of the WEAP.   |  |                                  |  |
| <b>IMPACT CR-3:</b><br>Unanticipated Discovery of Human Remains   | <b>APM CR-6: Inadvertent Discovery of Human Remains.</b> See above.  | See above.   | See above.                       | See above.   |
| Removal of portions of historic resources (NEPA Only Impact).   | <b>MM CR-2: Historic American Engineering Record Recordation.</b> Prior to construction of the EITP, the applicant will retain a cultural resources specialist qualified to conduct HAER recordation, meeting the Secretary of the Interior Standards. The qualified cultural resources specialist will conduct HAER recordation on Cultural Resource 36-10315 (CA-SBR-10315H) HAER recordation will be conducted in accordance the Secretary of the Interior’s Standards for Architectural and Engineering Documentation, following Documentation Criteria Level II, as appropriate, for the level of significance assigned to the resources. | See requirements in MM CR-2.   | Prior to and during construction | Cultural resources specialist qualified to conduct HAER recordation, Standards retained by SCE. Resources documented according to HAER level 2 standards |
| <b>3.6 Geology, Soils, Minerals, and Paleontology</b>   |  |  |                                  |  |
| <b>IMPACT GEO-1:</b> Rupture of Earthquake Fault Across the Transmission Line Route                                 | <b>APM GEO-1: Geotechnical Engineering and Engineering Geology Study.</b> Prior to final design of substation facilities and transmission and subtransmission line tower foundations, a combined geotechnical engineering and engineering geology study would be conducted to identify site-specific geologic conditions and potential geologic hazards in sufficient detail to support sound engineering practices.   | Ensure that a Geotechnical Engineering and Engineering Geology Study is completed. | Prior to construction            | See MM GEO-2.  |
| <b>IMPACT GEO-2:</b><br>Exposure of People or Structures to Potential Adverse Effects Due to Seismic Ground Shaking | <b>APM GEO-1: Geotechnical Engineering and Engineering Geology Study.</b> See above.   | See above.   | See above.                       | See above.   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing  | Determination of Effectiveness                |
|--|--|---|---|---|
| <p><b>IMPACT GEO-2:</b><br/>                     Exposure of People or Structures to Potential Adverse Effects Due to Seismic Ground Shaking</p>         | <p><b>APM GEO-2: Recommended Practices for Seismic Design of Substations.</b> For new substation construction, specific requirements for seismic design would be followed based on the Institute of Electrical and Electronics Engineers (IEEE) Standards Association Standard 693, "Recommended Practices for Seismic Design of Substations," which includes probabilistic earthquake hazard analysis. Other project elements would be designed and constructed in accordance with the appropriate industry standards, as well as good engineering and construction practices and methods.</p>  | <p>See requirements in APM GEO-2.</p>   | <p>Prior to and during construction</p>         | <p>APM fully implemented as specified.</p>    |
| <p><b>IMPACT GEO-3:</b><br/>                     Exposure of People or Structures to Potential Adverse Effects Due to Seismic-Related Ground Failure</p> | <p><b>APM GEO-1: Geotechnical Engineering and Engineering Geology Study.</b> See above.<br/> <b>APM GEO-2: Recommended Practices for Seismic Design of Substations.</b> See above.</p>   | <p>See above.</p>   | <p>See above.</p>                               | <p>See above.</p>                             |
| <p><b>IMPACT GEO-4:</b><br/>                     Exposure of People or Structures to Adverse Effects Due to Landslides</p>                               | <p><b>APM GEO-1: Geotechnical Engineering and Engineering Geology Study.</b> See above.</p>  | <p>See above.</p>   | <p>See above.</p>                               | <p>See above.</p>                             |
| <p><b>IMPACT GEO-4:</b><br/>                     Exposure of People or Structures to Adverse Effects Due to Landslides</p>                               | <p><b>MM GEO-1: Monitor and Mitigate Damage to Tower Structures.</b><br/>                     SCE will contact the California Department of Water Resources and the Nevada Division of Water Resources on an annual basis to determine if groundwater withdrawals pose a potential for threatening to cause ground subsidence within the project area. If physical evidence proves groundwater withdrawals are threatening tower locations, SCE will develop a plan, following their operations and maintenance policies, to mitigate potential damage to tower structures using standard foundation remediation techniques available.</p> | <p>Ensure that a plan to mitigate damage to tower structures due to subsidence is developed if physical evidence proves groundwater withdrawals are threatening tower locations. See additional requirements in MM GEO-1.</p> | <p>During and after construction (annually)</p> | <p>Damage to tower structures is avoided.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing  | Determination of Effectiveness   |
|--|--|--|---|--|
| <p><b>IMPACT GEO-5:</b> Erosion of Soil at Towers and the Substation and Along Access Roads</p>  | <p><b>APM GEO-3: Project Construction Stormwater Pollution Prevention Plan Protection Measures Regarding Soil Erosion / Water Quality.</b> Transmission line and substation construction activities would be conducted in accordance with the soil erosion/water quality protection measures to be specified in the project construction stormwater pollution prevention plan (SWPPP). New access roads would be designed to minimize ground disturbance from grading. They would follow natural ground contours as closely as possible, and would include specific features for road drainage. Measures could include water bars, drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings would be constructed, they would be restored and repaired as soon as possible after completion of the discrete action associated with construction of the line in the area.</p> | <p>See requirements in APM GEO-3.</p>  | <p>During construction</p>                      | <p>See MM GEO-3.</p>   |
| <p><b>IMPACT GEO-5:</b> Erosion of Soil at Towers and the Substation and Along Access Roads</p>  | <p><b>MM GEO-2: Geotechnical Engineering Study.</b> The applicant will prepare a geotechnical engineering study prior to the final project design to identify site-specific geological conditions and potential geologic hazards. The data collected from the study will be used to guide sound engineering practices and to mitigate potential geologic hazards.</p>  | <p>Ensure that a Geotechnical Engineering Study is completed and the results applied as specified in MM GEO-2.</p> | <p>Prior to and during construction</p>         | <p>Potential geologic hazards are identified and engineering practices modified accordingly.</p>               |
| <p><b>IMPACT GEO-6:</b> Structural Failure of Towers and Substation Facility Due to Unstable Soil Conditions Resulting in Subsidence or Collapse</p> | <p><b>APM GEO-1: Geotechnical Engineering and Engineering Geology Study.</b> See above.<br/> <b>APM GEO-2: Recommended Practices for Seismic Design of Substations.</b> See above.<br/> <b>MM GEO-1: Monitor and Mitigate Damage to Tower Structures.</b> See above.</p>   | <p>See above.</p>  | <p>See above.</p>                               | <p>See above.</p>  |
| <p><b>IMPACT GEO-6:</b> Structural Failure of Towers and Substation Facility Due to Unstable Soil Conditions Resulting in Subsidence or Collapse</p> | <p><b>MM GEO-3: Preparation and Implementation of SWPPP.</b> The applicant will prepare a SWPPP for review and approval by the Lahontan Regional Water Quality Control Board (Region 6) and the Clark County Stormwater Quality Management Committee that addresses construction and post-construction project-related ground disturbances and associated erosion. The plan will provide the necessary engineering controls and procedures to minimize impact to the ground surface caused by construction, operation, and maintenance activities. A copy of</p>   | <p>Ensure that a SWPPP is prepared and approved as specified in MM GEO-3.</p>                                      | <p>Prior to, during, and after construction</p> | <p>Impacts to ground surfaces caused by construction, operation, and maintenance activities are minimized.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing                           | Determination of Effectiveness   |
|--|--|---|----------------------------------|--|
|  | the approved plan will also be submitted to the CPUC.  |   |                                  |  |
| <b>IMPACT GEO-7:</b><br>Structural Failure of Towers of Substation Facility Due to Expansive Soils | <b>APM GEO-1: Geotechnical Engineering and Engineering Geology Study.</b> See above.   | See above.  | See above.                       | See above.   |
| <b>IMPACT GEO-7:</b><br>Structural Failure of Towers of Substation Facility Due to Expansive Soils | <b>MM GEO-4: Expansive Soils Mitigation.</b> The applicant will prepare a geotechnical study of the areas of expansive soil(s) identified in APM GEO-1 to develop appropriate design and mitigation measures prior to construction.  | Ensure that the geotechnical study is completed and the results applied as specified in MM GEO-4.   | Prior to construction            | Potential hazards due to expansive soils are identified and engineering practices modified accordingly.    |
| <b>IMPACT PALEO-1:</b><br>Direct or Indirect Damage or Destruction of Paleontological Resources    | <b>APM PALEO-1: Retention of Paleontologist and Preparation of a Paleontological Resource Management Plan.</b> Prior to construction, a certified paleontologist would be retained by SCE to supervise monitoring of construction excavations and to produce a Paleontological Resource Management Plan (PRMP) for the proposed project. This PRMP would be prepared and implemented under the direction of the paleontologist and would address and incorporate APMs PALEO-2 through PALEO-8. Paleontological monitoring would include inspection of exposed rock units and microscopic examination of matrix to determine whether fossils are present. The monitor would have authority to temporarily divert grading away from exposed fossils in order to recover the fossil specimens. More specific guidelines for paleontological resource monitoring could be found in the PRMP. | Ensure that a PRMP is prepared and implemented as specified in APM PALEO-1. See additional requirements in APM PALEO-1.                         | Prior to and during construction | Impacts on paleontological resources are avoided or paleontological resources are recovered and preserved. |
| <b>IMPACT PALEO-1:</b><br>Direct or Indirect Damage or Destruction of Paleontological Resources    | <b>APM PALEO-2: Pre-construction Paleontological Field Survey.</b> The paleontologist and/or his or her designated representative would conduct a pre-construction field survey of the project area underlain by Tertiary rock units and older alluvium. Results of the field inventory and associated recommendations would be incorporated into the PRMP.  | Ensure that a preconstruction paleontological field survey is completed and the results incorporated into the PRMP as specified in APM PALEO-2. | Prior to construction            | Impacts on paleontological resources are avoided or paleontological resources are recovered and            |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing                | Determination of Effectiveness   |
|---|---|--|-----------------------|--|
|   |   |  |                       | preserved.   |
| <b>IMPACT PALEO-1:</b><br>Direct of Indirect Damage or Destruction of Paleontological Resources | <b>APM PALEO-3: Worker Environmental Awareness Program (see BIO-6, CR-2b, W-11).</b> A Worker Environmental Awareness Program would be provided to construction supervisors and crew for awareness of requirements regarding the protection of paleontological resources and procedures to be implemented in the event fossil remains are encountered by ground-disturbing activities.  | Ensure that the WEAP includes paleontological resources training as specified in APM PALEO-3.                          | Prior to construction | Impacts on paleontological resources are avoided or paleontological resources are recovered and preserved. |
| <b>IMPACT PALEO-1:</b><br>Direct of Indirect Damage or Destruction of Paleontological Resources | <b>APM PALEO-4: Construction Monitoring.</b> Ground-disturbing activities would be monitored on a part-time or full-time basis by a paleontological construction monitor only in those parts of the project area where these activities would disturb previously undisturbed strata in rock units of moderate and high sensitivity. Quaternary alluvium, colluvium, and Quaternary landslide deposits have a low paleontological sensitivity level and would be spot-checked on a periodic basis to ensure that older underlying sediments were not being penetrated. Monitoring would not be implemented in areas underlain by younger alluvium unless these activities had reached a depth 5 feet below the present ground surface and fine-grained strata were present. Ground-disturbing activities in areas underlain by rock units of low sensitivity would be monitored on a quarter-time basis or spot-checked if fine grained strata were present. | See requirements in APM PALEO-4.   | During construction   | Impacts on paleontological resources are avoided or paleontological resources are recovered and preserved. |
| <b>IMPACT PALEO-1:</b><br>Direct of Indirect Damage or Destruction of Paleontological Resources | <b>APM PALEO-5: Recovery and Testing.</b> If fossils were encountered during construction, construction activities would be temporarily diverted from the discovery and the monitor would notify all concerned parties and collect matrix for testing and processing as directed by the project paleontologist. In order to expedite removal of fossil-bearing matrix, the monitor may request heavy machinery to assist in moving large quantities of matrix out of the path of construction to designated stockpile areas. Construction would resume at the discovery location once the necessary matrix was stockpiled, as determined by the paleontological monitor. Testing of stockpiles would consist of screen washing small samples to determine if important fossils were present. If such fossils were present, the additional matrix from the stockpiles would be water screened to ensure recovery of a scientifically significant sample.     | Ensure that construction activities are halted if fossils are encountered. See additional requirements in APM PALEO-5. | During construction   | Impacts on paleontological resources are avoided or paleontological resources are recovered and preserved. |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing                | Determination of Effectiveness   |
|---|--|---|-----------------------|--|
|   | Samples collected would be limited to a maximum of 6,000 pounds per locality.  |   |                       |  |
| <b>IMPACT PALEO-1:</b><br>Direct or Indirect Damage or Destruction of Paleontological Resources | <b>APM PALEO-6: Monthly Progress Reports.</b> The project paleontologist would document interim results of the construction monitoring program with monthly progress reports. Additionally, at each fossil locality, field data forms would record the locality, stratigraphic columns would be measured, and appropriate scientific samples would be submitted for analysis.  | Ensure that monthly progress reports are completed. See additional requirements in APM PALEO-6.                     | During construction   | Impacts on paleontological resources are avoided or paleontological resources are recovered and preserved. |
| <b>IMPACT PALEO-1:</b><br>Direct or Indirect Damage or Destruction of Paleontological Resources | <b>APM PALEO-7: Analysis of and Preparation of Final Paleontological Resource Recovery Report.</b> The project paleontologist would direct identification, laboratory processing, cataloging, analysis, and documentation of the fossil collections. When appropriate, and in consultation with SCE, splits of rock or sediment samples would be submitted to commercial laboratories for microfossil, pollen, or radiometric dating analysis. After analysis, the collections would be prepared for curation (see APM PALEO-8). A final technical report would be prepared to summarize construction monitoring and present the results of the fossil recovery program. The report would be prepared in accordance with SCE, Society of Vertebrate Paleontology guidelines, and lead agency requirements. The final report would be submitted to SCE, the lead agency, and the curation repository. | Ensure that a Final Paleontological Resource Recovery Report is prepared and submitted as specified in APM PALEO-7. | During construction   | APM fully implemented as specified.  |
| <b>IMPACT PALEO-1:</b><br>Direct or Indirect Damage or Destruction of Paleontological Resources | <b>APM PALEO-8: Curation.</b> Prior to construction, SCE would enter into a formal agreement with a recognized museum repository, and would curate the fossil collections, appropriate field and laboratory documentation, and final Paleontological Resource Recovery Report in a timely manner following construction.   | See requirements in APM PALEO-8.  | Prior to construction | Paleontological resources, if encountered, are recovered and preserved.                                    |

Table 5 Mitigation Monitoring Plan

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing  | Determination of Effectiveness  |
|---|--|--|---|---|
| <b>3.7 Hazards, Health, and Safety</b>  |  |  |   |   |
| <p><b>IMPACT HAZ-1:</b> Create Hazards through Routine Transport, Use, or Disposal of Hazardous Materials</p> | <p><b>APM HAZ-2: Hazardous Materials and Waste Handling Management.</b> Hazardous materials used and stored on-site for the proposed construction activities, as well as hazardous wastes generated on-site as a result of the proposed construction activities, would be managed according to the specifications outlined below as follows:</p> <ul style="list-style-type: none"> <li>• <b>Hazardous Materials and Hazardous Waste Handling Program:</b> A Project-specific hazardous materials management and hazardous waste management program would be developed prior to initiation of the Project. The program would outline proper hazardous materials use, storage and disposal requirements, as well as hazardous waste management procedures. The program would identify types of hazardous materials to be used during the Project and the types of wastes that would be generated. All Project personnel would be provided with Project-specific training. This program would be developed to ensure that all hazardous materials and wastes were handled in a safe and environmentally sound manner. Hazardous wastes would be handled and disposed of according to applicable rules and regulations. Employees handling wastes would receive hazardous materials training and shall be trained in: hazardous waste procedures; spill contingencies; waste minimization procedures; and TSDF training in accordance with OSHA Hazard Communication Standard and 22 CCR. SCE would use landfill facilities that are authorized to accept treated wood pole waste in accordance with HSC 25143.1.4(b).</li> <li>• <b>Construction Stormwater Pollution Prevention Plan:</b> A Project-specific construction SWPPP would be prepared and implemented prior to the start of construction of the transmission line and substations. The SWPPP would use BMPs to address the storage and handling of hazardous materials and sediment runoff during construction activities (California Stormwater Quality Association 2004).</li> <li>• <b>Transport of Hazardous Materials:</b> Hazardous materials that</li> </ul> | <p>Ensure that a Hazardous Materials and Waste Handling Management Plan is prepared and implemented as specified in APM HAZ-2.</p> | <p>Prior to, during, and after construction and during operations</p> | <p>The plan is implemented and impacts from hazardous materials are avoided or minimized.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements | Timing | Determination of Effectiveness |
|----------------|---|-------------------------|--------|--------------------------------|
|                | <p>would be transported by truck include fuel (diesel fuel and gasoline), and oil and lubricants for equipment. Containers used to store hazardous materials would be properly labeled and kept in good condition. Written procedures for the transport of hazardous materials used would be established in accordance with USDOT, CalTrans, and NDOT regulations. A qualified transporter would be selected to comply with federal and state transportation regulations.</p> <ul style="list-style-type: none"> <li>• <b>Fueling and Maintenance of Construction Equipment:</b> Written procedures for fueling and maintenance of construction equipment would be prepared prior to construction. Vehicles and equipment would be refueled on-site or by tanker trucks. Procedures would include the use of drop cloths made of plastic, drip pans, and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground.<br/><br/>Refueling stations would be located in designated areas where absorbent pads and trays would be available. The fuel tanks would also contain a lined area to ensure that accidental spillage does not occur. Drip pans or other collection devices would be placed under the equipment at night to capture drips or spills. Equipment would be inspected daily for potential leakage or failures. Hazardous materials such as paints, solvents, and penetrants would be kept in an approved locker or storage cabinet.</li> <li>• <b>Fueling and Maintenance of Helicopters:</b> Written procedures for fueling and maintenance of helicopters would be prepared prior to construction. Helicopters would be refueled at helicopter staging areas or local airports. Procedures would include the use of drop cloths made of plastic, drip pans, and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Refueling areas would be located in designated areas where absorbent pads and trays are available.</li> <li>• <b>Emergency Release Response Procedures:</b> An Emergency Response Plan detailing responses to releases of hazardous materials would be developed prior to construction activities. It would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and would</li> </ul> |                         |        |                                |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing  | Determination of Effectiveness  |
|---|--|---|---|---|
|   | <p>include an emergency response program to ensure quick and safe cleanup of accidental spills. All hazardous materials spills or threatened release, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of the quantity spilled, would be immediately reported if the spill has entered a navigable water, stream, lake, wetland, or storm drain if the spill impacted any sensitive area, including conservation areas and wildlife preserved, or if the spill causes injury to a person or threatens injury to public health. All construction personnel, including environmental monitors, would be aware of state and federal emergency response reporting guidelines.</p>  |   |   |   |
| <p><b>IMPACT HAZ-1:</b> Create Hazards through Routine Transport, Use, or Disposal of Hazardous Materials</p> | <p><b>APM HAZ-5: Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan.</b><br/> <b>Spill Prevention, Countermeasure, and Control Plan.</b> In accordance with Title 40 of the CFR, Part 112, SCE would prepare a SPCC Plan for proposed and/or expanded substations. The plans would include engineered and operational methods for preventing, containing, and controlling potential releases, and provisions for quick and safe cleanup.<br/> <b>Hazardous Materials Business Plans.</b> Prior to operation of new or expanded substations, SCE would prepare or update and submit, in accordance with Chapter 6.95 of the CHSD, and Title 22 CCR, a HMBP. The required documentation would be submitted to the designated CUPA in California. (An HMBP or similar documentation is not required by the state of Nevada.) The HMBPs would include hazardous materials and hazardous waste management procedures, and emergency response procedures including emergency spill cleanup supplies and equipment.</p> | <p>Ensure that a Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan are prepared and implemented as specified in APM HAZ-5.</p> | <p>Prior to, during, and after construction and during operations</p> | <p>The plans are implemented and impacts from hazardous materials are avoided or minimized.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing  | Determination of Effectiveness   |
|---|--|---|---|--|
| <p><b>IMPACT HAZ-1:</b> Create Hazards through Routine Transport, Use, or Disposal of Hazardous Materials</p> | <p><b>MM HAZ-1: Worker Health and Safety and Environmental Training and Monitoring Program.</b> Prior to construction, the applicant will conduct a worker safety and environmental training program. As part of the program, the applicant will develop and implement a Health and Safety Plan. The Health and Safety Plan should address all potential situations that workers could encounter during construction and maintenance, including safety issues that may be unique to any of the alternatives. The Health and Safety Plan, at minimum, must require that first aid kits be stored in each construction vehicle and that a worker trained in first aid be included in each work group. The purpose and goal of the worker safety and environmental training will be to communicate project-related environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and BMPs, to all field and construction personnel prior to the start of construction. Training will also encompass environmental training related to road designations, speed limits, and restrictions on camping within the surrounding Boulder City Conservation Easement to ensure compatibility with neighboring land uses, promote “good neighbor” policies, and institute best management practices for construction. SCE will also conduct health and safety training for Operation and Maintenance activities.</p> | <p>Ensure that a Worker Health and Safety and Environmental Training and Monitoring Program is prepared and implemented as specified in MM HAZ-1.</p> | <p>Prior to and during construction and during operations and maintenance</p> | <p>Project-related environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and BMPs, are communicated to all field and construction personnel.</p> |
| <p><b>IMPACT HAZ-1:</b> Create Hazards through Routine Transport, Use, or Disposal of Hazardous Materials</p> | <p><b>MM HAZ-4: Disposal of Demolition Materials.</b> All debris generated during project-related demolition of structures, buildings, asphalt, or concrete-paved surface areas must be tested for the presence of hazardous chemicals, mercury, asbestos, and any other materials that may be deemed hazardous before disposal. The applicant will ensure that the materials are properly disposed of depending on the sampling results.</p>  | <p>Ensure that all debris specified in MM HAZ-4 is tested and properly disposed of depending on the sampling results in compliance with MM HAZ-4.</p> | <p>Prior to and during construction and during operations and maintenance</p> | <p>Proper testing and disposal in full compliance with MM HAZ-4</p>  |
| <p><b>IMPACT HAZ-1:</b> Create Hazards through Routine Transport, Use, or Disposal of Hazardous Materials</p> | <p><b>MM HAZ-5: Backfill Material.</b> If backfill material is used, it will be sampled and determined to be contaminant-free before it is used to fill excavations.</p>   | <p>Ensure that any backfill material used is sampled and determined to be contaminant-free before use.</p>  | <p>Prior to and during construction and during operations and maintenance</p> | <p>No contaminated backfill material is used for the project.</p>  |

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| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                        | Determination of Effectiveness   |
|---|---|---|-------------------------------|--|
| <p><b>IMPACT HAZ-1:</b> Create Hazards through Routine Transport, Use, or Disposal of Hazardous Materials</p>     | <p><b>MM HAZ-6: EPA Identification Number.</b> If it is determined that hazardous waste will be generated during construction, the applicant will obtain an EPA Identification Number before construction begins. Before construction begins, the applicant will also determine whether the treatment or the handling or the storing of hazardous materials will require authorization of the local Certified Unified Program Agency (CUPA). If necessary, the applicant must receive authorization from the local CUPA before construction begins.</p>   | <p>Ensure that an EPA Identification Number is obtained before construction begins if it is determined that hazardous waste will be generated during construction. Also, ensure CUPA authorization is obtained if deemed necessary.</p> | <p>Prior to construction.</p> | <p>EPA Identification Number/ CUPA authorization possessed by SCE, as required for hazardous materials, prior to construction.</p> |
| <p><b>IMPACT HAZ-2:</b> Create Hazards through Accidental Release of Hazardous Materials into the Environment</p> | <p><b>APM PUSVC-1: Work Around High Pressure Pipelines.</b> See below.<br/> <b>APM PUSVC-2: Monitoring by Pipeline Companies.</b> See below.<br/> <b>APM HAZ-2: Hazardous Materials and Waste Handling Management.</b> See above.<br/> <b>MM HAZ-1: Worker Health and Safety and Environmental Training and Monitoring Program.</b> See above.<br/> <b>MM HAZ-4: Disposal of Demolition Materials.</b> See above.<br/> <b>MM HAZ-5: Backfill Material.</b> See above.<br/> <b>MM HAZ-6: EPA Identification Number.</b> See above.</p>   | <p>See above/below.</p>   | <p>See above/below.</p>       | <p>See above/below.</p>  |
| <p><b>IMPACT HAZ-2:</b> Create Hazards through Accidental Release of Hazardous Materials into the Environment</p> | <p><b>APM HAZ-3: Soil Management Plan.</b> A Soil Management Plan would be developed and implemented for construction of the proposed project. The objective of the Soil Management Plan is to provide guidance for the proper handling, on-site management, and disposal of impacted soil that might be encountered during construction activities. The plan would include practices that are consistent with the California Title 8, OSHA regulations, as well as appropriate remediation standards that are protective of the planned use. Appropriately trained professionals would be on-site during preparation, grading, and related earthwork activities to monitor soil conditions encountered. The Soil Management Plan would provide guidelines for the following:</p> <ul style="list-style-type: none"> <li>• Identifying impacted soil</li> <li>• Assessing impacted soil</li> <li>• Soil excavation</li> </ul> | <p>Ensure that a Soil Management Plan is prepared and implemented as specified in APM HAZ-3.</p>  | <p>Prior to construction</p>  | <p>APM fully implemented as specified.</p>   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                       | Determination of Effectiveness  |
|--|---|---|------------------------------|---|
|  | <ul style="list-style-type: none"> <li>• Impacted soil storage</li> <li>• Verification sampling</li> <li>• Impacted soil characterization and disposal</li> </ul> <p>In the event that potentially contaminated soils were encountered within the footprint of construction, soils would be tested and stockpiled. In California, the CUPA would determine whether further assessment is warranted. In Nevada, the NDEP BCA Spill Hotline (888-331- 6337) would be contacted if the quantity of impacted material is greater than 3 cubic yards.</p>  |   |                              |   |
| <p><b>IMPACT HAZ-3:</b> Expose the Public or Environment to Contaminated Soil or Groundwater</p> | <p><b>APM HAZ-1: Phase I Environmental Site Assessment.</b> A Phase I Environmental Site Assessment would be performed at each new or expanded substation location and along newly acquired transmission or subtransmission line ROWs. The Phase I Environmental Site Assessment would include an electronic records search of federal, state, and local databases. The electronic records search would be contracted to a company which specializes in this type of work and who would produce a comprehensive report (Report) for the new or expanded ROW. The Report is used to identify sites located on federal, state, and local government agency databases which may have the potential to impact the proposed project.</p> <p>The Report would be reviewed and, based on such review, any potential areas of concern along the ROW would be identified for further assessment. In addition, a Phase I Environmental Site Assessment which is compliant with ASTM 1927-05 (ASTM 2005) would be performed on all property to be acquired.</p> <p>Based on the results of the Phase I Environmental Site Assessment, additional assessment, characterization, and remediation of potential or known subsurface impacts may be conducted prior to construction activities. Such remediation could include the relocation of transmission line structures as necessary to avoid impacted areas, or the removal and disposal of impacted soils and/or groundwater according to applicable regulations.</p> | <p>Ensure that a Phase I ESA was conducted as specified in APM HAZ-1.</p> | <p>Prior to construction</p> | <p>Contaminated sites with the potential to impact the proposed project are identified and addressed as specified in APM HAZ-1.</p> |

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| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements                                     | Timing   | Determination of Effectiveness   |
|---|---|---|--|--|
| <p><b>IMPACT HAZ-3:</b> Expose the Public or Environment to Contaminated Soil or Groundwater</p>  | <p><b>MM HAZ-3: Agency Coordination and Approvals.</b> Before initiating the Phase I Environmental Site Assessment, site investigation under the Soil Management Plan, and/or any remediation work, the applicant will develop and submit a work plan to the appropriate federal, state, and local regulatory authority to oversee hazardous waste investigations or cleanups. No work will begin without approval of the appropriate regulatory authorities. The applicant will submit results of all analytical reports to the appropriate regulatory authorities in a report that summarizes the sampling results in reference to regulatory standards. The applicant will submit all closure certification or remediation approval reports to the appropriate regulatory authorities.</p> <p><b>MM HAZ-5: Backfill Material.</b> See above.</p> | <p>See requirements in MM HAZ-3.</p>                        | <p>Prior to Phase I Environmental Site Assessment, Prior to construction</p> | <p>Compliance with MM HAZ-3</p>  |
| <p><b>IMPACT HAZ-4:</b> Increase Safety Hazards for People Residing or Working Within Two Miles of a Public Airport or Public Use Airport</p>     | <p><b>APM LU-1: Aeronautical Considerations.</b> See below.</p>   | <p>See below.</p>   | <p>See below.</p>  | <p>See below.</p>  |
| <p><b>IMPACT HAZ-4:</b> Increase Safety Hazards for People Residing or Working Within Two Miles of a Public Airport or Public Use Airport</p>     | <p><b>MM HAZ-2: Comply with FAA Requirements Upon Construction of the SNSA.</b> The applicant will comply with all FAA requirements upon construction of the SNSA.</p>  | <p>Meet FAA requirements upon construction of the SNSA.</p> | <p>Prior to construction of the SNSA.</p>                                    | <p>Design of the proposed project follows all FAA requirements and takes into consideration all FAA recommendations.</p> |
| <p><b>IMPACT HAZ-5:</b> Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan</p> | <p><b>APM TRA-1: Obtain Permits.</b> See below.<br/><b>APM TRA-2: Traffic Management and Control Plans.</b> See below.</p>  | <p>See below.</p>   | <p>See below.</p>  | <p>See below.</p>  |
| <p><b>IMPACT HAZ-6:</b> Expose</p>  | <p><b>APM HAZ-4: Fire Management Plan.</b> The Fire Management Plan</p>   | <p>Ensure that a Fire Management</p>                        | <p>Prior to and</p>  | <p>APM</p>   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements                              | Timing                | Determination of Effectiveness  |
|--|---|--|-----------------------|---|
| People or Structures to Wildland Fires   | developed by SCE and presented in this PEA as Appendix K would be implemented (National Fire Association 1994).   | Plan is implemented.                                 | during construction   | implemented.  |
| <b>3.8 Hydrology and Water Quality</b>   |   |  |                       |   |
| <b>IMPACT HYDRO-1:</b><br>Introduction of Hazardous Contamination into Surface and Groundwater | <b>APM W-2: Erosion Control and Hazardous Material Plans.</b> Erosion control and hazardous material plans would be incorporated into the construction bidding specifications to ensure compliance.   | See requirements in APM W-2.                         | Prior to construction | Erosion control and hazardous material plans are incorporated into construction bidding specifications. |
| <b>IMPACT HYDRO-1:</b><br>Introduction of Hazardous Contamination into Surface and Groundwater | <b>APM W-10: Emergency Release Response Procedures.</b> The Emergency Release Response Procedures developed pursuant to APM HAZ-1 would be maintained onsite (or in vehicles) during construction of the proposed project.  | See requirements in APM W-10.                        | During construction   | Emergency Release Response Procedures are maintained onsite (or in vehicles) during construction.       |
| <b>IMPACT HYDRO-1:</b><br>Introduction of Hazardous Contamination into Surface and Groundwater | <b>APM W-12: Properly Dispose of Hazardous Materials.</b> All construction and demolition waste, including trash and litter, garbage, and other solid waste, would be removed and transported to an appropriately permitted disposal facility. Petroleum products and other potentially hazardous materials would be removed and transported to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials. | See requirements in APM W-12.                        | During construction   | All waste is disposed of properly.  |
| <b>IMPACT HYDRO-1:</b><br>Introduction of Hazardous Contamination into Surface and Groundwater | <b>APM W-13: Identify Location of Underground Utilities Prior to Excavation.</b> Prior to excavation, the applicant or its contractors would locate overhead and underground utility lines, such as natural gas, electricity, sewage, telephone, fuel, and water lines, or other underground structures that may reasonably be expected to be encountered during excavation work.   | See requirements in APM W-13.                        | Prior to construction | All existing overhead and underground utility lines that may be encountered are identified.             |
| <b>IMPACT HYDRO-1:</b><br>Introduction of Hazardous  | <b>MM W-1: Erosion Control Plan and Compliance with Water Quality Permits.</b> The applicant will employ a professional engineer to develop   | Ensure that an Erosion Control Plan is developed and | Prior to and during   | Erosion Control Plan is   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                           | Determination of Effectiveness   |
|--|--|--|----------------------------------|--|
| Contamination into Surface and Groundwater   | and implement an Erosion Control Plan and monitor construction activities to ensure compliance with federal and state water quality permits. The Erosion Control Plan will comply with or exceed BMPs commonly used on projects in the California/Nevada area and those outlined in county plans. Copies of the Erosion Control Plan will be submitted to CPUC. MM W-1 will also serve to strengthen APMs W-1, W-4, and W-5 to include all intermittent and ephemeral streams and desert washes as depicted on USGS and NHD mapping and those identified during the applicant's field reconnaissance surveys. The intent of this MM is to minimize the impact of construction on surface water quality in the basins surrounding the proposed project. This MM will apply to all construction sites for the duration of construction and restoration activities. | implemented as specified in MM W-1.  | construction                     | developed and implemented to minimize the impact of construction on surface water quality and compliance with federal and state water quality permits is maintained.               |
| <b>IMPACT HYDRO-1:</b><br>Introduction of Hazardous Contamination into Surface and Groundwater | MM W-6: DESC, SWPPP, and Grading and Storm Water Management Plan for Ivanpah Substation. The applicant will be required to submit copies of the approved Drainage, Erosion, and Sediment Control Plan (DESC) and Storm Water Pollution Prevention Plan (SWPPP) to CPUC three months prior to the start of construction, and implement those plans as part of the EITP.   | Ensure that DESC, SWPPP, and Grading and Storm Water Management Plans for Ivanpah Substation are developed and implemented as specified in MM W-6. | Prior to and during construction | DESC, SWPPP, and Grading and Storm Water Management Plans are developed and implemented to minimize the impact of construction on surface water quality at the Ivanpah Substation. |
| <b>IMPACT HYDRO-2:</b><br>Lowering of Water Table or Interference with Aquifer Recharge        | <b>APM W-1: Avoid Stream Channels.</b> Construction equipment would be kept out of flowing stream channels.  | See requirements in APM W-1.   | Prior to and during construction | APM fully implemented as specified.  |
| <b>IMPACT HYDRO-2:</b><br>Lowering of Water Table or Interference with                         | <b>APM W-6: Collect and Divert Runoff.</b> Runoff from roadways would be collected and diverted from steep, disturbed, or otherwise unstable slopes.   | See requirements in APM W-6.   | During construction              | APM fully implemented as specified.  |

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| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                           | Determination of Effectiveness   |
|---|---|---|----------------------------------|--|
| Aquifer Recharge  |   |   |                                  |  |
| <b>IMPACT HYDRO-2:</b><br>Lowering of Water Table or Interference with Aquifer Recharge | <b>APM W-7: Ditch and Drainage Design.</b> Ditches and drainage devices would be designed to handle the concentrated runoff and located to avoid disturbed areas. They would have energy dissipations at discharge points that might include rip-rap, concrete aprons, and stepped spillways. Where diversion dikes are required to protect towers or other project structures from flooding or erosion, these dikes would be designed to avoid increasing the risk of erosion or flooding onto adjacent property.  | Ensure that ditches and drainage devices are be designed to handle the concentrated runoff and located to avoid disturbed areas. Ensure that diversion dikes are designed to avoid increasing the risk of erosion or flooding onto adjacent property. | Prior to and during construction | APM fully implemented as specified.  |
| <b>IMPACT HYDRO-2:</b><br>Lowering of Water Table or Interference with Aquifer Recharge | <b>MM W-2: Water Use Maximum.</b> The applicant has estimated using a maximum of between 32,000 and 40,000 gpd of water for the construction phase of the project. This translates to between 30.6 and 38.3 acre-ft/yr. The applicant has stated that no water would be used during the operational phase of the project. Under MM W-2, the applicant will limit construction phase water use to a maximum of 45 acre feet per annum. The applicant will not use water during the operational phase of the project. Emergency water uses, including fire suppression, are excluded from these maxima. If the applicant requires additional water for construction or operation of the project, the applicant must submit a request to the CPUC and the BLM. | Ensure that a Water Use Plan is developed and implemented as specified in MM W-2.   | Prior to and during construction | Water Use Plan is developed, approved, and implemented and water use for project activities does not exceed the maximum volumes specified in the plan. |

Table 5 Mitigation Monitoring Plan

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements      | Timing                             | Determination of Effectiveness   |
|---|--|------------------------------|------------------------------------|--|
| <b>IMPACT HYDRO-3:</b><br>Increased Erosion or Siltation due to Alteration of Surface Drainage Patterns | <b>APM W-3: Project Design Features.</b> See above.<br><b>APM W-4: Avoid Active Drainage Channels.</b> See above.  | See above.                   | See above.                         | See above.   |
| <b>IMPACT HYDRO-3:</b><br>Increased Erosion or Siltation due to Alteration of Surface Drainage Patterns | <b>APM W-5: Diversion Dikes.</b> Diversion dikes would be required to divert runoff around a tower structure or a substation site if (a) the location in an active channel (or channels) could not be avoided; and (b) where there is a very significant flood scour/deposition threat, unless such diversion is specifically exempted by the CPUC and/or the BLM Authorized Officer.  | See requirements in APM W-5. | During construction and operations | Diversion dikes, where required by APM W-5, divert runoff around tower structures. |
| <b>IMPACT HYDRO-3:</b><br>Increased Erosion or Siltation due to Alteration of Surface Drainage Patterns | <b>APM W-6: Collect and Divert Runoff.</b> Runoff from roadways would be collected and diverted from steep, disturbed, or otherwise unstable slopes  | See requirements in APM W-6. | During construction                | Runoff from roadways is collected and diverted from unstable slopes.               |
| <b>IMPACT HYDRO-3:</b><br>Increased Erosion or Siltation due to Alteration of Surface Drainage Patterns | <b>APM W-7: Ditch and Drainage Design.</b> Ditches and drainage devices would be designed to handle the concentrated runoff and located to avoid disturbed areas. They would have energy dissipations at discharge points that might include rip-rap, concrete aprons, and stepped spillways. Where diversion dikes are required to protect towers or other project structures from flooding or erosion, these dikes would be designed to avoid increasing the risk of erosion or flooding onto adjacent property. | See requirements in APM W-7. | During construction                | Ditches and drainage devices are designed as specified in APM W-7.                 |
| <b>IMPACT HYDRO-3:</b><br>Increased Erosion or Siltation due to Alteration of Surface Drainage Patterns | <b>APM W-8: Minimize Cut and Fill Slopes.</b> Cut and fill slopes would be minimized by a combination of benching and following natural topography where possible.   | See requirements in APM W-8. | During construction                | The amount of cut and fill slopes is minimized.                                    |
| <b>IMPACT HYDRO-3:</b><br>Increased Erosion or Siltation due to Alteration of Surface Drainage Patterns | <b>MM W-1: Erosion Control Plan and Compliance with Water Quality Permits.</b> See above.  | See above.                   | See above.                         | See above.   |

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| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements  | Timing                                  | Determination of Effectiveness  |
|---|---|--|---|---|
| <p><b>IMPACT HYDRO-4:</b><br/>           Altered Course of Stream or River due to Modification of Surface Drainage Patterns</p> | <p><b>APM W-1: Avoid Stream Channels.</b> Construction equipment would be kept out of flowing stream channels.</p>  | <p>See requirements in APM W-1.</p>  | <p>During construction</p>              | <p>Construction equipment is kept out of flowing stream channels.</p>                             |
| <p><b>IMPACT HYDRO-4:</b><br/>           Altered Course of Stream or River due to Modification of Surface Drainage Patterns</p> | <p><b>APM W-4: Avoid Active Drainage Channels.</b> See above.</p>   | <p>See above.</p>  | <p>See above.</p>                       | <p>See above.</p>   |
| <p><b>IMPACT HYDRO-4:</b><br/>           Altered Course of Stream or River due to Modification of Surface Drainage Patterns</p> | <p><b>MM W-3: Onsite Flow Model and Channel System.</b> The applicant will employ a hydrologist to develop an Onsite Flow Model to predict any alteration in flow path that would result from construction and operation and maintenance of the proposed project. The applicant will also develop a channel system to prevent erosion and to mitigate altered flow paths. The Onsite Flow Model and channel system design will be submitted to the CPUC for review at least three months prior to the start of construction. The intent of this MM is to ensure that stormwater runoff will not cause flooding. The applicant will monitor the channel system throughout construction to assess effectiveness and ensure compliance with the designed system. Additionally, the applicant will coordinate with BLM and CPUC on model parameters and assumptions used in modeling.</p> | <p>Ensure that an Onsite Flow Model is developed and used as specified in MM W-3.</p>        | <p>Prior to and during construction</p> | <p>Stormwater runoff does not cause flooding.</p>   |
| <p><b>IMPACT HYDRO-4:</b><br/>           Altered Course of Stream or River due to Modification of Surface Drainage Patterns</p> | <p><b>MM W-4: Dry Lake Restoration Plan.</b> The applicant will employ a hydrologist and a restoration specialist to develop a Restoration Plan for disturbance of dry lake beds. The proposed project would cross through Ivanpah Lake. Construction would disturb the flat dry lake bed surface that is used for recreation. The intent of this MM is to ensure that the dry lake bed is restored to preconstruction conditions. The BLM will review the plan prior to the start of construction. The BLM would also assess the success of the restoration and determine whether the Ivanpah Lake surface had been restored to preconstruction conditions. In addition, the applicant will coordinate with the BLM the submission of the plan to the CDFG for CDFG review. The applicant will provide the CPUC with a copy of the Restoration Plan.</p>                             | <p>Ensure that a Dry Lake Restoration Plan is developed and used as specified in MM W-4.</p> | <p>Prior to and during construction</p> | <p>Dry lake beds impacted by the proposed project are restored to preconstruction conditions.</p> |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing                           | Determination of Effectiveness               |
|--|--|---|----------------------------------|--|
| <b>IMPACT HYDRO-5:</b><br>Modified Runoff Characteristics That Exceed Existing Stormwater Systems, Possibly leading to Flooding or Inundation by Mudflow | <b>APM W-5: Diversion Dikes.</b> See above.<br><b>APM W-6: Collect and Divert Runoff.</b> See above.<br><b>APM W-7: Ditch and Drainage Design.</b> See above.  | See above.  | See above.                       | See above.                                   |
| <b>IMPACT HYDRO-5:</b><br>Modified Runoff Characteristics That Exceed Existing Stormwater Systems, Possibly leading to Flooding or Inundation by Mudflow | <b>MM W-5: Historical Hydrological Model of Alluvial Fan.</b> In the PEA, the applicant completed a historical hydrological model on site area alluvial fan(s) based on similar work on alluvial fans performed near Laughlin, Nevada (House 2005). The applicant extrapolated the data by applying the methodology from the Laughlin area model to the California portion of the project area. This study will be used to determine the active and inactive portions of the alluvial fans in the site area relative to surface water, sediment transport, and flash flooding. Where feasible, the applicant will locate towers, substations, and other permanent site features on inactive portions of the alluvial fan to minimize risk associated with flash flooding and alluvial fan failure. | See requirements in MM W-5.   | Prior to construction            | Mitigation measure implemented as specified. |
| <b>IMPACT HYDRO-6:</b><br>Substantially Degrade Water Quality  | <b>APM W-2: Erosion Control and Hazardous Material Plans.</b> See above.<br><b>APM W-4: Avoid Active Drainage Channels.</b> See above.   | See above.  | See above.                       | See above.                                   |
| <b>IMPACT HYDRO-6:</b><br>Substantially Degrade Water Quality  | <b>APM W-9: Prepare and Implement an Approved SWPPP.</b> As a part of the SWPPP, soil disturbance at tower construction sites and access roads would be the minimum necessary for construction and designed to prevent long-term erosion through the following activities: restoration of disturbed soil, re-vegetation, and/or construction of permanent erosion control structures. BMPs in the project SWPPP would be implemented during construction to minimize the risk of an accidental release.  | Ensure that a SWPPP approved and implemented as specified in APM W-9. | Prior to and during construction | APM fully implemented as specified.          |
| <b>IMPACT HYDRO-6:</b><br>Substantially Degrade Water Quality  | <b>MM W-1: Erosion Control Plan and Compliance with Water Quality Permits.</b> See above.<br><b>MM W-3: Onsite Flow Model and Channel System.</b> See above.   | See above.  | See above.                       | See above.                                   |

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| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                | Determination of Effectiveness        |
|--|--|--|-----------------------|---------------------------------------|
| <b>IMPACT HYDRO-7:</b><br>Placement of Structures within a 100-year Flood Hazard Area                          | <b>APM W-3: Project Design Features.</b> See above.<br><b>APM W-5: Diversion Dikes.</b> See above.   | See above.   | See above.            | See above.                            |
| <b>IMPACT HYDRO-8:</b><br>Exposure to a Significant Risk of Flooding   | <b>APM W-1: Avoid Stream Channels.</b> See above.<br><b>APM W-4: Avoid Active Drainage Channels.</b> See above.<br><b>APM W-5: Diversion Dikes.</b> See above.<br><b>APM W-7: Ditch and Drainage Design.</b> See above.<br><b>MM W-5: Historical Hydrological Model of Alluvial Fan.</b> See above.  | See above.   | See above.            | See above.                            |
| <b>IMPACT HYDRO-9:</b><br>Modify runoff Characteristics, Possibly Leading to Flooding or Inundation by Mudflow | <b>APM W-1: Avoid Stream Channels.</b> See above.<br><b>APM W-4: Avoid Active Drainage Channels.</b> See above.<br><b>APM W-5: Diversion Dikes.</b> See above.<br><b>APM W-7: Ditch and Drainage Design.</b> See above.<br><b>MM W-5: Historical Hydrological Model of Alluvial Fan.</b> See above.  | See above.   | See above.            | See above.                            |
| <b>3.9 Land Use</b>  |  |  |                       |                                       |
| <b>IMPACT LU-1:</b> Conflict with applicable Plans and Policies  | <b>APM LU-1: Aeronautical Considerations.</b> The applicant would submit notice to FAA electronically, in accordance with FAA procedures, and as far in advance of construction as possible.   | See requirements in APM LU-1.  | Prior to construction | APM implemented.                      |
| <b>IMPACT LU-1:</b> Conflict with applicable Plans and Policies  | <b>MM LU-1: Obtain Approval from Clark County and the City of Boulder City for Activities Outside of BLM-Designated Utility Corridors in the BCCE.</b> Prior to construction, the applicant must consult with and obtain permission from Clark County and the City of Boulder City regarding construction outside of BLM-designated utility corridors in the BCCE. In addition, the applicant will comply with all land use restrictions, such as speed limits, in consultation with the BCCE, and will fully comply with the Amendment to the Interlocal Agreement, including Exhibit D. The applicant will submit a record of this consultation to the BLM and the CPUC prior to construction. | Ensure that the applicant consults with Clark County and Boulder City for activities outside of BLM-designated utility corridors in the Boulder City Conservation Easement (BCCE) as specified in MM LU-1. | Prior to construction | Mitigation measure fully implemented. |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements        | Timing              | Determination of Effectiveness   |
|---|--|--------------------------------|---------------------|--|
| <b>IMPACT LU-1:</b> Conflict with applicable Plans and Policies                     | <b>MM HAZ-2: Comply with FAA Requirements Upon Construction of the SNSA.</b> See above.  | See above.                     | See above.          | See above.   |
| <b>3.10 Noise</b>   |  |                                |                     |  |
| <b>IMPACT NOI-1:</b> Project construction noise exceeding noise levels or standards | <b>APM NOI-1: Compliance with Local Noise Ordinances.</b> The proposed construction would comply with local noise ordinances. There may be a need to work outside the aforementioned local ordinances to take advantage of low electrical draw periods during the nighttime hours. The applicant would comply with variance procedures requested by local authorities if required. | See requirements in APM NOI-1. | During construction | APM fully implemented as specified.                                    |
| <b>IMPACT NOI-1:</b> Project construction noise exceeding noise levels or standards | <b>APM NOI-2: Construction Equipment Working Order.</b> Construction equipment would be in good working order.   | See requirements in APM NOI-2. | During construction | Construction equipment is in good working order.                       |
| <b>IMPACT NOI-1:</b> Project construction noise exceeding noise levels or standards | <b>APM NOI-3: Construction Equipment Maintenance.</b> Construction equipment would be maintained per manufacturer's recommendations.   | See requirements in APM NOI-3. | During construction | Construction equipment is maintained per manufacturer recommendations. |
| <b>IMPACT NOI-1:</b> Project construction noise exceeding noise levels or standards | <b>APM NOI-4: Construction Equipment Muffled.</b> Construction equipment would be adequately muffled.  | See requirements in APM NOI-4. | During construction | Construction equipment is muffled.                                     |
| <b>IMPACT NOI-1:</b> Project construction noise exceeding noise levels or standards | <b>APM NOI-5: Construction Equipment Idling Minimized.</b> Idling of construction equipment and vehicles would be minimized during the construction.   | See requirements in APM NOI-5. | During construction | See MM NOI-3.  |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements        | Timing              | Determination of Effectiveness   |
|---|---|--------------------------------|---------------------|--|
| <b>IMPACT NOI-1:</b> Project construction noise exceeding noise levels or standards                         | <b>MM NOI-1: Conduct Construction Activities during Daytime Hours.</b><br>The applicant will conduct construction activities only during daytime hours (7 a.m. to 7 p.m.) while in the vicinity of the Desert Oasis Apartment Complex.  | See requirements in MM NOI-1.  | During construction | Complaints about construction activities from residents of the Desert Oasis Apartment Complex are minimized. |
| <b>IMPACT NOI-5:</b> Cause a substantial temporary increase in ambient noise levels in the project vicinity | <b>APM NOI-2: Construction Equipment Working Order.</b> See above.<br><b>APM NOI-3: Construction Equipment Maintenance.</b> See above.<br><b>APM NOI-4: Construction Equipment Muffled.</b> See above.<br><b>APM NOI-5: Construction Equipment Idling Minimized.</b> See above. | See above.                     | See above.          | See above.   |
| <b>IMPACT NOI-5:</b> Cause a substantial temporary increase in ambient noise levels in the project vicinity | <b>APM NOI-6: Hearing Protection for Workers.</b> Workers would be provided appropriate hearing protection, if necessary, as described in the Health and Safety Plan.   | See requirements in APM NOI-6. | During construction | APM implemented.   |
| <b>IMPACT NOI-5:</b> Cause a substantial temporary increase in ambient noise levels in the project vicinity | <b>MM NOI-1: Conduct Construction Activities during Daytime Hours.</b><br>See above.  | See above.                     | See above.          | See above.   |
| <b>IMPACT NOI-5:</b> Cause a substantial temporary increase in ambient noise levels in the project vicinity | <b>MM NOI-2: Relocate Stationary Construction Equipment.</b> The applicant will locate stationary construction equipment at a site location that is as far away from the Desert Oasis Apartment Complex as is feasible.   | See requirements in MM NOI-2.  | During construction | Complaints about construction activities from residents of the Desert Oasis Apartment Complex are minimized. |
| <b>IMPACT NOI-5:</b> Cause a  | <b>MM NOI-3: Turn off Idling Equipment.</b> The applicant will turn off idling  | See requirements in MM NOI-3.  | During              | Construction   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements          | Timing                | Determination of Effectiveness   |
|--|---|----------------------------------|-----------------------|--|
| substantial temporary increase in ambient noise levels in the project vicinity   | equipment when not in use.  |                                  | construction          | equipment and vehicles are not allowed to idle when not in use.                                  |
| <b>IMPACT NOI-5:</b> Cause a substantial temporary increase in ambient noise levels in the project vicinity                                  | <b>MM NOI-4: Notify Adjacent Residences.</b> The applicant will notify residents within 200 feet of the transmission line in advance of construction work.  | See requirements in MM NOI-4.    | Prior to construction | Residents within 200 feet of the transmission line are notified in advance of construction work. |
| <b>IMPACT NOI-5:</b> Cause a substantial temporary increase in ambient noise levels in the project vicinity                                  | <b>MM NOI-5: Install Acoustic Barriers.</b> The applicant will install acoustic barriers around stationary construction noise sources near sensitive receptors.   | See requirements in MM NOI-5.    | During construction   | Stationary construction noise reduction is achieved near sensitive receptors.                    |
| <b>3.11 Public Services and Utilities</b>  |   |                                  |                       |  |
| <b>IMPACT PUSVC-1:</b> Emergency services needed in response to an accident or other emergency incident associated with the proposed project | <b>APM HAZ-4: Fire Management.</b> See above.<br><b>APM TRA-2: Traffic Management and Control Plans.</b> See below.<br><b>APM TRA-3: Minimize Street Use.</b> See below.  | See above/below.                 | See above/below.      | See above/below.   |
| <b>IMPACT PUSVC-1:</b> Emergency services needed in response to an accident or other emergency incident associated with the proposed project | <b>APM PUSVC-1: Work Around High Pressure Pipelines.</b> No mechanical equipment will be permitted to operate within 3 feet of the high-pressure pipelines, and work within 3 feet must be done by hand or as otherwise directed by the pipeline company. | See requirements in APM PUSVC-1. | During construction   | Existing pipelines are not damaged during construction of the proposed project.                  |
| <b>IMPACT PUSVC-1:</b> Emergency services  | <b>APM PUSVC-2: Monitoring by Pipeline Companies.</b> A representative of applicable owners and operators of major pipeline companies must  | See requirements in APM          | During                | Existing pipelines are not   |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                                   | Determination of Effectiveness   |
|---|--|--|--|--|
| needed in response to an accident or other emergency incident associated with the proposed project  | observe the excavation around or near their facilities to ensure protection and to record pertinent data necessary for operations.   | PUSVC-2.   | construction                             | damaged during construction of the proposed project.                       |
| <b>IMPACT PUSVC-1:</b> Emergency services needed in response to an accident or other emergency incident associated with the proposed project            | <b>MM HAZ-1: Worker Health and Safety and Environmental Training and Monitoring Program.</b> See above.  | See above.   | See above.                               | See above.   |
| <b>NEPA IMPACT:</b> Result in a major reduction or interruption of existing utility systems by crossing or sharing a location with another utility.     | <b>MM PUSVC-2: Notification of Utility Service Interruption.</b> If a utility service interruption is known to be unavoidable, the applicant will notify by postal mail members of the public, the jurisdiction, and the service providers who would be affected. The applicant will also publish notices in newspapers circulated in each jurisdiction that would be affected. The postal mail and newspaper notices will specify the estimated duration of each service interruption and be mailed or published no later than seven days prior to the first interruption. Copies of the notices will be provided to the BLM and CPUC no later than 30 days following notification. | See requirements in MM PUSVC-2.  | Prior to and during construction         | Mitigation measure is fully implemented as specified.                      |
| <b>IMPACT PUSVC-2:</b> Project construction temporarily increases water use, and project operation contributes to increased long-term water consumption | <b>MM W-2: Water Use Plan.</b> See above.  | See above.   | See above.                               | See above.   |
| <b>IMPACT PUSVC-2:</b> Project construction temporarily increases water use, and project operation contributes to increased long-term                   | <b>MM PUSVC-1: Construction Waste Disposal Plan.</b> The applicant will prepare a Construction Waste Disposal Plan for all nonhazardous wastes generated during construction of the proposed project and submit the plan to the BLM and the CPUC for review and approval no less than 30 days prior to start of construction. The plan will contain the following, at a minimum:   | Ensure that a Construction Waste Disposal Plan is prepared and implemented as specified in MM PUSVC-1. | 30 days prior to and during construction | Nonhazardous waste is recycled or salvaged to the maximum extent possible. |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements        | Timing     | Determination of Effectiveness |
|---|---|--------------------------------|------------|--------------------------------|
| water consumption   | <ul style="list-style-type: none"> <li>• Description of all nonhazardous solid and liquid construction wastes, including:               <ul style="list-style-type: none"> <li>– Estimated amounts to be disposed of in a landfill by weight or volume and</li> <li>– Estimated amounts that can be recycled or salvage by weight or volume;</li> </ul> </li> <li>• Recycling, salvage, and waste minimization/source reduction plans;</li> <li>• Management methods to be used for each type of waste, including temporary on-site storage, housekeeping and best management practices to be employed, and methods of transportation and packaging; and</li> <li>• Description and list of all contracts and plans made with waste contractors, landfills, and wastewater treatment facilities.</li> </ul> <p>The applicant may refer to internal salvage and waste manuals in the Construction Waste Management Plan where applicable. The plan is necessary to ensure that solid waste is recycled or salvaged to the maximum extent possible. In addition, the applicant would need to observe the Nevada Legislature’s goal to recycle 25 percent of total solid waste generated within each municipality of Nevada.</p> |                                |            |                                |
| <b>IMPACT PUSVC-3:</b> Solid waste generated during construction of the project exceeds landfill requirements   | <b>MM PUSVC-1: Construction Waste Disposal Plan.</b> See above.   | See above.                     | See above. | See above.                     |
| <b>IMPACT PUSVC-4:</b> Solid waste generated during construction of the project results in noncompliance with federal, state, or local statutes, regulations, or policies | <b>MM PUSVC-1: Construction Waste Disposal Plan.</b> See above.   | See above.                     | See above. | See above.                     |
| <b>3.12 Recreation</b>  |   |                                |            |                                |
| <b>IMPACT REC-1:</b>  | <b>APM REC-1: Recreation Area Closures.</b> When temporary short-term   | See requirements in APM REC-1. | Prior to   | APM fully                      |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements  | Timing                                    | Determination of Effectiveness  |
|---|--|--|---|---|
| Disruption of Access to Existing Recreation Opportunities                         | closures to recreational areas are necessary for construction activities, the applicant would coordinate those closures with recreational facility owners. To the extent practicable, the applicant would schedule construction activities to avoid heavy recreational use periods (e.g., holidays or tournaments). The applicant would post notice of the closure on-site 14 calendar days prior to the closure.                                    |  | construction                              | implemented as specified.   |
| <b>IMPACT REC-1:</b><br>Disruption of Access to Existing Recreation Opportunities | <b>MM REC-1: Limit Construction Workspace in Wildlife and Recreational Areas.</b> The applicant will not site extra workspace areas such as contractor yards in Recreation Areas to minimize impacts on recreational users during construction. In addition, the applicant will coordinate with the BLM, as well as organizers of BLM-permitted races and events in the project area, to ensure that project construction will not interrupt events. | See requirements in MM REC-1.  | During construction                       | The applicant does not site extra workspace areas such as contractor yards in recreation areas.                         |
| <b>IMPACT REC-1:</b><br>Disruption of Access to Existing Recreation Opportunities | <b>MM REC-2: Notify the Nevada Department of Wildlife of Any Road Closures During Hunting Season.</b> To allow access for hunters in the area, the applicant will not close the southern right-of-way of the McCullough Pass during construction. The applicant will notify NDOW of any road closures during hunting season at least 30 days prior to closure.   | Verify NDOW has been notified.   | Prior to and during construction.         | NDOW notified of road closures in advance. Southern right-of-way of the McCullough Pass not closed during construction. |
| Clarification of roads available for OHV usage (NEPA Only Impact).                | <b>MM REC-3: Display Appropriate “Closed” Signage for New Spur Roads Constructed in Nevada.</b> The applicant will coordinate with BLM Field Offices on displaying appropriate “closed” signage at the entrance to new spur roads to tower locations and access roads. This includes temporary signs during the construction phase of the project and permanent signs and/or vehicle barriers that will close the spur routes to public travel.      | Ensure posting of “closed” signage for project spur roads located in Nevada. | Prior to, during, and after construction. | Clarity for OHV users that spur roads in NV are closed.   |
| <b>3.13 Socioeconomics, Population and Housing, and Environmental Justice</b>     |  |  |   |   |
| No impact   | No applicable APMs or mitigation measures  |  |   |   |

Table 5 Mitigation Monitoring Plan

| Type of Impact   | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)   | Monitoring Requirements   | Timing                           | Determination of Effectiveness  |
|--|--|---|----------------------------------|---|
| <b>3.14 Traffic and Transportation</b>                                       |  |   |                                  |   |
| <b>IMPACT TRANS-1:</b><br>Traffic Load and Capacity                          | <b>APM TRA-2: Traffic Management and Control Plans.</b> Traffic control and other management plans will be prepared where necessary to minimize project impacts on local streets and railroad operations.  | See requirements in APM TRA-2.  | Prior to and during construction | Project impacts on local streets and railroad operations are minimized.                             |
| <b>IMPACT TRANS-2:</b><br>Impact Level of Service Standard and Lane Closures | <b>APM TRA-1: Obtain Permits.</b> If any work requires modifications or activities within local roadway and railroad ROWs, appropriate permits will be obtained prior to the commencement of construction activities, including any necessary local permits and encroachment permits.                | See requirements in APM TRA-1.  | Prior to construction            | APM implemented.  |
| <b>IMPACT TRANS-2:</b><br>Impact Level of Service Standard and Lane Closures | <b>AMP TRA-2: Traffic Management and Control Plans.</b> See above.   | See above.  | See above.                       | See above.  |
| <b>IMPACT TRANS-2:</b><br>Impact Level of Service Standard and Lane Closures | <b>APM TRA-3: Minimize Street Use.</b> Construction activities will be designed to minimize work on, or use of, local streets.   | See requirements in APM TRA-3.  | During construction              | Street use for construction activities is minimized.  |
| <b>IMPACT TRANS-2:</b><br>Impact Level of Service Standard and Lane Closures | <b>MM TRANS-1: No Lane Closures on I-15 during Friday Peak Usage.</b> The applicant will limit construction activities on Friday afternoon from noon to 10 p.m. so as not to require lane closures on I-15.  | Ensure that construction activities do not occur on Friday afternoon from noon to 10 p.m. to avoid lane closures on I-15. | During construction              | No lane closures occur on I-15 due to project activities.   |
| <b>IMPACT TRANS-2:</b><br>Impact Level of Service Standard and Lane Closures | <b>MM TRANS-3: Traffic Control Plan.</b> Prior to start of construction of the EITP, the applicant will prepare and implement a Traffic Control Plan for the project to address staggering of deliveries on I-15 during peak traffic times.  | Ensure that a Traffic Control Plan is prepared and implemented as specified in MM TRANS-2                                 | Prior to and during construction | Deliveries staggered on I-15 during peak traffic times in accordance with the Traffic Control Plan. |
| <b>IMPACT TRANS-4:</b><br>Result in a Change in Air Traffic Patterns         | <b>MM TRANS-2: Helicopter Flight Plan and Safety Plan.</b> At least 30 days prior to construction of the project, the applicant will coordinate with the FAA for review and approval of any helicopter flight plans that would take place during construction and operation. The applicant will then | Ensure that a Helicopter Flight Plan and Safety Plan is developed and implemented and helicopter use information is       | 30 days prior to construction    | Mitigation measure fully implemented as specified.  |

**Table 5 Mitigation Monitoring Plan**

| Type of Impact  | Applicant Proposed Measures (APMs) and Mitigation Measures (MMs)  | Monitoring Requirements   | Timing                                  | Determination of Effectiveness   |
|---|---|---|---|--|
|   | <p>provide information to the BLM and the CPUC regarding the intended need and use of helicopters during construction and operation of the project, including the flight and safety plan; the number of days and hours that the helicopter would operate; the type and number of helicopters that would be used; the location, size, and number of staging areas for helicopter take off and landing; and written approval from property owners for use of helicopter staging areas. The applicant will review the helicopter flight and safety plan with the FAA and the CCDOA at least 30 days prior to the start of SNSA construction and resubmit the revised plan to the BLM and the CPUC.</p>   | <p>provided to the BLM and CPUC as specified in MM TRANS-2. Ensure that if construction of the Southern Nevada Supplemental Airport (SNSA) is approved, the applicant consults with the FAA at least 30 days prior to the start of SNSA construction and revises the Helicopter Flight Plan and Safety Plan as necessary.</p> |   |  |
| <p><b>Cumulative Impact</b><br/> <b>TRANS-C-1: Traffic Load, Capacity, and Level of Service</b></p> | <p><b>MM-C-TRANS-1: I-15 Use Limits.</b> MM-C-TRANS-1 will require the applicant to limit the use of I-15 on Fridays from noon to 10 p.m. This will require using alternative routes or planning sufficiently such that vehicular use of I-15 would be limited to fewer than 15 vehicles every 15 minutes, resulting in a minor, short-term cumulative impact. Implementation of this mitigation measure would reduce the EITP's incremental contribution to less than significant or minor.</p> <p>EITP construction would result in short-term adverse traffic impacts where vehicles and equipment would enter or leave construction yards and at crossing points along the transmission line route. Crossing points which are in and near Primm, were considered for this cumulative analysis. However, these effects, even when combined with the existing traffic in Primm and the reasonably foreseeable future projects that would be located in and near Primm (DesertXpress Rail Line, Calnev Pipeline Expansion, First Solar, and Silver State), are so localized and temporary that they would not measurably change the existing conditions; therefore, no cumulative impacts on ground traffic would occur.</p> | <p>See requirements in MM-C-TRANS-1.</p>  | <p>Prior to and during construction</p> | <p>Limited use of I-15 on Fridays from noon to 10 p.m accordance with MM-C-TRANS-1</p> |

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***Appendix 5***  
***Location Maps and Figures***

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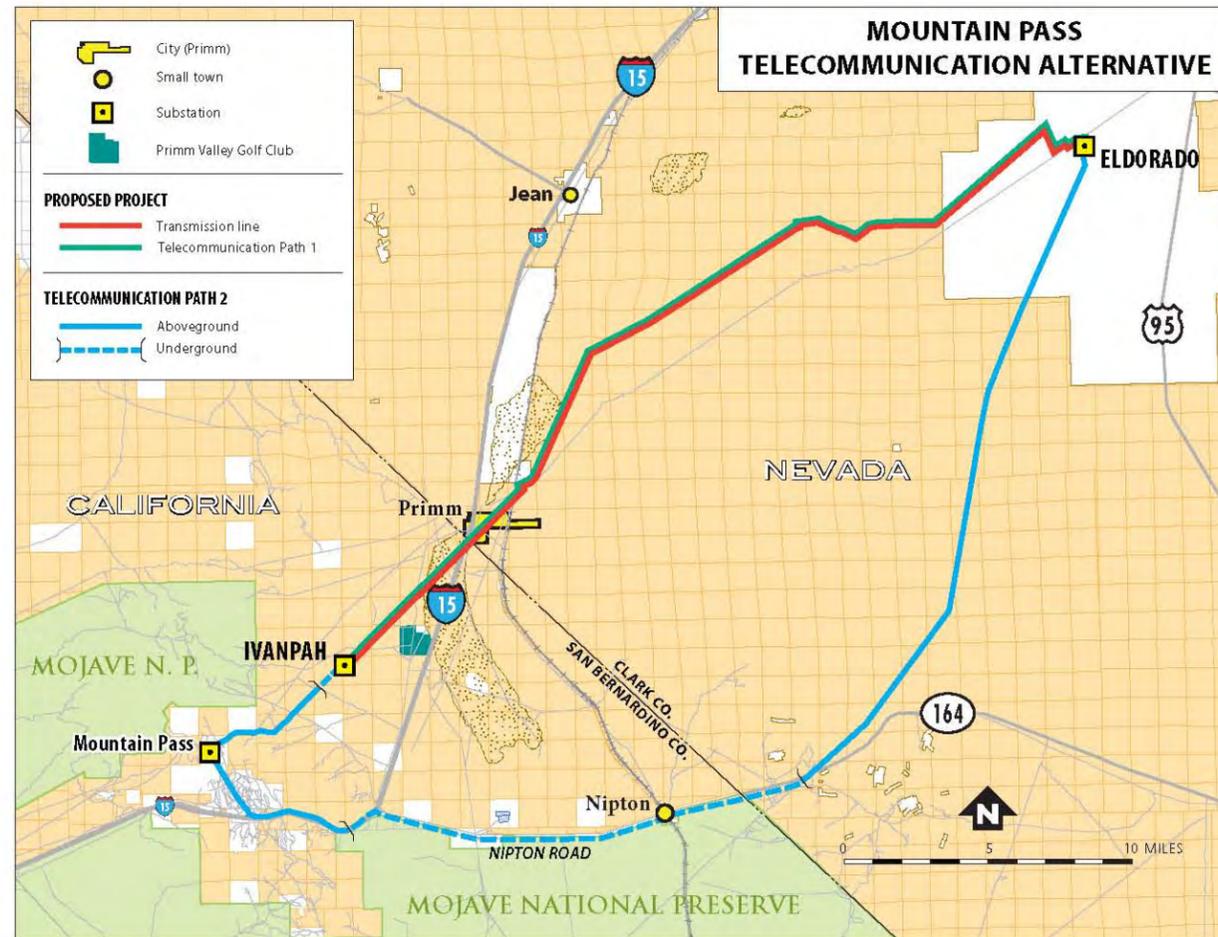
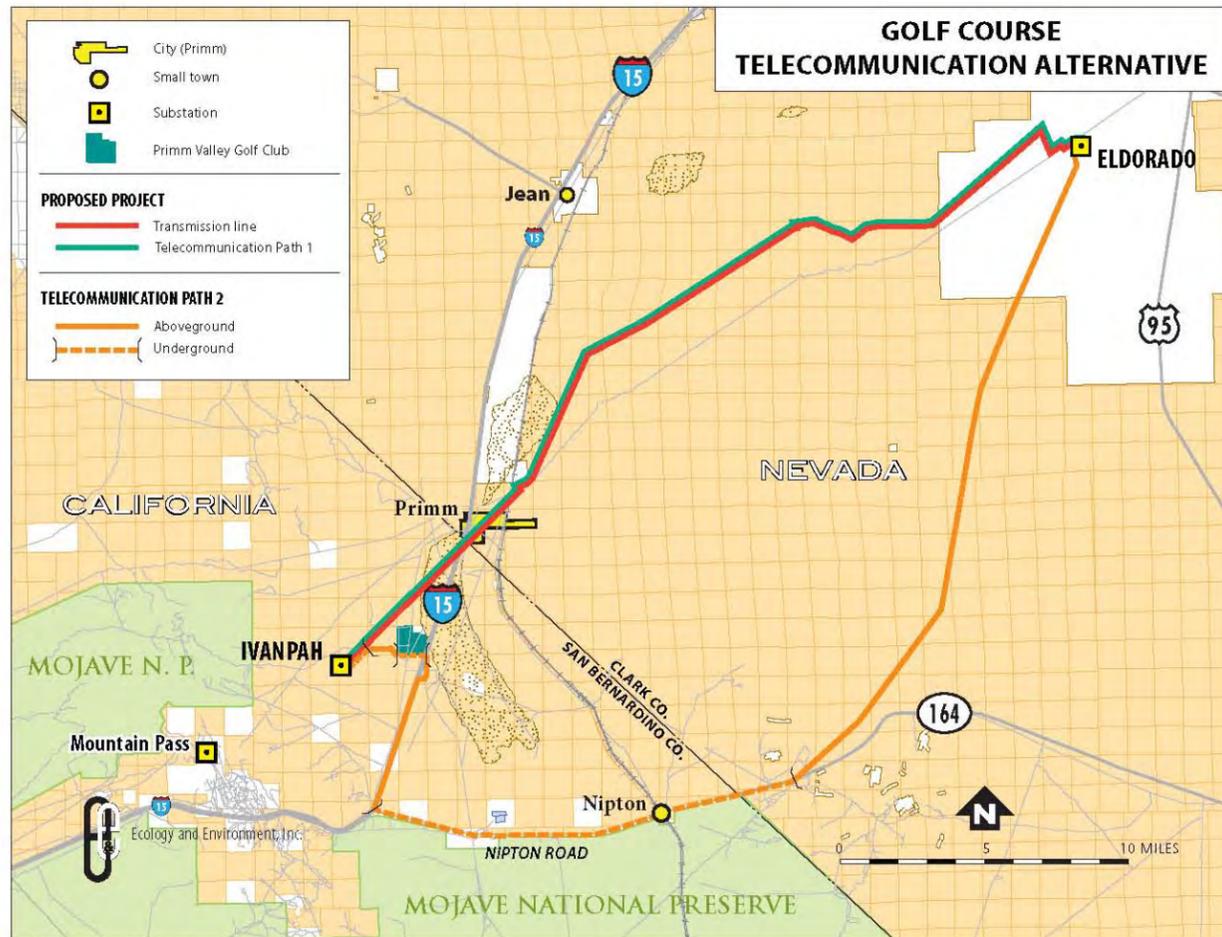
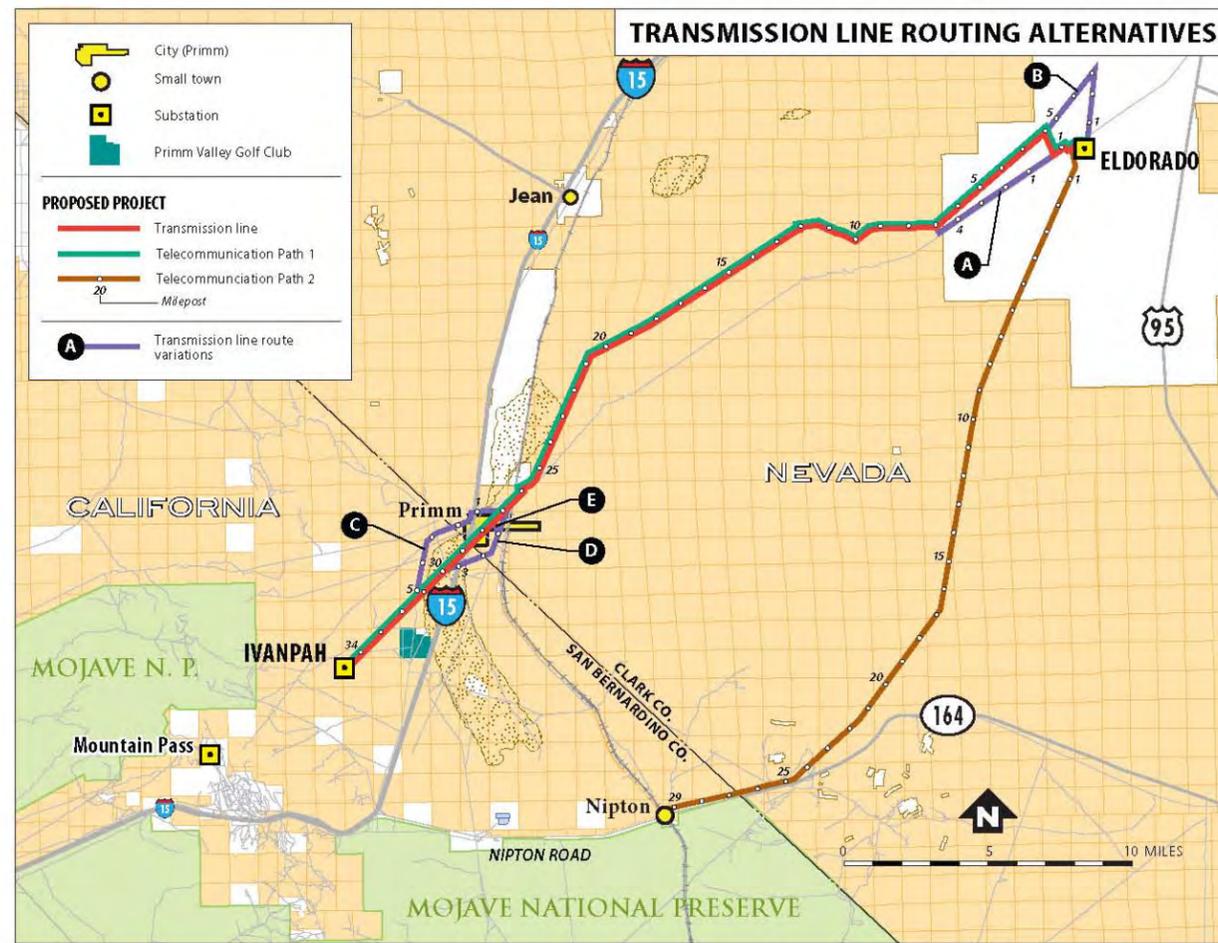
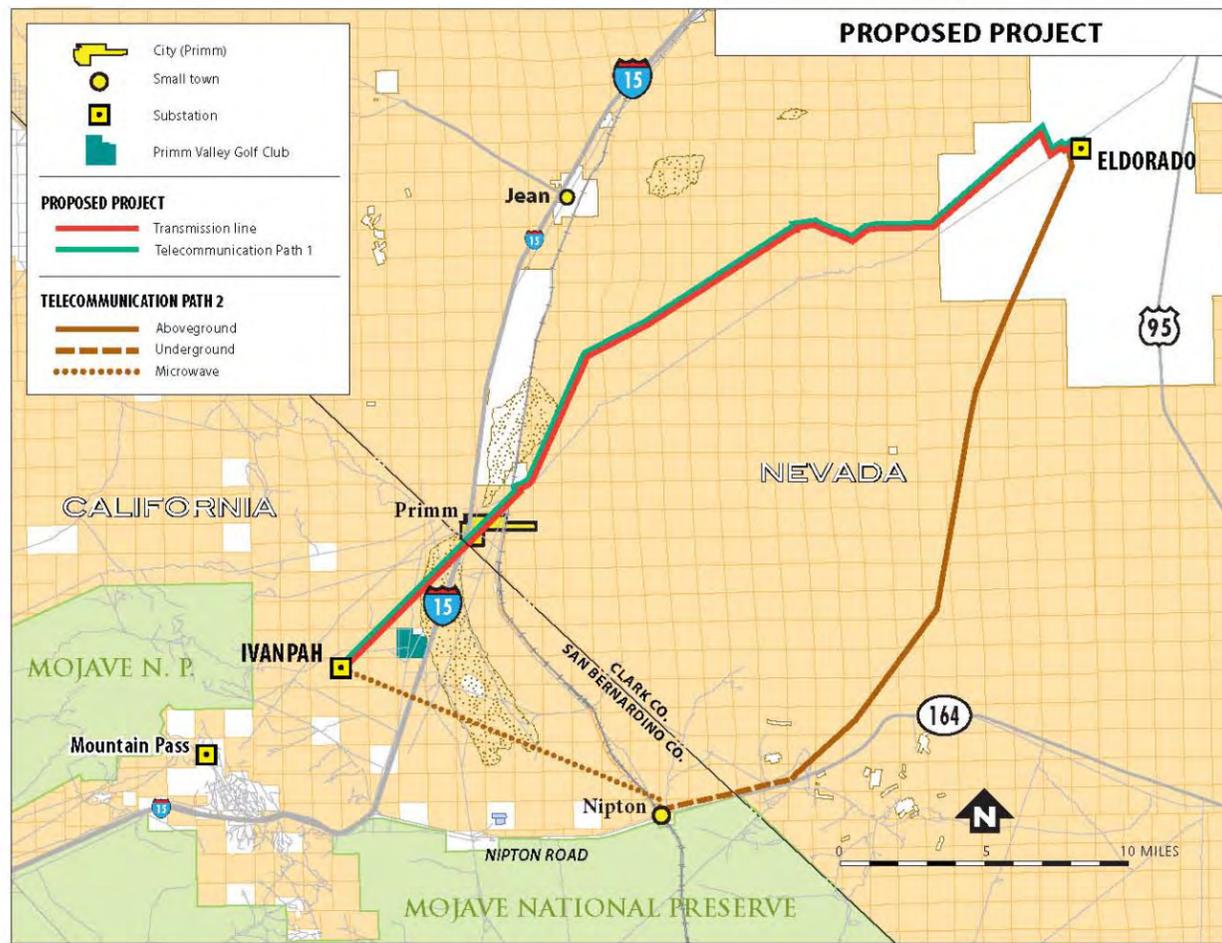


Figure 2-1  
**Project Overview**  
 Eldorado-Ivanpah Transmission Project

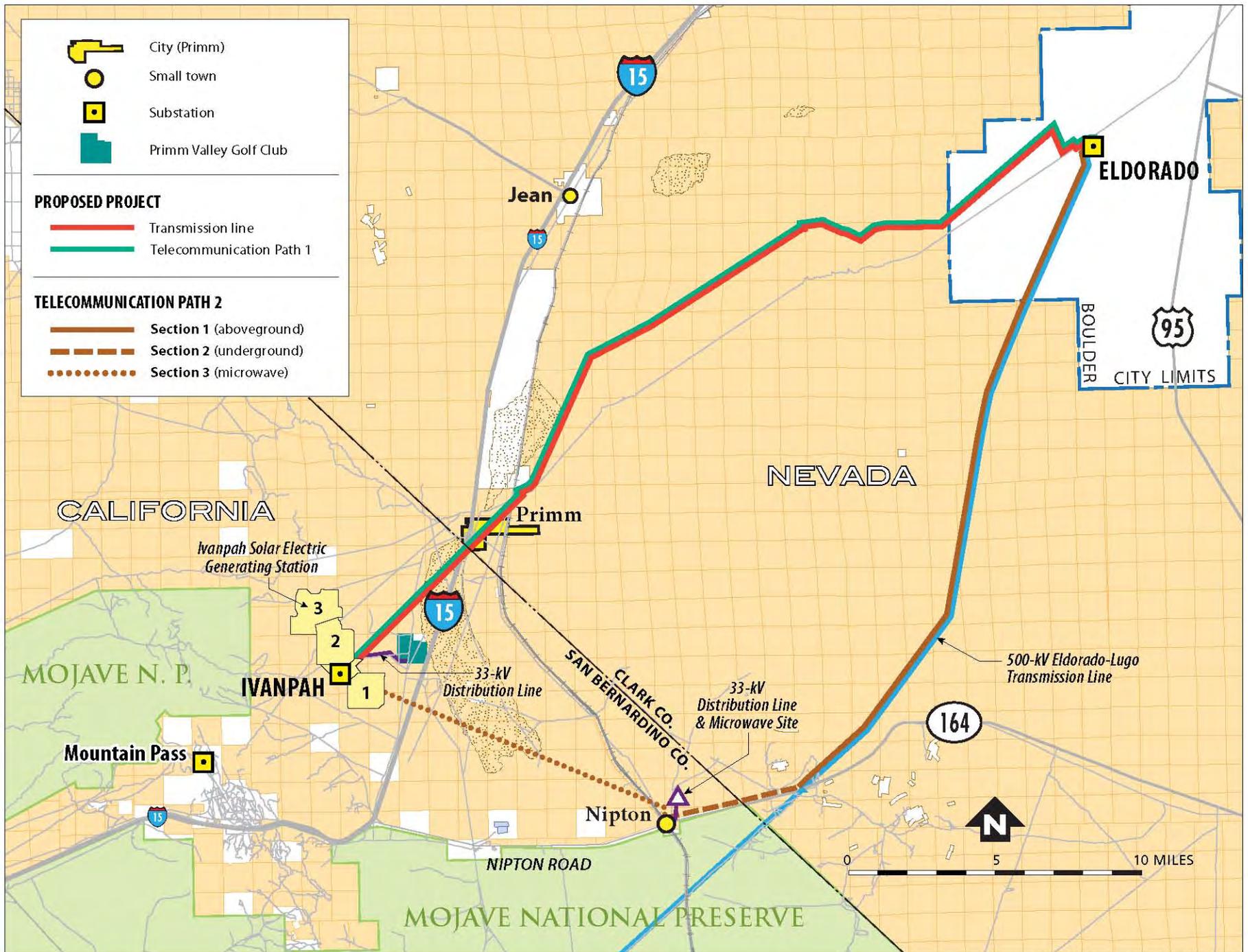


Figure 2-3 Proposed Project



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***Appendix 6***  
***Additional Agency Approvals and Review***

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Decision 10-12-052 December 16, 2010

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

In the Matter of the Application of the  
Southern California Edison Company  
(U 338 E) for a Certificate of Public  
Convenience and Necessity for the  
Eldorado-Ivanpah Transmission Project.

Application 09-05-027  
(Filed May 28, 2009)

**DECISION GRANTING A CERTIFICATE OF PUBLIC CONVENIENCE AND  
NECESSITY FOR THE ELDORADO-IVANPAH TRANSMISSION PROJECT**

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ATTACHMENT A - List of MMs and APMs

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## **DECISION GRANTING A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE ELDORADO-IVANPAH TRANSMISSION PROJECT**

### **1. Summary**

This decision grants Southern California Edison Company (SCE) a certificate of public convenience and necessity (CPCN) for the Eldorado-Ivanpah Transmission Project, using the Environmentally Preferred Route, as identified in the Final Environmental Impact Report. This route corresponds to the project as proposed by the Applicant.<sup>1</sup> The Eldorado-Ivanpah Transmission Project is to be located in San Bernardino County, California and Clark County, Nevada. The Commission's permitting review for a CPCN for a transmission project by an investor owned utility involves two concurrent processes: (1) a Commission proceeding assessing the project's public interest and cost pursuant to Public Utilities Code § 1001 et seq. and (2) an environmental review pursuant to California Environmental Quality Act (CEQA), Public Resources Code §§ 21000, et seq.

As the Lead Agency in the State of California for the environmental review of the project, the Commission finds the Joint Environmental Impact Report/Environmental Impact Statement prepared by the Commission and the United States Bureau of Land Management for this project meets the requirements of the CEQA, Public Resources Code §§ 21000, et seq. The Commission also finds overriding considerations that merit construction of the project notwithstanding its significant and unavoidable environmental impacts, as detailed in the environmental report. Accordingly, the Commission certifies

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<sup>1</sup> Joint FEIR/EIS at 4-7.

the final environmental report in accordance with CEQA Guidelines § 15090. A copy of the final document can be found on the Commission's website at <http://www.cpuc.ca.gov/Environment/info/ene/ivanpah/Ivanpah.htm>.

We also find that the Applicant has met its burden of proof and that the project is "necessary to facilitate" achievement of the renewable power goals of § 399.11 *et seq.* pursuant to Public Utilities Code § 399.2.5. Consistent with this, we find that the project is eligible for back-stop cost recovery. The role this line will play in achieving the state's 20 percent renewable mandate and our greenhouse gas mitigation goals under Assembly Bill 32<sup>2</sup> serve as the basis for a finding of overriding considerations, recognizing that the Final Joint Environmental Impact Report/Environmental Impact Study (EIR/EIS) determined that the project will have several significant and non-mitigable impacts.<sup>3</sup>

SCE's estimated costs for the proposed construction are approximately \$306 million plus contingency and other related expenses. We find that the cost of the line, subject to a reduction in the proposed contingency amount is reasonable. A cost cap is adopted in accordance with Pub. Util. Code § 1005.5 in the amount of \$306.338 million plus a 15% contingency.

In addition, pursuant to General Order 131-D and Decision 06-01-042, the Commission certifies that this project is in compliance with the Commission's policies governing the mitigation of electromagnetic field effects using low-cost and no-cost measures.

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<sup>2</sup> Stats. 2006, ch. 488.

<sup>3</sup> Joint FEIR/EIS at 6-3.

Accordingly, the Commission approves the Applicant's request for a certificate of public convenience and necessity.

This proceeding is closed.

## **2. Background**

Southern California Edison Company (SCE or Applicant) is an investor-owned public utility operating an interconnected and integrated electric utility system that generates, transmits, and distributes electric energy in portions of Central and Southern California.<sup>4</sup> In addition to its California properties, SCE separately or jointly owns facilities in Nevada, Arizona, and New Mexico that produce power and energy for use in California.

### **2.1. The Eldorado-Ivanpah Transmission Project**

SCE is proposing to construct the Eldorado-Ivanpah Transmission Project in order to access renewable generation near the southern California-Nevada border.<sup>5</sup> The Eldorado-Ivanpah Transmission Project would primarily consist of (1) the construction of a new 220/115 kV substation, the Ivanpah Substation, in San Bernardino County to serve as a collector hub for solar generation projects identified in the Eastern Mojave Desert Area, know as the Ivanpah Dry Lake

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<sup>4</sup> SCE's service territory is located in 15 counties in Central and Southern California, consisting of Fresno, Imperial, Inyo, Kern, Kings, Los Angeles, Madera, Mono, Orange, Riverside, San Bernardino, Santa Barbara, Tulare, Tuolumne, and Ventura Counties, and includes approximately 179 incorporated communities and outlying rural territories. SCE also supplies electricity to certain customers for resale under tariffs filed with the Federal Energy Regulatory Commission.

<sup>5</sup> SCE Application at 1.

Area;<sup>6</sup> (2) removal of 35 miles of an existing 115 kilovolt (kV) transmission line between the new Ivanpah Substation and the existing Eldorado Substation, located near Boulder City, Nevada, and the construction of a double-circuit 220 kV line (28 miles in Nevada and seven miles in California) within expanded rights-of-way, and (3) construction of two separate telecommunication routes (Path 1 and Path 2) to support redundant telecommunications for a Special Protection System (SPS).<sup>7</sup>

The project is intended to provide the electrical facilities necessary to integrate up to 1,400 megawatts (MW) of new renewable generation from the Ivanpah Dry Lake Area<sup>8</sup> and will be configured to allow for future network upgrades to further increase renewable resource integration beyond 1,400 MW.<sup>9</sup> SCE states this project is needed to integrate renewable generation so that it and other utilities meet their goal of 20% by 2010 and 33% by 2020.

Land uses within the area range from open space and conservation/preserve areas to commercial, public, private, and recreation; utility/energy uses; industrial and mining uses; transportation; and limited residential uses.<sup>10</sup> Lands in the area with special designations include the Mojave National Preserve,

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<sup>6</sup> The phrase "Ivanpah Dry Lake Area" is used repeatedly throughout documents filed by Applicant and within the Joint EIR/EIS. The exact definition of this area is not specified. August 9, 2010 RT 37:16-28; 41:2-7; 54:16-20.

<sup>7</sup> SCE Application at 1-2.

<sup>8</sup> SCE Opening Brief at 8.

<sup>9</sup> SCE PEA at 1.4.

<sup>10</sup> Joint Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) at 3.9-1.

wilderness areas (Wee Thump, Joshua Tree, and South McCullough), and Areas of Critical Environmental Concern (ACECs).<sup>11</sup> The project would be located on lands primarily managed by the U.S. Department of the Interior, Bureau of Land Management (BLM).

## **2.2. Procedural History**

This proceeding commenced on May 28, 2009 when SCE filed Application (A.) 09-05-027, a request for a certificate of public convenience and necessity (CPCN) to construct the Eldorado-Ivanpah Transmission Project.<sup>12</sup> The Commission's permitting review for a transmission CPCN involves two concurrent processes: (1) a Commission proceeding assessing the project's public interest and cost pursuant to Public Utilities Code 1001 et seq. and (2) an environmental review pursuant to California Environmental Quality Act (CEQA), Public Resources Code §§ 21000, et seq. Consistent with CEQA, SCE's Application included a Proponent's Environmental Assessment (PEA), the document presenting the Applicant's environmental review of the project.

On June 22, 2009, the assigned Administrative Law Judge (ALJ) issued a ruling directing SCE to amend its Application to include, among other things, the requisite cost information. This ruling was made pursuant to Rule 3.1 of the Commission's Rules of Practice and Procedure and its General Order (GO) 131-D. This ruling also delayed the start of the protest period until the Application was amended and re-served. SCE filed its amendment on

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<sup>11</sup> *Ibid.*

<sup>12</sup> The docket card for A.09-05-027, including documents filed with the Commission, is available at [www.cpuc.ca.gov](http://www.cpuc.ca.gov).

September 22, 2009 and its Application was subsequently noticed in the Commission's Daily Calendar on September 25, 2009 (referred to herein as "Application").

The Commission's Division of Ratepayer Advocates (DRA) filed a timely protest to the Application. Brightsource Energy, Inc. (Brightsource), the parent corporation of several renewable generation developers in the Ivanpah Dry Lake Area, filed a timely response in support of SCE's Application. On December 2, 2009, the assigned ALJ held a prehearing conference at the Commission in San Francisco, California. Several months later, on July 14, 2009, the assigned Commissioner issued a scoping memo, as required by statute,<sup>13</sup> which set forth the following issues to be addressed in the proceeding:

1. Does the project serve a present or future convenience and necessity, and meet the requirements set forth in Pub. Util. Code § 399.2.5 and § 1001 et seq.? If so, which project or alternative most effectively or feasibly meets that need?
2. What are the significant environmental impacts of the proposed project?
3. Are there potentially feasible mitigation measures that will eliminate or lessen the significant environmental impacts?
4. As between the proposed project and the project alternatives, which is environmentally superior?
5. Are the mitigation measures or project alternatives infeasible? (CEQA Guideline 15091(a)(3).) This issue includes consideration of

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<sup>13</sup> *Joint Assigned Commissioner and Administrative Law Judge's Scoping Memo Ruling (Scoping Memo)*, December 21, 2009.

the proposed and alternative projects' impact on community values pursuant to Pub. Util. Code § 1002(a)(1).

6. To the extent that the proposed project and/or project alternatives result in significant and unavoidable impacts, are there overriding considerations pursuant to CEQA Guidelines § 15093 that merit approval of the proposed project or a project alternative?

7. Were the environmental documents completed in compliance with CEQA, did the Commission review and consider the FEIR prior to approving the project or a project alternative and does the FEIR reflect the Commission's independent judgment? (CEQA Guideline § 15090.)

8. Is the proposed project and/or project alternative designed in compliance with the Commission's policies governing the mitigation of EMF effects using low-cost and no-cost measures? (GO 131-D, Part X.)

9. If a certificate is granted, what is the maximum cost of the approved project? (Pub. Util. Code § 1005.5(a).)

10. Is coordination required with the Nevada Public Utilities Commission? If so, what coordination must take place?

Consistent with the determination in the Scoping Memo, evidentiary hearings were held for several days in August 2010. A few weeks prior to those hearings, Center for Biological Diversity filed a *Motion to Reconsider and Amend Joint assigned Commissioner and Administrative Law Judge's Scoping Memo Ruling* (dated July 16, 2010). SCE and Brightsource filed timely responses in opposition to the Center for Biological Diversity's motion. A reply was then filed by Center for Biological Diversity. The motion sought permission to present testimony at

hearings on environmental issues that “have not been adequately addressed in the Draft Environmental Impact Report.”<sup>14</sup> In support of its request, the Center for Biological Diversity cited to *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1201. In opposing the request by the Center for Biological Diversity, SCE relied on the language of the Scoping Memo.<sup>15</sup> “[Environmental] issues are within the scope of the CEQA review and should be pursued within that environmental review process. No evidentiary hearings or further evidence is needed on these issues.”<sup>16</sup> Both SCE and Brightsource offered supplementary testimony in response to the testimony attached to the motion by Center for Biological Diversity. The assigned ALJ, after hearing arguments on the merits of the motion and the responses in opposition, denied the Center for Biological Diversity’s motion.<sup>17</sup> We affirm this ALJ’s ruling and all other rulings made in this proceeding.<sup>18</sup>

SCE’s filing of its CPCN Application also started the required environmental review of the Applicant’s request. The environmental review takes place under CEQA. The CEQA review is a concurrent and mostly separate

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<sup>14</sup> Center for Biological Diversity July 16, 2010 motion at 1.

<sup>15</sup> SCE July 21, 2010 response to motion at 4.

<sup>16</sup> SCE July 21, 2010 response to motion at 4.

<sup>17</sup> August 9, 2010 RT 10:5-13.

<sup>18</sup> In this ruling, the assigned ALJ did not enter the testimony offered by Center for Biological Diversity, Brightsource, and SCE into the evidentiary record but preserved it in the file for purposes of potential appeal. This testimony was not subject to cross-examination. Some parties cite these materials in their formal filings, such as opening and reply briefs, in this proceeding. All references to this testimony in opening or reply briefs will be given no evidentiary weight.

analysis from Public Utilities Code § 1001 et seq. In this instance and because the proposed construction would take place on federal lands, the Commission agreed to conduct its environmental review jointly with the federal lead agency, BLM, under National Environmental Policy Act of 1969, as amended (NEPA).<sup>19</sup>

The joint NEPA and CEQA scoping process<sup>20</sup> commenced, respectively, on July 27, 2009 with BLM's publication in the Federal Register of a Notice of Intent to prepare an Environmental Impact Statement (EIS) and on July 24, 2009 with the Commission's issuance of a Notice of Preparation of an Environmental Impact Report (EIR).<sup>21</sup>

BLM and the Commission, together with their environmental consultants,<sup>22</sup> prepared for and jointly held two scoping meetings, on July 28, 2009 in Nipton, California, which is located along the proposed route and on the boundary of the Mohave National Preserve,<sup>23</sup> and on July 29, 2009 in Las Vegas, Nevada.<sup>24</sup> The scoping process, including the related meetings, is intended to ensure that significant public issues, alternatives, and impacts are addressed in environmental documents. The scoping process also determines

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<sup>19</sup> Joint FEIR/EIS at 1-1.

<sup>20</sup> Joint FEIR/EIS at 7-1. Scoping is required by CEQA for project of "statewide, regional or area-wide significant" per § 21083 of the Public Resources Code and similar federal law.

<sup>21</sup> Joint FEIR/EIS at 7-2.

<sup>22</sup> The Commission and BLM prepared, via their third-party consultant, Ecology and Environment, Inc. a joint EIR/EIS.

<sup>23</sup> Joint FEIR/EIS, Appendix E at 3.

<sup>24</sup> Joint FEIR/EIS at 7-2.

the scope and degree to which these issues raised by the public, alternatives, and impacts will be analyzed.<sup>25</sup> By the close of the scoping period on August 26, 2009, the Commission and BLM received correspondence from public agencies, organizations and private citizens.<sup>26</sup> No verbal comments were received during the scoping meetings.

As a result of the alternative screening process, the Commission and BLM chose seven of the initial 17 alternatives<sup>27</sup> for detailed analysis in the Joint EIR/EIS.<sup>28</sup> The Joint EIR/EIS at Appendix A summarizes the alternatives presented for review, how alternatives were screened out, and provides a record of the screening methodology<sup>29</sup> with conclusions about alternatives carried forward for full EIR/EIS analysis.<sup>30</sup>

The Commission and BLM published the Draft EIR/EIS on April 30, 2010. Comments to the Draft EIR/EIS were submitted by federal and state agencies, private organizations, and environmental groups on or before the end of the CEQA 45-day comment period, June 21, 2010.<sup>31</sup>

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<sup>25</sup> Joint FEIR/EIS at 7-1. This scoping process is discussed in more detail in the Joint EIR/EIS at chapter 7 and is summarized in Appendix E - *Scoping Summary Report*.

<sup>26</sup> Joint FEIR/EIS, Appendix E at 5-14 and Appendix E at Appendix G (Appendix E contains several Appendices, including "G." These Appendices were not published with the Draft EIR/EIS but included in the Final EIR/EIS.

<sup>27</sup> Joint FEIR/EIS at 2-45.

<sup>28</sup> Joint FEIR/EIS at 7-3.

<sup>29</sup> Joint FEIR/EIS, Appendix A-1 at 1-9 (Sec. 2.1 - Alternative Screening Methodology).

<sup>30</sup> Joint FEIR/EIS, Appendix A at 1-1.

<sup>31</sup> These comments can be found at Appendix G, Final Joint EIR/EIS.

The Commission received opening and reply briefs in A.09-05-027 on August 27, 2010 and September 10, 2010.

The Commission released the Final EIR/EIS on November 5, 2010. Federal publication will occur later.

### **3. Burden of Proof**

SCE must demonstrate a need for the Commission to issue the CPCN.<sup>32</sup> The utility “has the burden of affirmatively establishing the reasonableness of all aspects of its application. Intervenors do not have the burden of proving the unreasonableness of [the utility’s] showing.”<sup>33</sup> Evidence Code § 115 defines burden of proof as follows:

“Burden of proof” means the obligation of a party to establish by evidence a requisite degree of belief concerning a fact in the mind of the trier of fact .... The burden of proof may require a party to raise a reasonable doubt concerning the existence or nonexistence of a fact or that he establish the existence or nonexistence of a fact by a preponderance of the evidence, by clear and convincing evidence, or by proof beyond a reasonable doubt.

Except as otherwise provided by law, the burden of proof in this proceeding requires proof by a preponderance of the evidence. The preponderance of the evidence is generally the default standard in civil and administrative law cases.<sup>34</sup> We apply that standard in this decision.

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<sup>32</sup> *Investigation into Methodology for Economic Assessment of Transmission Projects*, D.06-11-018 at 22, “The Commission has long held that the applicant carries the burden of proof in a certification proceeding, and we reiterate those determinations today.”

<sup>33</sup> D.06-05-016 at 7.

<sup>34</sup> CA Admin. Hearing Practice, 2d Ed. (2005) at 365.

## 4. Analysis

### 4.1. Statutory Framework

Public Utilities Code § 1001 et seq. establishes the framework for the Commission's review of this CPCN Application. Several statutory components exist within this framework. Sections 1001, 1002(a), 1002.3 and 399.2.5 address the public interest and other related factors. Section 1005.5 guides the Commission's evaluation of costs.

### 4.2. Public Utilities Code §§ 1001 and 1002

Section 1001 mandates that, before the Commission can authorize a CPCN for the Eldorado-Ivanpah Transmission Project, it must find the "present or future public convenience and necessity require or will require its construction."<sup>35</sup> A finding of need is required before the Commission may issue a CPCN. We find that SCE has demonstrated need pursuant to §§ 1001 and 399.2.5. In reaching a determination under § 1001, the Commission is required by § 1002(a) to consider four factors: (1) community values; (2) recreational and park areas; (3) historical and aesthetic values; and (4) influence on the environment.<sup>36</sup>

Some of these factors are reviewed as part of the CEQA process. However, the Commission has concluded that § 1002 imposes a "responsibility *independent of CEQA* to include environmental influences and community values in our

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<sup>35</sup> Pub. Util. Code § 1001.

<sup>36</sup> Pub. Util. Code § 1002 (Added by Stats. 1981, ch. 573 § 3) provides, in pertinent part: "The commission, as a basis for granting any certificate pursuant to Section 1001 *shall* give consideration to the following factors:" (Emphasis added.) Those factors are noted above.

consideration of a request for a CPCN."<sup>37</sup> The Commission has also determined that, in evaluating the fourth factor, i.e., consideration of a project's "influence on the environment," it is appropriate to rely on the information gathered as part of the CEQA process.<sup>38</sup>

Regarding the Eldorado-Ivanpah Transmission Project, the Draft Joint EIR/EIS addresses not only the environmental impacts of the project but also the impacts on recreational and park areas and historic and aesthetic values. Accordingly, consistent with the Commission's prior statements, the Commission will look to the CEQA documents to inform its decision on the Eldorado-Ivanpah Transmission Project and also independently consider the information included in the CEQA documents when considering these four factors under § 1002(a).

#### **4.2.1. Community Values**

In considering the project's compatibility with community values as set forth in § 1002(a), the Commission gives considerable weight to the views of the local community and, in addition, the views of the elected representatives of the area because the Commission views elected representatives as speaking on

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<sup>37</sup> *Application of Southern California Edison for CPCN for Kramer-Victor Transmission Line*, (1990) 37 CPUC2d 413, 453. (Emphasis added.)

<sup>38</sup> *Application of Lodi Gas Storage for CPCN for Gas Storage Facilities*, D.00-05-048, 28 ["[T]he appropriate place for the parties to address [the issue of a project's influence on the environment] was in the EIR, so that the parties would not duplicate their efforts in both portions of the proceeding."].

behalf of their constituents.<sup>39</sup> No public or elected officials raised objections to this project in the CEQA public comment process or in the formal proceeding. In support of finding the project consistent with community values under § 1002(a), SCE asserts that the project will play a major role in the timely progress towards the Commission's renewable portfolio standard (RPS) goals.<sup>40</sup> As explained in more detail in Section 4.4.1 below, we agree with SCE that the project will advance the state's renewable energy goals, a program that is codified in state law pursuant to Senate Bill 1078 and modified by Senate Bill 107. However, we do not necessarily agree with SCE that the fact that a given project would advance statewide policy goals necessarily equates to compatibility with community values under the statute. Instead, consistent with past Commission decisions, we look to opinions expressed elected officials, or other representatives of the local community. No elected officials voiced concern regarding this project. Accordingly, while we do not have a basis to affirmatively find that the project advances community values; we believe we can reasonably find that the project is not inconsistent with those values.

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<sup>39</sup> *Application of Southern California Gas Company (U904G) to Amend its Certificate of Public Convenience and Necessity for the Honor Rancho Natural Gas Storage Facility*, Decision 10-04-034; 2010 Cal. PUC LEXIS 144, \*18.

<sup>40</sup> SCE Opening Brief at 3-5. California Senate Bill (SB) 1078, Stats. 2002, ch. 516, established the RPS program, which was codified originally in California Public Utilities Code Sections 399.11, *et seq.* SB 1078 directed retail sellers of energy to include within their portfolios at least 20% of their total retail electricity sales from renewable generation sources by 2017. *Id.* In 2006, the Legislature enacted SB 107, Stats. 2006, ch. 464, which accelerated this deadline to 2010.

#### **4.2.2. Recreational and Park Areas**

In considering the project's impact on recreational and park area as set forth in Pub. Util. Code § 1002(a), we look to the Joint EIR/EIS as providing the most in-depth analysis of this issue.

Chapter 3.12 of the Joint EIR/EIS, entitled "Recreation," establishes that the Ivanpah-Eldorado Transmission Project "is in an area offering a diverse range of recreational opportunities that include caving, photography, paintings, automobile touring, backpacking, bird watching, hunting, primitive camping, hiking, rock climbing, and off-highway vehicles use."<sup>41</sup> Dry lake beds, such as the Ivanpah Dry Lake, are also popular destinations for long-distance archery, kite bugging, and kite demonstrations.<sup>42</sup> Other impacts on recreation include, for example, off-highway recreational vehicle trails currently authorized by BLM that run through the Ivanpah Solar Energy Generating System (ISEGS).<sup>43</sup>

SCE points out that, while its project presents temporary impacts to recreation resulting from construction of the Ivanpah-Eldorado Transmission Project, that impacts during operation and maintenance of the line would be similar its current operations of existing facilities.<sup>44</sup>

While construction of the project presents potential interference with the recreation and park areas, this impact will be short-term. Accordingly, we find

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<sup>41</sup> Joint FEIR/EIS at 3.12-1 and 3.12-2.

<sup>42</sup> Joint FEIR/EIS at 3.12-3.

<sup>43</sup> The analysis of the factors under § 1002(a)(1) - (4) does not include ISEGS, which was included as part of the Project as a Whole for the CEQA review.

<sup>44</sup> SCE Opening Brief at 5.

that the Eldorado-Ivanpah Transmission Project will not conflict with usages of the recreational and park areas. However, as further explained in Section 6.1.2 of the Final EIR/EIS, the ISEGS project, which is part of the whole of action, would result in significant and unavoidable impacts on land use and recreation due to the permanent conversion of habitat and land used for recreational purposes.<sup>45</sup> Thus while the impact of the Eldorado-Ivanpah Transmission Project when viewed in isolation imposes short-term impacts on recreational and park areas, the whole of the action results in longer term impacts that cannot be avoided.

#### **4.2.3. Historical and Aesthetic Values**

We again look to the analysis in the Joint EIR/EIS as providing the most in-depth information of matters related to historical and aesthetic values under Pub. Util. Code § 1002(a). Construction of the Eldorado-Ivanpah Transmission Project would impact cultural resources because of surface and subsurface ground disturbance.<sup>46</sup> This disturbance would result from new road construction, parking in areas off prepared roads, creation and use of temporary laydown areas, and drilling and leveling during construction of tower footings.<sup>47</sup>

SCE has proposed a number of mitigation measures, referred to as Applicant's Proposed Measures, to mitigate these and other similar impacts related to historical and aesthetic values. For example, Applicant's Proposed Measure APM CR-2a provides as follows: Project Final Design would avoid direct impacts on significant or potentially significant cultural resources. To the

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<sup>45</sup> Joint FEIR/EIS at 6-3.

<sup>46</sup> Joint FEIR/EIS at 3.5-15.

<sup>47</sup> Joint FEIR/EIS at 3.5-15.

extent practical, all ground-disturbing activities and other project components would be sited to avoid or minimize impacts on cultural resources listed as or potentially eligible for listing as, unique archaeological sites, historical resources, or historic properties.<sup>48</sup> In describing the whole of the action, which includes the ISEGS project, the Joint Final EIR/EIS determines that the project will have non-mitigable impacts on visual resources, and furthermore states that these impacts would be significant and unavoidable, and there is no feasible mitigation to reduce this impact to less than significant levels.<sup>49</sup>

Consequently, after consideration of these facts, the Commission finds that the project, with the various Applicant's Proposed Measures, does conflict, to some degree, with historical and aesthetic values.

#### **4.2.4. Influence on the Environment**

The Joint EIR/EIS serves as the key reference document when considering the fourth factor, influence on the environment, under Pub. Util. Code § 1002(a).<sup>50</sup> As explained in the Joint EIR/EIS, the project will result in unmitigable<sup>51</sup> significant adverse impacts on biological resources, and air quality.

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<sup>48</sup> Joint FEIR/EIS at ES-18.

<sup>49</sup> Joint FEIR/EIS at 3.2-69.

<sup>50</sup> We certify the FEIR/EIS in Section 6 below.

<sup>51</sup> The term "unmitigable" is used to mean that, it is not possible to avoid the effects or mitigate the effects to a point where no significant effects on the environment would occur. See, e.g., Public Resource Code § 21064.5.

<sup>52</sup> Joint FEIR/EIS at 6-1.

The project would impact several special-status wildlife species and their habitat.<sup>53</sup> However, as noted in the FEIR, while the project would impact several special status wildlife species and their habitat, mitigation would reduce these impacts to less than significant with the notable exception of the impacts on the desert tortoise,<sup>54</sup> which is listed as threatened by the federal government under the Endangered Species Act and by the State of California under the California Endangered Species Act.<sup>55</sup> The ISEGS project and Eldorado-Ivanpah Transmission Project together, as analyzed in the Joint EIR/EIS Whole of the Action, would cause increased road traffic, noise, human presence, disturbance, and general degradation of habitat during construction and operation, all of which are contributors to permanent adverse impacts on desert tortoise.<sup>56</sup> The ISEGS project would result in increased noise levels during daytime operational hours, a loss of desert tortoise habitat in the amount of over 3,582 acres, and increased road traffic increasing desert tortoise road kill hazard.<sup>57</sup> The Eldorado-Ivanpah Project increases the potential for raven predation of desert tortoise. However, the operational impacts of both projects would be significantly reduced by mitigation measures. This includes mitigation compensation required of both projects that would offset adverse impacts to desert tortoise. However, impacts on desert tortoise remain significant even after

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<sup>53</sup> *Ibid.*

<sup>54</sup> *Ibid.*

<sup>55</sup> Joint FEIR/EIS at 3.4-46.

<sup>56</sup> Joint FEIR/EIS at 3.4-126, 3.4-127.

<sup>57</sup> *Ibid.*

mitigation mainly due to the construction of both ISEGS and Eldorado-Ivanpah Transmission Project.<sup>58</sup> The Eldorado-Ivanpah Transmission Project and the ISEGS project would require relocation and the more intensively impactful translocation, respectively, of desert tortoises that occur during construction within the fenced construction area of the project. Specifically, SCE proposes as an Applicant's Proposed Measure, that "Any tortoise found on the surface would be relocated to less than 1,000 feet away."<sup>59</sup> Nevertheless, the impacts remain "significant and unavoidable."<sup>60</sup>

In addition to its impacts on the desert tortoise, the Joint EIR/EIS also finds that the construction activities undertaken to build the project would result in exceeding the Mojave Desert Air Quality Management District daily significant thresholds for particulate matter emissions (PM<sub>2.5</sub>, PM<sub>10</sub>), and nitrogen oxides (NO<sub>x</sub>) despite the proposed usage of low-emission equipment and fugitive dust control measures. While these daily thresholds may be violated during the construction period, the Joint EIR/EIS also notes that these impacts would be temporary and confined to those times and locations when/where construction is underway.<sup>61</sup>

After taking all the above into consideration, we find the proposed project will have some adverse "influence on the environment" under § 1002(a). The finding that the project will have some adverse impacts relative to several of the

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<sup>58</sup> *Ibid.*

<sup>59</sup> Joint FEIR/EIS at 3.4-68.

<sup>60</sup> Joint FEIR/EIS at Section 3.4-96.

<sup>61</sup> Joint FEIR/EIS at 3.3-16.

factors identified in § 1002(a) is not necessarily determinative. Further analysis is required under the existing statutory framework to determine whether a project, despite its adverse impacts under § 1002(a) in some areas, is still in the public interest. The analysis under § 1002(a) is narrow, looking only to the project-specific impacts without consideration of the broader policy context into which the project fits. We now turn to the broader analysis permitted by § 399.2.5.

Notably, under the “notwithstanding” provision of Public Utilities Code § 399.2.5, as further discussed below, the Commission may find that this project’s furtherance of the state’s renewable power goals outweighs the environmental concerns identified under § 1001 et seq.

#### **4.3. Public Utilities Code § 1002.3**

The next step in the Commission’s analysis of SCE’s request for a CPCN for the Eldorado-Ivanpah Transmission Project is § 1002.3.<sup>62</sup> Section 1002.3 requires the Commission to “consider cost-effective alternatives to transmission facilities that meet the need for an efficient, reliable, and affordable supply of electricity, including, but not limited to, demand-side alternatives such as targeted energy efficiency, ultraclean distributed generation...and other demand reduction resources.” When an environmental impact report is being prepared,

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<sup>62</sup> Section 1002.3, effective January 1, 2006, was enacted in 2005 (Stats. 2005, ch. 366, Sec. 5), three years after § 399.2.5, as part of a larger energy efficiency bill, Senator Kehoe’s SB 1037 and provides in full as follows: “In considering an application for a certificate for an electric transmission facility pursuant to Section 1001, the commission shall consider cost-effective alternatives to transmission facilities that meet the need for an efficient, reliable, and affordable supply of electricity, including, but not limited to, demand-side alternatives such as targeted energy efficiency, ultraclean distributed generation, as defined in Section 353.2, and other demand reduction resources.”

pursuant to CEQA, an analysis of the non-wires alternatives is preferably included as an alternate to the proposed transmission line projects.

Consistent with § 1002.3, the Commission considered “non-wires” alternatives as part of its environmental review.<sup>63</sup> While a full analysis was not in the Draft EIR/EIS, this analysis was included in the Final EIR/EIS published on November 5, 2010, in response to comments on the Draft EIR/EIS. The evaluation of System Alternatives was modified to include two separate scenarios or sub-alternatives: in-basin generation and demand-side alternatives. These alternatives are further explained in Appendix A-1 to the Final Joint EIR/EIS. Appendix A-1 also explains the rationale for screening-out “non-wires” for further analysis.

Appendix A-1 to the Final Joint EIR/EIS suggests that demand-side and energy efficiency alternatives within the state could potentially result in 2.5 times more generation capacity than the generation capacity near the Ivanpah Dry Lake Area:

In order to compare the capacity of the demand-side scenario to the capacity of the proposed project, it should be considered the potential capacity of additional renewable generation projects to be constructed in the Ivanpah Valley area and connected to the upgraded EITP transmission line should be considered. The proposed transmission line would be constructed within the Mountain Pass CREZ, which has an estimated generation capacity of 1,200 MW (CAISO 2009). Therefore, if all of the currently proposed demand-side generation projects were constructed and implemented before 2020, they would

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<sup>63</sup> Appendix A-1 of Joint FEIR/EIS.

theoretically have 2.5 times over the generation capacity than the proposed project.<sup>64</sup>

During the environmental review process, the Center for Biological Diversity argued that non-wires alternatives exist and are less expensive than the Eldorado-Ivanpah Transmission Project. The Center for Biological Diversity relies on a number of studies, including a Commission report, which concludes that there would be little difference in the cost of meeting state renewable energy targets by relying predominantly on distributed photovoltaic (PV), when current state-of-the-art pricing is assumed, instead of building 10,000 MW of remote solar capacity under the 33% RPS reference case.<sup>65</sup>

The Final Joint EIR/EIS initially finds that demand-side alternatives could theoretically serve any capacity needs met through the potential generation interconnecting with the Eldorado-Ivanpah Transmission Project.<sup>66</sup> However, the conclusion of the Final Joint EIR/EIS is that the non-wires alternative will not be carried forward for full analysis under CEQA because it is highly speculative that the amount of “non-wires” generation needed to off-set the generation in the Ivanpah Dry Lake Area is feasible.<sup>67</sup> Furthermore as noted in the FEIR, the non-wires alternative would fail to meet one of the primary, and in our view, one of the principle objectives of the project, namely the interconnection of the

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<sup>64</sup> Joint FEIR/EIS at Appendix A-1 (Ap1-16).

<sup>65</sup> Joint FEIR/EIS at Comments by Center for Biological Diversity at Appendix G, comment 0024, citing the Commission’s, *33% Renewables Portfolio Standard Implementation Analysis Preliminary Results*, June 2009, at 31.

<sup>66</sup> Appendix 1, at Ap. 1-14 through Ap. 1-18 of the Joint FEIR/EIS.

<sup>67</sup> Appendix Ap1 at Ap1-15-Ap1-19 of the Joint FEIR/EIS.

renewable resources in the Ivanpah Dry Lake Area, including four projects with Commission approved PPAs.<sup>68</sup> On this basis, the Commission concludes it has met its obligations under 1002.3 to “consider cost-effective alternatives” to transmission facilities.<sup>69</sup>

#### **4.4. Public Utilities Code § 399.2.5**

The next step in the Commission’s analysis is to determine whether § 399.2.5 applies here. Section 399.2.5 was originally enacted as § 399.25 on September 12, 2002, as part of SB 1078. Section 399.25 was re-codified as § 399.2.5, but the text remained unchanged.<sup>70</sup> Section 399.2.5 was recently amended, but the amendments are not relevant to the discussion here.<sup>71</sup>

Section 399.2.5 authorizes the Commission to deem necessary those transmission facilities identified in CPCN applications if the proposed facilities are *necessary to facilitate achievement of the State’s renewable power goals*. The State’s renewable power goals, described, in part, in § 399.11, include the goal “to attain a target of generating 20 percent of total retail sales of electricity in California from eligible renewable energy resources by December 31, 2010...” Section 399.2.5 also provides a “backstop” cost mechanism allowing the utilities to recover through retail rates any prudently incurred costs that are not approved by the Federal Energy Regulatory Commission for recovery through transmission rates. The Commission implemented the cost recovery provisions

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<sup>68</sup> SCE Opening Brief at 8-9.

<sup>69</sup> Appendix Ap1 at Ap1-15-Ap1-19 of the Joint FEIR/EIS.

<sup>70</sup> Stats. 2008, Ch. 558, Sec. 22. Effective January 1, 2009.

<sup>71</sup> AB 1954 (Skinner/Perez), Stats. 2010, Ch. 460. Effective January 1, 2011.

of § 399.2.5 in D.03-07-033 and in D.06-06-034. Because the proposed project is intended to interconnect renewable generation in furtherance of the state's goal pursuant to § 399. 11, we find that the provisions of § 399.2.5 apply here.

In this proceeding, SCE characterizes the "need" analysis under § 399.2.5 as establishing a presumption of need.<sup>72</sup> Moreover, in a recent case, the Commission stated "Section 399.2.5 explicitly supersedes § 1002 in determinations of need for a CPCN."<sup>73</sup> To clarify, no presumption of need is created and, while § 399.2.5 permits the Commission to, in essence, "supersede" §§ 1001-1013, such authority is only provided *after* the Commission fully considers the requirements of §§ 1001-1013, including the analysis required by § 1002.

Accordingly, the determination of "need" under § 399.2.5, and the availability of backstop cost recovery under that section, necessarily must occur at the *end* of a CPCN proceeding, after the Commission evaluates all of the evidence of need under §§ 1001-1013. This sequence of review brings meaning to the "notwithstanding" provision of § 399.2.5. It is only at the end of the Commission's need analysis under §§ 1001-1013 that the provisions of § 399.2.5 provide the Commission with the authority to find that "notwithstanding" the results of its analysis under §§ 1001-1013, the project may be found "necessary to facilitate" achievement of the renewable power goals of § 399.11 et seq. and, therefore, approved by the Commission.

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<sup>72</sup> SCE Opening Brief at 6, "Among other things, Section 399.2.5 creates a presumption of need for transmission projects that facilitate delivery of renewable energy to the grid."

<sup>73</sup> D.09-12-044 at 18.

We have, above, considered the relevant provisions of §§ 1001-1013. We now turn to the § 399.2.5 analysis, the three-prong test for which projects would qualify as “necessary to facilitate” achievement of the States’ renewable power goals under § 399.11 et seq., and thereby qualify for cost recovery under the statute.

#### **4.4.1. Three Prong Test**

In D.07-03-012,<sup>74</sup> the Commission established the following three prong test for which projects would qualify as “necessary to facilitate” achievement of the State’s renewable power goals under § 399.2.5, and thereby qualify for the cost recovery under the statute:

(1) that a project would bring to the grid renewable generation that would otherwise remain unavailable; (2) that the area within the line’s reach would play a critical role in meeting the RPS goals; and (3) that the cost of the line is appropriately balanced against the certainty of the line’s contribution to economically rational RPS compliance.<sup>75</sup>

The first prong requires that the Eldorado-Ivanpah Transmission Project bring to the grid renewable generation that would otherwise remain unavailable. Unlike other recent transmission projects, this project is not being developed to meet demand.<sup>76</sup> The main purpose of the project is to bring yet-to-be constructed wind and thermal solar projects to the CAISO-controlled grid. SCE’s current

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<sup>74</sup> D.07-03-012 (The decision approving Segment 1 of the Tehachapi Renewable Transmission Project.)

<sup>75</sup> D.07-03-012 at 16. Applied in D.07-03-045 and D.09-12-044.

<sup>76</sup> The Final EIR/EIS finds that accessing renewable energy is the purpose of the project with “energy demand met by other means.” (Final EIR/EIS at 6-9.)

interconnection capability in the Ivanpah Dry Lake Area is limited to approximately 80 MW via the existing line between the Mountain Pass Substation and the Eldorado Substation, on the Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115 kV transmission line.<sup>77</sup>

The renewable generation projects identified for potential interconnection with the Eldorado-Ivanpah Transmission Project are in various stages of development. No projects are presently generating renewable electricity. Some of these renewable generation projects present an initial start date of a few years away, perhaps as early as 2013,<sup>78</sup> while other projects are more speculative.

In the context of renewable energy development, it is often the case that transmission must be planned and permitted before generation fully commits to an area. This is the situation here. Furthermore, in this case generation developers, and by extension, their financial backers, need assurance that if generation is built, their projects will be able to bring their energy to market. Once planned and permitted, transmission to the Ivanpah Dry Lake Area is likely to increase interest in a renewable generation development. Consequently, in this case, the Commission is looking to the renewable potential for the area that the transmission line will serve as an indicator of the need for the proposed line. Our analysis continues to emphasize the amount of generation already under RPS contracts with the investor owned utilities, and, in this case, gives

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<sup>77</sup> Exhibit SCE-5, Section A at 8:20-26.

<sup>78</sup> The initial synchronization may occur a few months early, in November 2012. SCE Advice Letter 2339.

some weight to the number of interconnection requests in the area as an indicator of future growth.

Based on Commission-approved PPAs, the reasonably foreseeable capacity that can be expected to interconnect to Eldorado-Ivanpah Transmission Project is considerable. Four solar projects totaling 717 MW<sup>79</sup> of renewable generating capacity in the Ivanpah Dry Lake region have CPUC-approved PPAs with investor owned utilities. All of these projects have filed interconnection requests with the CAISO and are seeking interconnection to the CAISO system through Eldorado-Ivanpah Transmission Project.<sup>80</sup> Notably, and consistent with the requirements and applicability of § 399.2.5, all of these projects were approved in part because of the contribution they are expected to make toward California's 20% RPS goals.<sup>81</sup>

We disagree with DRA's position, as presented in briefs, that these projects are not sufficiently mature or certain to justify a need determination for the proposed transmission project.<sup>82</sup> These generation projects have Commission approved PPAs, and as such have been assessed and were ultimately endorsed by the Commission based not only on cost relative to other resource options, but

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<sup>79</sup> Exhibit SCE-8.

<sup>80</sup> Exhibit SCE- 14

<sup>81</sup> The 717 MW of capacity, as reflected in Exhibit SCE-8, are represented by four PPAs, two with SCE, Solar Partners 1 and Desert Stateline, and two with PG&E, Brightsource PPA 1 and Brightsource PPA 2. These projects were approved via Resolutions E-4261, E-4347, and E-4266, respectively. Each resolution contains language expressly recognizing the role these projects are anticipated to play in meeting the 20 percent RPS goal. (See, E-4261 at 8, E-4347 at 7, and E-4266 at 9.)

<sup>82</sup> DRA Opening Brief at 10-13.

also on the basis of project viability. As such we find that these projects are strongly indicative of a line that if built, will be utilized.

This conclusion is further supported by information regarding potential generation projects in the Renewable Energy Transmission Initiative (RETI) Phase 2B report regarding the region's resource potential. DRA also makes a number of arguments questioning whether the energy from the projects that are anticipated to interconnect to Eldorado-Ivanpah Transmission Project will deliver energy to California end use customers.<sup>83</sup> The extent to which projects will serve end use customers consistent with the eligibility requirements of the RPS program are fully addressed when the Commission reviews contracts submitted by the utilities as part of their RPS procurement activities. We find DRA's concerns in this regard to be misplaced and out of scope to the extent they have failed to demonstrate that the resources anticipated to utilize this line are ineligible under the RPS.

Of the projects with Commission approved PPAs, we note that the project by Brightsource's subsidiary companies, the Ivanpah Solar Energy Generating System project or ISEGS, is the project furthest along in the permitting process, having received the necessary permits or approvals by the California Energy Commission and BLM. ISEGS initiated construction soon after October 27, 2010.<sup>84</sup> ISEGS alone could serve to satisfy the first prong the Commission's test under § 399.2.5, that a proposed transmission project would

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<sup>83</sup> DRA Opening Brief at 7-9.

<sup>84</sup>[http://www.brightsourceenergy.com/images/uploads/press\\_releases/Ivanpah\\_Groundbreaking\\_Press\\_Release.pdf](http://www.brightsourceenergy.com/images/uploads/press_releases/Ivanpah_Groundbreaking_Press_Release.pdf).

bring to the grid renewable generation that would otherwise remain unavailable. However, as stated by Brightsource, other transmission options exist for the project.<sup>85</sup>

While other transmission options may exist, we find that the substantial amount of renewable capacity represented not only by Brightsource's ISEGS project, but also by the capacity associated with the other Commission-approved renewable PPAs in the region results in the need for additional transmission capacity. This has been confirmed by the CAISO, which, in its studies responding to these projects' respective interconnection requests, has indicated that Eldorado-Ivanpah Transmission Project would be required.<sup>86</sup>

It is also notable, that in addition to those projects with approved PPAs, there is approximately 964 MW of renewable generation in the CAISO Generation Queue<sup>87</sup> that would, if realized, potentially interconnect to Eldorado-Ivanpah Transmission Project. Furthermore, the region has been identified in the RETI Phase 2B report as having substantial renewable potential,

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<sup>85</sup> Brightsource June 21, 2010 comments to the Joint FEIR/EIS at 2, included in Joint FEIR/EIS in Appendix G at comment 0016.

<sup>86</sup> DRA Exhibit C-302-A CAISO confidential documents:

Interconnection System Impact Study, Generation Interconnection DPT2 Project Final Report at ii, iii.

Interconnection System Impact Study, Generation Interconnection, LLC., DPT1 Project Final Report at ii, iii.

Interconnection System Impact Study, Generation Interconnection, Ivanpah Solar Electric Generating System 3 Final Report at ii, iii.

<sup>87</sup> Exhibits SCE-9, 10 and 11.

with an estimated 958 MW of potential in the Mountain Pass Competitive Renewable Energy Zone (CREZ) and 5,042 MW of potential in the Nevada-Southwest area.<sup>88</sup>

Having approved renewable PPAs expressly seeking interconnection to a given transmission facility is helpful in ensuring that lines built to access renewables are fully utilized and the risk of stranded costs is reduced accordingly. Here, we not only have Commission-approved PPAs that collectively exceed the available capacity of the existing CAISO system, but strong commercial interest in the region as evidenced by the CAISO interconnection queue, and a regional assessment, RETI, that confirms the region has substantial renewable resource potential to justify this interest. Based on this information, and the limited capacity available on SCE's existing lines, to facilitate interconnection of these resources to the CAISO system, additional transmission capacity is needed.

In light of the forgoing discussion, we conclude that Eldorado-Ivanpah Transmission Project meets the first and second prongs of the three prong test used to determine if a project meets the "necessary to facilitate" language of § 399.2.5. The Eldorado-Ivanpah Transmission Project satisfies the first prong of the test because it will facilitate interconnection with those generation projects with Commission-approved PPAs located in the area. Furthermore, the considerable amount of renewable potential in the region, beyond those projects with Commission-approved PPAs, as demonstrated by the substantial amount of

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<sup>88</sup> RETI Phase 2B Final Report, 1-10 – 1-12.

<http://www.energy.ca.gov/2010publications/RETI-1000-2010-002/RETI-1000-2010-002-F.PDF>.

generation in the CAISO Generation Queue, and the results of the RETI Phase 2B study, convinces us that the project satisfies the second prong.

Accordingly, we find that the Applicant has established by a preponderance of the evidence that Eldorado-Ivanpah Transmission Project is needed to bring to the grid renewable generation that would otherwise remain unavailable and that the area within the line's reach would play a critical role in meeting the state's RPS goals.

We now turn to the third prong, regarding whether the cost of the line is appropriately balanced against the certainty of the line's contribution to economically rational RPS compliance. Based on the existing PPAs, as well as the identified resource potential in the region, we believe the line would, if built, contribute toward economically rational RPS compliance. This leaves the question of whether or not the costs of this line are reasonably balanced against this opportunity. As described in more detail below, we find that the cost of the project, as modified herein, is reasonable given the project scale and scope, thus satisfying the third prong. In light of the forgoing discussion we find that the project meets the requirements of the three prong test and is, thus, "necessary to facilitate achievement of the renewable power goals established in Article 16."

#### **4.4.2. Back-Stop Cost Recovery**

After the Commission determines a transmission project is "needed" under § 399.2.5, the project is then eligible for backstop cost recovery for prudently incurred transmission costs "resulting from the construction of the transmission facilities that are not approved for recovery in transmission rates by

[Federal Energy Regulatory Commission]...”<sup>89</sup> Thus, SCE must seek to recover costs for transmission projects through Federal Energy Regulatory Commission jurisdictional rates and, if Federal Energy Regulatory Commission denies recovery, § 399.2.5(b)(4) permits recovery of transmission rates through the retail rates governed by the Commission.

The provisions of § 399.2.5 apply to new transmission facilities “necessary to facilitate achievement of the renewable power goals.” These renewable power goals are set forth in § 399.11. As explained in the preceding section, we find that the Applicant has demonstrated that the project is needed, consistent with the requirements of § 399.2.5. Therefore we find that the project is eligible for backstop cost recovery.

Section 399.2.5 (b)(4) ensures retail rate recovery of prudently-incurred costs for projects the Commission finds to be necessary to facilitate RPS compliance to the extent that cost recovery is not otherwise available.

There is no question that the Eldorado-Ivanpah Transmission Project qualifies for cost recovery under § 399.2.5(b)(4). D.06-06-034 defined certain types of facilities that would qualify for cost recovery under § 399.2.5(b)(4), including:

High voltage, bulk-transfer transmission facilities, whether classified as network or gen-tie, that are designed to serve multiple RPS-eligible generators where it has been established that the amount of added transmission capacity will likely be utilized by RPS-eligible generation projects within a reasonable period of time .... (D.06-06-034, mimeo., Finding of Fact 8).

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<sup>89</sup> Pub. Util. Code § 399.2.5(b)(4).

As described above, we find that the Eldorado-Ivanpah Transmission Project is necessary as that term is used in the context of § 399.2.5, because it will be used interconnect renewable resources that will contribute to the 20% RPS goal. That the proposed project is a high voltage, bulk-transfer transmission facility is not disputed. Consequently, it is appropriate to provide SCE assurance of recovery of prudently incurred costs, and we do so here.

Section 399.2.5 also requires the Commission to direct “the utility...to seek the recovery through general transmission rates of the costs associated with the transmission facilities.” Therefore, we direct SCE to first seek cost recovery at Federal Energy Regulatory Commission through general transmission rates for the costs incurred in building this project. Further, we reiterate our finding in D.06-06-034: “§ 399.25 is not meant to substitute for the existing cost recovery mechanisms available to support transmission development, nor is it intended to change the ultimate cost responsibility of generators and utility ratepayers.” (*Id.* at p. 28). “Nothing in this decision is intended to relieve renewable generators from their responsibility for their fair share of the costs of non-network transmission facilities necessary to interconnect the generator with the network.” (*Id.* at Findings of Fact 7.)

We affirm, consistent with D.06-06-034, that, notwithstanding the likelihood of cost recovery through Federal Energy Regulatory Commission wholesale rates, it is appropriate for SCE to continue to track its project costs consistent with the terms of the memorandum account approved by the Commission in response to SCE Advice Letter 2345-E.<sup>90</sup> Both the statute and

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<sup>90</sup> CPUC Resolution E-3405 (December 17, 2009).

D.06-06-034 anticipate that first Federal Energy Regulatory Commission would act, and that this Commission would step in only if Federal Energy Regulatory Commission disallows recovery of some costs. Thus, any consideration of cost recovery by this Commission would only come after Federal Energy Regulatory Commission had finished its work.

## **5. California Environmental Quality Act**

CEQA and § 1002(a) require the Commission to consider the influence of the Applicant's request on the environment.<sup>91</sup> Toward that goal, CEQA requires the Commission, as the Lead Agency, to conduct a review to identify environmental impacts of the project and ways to avoid or reduce significant environmental damage. This review is documented in a joint EIR/EIS. The EIR/EIS serves to disclose any environmental impacts associated with a proponent's project, list mitigation measures to minimize any significant environmental effects of the project, and provide project alternatives. This information is used to assist the Commission in determining whether to issue a CPCN. CEQA precludes a lead agency from approving a proposed project unless the lead agency requires the project proponent to eliminate or substantially lessen all significant effects on the environment where feasible, and determines that any unavoidable remaining significant effects are acceptable due to overriding considerations. CEQA requires that, prior to approving the project or a project alternative, the lead agency certify that the environmental review was conducted in compliance with CEQA, that it reviewed and considered the

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<sup>91</sup> Public Resources Code §§ 21000, et seq.

EIR prior to approving the project or a project alternative, and that the EIR reflects its independent judgment.<sup>92</sup>

**5.1. Applicant’s Proponent’s Environmental Assessment, Project Objective, Project as a Whole, and Alternatives**

**5.1.1. Proponent’s Environmental Assessment and the Statement of Objectives**

SCE filed a PEA with its Application. A PEA is required to contain a statement of objectives. The purpose of the statement of objectives is to help the lead agency develop a reasonable range of alternatives to evaluate and aide the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should also include the underlying purpose of the project. (CEQA Guidelines § 15124.) SCE’s project objective is reproduced below:<sup>93</sup>

1. Comply with the state-mandated Renewables Portfolio Standard (RPS) (i.e., 20 percent renewable by year 2010 per California Senate Bill 107<sub>1</sub>) in an orderly, rational, and cost effective manner, while also considering the need for maintaining reliable electric service during the upgrade and/or construction of new facilities.
2. Integrate planned renewable generation resources<sub>2</sub>, including up to 1,400 MW from the Ivanpah Dry Lake Area with a Power Purchase Agreement (PPA) executed by a California Public Utilities Commission (CPUC) jurisdictional Private Transmission Owners (PTO), in a manner that minimizes potential environmental impacts

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<sup>92</sup> Pub. Res. Code § 21082.1(c)(3); CEQA Guidelines § 15090.

<sup>93</sup> The below excerpt is from SCE’s PEA (at 1-1 and 1-2) for “project objective.” This language is different than the PEA “project objective” found in the EIR/EIS (at 1-8 at Section 1.2.1).

and impacts to existing and planned residences, where feasible, by maximizing the use of existing transmission corridors in order to:

a) maximize the use of existing, previously disturbed transmission line right-of-way (ROW) to minimize effect on previously undisturbed land and resources;

b) select route and tower locations with the lowest potential for environmental impacts while still meeting Proposed Project objectives; and

c) select the shortest feasible route that minimizes environmental impacts and Proposed Project costs.

3. Interconnect and deliver energy from up to 1,400 MW of renewable resources located in the Ivanpah Dry Lake Area in a way that complies with all applicable North American Electric Reliability Council (NERC)/Western Electric Coordinating Council (WECC) Planning Standards, and in a manner that minimizes transmission line crossings.

4. Support the State of California Greenhouse Gas Reduction Program.

5. Assist the BLM in meeting the federal directive to develop 10,000 MW of renewable generations.

#### **5.1.2. The Project Objective**

The Commission, together with the BLM, adopted the following objectives for the project:

Based on the content of the PEA and related federal and state objectives, the CPUC and the BLM have abridged the objectives for the proposed project to the following:

1. To connect renewable energy sources in the Ivanpah Valley area in compliance with Executive Order 13212, EPAct, the Federal

Power Act, California Senate Bill 1078, and California Senate Bill 107;

2. To improve reliability in compliance with applicable standards, including NERC, WECC, CAISO, and SCE standards; and
3. To maximize the use of existing ROW and designated utility corridors to minimize impacts on environmental resources.<sup>94</sup>

### **5.1.3. Project as a Whole**

Both CEQA and NEPA stipulated that assessment is not limited to only the project components. Under CEQA, a “project” is defined as “the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment”<sup>95</sup> The Joint EIR/EIS incorporates the ISEGS project as part of the “whole of the action” and describes the relevant features of the ISEGS project found in the Final Staff Assessment/Draft EIR (FSA/DEIR) of the ISEGS project conducted by the CEC and the BLM.<sup>96</sup> The FSA/DEIS conclude that the ISEGS project would result in significant impacts.<sup>97</sup> Given the geographical proximity and the overlapping schedules of the Eldorado-Ivanpah Transmission Project, it is reasonable to assume that the Eldorado-Ivanpah Transmission Project, when

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<sup>94</sup> Joint FEIR/EIS at 1-11.

<sup>95</sup> CEQA Guidelines § 15378(a).

<sup>96</sup> CEC Application for Certification 07-AFC-5.

<sup>97</sup> Joint FEIR/EIS at 2-37.

considered in combination with ISEGS, would contribute cumulatively significant impacts.<sup>98</sup>

## **5.2. Applicant's Proposed Measures**

Applicant's PEA proposes specific procedures to the project construction plans to minimize the environmental impact from the proposed project. These specific procedures are referred to as Applicant's Proposed Measures (APMs). The PEA's impact analysis assumes that the applicable APMs would be implemented to reduce air quality impacts. We adopt the APMs as part of our review of the proposed project and Applicant is required to comply with the APMs and the other mitigation measures contained in the Mitigation Monitoring, Reporting, and Compliance Program. The Commission shall monitor compliance with the Plan periodically throughout the duration of construction activities.

## **6. Certification of Final Joint EIR/EIS**

The Commission must certify the Final Joint EIR/EIS. (CEQA Guidelines § 15090.)

We hereby certify that:

- The Final Joint EIR/EIS has been completed in compliance with CEQA.
- The Final Joint EIR/EIS was presented to the Commission, and the Commission has received, reviewed, and considered the information contained in the EIR/EIS prior to approving the project.

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<sup>98</sup> *Ibid.*

- The Joint Final EIR/EIS reflects the Commission’s independent judgment and analysis.

## **7. CEQA Findings**

Based upon the Joint Final EIR/EIS, we have prepared a set of CEQA Findings pursuant to CEQA Guidelines § 15091 regarding the significant impact associated with the proposed project. These findings are set forth in Attachment B to this decision. We find that the CEQA Findings accurately reflect the independent analysis contained in the Final Joint EIR/EIS and are supported by substantial evidence in the administrative record. We adopt them as Findings of Fact in this decision and incorporate them by reference herein.

### **7.1. CEQA - Environmentally Superior Alternative**

CEQA imposes a general duty on public agencies to avoid or minimize, to the greatest extent possible, the environmental effects of projects they approve.<sup>99</sup> This duty generally is implemented by identifying and then adopting mitigation measures and/or alternatives to the project that will avoid or reduce environmental impacts.<sup>100</sup> To this end, CEQA requires that the Joint EIR/EIS identify an environmentally superior alternative among the alternatives evaluated.<sup>101</sup> There were 18 alternatives evaluated in the Joint FEIR/EIS. In

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<sup>99</sup> *County of San Diego v. Grossmont-Cuyamaca Community College Dist.* (2006) 141 Cal.App.4th 86, 98; Pub. Res. Code § 21002; 14 Cal. Code Regs. (“CEQA Guidelines”) § 15021.

<sup>100</sup> Pub. Resources Code §§ 21100(b)(3), (4), 21003(c) [EIR should emphasize feasible mitigation measures and alternatives]; CEQA Guidelines §§ 15002(f), (h), 15126.4, 15126.6; *Laurel Heights Improvement Assn. v. The Regents of the University of California* (1988) 47 Cal.3d 376, 400-403.

<sup>101</sup> Joint FEIR/EIS at Section 4; CEQA Guidelines §§ 15126.6(a) and (e)(2).

contrast with the other routing and telecommunication alternatives evaluated in this Draft EIR/EIS, the proposed project would have less land disturbance and less significant impacts on sensitive biological resources, and it would meet all of the project's objectives.<sup>102</sup> Neither of the two remaining alternatives, which include the No Project alternative and the non-wires alternative, meets the project objectives. Therefore, the proposed route was determined to be the environmentally superior alternative among alternatives that would meet the Commission's project objectives as set forth in the Joint EIR/EIS.<sup>103</sup>

## **7.2. CEQA – Significant Environmental Effects, Statement of Overriding Consideration, and Rationale**

Although the Environmentally Superior Alternative is the least environmentally damaging alternative, it does not mitigate all significant environmental impacts as described below and as further described in the Final Joint EIR/EIS. The whole of action, which includes the proposed Eldorado-Ivanpah Transmission Project as well as ISEGS, has significant and unavoidable adverse impacts on a number of areas including air quality, biological resources, land use, and visual resources. These impacts are summarized below.

**Air Quality:** Though impacts on air quality resulting from the whole of the action would not be long-term, the project would result in significant and unavoidable adverse impacts on air quality due to temporary emission increases of NO<sub>x</sub>, volatile organic compounds (VOCs), and PM<sub>10</sub>, associated with construction activities. These emissions would contribute to a cumulatively considerable net increase of a criteria pollutant in a non-attainment area, and

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<sup>102</sup> Joint FEIR/EIS at 4.7.

<sup>103</sup> *Ibid.*

temporary impacts on ambient air quality. As such the whole of the action/cumulative action will result in significant and unavoidable impacts to air quality.<sup>104</sup>

**Biological Resources:** The whole of the action would significantly and adversely affect biological resources, in particular resulting in unmitigable significant and unavoidable impacts to the desert tortoise. These impacts are caused primarily by construction activities of the two projects. Overall, the impacts on biological resources, with the notable exception of the impacts on the desert tortoise, from the whole of the action would be less than significant.<sup>105</sup>

**Land Use:** The whole of the action is found to have significant and unavoidable impacts on land use, largely resulting from the permanent conversion of habitat and recreational lands.<sup>106</sup>

**Visual Resources:** The whole of the action is found to have significant and unavoidable impacts on visual resources. The FSA for ISEGS project would result in significant and unavoidable visual impacts affecting the following viewer groups: the Primm Valley Golf Course, viewpoints in the Mojave National Preserve on the eastern face of Clark Mountain, and viewpoints in the Stateline Wilderness Area, including the Umberci Mine, and the middleground distance view on Highway I-15.<sup>107</sup> Additionally, the ISEGS project would result in lighting impacts for viewers in the Mohave National Preserve, because FAA safety lighting for the ISEGS project would result in an adverse and unavoidable impact on nighttime views. Collectively, then, the impact of the whole of the

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<sup>104</sup> Joint FEIR/EIS at 3.3-34.

<sup>105</sup> Joint FEIR/EIS at 3.4-127.

<sup>106</sup> Joint FEIR/EIS at 5-88.

<sup>107</sup> California Energy Commission (CEC) and Bureau of Land Management (BLM) 2009. Final Staff Assessment/Draft Environmental Impact Statement of the Ivanpah Solar Electric Generating System Project (CEC-700-2008-013-FSA). October Section 6.12, and California Energy Commission (CEC) 2010. Final Staff Assessment Addendum for the Ivanpah Solar Electric Generating System. March Section 6.

action on these viewers, including light impacts, would be significant and unavoidable. Importantly there are no feasible mitigation measure to reduce this impact to less than significant levels.<sup>108</sup>

### **7.3. Statement of Overriding Considerations**

As explained above, the authorized Environmentally Superior Alternative and the combined Environmentally Superior Alternative and ISEGS project will have significant environmental impacts, a number of which cannot be mitigated. Therefore, the Commission must provide a statement of the overriding considerations pursuant to CEQA Guidelines § 15093. The Commission will not provide a statement of overriding consideration for the ISEGS project as this project has already been reviewed and certified.

The Commission recognizes that significant and unavoidable environmental impacts will result from construction and operation of the Environmentally Superior Alternative. Having: (1) adopted all feasible mitigation measures; (2) recognized all significant, unavoidable impacts; and (3) balanced the benefits of the Environmentally Superior Alternative against its significant and unavoidable impacts, the Commission hereby finds that the benefits of the project outweigh and override the significant unavoidable impacts for the reasons stated below. The Environmentally Superior Alternative will provide substantial benefits, including, but not limited to, facilitating California's renewable energy goals within a reasonable timeframe as well as advancing the state's efforts to reduce its carbon emissions consistent with Assembly Bill 32 (Stats. 2006, ch. 488).

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<sup>108</sup> Joint FEIR/EIS at 3.2-68 and 3.2-69

The Commission finds that the Environmentally Superior Alternative's unavoidable impacts are acceptable in light of these substantial benefits, which constitute an overriding consideration warranting approval of the project.

#### **7.4. Mitigation Monitoring**

The Final EIR/EIS includes a proposed Mitigation Monitoring Plan (Final EIR/EIS, Appendix E.) for the mitigation measures it recommends for the Proposed Project. The tables are presented in the Final EIR. These tables, along with the full text of mitigation measures applicable to the Environmentally Superior Alternative, form the Draft Mitigation Monitoring Plan. The plan is designed to ensure compliance with the changes in the project and mitigation measures imposed on the authorized project during implementation. It also recommends a framework for implementation of the Mitigation Monitoring Plan by this Commission and by BLM as the CEQA and NEPA Lead Agencies, respectively. We adopt the Mitigation Monitoring Plan.

#### **8. Electric and Magnetic Fields**

The Commission has examined the impact of electric and magnetic fields (EMF) in several previous proceedings.<sup>109</sup> The Commission found the scientific evidence presented in those proceedings was uncertain as to the possible health effects of electromagnetic fields and did not find it appropriate to adopt any related numerical standards. Because there is no agreement among scientists that exposure to EMF creates any potential health risk, and because CEQA does not define or adopt any standards to address the potential health risk impacts of

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<sup>109</sup> D.06-01-042; D.93-11-013.

possible exposure to EMF, the Commission does not consider magnetic fields in the context of CEQA and determination of environmental impacts.

The Commission requires, pursuant to GO 131-D, that all requests for a CPCN include a description of the measures taken or proposed by the utility to reduce the potential for exposure to EMF generated by the proposed project. The Commission developed an interim policy that requires utilities, among other things, to identify the no-cost measures undertaken, and the low-cost measures implemented, to reduce the potential EMF impacts. The benchmark established for low-cost measures is 4% of the total budgeted project cost that results in an EMF reduction of at least 15% (as measured at the edge of the utility right-of-way). SCE's Field Management Plan, included at Exhibits SCE-3 and incorporated into the design of the proposed project, addresses the EMF mitigation measures that will be taken in connection with the proposed project.

We adopt SCE's Field Management Plan for the proposed project and require SCE to comply with it.

## **9. Costs**

SCE has provided sufficient evidence to support its cost estimate for the project, including SCE's preliminary total estimated costs—excluding Allowance for Funds Used During Construction (AFUDC) costs for the proposed route and all alternatives, as required by Pub. Util. Code § 1005.5(a).<sup>110</sup> With the exception of AFUDC, all cost estimates are provided in 2009 constant dollars. In addition, SCE's cost estimating methodology is appropriate. Consistent with Commission practice, SCE did not include AFUDC costs for purposes of estimating the total

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<sup>110</sup> Exhibit SCE-1 (Chien) at 12.

maximum reasonable and prudent costs. It is also appropriate for SCE to use deflation factors to convert actual expenditures in future years to their equivalent value in 2009 dollars.

As part of SCE's direct costs estimate, SCE incorporates the costs associated with complete redundancy for the Special Protection System (SPS).<sup>111</sup> The SPS system includes a primary telecommunications line that will run along the new 220 kV line and a second telecommunications line, the redundant line, that will traverse approximately 35 miles in California and Nevada. The redundant telecommunications line is referred to as Telecom Path 2. Telecom Path 2 would be built along the existing SCE 500 kV Eldorado-Lugo transmission line and transmitted via microwave facilities.<sup>112</sup>

SCE explains that the Telecom Path 2 is strongly encouraged by the North American Electric Reliability Corporation (NERC)/Western Electricity Coordinating Council (WECC) Planning Standards but also indicates that "precontingency generation curtailment" might be an alternative to the additional line.<sup>113</sup> DRA argues that Telecom Path 2 is not needed and, as a result, the costs should be excluded.<sup>114</sup> DRA's arguments points to generation curtailment or load shedding as a reasonable and acceptable alternative to construction of Telecom Path 2.<sup>115</sup>

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<sup>111</sup> Exhibit SCE-1 at 12.

<sup>112</sup> Joint FEIR/EIS at 2-35.

<sup>113</sup> SCE Reply Brief at 20.

<sup>114</sup> DRA Opening Brief at 4 and Reply Brief at 2.

<sup>115</sup> DRA Opening Brief at 4-5.

In contrast to DRA, SCE states that the SPS is critical to enabling the Eldorado-Ivanpah Transmission Project to be fully utilized.<sup>116</sup> SCE argues that because the SPS only disconnects renewable resource under abnormal conditions, which, by definition are rare, the SPS ensures the ability of the line to be fully utilized during normal operating conditions. SCE has adequately demonstrated the prudence of the Special Protection Systems and its consistency with CAISO planning standards and NERC/WECC planning standards.

Regarding SCE's proposed contingency, it suggests a 35% contingency, citing to SCE's recent experience with the Antelope-Pardee Transmission Project 1 (Antelope 1) and Antelope-Pardee Transmission Project 2 and 3 (Antelope 2 and 3).<sup>117</sup> SCE further suggests that the amount of contingency as a percentage of the cost estimate will decrease as the project scope is better defined. SCE's requested contingency exceeds the amounts, generally between 5% and 15%, recently adopted by the Commission and requested by applicants for similar transmission projects in California.<sup>118</sup> Consistent with precedent, we adopted a contingency of 15%.<sup>119</sup> This contingency will be applied to the total project costs of \$306.338 million, as noted at Exhibit SCE-1.

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<sup>116</sup> SCE Reply Brief at 20-22.

<sup>117</sup> SCE Opening Brief at 30.

<sup>118</sup> DRA Opening Brief at 13.

<sup>119</sup> D.09-12-044 at 69-71.

SCE also requests that the Commission find that its preliminary cost estimates of \$306 million (constant 2009 dollars), excluding contingency and corporate overhead,<sup>120</sup> qualify as reasonable and prudent under California Public Utilities Code Section 1005.5(a). This “reasonable amount” is sometimes referred to as a “cost cap.”<sup>121</sup> In the future, if circumstances warrant, SCE would request the Commission to consider an appropriate request from SCE for an increase of the reasonable and prudent cost cap pursuant to Section 1005.5(b). We adopt as reasonable a cost cap under § 1005.5 the total amount noted in Attachment A to Exhibit SCE-1, direct costs of \$306.338 million plus a 15% contingency.

#### **10. Public Utilities Section 625 Notice Requirements**

SCE states it will comply with the applicable notice requirements in California Public Utilities Code Section 625, should SCE become aware of any need to condemn property for competitive purposes during this process. We affirm that SCE must comply with Section 625 as needed.

#### **11. Comment Period**

The alternate proposed decision of the Commissioner in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission’s Rules of Practice and Procedure. Comments on the Proposed Decision and Alternate Proposed Decision were filed on December 6, 2010 by Southern California Edison, jointly by Brightsource and First Solar, the Division of Ratepayer Advocates, the Center for Biological Diversity, and Western Watersheds Project,

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<sup>120</sup> Exhibit SCE-1 at 19.

<sup>121</sup> Exhibit SCE-1 at 20:7-8.

and reply comments were filed on December 13, 2010 by Southern California Edison, jointly by Brightsource and First Solar, the Center for Biological Diversity, and the Division of Ratepayer Advocates.

SCE's comments focused primarily on the Proposed Decision which denies the SCE's application. In particular, SCE argues that the requirement implied by the PD, that available capacity on the transmission systems of other transmission providers must be fully evaluated before a CPCN can be granted, is unduly burdensome and would, if adopted create a significant barrier to renewable development. SCE notes in particular that neither SCE nor CAISO can conduct system impact studies to evaluate the affect of interconnecting renewables to third party transmission systems, like LADWP and NV Energy, both of which own high voltage transmission in the vicinity of the proposed project. Similarly, SCE notes the CPUC has no authority to compel these entities to conduct such studies. Lastly, on this point, SCE argues that the approach taken in the PD would force generators to pursue interconnection studies with multiple transmission system providers in a given region, dramatically increasing the time, cost and uncertainty associated with the interconnection process. To the extent projects are able to interconnect, it will lead to a piecemeal solution and upgrades to the transmission system to facilitate renewable compliance, contrary to the intent of § 399.2.5. SCE disputes the PD's finding that the line is not needed based on the speculative nature of the projects that would use the line if built. SCE also argues that the PD's characterization of Desert Tortoise fragmentation is incorrect. In light of these arguments SCE supports the Alternate Proposed Decision.

Brightsource and First Solar also support the APD and make many similar arguments as those of SCE regarding the PD. Brightsource and First Solar argue

that the PD strays from the intent of the § 399.2.5 by introducing a new standard/requirement for approval, namely requiring SCE to analyze available capacity on non-CPUC jurisdictional transmission systems, which creates additional project development barriers rather than facilitating renewable development. This, in their view, also conflicts with the SCE's obligations pursuant to the CAISO tariff and the Federal Power Act, namely that SCE take the appropriate steps to interconnect these resources when interconnection is requested. They further argue that the approach proposed in the PD is impractical given the fact that these third-party facilities are not subject to these requirements, creating a great deal of uncertainty in the interconnection process. Brightsource and First Solar suggest that the PD conflicts with Commission precedent noting that the approach in the PD regarding third party transmission system capacity was not imposed in the case of decisions granting CPCNs for Tehachapi segments 1-3 and Tehachapi segments 4-11. Because the PD would essentially force developers to engage in multiple interconnection processes, Brightsource and First Solar allege it would dramatically increase the regulatory burden to transmission development to the detriment of project developers. In the case of this application in particular, denying the CPCN will adversely impact the ability of Brightsource to move forward because it creates uncertainty as to how and if Brightsource will be able to interconnect thus putting at risk the commercial arrangements between Brightsource and DOE which are largely contingent on the timely approval of EITP.

DRA supports the PD denying the application and opposes the APD. DRA supports the approach taken in the PD, in particular agreeing that because there may be sufficient capacity on existing transmission systems in the region to deliver energy from the Brightsource project it is unnecessary and premature to

grant the CPCN for EITP. DRA also argues that the other projects with approved PPAs and the potential in the region is too uncertain to be used to justify the line or meet the criteria established for making a need determination pursuant to § 399.2.5.

DRA goes on to argue that because, in its view, the necessity of the line to deliver renewable energy pursuant to the first two prongs of the three prong test is suspect, the requirement that the costs of the line be reasonably balanced against the potential to achieve economically rational RPS compliance cannot be met.

DRA also raises a number of technical concerns with the proposed project noting that no CAISO study has been performed on the EITP as a whole, and the system impact study that has been done is, in DRA's view, grossly flawed. They also note that CAISO has not approved the project as a whole, and lastly, DRA argues that there has been insufficient consideration of Alternatives, in particular, a westward path alternative.

In its comments, CBD agrees with the PD that the applicant has failed to demonstrate that the project is needed. In particular, CBD agrees with the PD's conclusion that because there may be sufficient transmission capacity on other transmission providers' systems to interconnect the "one permitted project and the one project with an approved PPA" there is insufficient basis to conclude that the project is needed. CBD presents information regarding the existing transmission facilities in the region and presents information indicating that there is substantial capacity on LADWP's system to interconnect resources. CBD also presents cost information regarding the relatively lower cost of interconnecting to LADWP's system than building EITP. CBD also argues that because the line cannot be guaranteed to only carry renewables, especially given

the, in CBD's view, highly speculative nature of renewable projects that would utilize EITP and the fact that SCE did not provide data on its compliance with the RPS, it should not be approved.

CBD also reiterates a number of arguments regarding the insufficiency of the Final EIR/EIS. Regarding the Peevey APD specifically, CBD argues that the APD is trying to have it both ways; accepting the approach taken in the EIR in which a number of projects were deemed too speculative to be included in the CEQA review, but viewing these same projects as sufficiently certain to warrant finding the line is needed in order to interconnect them. Western Watersheds Project focused on alleged deficiencies in the final environmental document.

Most of the arguments raised in comments are squarely addressed in the discussion above providing our rationale for approving this project. While a number of parties oppose approval on the grounds that the resource potential and the renewable projects that would interconnect to EITP are too speculative, we flatly disagree. The approved PPAs in the region combined with the projects in the CAISO queue and the resource potential identified in the region provide a compelling basis to determine that this line, when built, will interconnect a substantial amount of renewable energy that would otherwise go undelivered, and thus can play an instrumental role in achieving the state's renewable energy goals.

We also won't belabor the discussion regarding whether the potential availability of transmission capacity on other entities' systems provides a basis for rejecting the CPCN. As SCE as well as Brightsource and First Solar point out, denying a project on the grounds that there might be transmission capacity available on non-CAISO transmission systems introduces substantial uncertainty into the interconnection process by effectively requiring project developers to

pursue multiple interconnection requests with various transmission owners in a region. This approach also creates tremendous uncertainty for transmission owners, like SCE, which are subject to the CAISO tariffs in that there is not currently a means by which they can assess available capacity on other systems before submitting an application for a CPCN as they, CAISO, nor this Commission, have the authority or other means of facilitating the level of coordination this would require. Additionally, the information CBD provides in its comments regarding the availability and economics of transmission capacity on LADWP's system is new information and is not part of the evidentiary record in this proceeding.

DRA's arguments regarding the insufficiency of the CAISO impact studies do not provide a compelling basis to deny or postpone approval of the CPCN. Though we do not dispute the basic fact that the system impact studies conducted thus far evaluated the system impacts below the line's full proposed capacity for generator interconnection, we note that additional generation projects seeking to use the line in the future will need to undertake studies before being interconnected to ensure that doing so will not result in adverse system impacts, pursuant to CAISO Tariff Appendix Y -LGIP For Requests In A Queue Cluster Window.<sup>122</sup> This is a less than ideal approach in that such subsequent generator interconnections might require further upgrades somewhere on the network in order to maintain reliability and deliverability, affecting the economic and environmental consequences of the overall transmission project in ways not assessed in the limited interconnection studies that have been presented. Such

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<sup>122</sup> See CAISO Tariff Appendix Y, <http://www.caiso.com/27c3/27c3ee0763210.pdf>.

further assessment would appear to require some speculation regarding the specific nature of the generation projects that will ultimately use the line, but would provide valuable information for assessing the full transmission project. However, given urgent circumstances in the present case combined with evidence regarding further renewable resources and commercial activity in this area, suspending consideration of this line pending an additional system impact study that evaluates the potential impacts if the line is used to its full rated capacity will lead to unacceptable delays. We believe the approach taken here, coupled with the interconnection protocols to which projects seeking to use this line are subject, provide adequate safeguards to prevent adverse system impacts due to full subscription of the line's capacity while ensuring that the near term projects that will interconnect can do so safely and without negatively effecting grid reliability.

With respect to DRA's concerns regarding how CAISO approval of the line occurs, in general we agree that under ideal circumstances major projects like EITP would emerge from the CAISO's overall integrated Transmission Planning Process (TPP) which provides a more holistic and open forum, and a more transparent basis, to consider and compare the various transmission lines that could be built to access high-potential renewable resource areas. However, we also recognize the practical reality that the timing for that integrated process does not currently align well with the exigencies of developing the substantial initial round of renewable projects in the Ivanpah Valley Region, particularly given the availability and terms of federal funding like the DOE loan guarantees. In this case, a number of relatively advanced renewable projects have sought interconnection to SCE's system via the Large Generator Interconnect Procedures and the line is being proposed, and a CPCN being requested in response to those

interconnection requests but additionally recognizing that from an economic standpoint, the line should be efficiently sized to support an amount of renewable generation that we can realistically anticipate being developed in the region in the not-too-distant future, to avoid piecemeal infrastructure development. For these reasons we disagree with the DRA's position that we should wait for relevant action from the CAISO's TPP, or its proposed revised TPP (RTPP) before considering this project. We also note that DRA's contention, that the CAISO has not approved this line, is misleading. While the project did not come out of the TPP, CAISO did enter into Large Generator Interconnection agreements that require SCE to pursue EITP.

However, having said that, use of the narrower generator interconnection process to design and implicitly approve (when LGIAs are submitted to FERC) very large transmission projects costing hundreds of millions of dollars and sized well beyond current generator interconnection needs is not a desirable alternative to studying, planning and approving such projects through the more holistic, transparent and open TPP. This is especially true when we are seeing high cost estimates, when more such renewable generation-supporting projects are anticipated, and when we have already expressed support for competitive opportunities to develop such transmission.

With respect to DRA's concerns regarding the elimination of westward alternatives from consideration, we believe the appropriate forum for this issue was in the context of the EIR/EIS. The determination to exclude the westward alternative was made in that context and parties were given full opportunity to participate in that process. We do not believe we need to readdress the basis for the determination of which alternatives were carried forward here. Similarly, to the extent Western Watersheds Project raises concerns in its comments related to

the insufficiency of the EIR/EIS we believe those issues are addressed in the Final EIR/EIS which we certify in this decision, and do not need to be further addressed here.

Regarding CBD's argument that the projects the Commission relies on to justify a need determination for EITP should also be incorporated into the EIR/EIS, we are not persuaded. This argument implies that the standard for determining need under § 399.2.5 requires that the renewable projects that support such a finding be sufficiently advanced for inclusion as a connected action in the CEQA context. However, no such equivalency is required. For example, the substantial renewable resource potential of an area could reasonably serve as the basis to find that a given transmission project is necessary to facilitate economically rational development for achieving the goals of the RPS program consistent with § 399.2.5. In our view, including as connected actions various hypothetical projects that may emerge is not required in the CEQA review. These projects were not sufficiently advanced to merit inclusion in the EIR/EIS. In addition, CBD's reasoning ignores the fact that the EIR/EIS is developed in a dynamic environment which can change while the review is being conducted and finalized. Those projects that were sufficiently advanced at the time the scope and baselines were established for conducting the environmental review should be included in the EIR/EIS, however this represents a subset of the projects that may be considered in making a need determination pursuant to § 399.2.5. This is driven both by the relative breadth of what projects and resources are considered in making a need determination, under § 399.2.5, recognizing our desire to build transmission in a manner that anticipates future development, as well as the fact that our consideration of the CPCN necessarily occurs after a substantial amount of time has passed since the

EIR/EIS process was initiated. As result of this, projects that were not well-defined when the scope and baselines were set for the EIR/EIS have since become more defined. However, as a practical and legal matter we are not obligated to include these emerging projects in the EIR/EIS. To do so would lead to a potentially open-ended environmental review process. The EIR/EIS conducted for this project appropriately included those projects that were sufficiently advanced at the time to be incorporated into the environmental review. In contrast, the need determination under § 399.2.5 considered a much broader set of projects including those projects that were well-defined at the time the environmental review was initiated, those projects that have since that time become relatively more well defined, as well as projects that are less mature, but which still reflect and validate the extensive renewable resource potential in the area, as well as the commercial interest in developing that potential in the region.

## **12. Assignment of Proceeding**

Michael R. Peevey is the assigned Commissioner and Regina M. DeAngelis is the assigned ALJ in this proceeding.

### **Findings of Fact**

1. The Eldorado-Ivanpah Transmission Project is necessary to promote the safety, health, comfort, and convenience of the public.
2. The Eldorado-Ivanpah Transmission Project is a high-voltage, bulk transfer, transmission facility designed to serve multiple renewable projects in the Ivanpah Dry Lake region.
3. The transmission capacity on the CAISO system that is currently available to interconnect resources in the Ivanpah Dry Lake Area is approximately 80 MW.

4. As proposed, the Eldorado-Ivanpah Transmission Project would provide sufficient transfer capability to transmit up to 1,400 MW of renewable capacity.

5. At present there are four renewable energy projects, representing 717 MW of capacity, with Commission approved power purchase agreements that are seeking interconnection to the CAISO system in the Ivanpah Dry Lake Area.

6. These power purchase agreements were approved in part because of the role that deliveries from these projects are anticipated to play in the realization of the state's 20% RPS goals.

7. At present there are 6 projects representing 964 MW of capacity requesting interconnection to the Eldorado-Ivanpah Transmission Project CAISO interconnection queue.

8. RETI identified the Mountain Pass Competitive Renewable Energy Zone, which is located in the California portion of the Ivanpah Dry Lake Area, as having significant renewable potential, in excess of 950 MW of potential capacity.

9. The Renewable Energy Transmission Initiative also identified an additional 5,402 MW of renewable capacity in the Nevada Southwest.

10. In light of the limited existing available transmission capacity on SCE's system, absent the Eldorado-Ivanpah Transmission Project, the renewable generation projects with Commission approved power purchase agreements will not have a means to deliver their energy to load centers, and, as a result, would be subject to significant delay and risk of contract failure.

11. The Eldorado-Ivanpah Transmission Project may play an important role in the development of renewable resources in the Ivanpah Dry Lake Area beyond those projects with Commission approved power purchase agreements.

12. Once an interconnection request is submitted to the CAISO, numerous studies are required before an interconnection agreement can be reasonably executed.

13. The time between submission of an interconnection request and execution of and interconnection agreement takes approximately two years.

14. The cost of the Eldorado-Ivanpah Transmission Project is justified based upon the high degree of the certainty that the project is needed to ensure development of RPS-eligible resources in the Ivanpah Dry Lake Area.

15. The project alternatives considered in the Final EIR/EIS constitute a reasonable range of feasible alternatives, as required by the CEQA Guidelines.

16. The environmentally superior alternative for the Eldorado-Ivanpah Transmission Project as identified in the Final EIR is the applicant's proposed project.

17. The environmentally superior route poses less harm to the environment than do the other routes proposed by SCE and/or considered in the Final EIR/EIS, while still meeting the project objectives.

18. The proposed route includes no-cost and low-cost measures (within the meaning of D.93-11-013, and D.06-01-042) to reduce possible exposure to EMF.

19. SCE agrees to comply with the mitigation measures described in the Final EIR/EIS.

20. The Commission has reviewed and considered the information in the Final EIR/EIS before approving the project.

21. In determining whether to grant a CPCN for the proposed project, we have given express consideration to community values, recreational and park areas, historic and aesthetic values, and influence on the environment.

22. The Final EIR identifies significant environmental effects of approved route that can be mitigated or avoided such that they become not significant.

23. Specific findings with respect to all significant or potentially significant environmental effects of the project as proposed and of the various alternative routes studied in the Final EIR/EIS are set forth in Attachment B to this Decision, CEQA Findings of Fact. We adopt the CEQA Findings of Fact included in Attachment B as if fully set forth herein.

24. The environmental mitigation measures identified in the Final EIR/EIS, and set forth in detail in Attachment A to this Decision, are feasible and will avoid some of the significant environmental impacts that would otherwise result from the approved project.

25. The Mitigation Monitoring Plan set forth in Chapter 9 of the Final EIR/EIS conforms to the recommendations of the Final EIR/EIS for measures required to mitigate or avoid those environmental effects of the project that can be reduced or avoided.

26. Notwithstanding the adoption in this Decision of all feasible mitigation measures identified in the Final EIR/EIS, and set forth in detail in Attachment A, there are certain adverse environmental impacts of the project being approved in this decision that cannot be mitigated to a less than significant level. The project's unavoidable adverse environmental impacts are acceptable in light of the substantial benefits the project provides, particularly its role in facilitating compliance with the state's Renewables Portfolio Standard and meeting the greenhouse gas mitigation goals pursuant to Assembly Bill 32, which constitute an overriding consideration warranting approval of the project, despite each and every unavoidable impact.

27. As the State's lead agency under CEQA, the Commission is required to monitor the implementation of mitigation measures adopted for this project to ensure full compliance with the provisions of the monitoring program.

28. The Commission will develop a detailed implementation program for the Mitigation Monitoring Plan. This program will be called the Mitigation Monitoring, Reporting and Compliance Program (MMRCP).

29. The Final EIR reflects the Commission's independent judgment and analysis.

### **Conclusions of Law**

1. The Commission has jurisdiction over the proposed project pursuant to, inter alia, Pub. Util. Code §§ 399.25 and §§ 1001 et seq.

2. In order to award a certificate under § 1001, the Commission must find that the present or future public necessity require or will require construction of the line.

3. Section 399.2.5 authorizes the Commission to deem necessary those transmission facilities identified in applications if the proposed facilities are necessary to facilitate achievement of the State's renewable power goals.

4. Section 399.2.5 also provides a "backstop" cost mechanism allowing the utilities to recover through retail rates any prudently incurred costs that are not approved by the Federal Energy Regulatory Commission for recovery through transmission rates.

5. The Commission implemented the cost recovery provisions of § 399.2.5 in D.03-07-033 and in D.06-06-034.

6. Section 399.2.5 does not create a presumption of need and the authority under § 399.2.5 is only exercised *after* the Commission fully considers the requirements of §§ 1001-1013, including the analysis required by § 1002.

7. Section 399.2.5 recognizes that in order to achieve RPS goals, it may be necessary for the Commission to approve new transmission projects in anticipation of future renewable energy projects, and to provide additional assurances of recovery of reasonable construction costs.

8. Because § 399.2.5 exists in a broader statutory context – one that requires ambitious renewable portfolio development, reasonable rates, and environmental protection -- we interpret this code section in a manner that strikes a reasonable balance.

9. In D.06-06-034 we identified two types of transmission projects that could be needed to facilitate RPS compliance and were therefore eligible for cost recovery. Those projects included “high-voltage, bulk-transfer, multi-user transmission facilities... proposed to access known, concentrated renewable resource areas...”

10. D.06-06-034 also noted that the degree of certainty required for a showing of RPS need “will depend on the magnitude of costs at stake,” and that “in certain cases it will be necessary to consider the status of the RPS compliance to date...”

11. In order to rely on § 399.2.5 to establish the need for a project, we find that a proponent must demonstrate: (1) that a project would bring to the grid renewable generation that would otherwise remain unavailable; (2) that the area within the line’s reach would play a critical role in meeting the RPS goals; and (3) that the cost of the line is appropriately balanced against the certainty of the line’s contribution to economically rational RPS compliance.

12. The Eldorado-Ivanpah Transmission Project satisfies the requirements of Pub. Util. Code § 399.2.5.

13. The Commission retains authority to approve SCE's EMF mitigation plan to ensure that it does not create other adverse environmental impacts.

14. The Final EIR/EIS should be approved.

15. Project approval should be conditioned upon the completion of the mitigation measures set forth in Attachment A. These mitigation measures are feasible and will minimize or avoid significant environmental impacts. Those mitigation measures should be adopted and made conditions of project approval.

16. After considering and weighing the values of the community, the impacts to parks and recreational areas, the impacts on historical and aesthetic values, and the environmental impacts caused by the project, we conclude that the CPCN for the Eldorado-Ivanpah Transmission Project as described in this decision should be approved.

17. The Commission is the Lead Agency for compliance with the provisions of CEQA.

18. The Draft EIR/EIS analyzing the environmental impacts of the Proposed Project was processed in compliance with CEQA.

19. A Final EIR/EIS on the Proposed Project was processed and completed in compliance with the requirements of CEQA.

20. The Draft EIR/EIS and the Final EIR/EIS (which includes the Mitigation Monitoring, Reporting and Compliance Program and EMF Field Management Plan) should be adopted in their entirety.

21. SCE should be granted CPCN for the proposed route of the Eldorado-Ivanpah Transmission Project, with mitigation set forth in the Mitigation Monitoring Plan.

22. SCE should obtain all necessary permits, easement rights or other legal authority for the project site prior to commencing construction.

23. Possible exposure to EMF has been reduced by the no-cost and low-cost measures SCE will include in the project that are specified in Appendix B of its Application and pursuant to D.93-11-013, and D.06-01-042.

24. SCE's EMF management plan for the Eldorado-Ivanpah Transmission Project is adopted.

25. Based on the completed record before us, we conclude that other alternatives identified in the Final EIR/EIS are infeasible or and/pose more significant environmental impacts than the route we select in this decision.

26. Section 399.2.5(b)(4) ensures retail rate recovery of prudently-incurred costs for projects the Commission finds to be necessary to facilitate RPS compliance to the extent that cost recovery is not otherwise available.

27. The determinations made in D.06-06-034 regarding implementation of the cost recovery provisions of § 399.2.5 apply here.

28. Section 399.2.5 requires the Commission to direct SCE to seek the recovery through general transmission rates of the costs associated with the transmission facilities.

29. Section 399.2.5 is not meant to substitute for the existing cost recovery mechanisms available to support transmission development, nor is it intended to change the ultimate cost responsibility of generators and utility ratepayers. Nothing in this decision is intended to relieve renewable generators from their responsibility for their fair share of the costs of non-network transmission facilities necessary to interconnect the generator with the network.

30. Notwithstanding the likelihood of cost recovery through FERC wholesale rates, it is appropriate for SCE to continue to track its project costs through the

memorandum account approved by the Commission on December 17, 2009 in response to SCE Advice Letter 2345-E on December 17, 2009.

31. Both § 399.2.5 and D.06-06-034 anticipate that first FERC would act, and that this Commission would step in only if FERC disallows recovery of some costs. Thus, any consideration of cost recovery by this Commission would only come after FERC had concluded its consideration of cost recovery for the project.

32. The Commission has authority to specify a “maximum cost determined to be reasonable and prudent” for the Eldorado-Ivanpah Transmission Project pursuant to Pub. Util. Code § 1005.5.

33. The Commission should approve a maximum reasonable and prudent cost cap under § 1005.5 of \$306.338 million plus a 15% contingency for this project.

34. Commission approval of SCE’s application, as modified herein, is in the public interest.

35. This order should be effective immediately so that construction of the project can begin.

36. Application 09-05-027 should be closed.

## **O R D E R**

### **IT IS ORDERED** that:

1. A Certificate of Public Convenience and Necessity is granted to Southern California Edison Company to construct the Eldorado-Ivanpah Transmission Project, following the environmentally superior route described in the Final Joint Environmental Impact Report/Environmental Impact Statement, including the Draft and the Final Joint Environmental Impact Report/Environmental Impact Statement Mitigation Monitoring Plan and the Electric and Magnetic Fields Field Management Plan.

2. Southern California Edison Company shall, as a condition of approval, comply with all applicable mitigation measures specified in the Final Environmental Impact Report/Environmental Impact Statement and as directed by the Commission's Executive Director or designee(s). Southern California Edison Company shall work with the Commission's Energy Division to create detailed maps for use in construction and mitigation monitoring.

3. The Mitigation Monitoring Plan included as part of the Final Environmental Impact Report is adopted.

4. Pursuant to Pub. Util. Code § 1005.5(a), the maximum cost cap (in 2009 dollars) determined to be reasonable and prudent for the Eldorado-Ivanpah Project, is \$306.338 million plus a 15% contingency.

5. The Energy Division shall supervise and oversee construction of the project insofar as it relates to monitoring and enforcement of the mitigation measures described in the Final Joint Environmental Impact Report/Environmental Impact Statement in accordance with the Mitigation Monitoring Plan set forth in Chapter 9 of the Final Joint Environmental Impact Report/Environmental Impact Statement. The Energy Division may delegate its duties to one or more Commission staff members or outside staff. The Energy Division is authorized to employ staff independent of the Commission staff to carry out such functions, including, without limitation, the on-site environmental inspection, environmental monitoring, and environmental mitigation supervision of the construction of the project. Such staff may be individually qualified professional environmental monitors or may be employed by one or more firms or organizations. In monitoring the implementation of the environmental mitigation measures described in the Final Joint Environmental Impact Report/Environmental Impact Statement, the Energy Division shall

attribute the acts and omissions of Southern California Edison Company's employees, contractors, subcontractors, or other agents to Southern California Edison Company. Southern California Edison Company shall comply with all orders and directives of the Energy Division concerning implementation of the environmental mitigation measures described in the Joint Environmental Impact Report/Environmental Impact Statement.

6. The Energy Division shall supervise and oversee the construction of the Eldorado-Ivanpah Transmission Project insofar as it relates to monitoring and enforcement of the mitigation measures described in the Final Environmental Impact Report/Environmental Impact Statement. The Energy Division may designate outside staff to perform on-site monitoring tasks. The Commission project manager (Energy Division, Environmental Projects Unit) shall have the authority to issue a Stop Work Order on the entire project, or portions thereof, for the purpose of ensuring compliance with the mitigation measures described in the Final Environmental Impact Report/Environmental Impact Statement. Construction may not resume without a Notice to Proceed issued by the Environmental Projects Unit of the Energy Division.

7. Southern California Edison Company's right to construct the Eldorado-Ivanpah Transmission Project as set forth in this decision shall be subject to all other necessary state and local permitting processes and approvals.

8. Southern California Edison Company shall file a written notice with the Commission, served on all parties to this proceeding, of its agreement, executed by an officer of Southern California Edison Company duly authorized (as evidenced by a resolution of its board of directors duly authenticated by a secretary or assistant secretary of Southern California Edison Company) to acknowledge Southern California Edison Company's acceptance of the

conditions set forth in the Ordering Paragraphs of this decision. Failure to file such notice within 75 days of the effective date of this decision shall result in the lapse of the authority granted by this decision.

9. Consistent with Pub. Util. Code § 399.2.5, the Commission shall ensure that Southern California Edison Company is eligible to recover, through rates, any reasonable and prudent costs related to the Eldorado-Ivanpah Transmission Project that the Federal Energy Regulatory Commission determines not to reflect in authorized transmission rates. Southern California Edison Company shall account for these costs, and seek any needed future recovery, in the manner described in Section 4.4.2 of this decision.

10. The Final Environmental Impact Report/Environmental Impact Statement for the Eldorado-Ivanpah Transmission Project is certified pursuant to the requirements of the California Environmental Quality Act, Public Resources Code §§ 21000 et seq.

11. The Draft Environmental Impact Report/Environmental Statement and the Final Environmental Impact Report/Environmental Statement are received into evidence. These documents are Exhibits ALJ-1 and 2 respectively.

12. The Energy Division shall file a Notice of Determination for the project as required by the California Environmental Quality Act and the regulations promulgated pursuant thereto.

13. Upon satisfactory completion of the project, Southern California Edison Company shall file a notice of completion with the Executive Director by the Energy Division.

14. Application 09-05-027 is closed.

This order is effective today.

Dated December 16, 2010, at San Francisco, California.

MICHAEL R. PEEVEY

President

DIAN M. GRUENEICH

JOHN A. BOHN

TIMOTHY ALAN SIMON

NANCY E. RYAN

Commissioners

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***Appendix 7***  
***Appeals Process (ROW- IBLA)***

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**INFORMATION ON TAKING APPEALS TO THE INTERIOR BOARD OF LAND APPEALS**

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DO NOT APPEAL UNLESS

1. This decision is adverse to you,
- AND
2. You believe it is incorrect

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IF YOU APPEAL, THE FOLLOWING PROCEDURES MUST BE FOLLOWED

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**1. NOTICE OF APPEAL**..... A person served with the decision being appealed must transmit the *Notice of Appeal* in time for it to be filed in the office where it is required to be filed within 30 days after the date of service. If a decision is published in the FEDERAL REGISTER, a person not served with the decision must transmit a *Notice of Appeal* in time for it to be filed within 30 days after the date of publication (43 CFR 4.411 and 4.413).

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**2. WHERE TO FILE**  
NOTICE OF APPEAL.....  
  
WITH COPY TO  
SOLICITOR...

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**3. STATEMENT OF REASONS** Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the United States Department of the Interior, Office of Hearings and Appeals, Interior Board of Land Appeals, 801 N. Quincy Street, MS 300-QC, Arlington, Virginia 22203. If you fully stated your reasons for appealing when filing the *Notice of Appeal*, no additional statement is necessary (43 CFR 4.412 and 4.413).

WITH COPY TO  
SOLICITOR.....

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**4. ADVERSE PARTIES**..... Within 15 days after each document is filed, each adverse party named in the decision and the Regional Solicitor or Field Solicitor having jurisdiction over the State in which the appeal arose must be served with a copy of: (a) the *Notice of Appeal*, (b) the Statement of Reasons, and (c) any other documents filed (43 CFR 4.413). If the decision concerns the use and disposition of public lands, including land selections under the Alaska Native Claims Settlement Act, as amended, service will be made upon the Associate Solicitor, Division of Land and Water Resources, Office of the Solicitor, United States Department of the Interior, Washington, D.C. 20240. If the decision concerns the use and disposition of mineral resources, service will be made upon the Associate Solicitor, Division of Mineral Resources, Office of the Solicitor, United States Department of the Interior, Washington, D.C. 20240.

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**5. PROOF OF SERVICE**..... Within 15 days after any document is served on an adverse party, file proof of that service with the United States Department of the Interior, Office of Hearings and Appeals, Interior Board of Land Appeals, 801 N. Quincy Street, MS 300-QC, Arlington, Virginia 22203. This may consist of a certified or registered mail "Return Receipt Card" signed by the adverse party (43 CFR 4.401(c)).

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**6. REQUEST FOR STAY**..... Except where program-specific regulations place this decision in full force and effect or provide for an automatic stay, the decision becomes effective upon the expiration of the time allowed for filing an appeal unless a petition for a stay is timely filed together with a *Notice of Appeal* (43 CFR 4.21). If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Interior Board of Land Appeals, the petition for a stay must accompany your *Notice of Appeal* (43 CFR 4.21 or 43 CFR 2801.10 or 43 CFR 2881.10). A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the *Notice of Appeal* and Petition for a Stay **must** also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay. Except as other provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards: (1) the relative harm to the parties if the stay is granted or denied, (2) the likelihood of the appellant's success on the merits, (3) the likelihood of immediate and irreparable harm if the stay is not granted, and (4) whether the public interest favors granting the stay.

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Unless these procedures are followed, your appeal will be subject to dismissal (43 CFR 4.402). Be certain that **all** communications are identified by serial number of the case being appealed.

**NOTE:** A document is not filed until it is actually received in the proper office (43 CFR 4.401(a)). See 43 CFR Part 4, subpart b for general rules relating to procedures and practice involving appeals.

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### 43 CFR SUBPART 1821--GENERAL INFORMATION

Sec. 1821.10 Where are BLM offices located? (a) In addition to the Headquarters Office in Washington, D.C. and seven national level support and service centers, BLM operates 12 State Offices each having several subsidiary offices called Field Offices. The addresses of the State Offices can be found in the most recent edition of 43 CFR 1821.10. The State Office geographical areas of jurisdiction are as follows:

#### STATE OFFICES AND AREAS OF JURISDICTION:

Alaska State Office ----- Alaska  
Arizona State Office ----- Arizona  
California State Office ----- California  
Colorado State Office ----- Colorado  
Eastern States Office ----- Arkansas, Iowa, Louisiana, Minnesota, Missouri  
and, all States east of the Mississippi River  
Idaho State Office ----- Idaho  
Montana State Office ----- Montana, North Dakota and South Dakota  
Nevada State Office ----- Nevada  
New Mexico State Office ---- New Mexico, Kansas, Oklahoma and Texas  
Oregon State Office ----- Oregon and Washington  
Utah State Office ----- Utah  
Wyoming State Office ----- Wyoming and Nebraska

(b) A list of the names, addresses, and geographical areas of jurisdiction of all Field Offices of the Bureau of Land Management can be obtained at the above addresses or any office of the Bureau of Land Management, including the Washington Office, Bureau of Land Management, 1849 C Street, NW, Washington, DC 20240.