

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

RECORD OF DECISION

for the

West of Devers Upgrade Project

BLM/CA/PL-2015/012+1793

DOI-BLM-CA-060-0015-0021

CACA-055285

Riverside and San Bernardino Counties, California

Lead Agency:

Department of the Interior Bureau of Land Management Palm Springs Field Office

Cooperating Agency:

United States Bureau of Indian Affairs

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EXECUTIVE SUMMARY

This document constitutes the Record of Decision (ROD) of the Department of Interior (DOI) and Bureau of Land Management (BLM) for the West of Devers Upgrade Project. This ROD includes a right-of-way grant decision. This ROD applies only to BLM-administered lands. Each cooperating federal agency is responsible for issuing its own decision and applicable authorizations.

After extensive environmental analysis, consideration of public comments, and application of pertinent federal laws and policies, it is the decision of the DOI to authorize a right-of-way grant for the construction, operation, and maintenance of a transmission line on the alignment identified as the BLM Agency Preferred Alternative in the Final Environmental Impact Statement (EIS), notice of which was published in the Federal Register on August 5, 2016 (U.S. Environmental Protection Agency) and August 10, 2015 (BLM). The Final EIS is available online at

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=64793&dctmId=0b0003e880bed5f7>

The Final EIS analyzed the environmental impacts of Southern California Edison's (SCE's) proposed West of Devers Upgrade Project, identified as the Proposed Action or Proposed Project, as well as alternatives to the Proposed Action. This decision approves the Agency Preferred Alternative, which consists of the Proposed Project as modified by two alternatives, the Tower Relocation Alternative and the Iowa Street Underground Alternative, that are applicable to certain non-BLM segments of the Proposed Project. BLM's Agency Preferred Alternative also is referred to as the Selected Alternative in this ROD. As well as the Agency Preferred Alternative, BLM identified the Environmentally Preferable Alternative. This was the Phased Build Alternative, which would build the project in phases, requiring less construction in the immediate future, thereby reducing near-term impacts and deferring other construction to a future date. However, following analysis of public comments on the Draft EIS/EIR and further internal review of the Draft EIS/EIR and the level of renewable energy development expected by BLM to rely on the upgraded transmission lines, BLM has selected the Agency Preferred Alternative for approval.

The Proposed Action would be located primarily within the existing West of Devers (WOD) right-of-way (ROW) located on public, Tribal, and private land in incorporated and unincorporated parts of Riverside and San Bernardino Counties. The project corridor would cross approximately 48 miles of public, Tribal, and private or local agency land. Of the total, 3.5 line-miles (including 2 separate 220 kV lines) would be on BLM-administered land and 8 miles on Morongo tribal land. On the BLM-administered land subject to this ROD, two upgraded 200 kV transmission lines would be developed, each in parallel corridors between 1,000 and 1,500 feet apart. The upgraded lines would be in or immediately adjacent to existing transmission corridors, where existing towers and conductors would be removed and replaced with new towers and conductors. In the northern corridor, six existing towers would be replaced by three new towers. In the southern corridor, five existing towers would be replaced by four new towers.

Overall, the Proposed Action would:

- Replace the existing 220 kV transmission lines and associated structures with higher-capacity 220 kV transmission lines and new 200 kV structures. Upgrades would occur on approximately 30 miles of the Devers–El Casco line, approximately 14 miles of the El Casco–San Bernardino line, approximately 43 miles of the Devers–San Bernardino line, approximately 45 miles of the Devers-Vista No. 1 and No. 2 lines, approximately 3.5 miles of the Etiwanda–San Bernardino line, and approximately 3.5 miles of the San Bernardino–Vista line;
- Upgrade substation equipment at Devers, El Casco, Etiwanda, San Bernardino, and Vista Substations to accommodate increased power transfer on the 220 kV lines;
- Remove and relocate approximately 2 miles of existing 66 kV subtransmission lines;
- Remove and relocate approximately 4 miles of existing 12 kV distribution lines; and
- Install telecommunication lines and equipment for the protection, monitoring, and control of transmission lines and substation equipment.

The Proposed Action on BLM-administered public lands includes crossing of approximately 3.5 miles of land. This project is located within two BLM-designated transmission corridors, Corridor K and contingent Corridor S of the California Desert Conservation Area Plan, so a plan amendment would not be required. If this project is approved, then the BLM-managed portions of the three segments of BLM-managed land in contingent Corridor S that are a part of this project will be designated as an active corridor.

The Project would be located primarily within the BLM ROW for the existing WOD transmission lines, although some disturbance may occur outside the existing ROW. Disturbance beyond the existing ROW within BLM would be both temporary and permanent. Temporary disturbance that may occur outside of the ROW includes areas, such as construction work areas, temporary access roads, cut/fill slopes, and pulling locations. Permanent disturbance would include areas of new access road construction, crane pads, and existing access roads to be continually maintained. SCE seeks a revised ROW grant from the BLM to accommodate the Proposed Project.

With regard to Tribal lands, SCE and the Morongo entered into a ROW agreement that covers the ROW on Morongo lands. Based on the SCE-Morongos ROW agreement, approximately 3 miles of existing ROW would be abandoned and replaced with a new 3-mile alignment closer to Interstate 10. SCE would apply to the BIA for the grant of ROW across the new 3-mile alignment and the Morongo would consent to SCE's application for a new 50-year ROW agreement.

Project Objectives, Purpose and Need

SCE identified the following basic objectives for the Proposed Project:

1. Allow SCE to meet its obligation to integrate and fully deliver the output of new generation projects located in the Blythe and Desert Center areas that have requested to interconnect to the electrical transmission grid.

2. Consistent with prudent transmission planning, maximize the use of existing transmission line rights-of-way to the extent practicable.
3. Meet project need while minimizing environmental impacts.
4. Facilitate progress toward achieving California's RPS goals in a timely and cost-effective manner by SCE and other California utilities.
5. Comply with applicable Reliability Standards and Regional Business Practice developed by NERC, WECC, and the CAISO; and design and construct the project in conformance with SCE's approved engineering, design, and construction standards for substation, transmission, subtransmission, and distribution system projects.
6. Construct facilities in a timely and cost-effective manner by minimizing service interruptions to the extent practicable.

SCE has stated that the Purpose and Need of the West of Devers Upgrade Project is to:

- Integrate planned generation resources
- Comply with Large Generator Interconnection Agreements
- Support integration of generation with Power Purchase Agreements
- Comply with reliability standards
- Facilitate progress toward achieving Renewables Portfolio Standard Goals by providing transmission upgrades to deliver renewable generation in the Blythe and Desert Center areas.
- Support integration of small scale generation
- Support California's Greenhouse Gas Reduction Program
- Support federal renewable energy goals
- Support goals of the California Energy Commission Integrated Energy Policy Report
- Support the Desert Renewable Energy Conservation Plan.

Environmental Review Process and Plan Amendment

BLM served as the federal lead agency under NEPA for consideration of the West of Devers Upgrade Project. The transmission line project was analyzed in an EIS in compliance with NEPA requirements. While BLM acted as the lead federal agency responsible for compliance with the requirements of NEPA, the Bureau of Indian Affairs (BIA) was a cooperating federal agency and provided information, analysis, and comment. The NEPA process included public scoping, a Draft EIR/EIS (prepared jointly with the California Public Utilities Commission (CPUC)), and a Final EIS (prepared by BLM), which are hereby incorporated by reference into this ROD.

When a land use plan amendment is required, BLM must comply with the planning provisions of section 202 of the Federal Land Policy and Management Act (FLPMA) as well as the implementing regulations for planning found in 43 Code of Federal Regulations (CFR) subparts 1601 and 1610 in considering amendments to land use plans. Planning requirements are integrated with the requirements for environmental review under the NEPA. However, the

Selected Alternative would remain within existing BLM utility corridors, and thus, a Plan amendment is not required for this ROD.

Public Involvement

Public review and comment on the West of Devers Upgrade Project were extensive. Five public scoping meetings were held by BLM and the CPUC of four separate dates. Four were conducted by CPUC in May 2014 with approximately 40 members of the public and organizational representatives attending; 36 written and oral comments were received. BLM conducted an additional meeting in July 2014; 18 written and oral comments were received. Issues identified included: aesthetic/visual impacts; conflicts with existing land uses; socio/economic effects effect on property values; fire risk, EMF, and other hazards; construction-related dust, noise, and traffic; geology/slope stability, and biological resources. These meetings initiated the public involvement process.

The jointly prepared Draft EIR/EIS was available for public review from August 7, 2015, and the public comment period extended to September 22, 2015 (a 45-day period). Copies of the full Draft EIR/EIS and Appendices were sent to approximately 40 interested parties and agencies, and to 14 libraries and agency offices serving as document repositories. The Draft EIR/EIS was available on line, and notices of availability were mailed to approximately 13,300 people and organizations on the project mailing list, including 12,6000 property owners within 600 feet of the project alignment. Nearly 200 copies of the Executive Summary and CDs with the text of the Draft EIR/EIS were also sent out. Additional copies of the Executive Summary and of the CDs with the text of the Draft EIR/EIS were distributed at the public workshops in August and September 2015. Comments were received from 7 jurisdictions and public agencies; 9 groups, organizations, or companies; 2 Tribal governments; as 34 private citizens, as well as from the applicant, SCE. All comments received were carefully analyzed and agency responses are included in the Final EIS.

Consultation with Other Agencies

In addition to BIA, which served as a formal EIS cooperator, BLM also coordinated and consulted with the US Fish and Wildlife Service, California Department of Fish and Game, State Historic Preservation Officer and Tribal Historic Preservation Office, Advisory Council on Historic Preservation, San Bernardino and Riverside counties and incorporated cities. The BLM also consulted with the following potentially affected Native American Tribes:

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Cahuilla Mission Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Morongo Band of Mission Indians
- Pala Band of Mission Indians
- Pauma/Yuima Band of Mission Indians
- Pechanga Band of Mission Indians
- Ramona Band of Cahuilla Mission Indians
- Rincon Luiseno Band of Indians
- San Manuel Band of Mission Indians
- Soboba Band of Luiseño Indians

- Torres-Martinez Desert Cahuilla Indians
- Twenty-nine Palms Band of Mission Indians

Decision Rationale

As described further in this ROD, the decision is to issue a right-of-way grant to SCE for the construction, operation, and maintenance of the transmission line, ancillary facilities, and access roads across public lands. This decision reflects careful consideration and resolution of the issues by BLM and the Department of the Interior (DOI), and was thoroughly analyzed in the West of Devers Upgrade Project environmental review process.

The decision fulfills legal requirements for managing public lands. Granting the right-of-way to SCE contributes to the public interest in reducing energy costs and providing a reliable electricity supply that allows for the importation of renewable power from eastern Riverside County and the Imperial Valley to meet State and Federal renewable energy goals. The right-of-way grant and mitigation measures ensure that authorization of the West of Devers Upgrade Project will protect environmental resources and comply with environmental standards. This decision reflects the careful balancing of the many competing public interests in managing the public lands for public benefit. The decision is based on a comprehensive environmental analysis and full public involvement. BLM and the Lead Agency under the California Environmental Quality Act (CEQA), the California Public Utilities Commission (CPUC) have engaged highly qualified technical experts to analyze the environmental effects of the West of Devers Upgrade Project. Members of the public have contributed to the analysis and consideration of the many environmental issues arising out of the environmental review process. BLM, CPUC, DOI and other consulted agencies have used their expertise and existing technology to address the important issues of environmental resource protection. BLM and DOI have determined that the measures contained in the Final EIS and the biological opinion significantly minimize and/or mitigate environmental damage and protect resources.

I. DECISION

This ROD for the West of Devers Project approves the construction, operation, and maintenance of the proposed West of Devers Upgrade Project across 3.5 linear miles (including two 220 kV lines) on four parcels of public lands in Riverside County, as analyzed in the West of Devers Upgrade Project Final EIS, issued August 5, 2016 in the EPA Federal Register. The BLM parcels are located just east and west of the Whitewater River, and north of Interstate 10 (in the North Palm Springs area). This approval will take the form of a revision to an existing BLM right-of-way grant, under 43 CFR, Part 2800 regulations.

The revised right-of-way will grant SCE the continued right to use the described public lands to construct, operate, and maintain 220 kV electrical transmission lines originating at the existing Devers Substation in Riverside County and extending to existing El Casco Substation in Riverside County and San Bernardino and Vista substations in San Bernardino County. This decision is conditioned, however, upon implementation of mitigation measures and monitoring programs as identified in the Final EIS.

This decision approves the BLM Preferred Alternative as analyzed in the Final EIS, which is also referred to as the Selected Alternative in this ROD. The right of way Grant would be for two separate corridors in or adjacent to existing transmission corridors, each with a 220 kV transmission line. Existing towers and conductors in or near these corridors will be removed and replaced with new towers and conductors.

The decisions contained herein apply only to the BLM- administered public lands within the Selected Alternative. The Selected Alternative is a combination of the Proposed Project and two alternatives options for sections of the project not on BLM lands: the Tower Relocation Alternative (relocating selected towers in the Proposed Project to address visual impacts in Beaumont, Banning, and Whitewater) and the Iowa Street 66 kV Underground Alternative (placing 1,600 feet of overhead 66 kV transmission line underground in Iowa Street north of Barton Road, in Redlands, California, to address visual impacts).

One right-of-way grant will be issued for a term of 50 years with a right of renewal so long as the lands are being used for the purposes specified in the grant. SCE may, upon concurrence of the BLM, assign the right-of-way grants to another party. Construction of the project may be phased; however, the BLM typically requires the initiation of project construction within 18 months of the issuance of a right-of-way grant. In addition, initiation of construction will be conditioned upon final BLM approval of the construction plans. This approval will take the form of an official Notice to Proceed for each phase of construction.

DECISION TO ISSUE A RIGHT-OF-WAY GRANT FOR THE WEST OF DEVERS UPGRADE PROJECT

After considering the full agency and public record for the application for a right-of-way to construct, operate, and maintain the West of Devers Upgrade Project, I have determined that BLM shall proceed with implementation of the West of Devers Upgrade Project subject to the terms and conditions contained in this Record of Decision and attached hereto. Although BLM will not physically build and operate the West of Devers Upgrade Project, it will continue to have responsibility for overseeing its implementation on public lands and protecting public resources. BLM will continue working closely with SCE and other federal and state agencies involved in the West of Devers Upgrade Project, and the Counties of Riverside and San Bernardino, California, to ensure protection of the public interest.

In accordance with Title V of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1761–71), the regulations implementing Title V (43 CFR Part 2800), section 102(c) of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and the regulations of the Council on Environmental Quality and the Department of the Interior implementing NEPA (40 CFR parts 1500-1508, 43 CFR part 43), **I approve the following:**

a right-of-way grant will be offered to SCE for construction, operation, and maintenance of the transmission lines, ancillary facilities, and access roads of the West of Devers Upgrade Project across approximately 3.5 miles of public lands administered by the BLM.

The 50-year right-of-way grant is for two 200-foot wide corridors approximately 1,000 to 1,500 feet apart to remove existing transmission line infrastructure and construct two 200 kV transmission lines and ancillary facilities, including access roads. This right-of-way, subject to terms and conditions contained in the right-of-way grant and Plan of Development, will terminate in 50 years unless, prior to that time, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of the grant or of any applicable federal law or regulation. The grant is subject to renewal. If renewed, the right-of-way grant shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the federal authorized officer deems necessary to protect the public interest.

The approved route, ancillary facilities, and temporary work areas are described in detail in the Final EIS, and would be located primarily within the existing BLM ROW for the existing WOD transmission lines, although some disturbance may occur outside the existing ROW. Disturbance beyond the existing ROW within BLM would be both temporary and permanent. Temporary disturbance that may occur outside of the ROW includes areas, such as construction work areas, temporary access roads, cut/fill slopes, and pulling locations. Permanent disturbance would include areas of new access road construction, crane pads, and existing access roads to be continually maintained.

All adopted mitigation measures listed in Appendix A of this Record of Decision shall be incorporated into the right-of-way grant as terms and conditions. Also included in this Record of Decision are: Appendix B: Errata to Final EIS; Appendix C: Maps Appendix D: Biological Opinion.

SCE shall comply with:

- All terms and conditions set forth in the right-of-way grant;
- The Biological Opinion dated December 23, 2016 issued by the United States Fish and Wildlife Service

II. AUTHORITY

FLPMA establishes policies and procedures for management of public lands. In section 102(a)(8), 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 U.S.C.1701(a)(8)).

Title V of FLPMA and the regulations implementing Title V (43 CFR Part 2800) authorize the issuance of right-of-way over public lands, including for the transmission of electric energy.

Section 102(c) of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and the Council on Environmental Quality's and Department of the Interior's implementing regulations (40 CFR parts 1500-1508, 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.

III. REQUIRED ACTIONS

The following federal statutes require that specific actions be completed prior to issuance of a ROD and project approval:

Endangered Species Act of 1973

The with U.S. Fish and Wildlife Service (USFWS) has jurisdiction over threatened and endangered species listed under the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. § 1531 et seq.). 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*), coastal California gnatcatcher (*Polioptila californica californica*) and its designated critical habitat, all occur in the proposed project area, 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, and was received by the USFWS on May 9, 2016. The FWS was expected to issue its Biological Opinion for the proposed action on September 21, 2016. On September 20, 2016, the USFWS requested a 30-day extension in order to evaluate the project's consistency with the Western Riverside and Coachella Valley regional habitat conservation plans in order to ensure project-related take for listed species within those plan areas is covered under those existing permits. BLM granted the requested extension, and received a draft Biological Opinion on December 20, 2016. On December 23, 2016, the BLM received the Final Biological Opinion for the West of Devers Project from the USFWS.

The ROW grant to be issued by the BLM for this project will require the ROW-holder's compliance with the final Biological Opinion dated December 23, 2016.

National Historic Preservation Act

The basis for determining significance of cultural resources is driven by the National Historic Preservation Act (NHPA), 16 U.S.C. § 470 et seq. In particular, 16 U.S.C. § 470f (Section 106) requires federal agencies to take into account impacts upon resources listed or eligible for listing on the National Register of Historic Places (NRHP).

The Section 106 process has been completed for the selected route. The Project was determined to have No Adverse Effect to Historic Properties; therefore, a Programmatic Agreement (PA) is not required.

Clean Air Act, as Amended in 1990

(42 USC Section 7606(c), Title 40 CFR Part 51, Subpart W - Determining Conformity of General Federal Actions to State or Federal Implementation Plans and Title 40 CFR Part 93, Subpart B - Determining Conformity of General Federal Actions to State or Federal Implementation Plans)

The West of Devers Upgrade Project is expected to meet the requirements of the Clean Air Act. Section 176(c) of the Clean Air Act prohibits federal agencies from, among other things, issuing licenses or permits or approving any activity which does not conform to an approved State Implementation Plan. The Proposed Project would be located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), with a major portion being in the South Coast Air Basin and the remainder in the Salton Sea Air Basin. Because the South Coast and Salton Sea Air Basins are designated as non-attainment or maintenance areas for certain air

pollutants under the Federal Clean Air Act, this assessment determines whether a General Conformity determination is required.

Federal conformity regulations presume conformity with state plans where Project emissions are below applicable thresholds (the “*de minimis* thresholds”) that appear in Title 40 CFR Part 93.153(b). The applicable *de minimis* thresholds in the South Coast Air Basin are: 10 tons/year (NO_x), 10 tons/year (VOC), 100 tons/year (PM₁₀), 100 tons/year (PM_{2.5}), and 100 tons/year (CO). The applicable *de minimis* thresholds in the Salton Sea Air Basin are: 25 tons/year (NO_x), 25 tons/year (VOC), and 70 tons/year (PM₁₀). See FEIS at Section D.3.2.1, Table D.3-3.

Additionally, where, as here, the Federal action is a permit, license, or other approval for some aspect of a nonfederal undertaking, the relevant activity for conformity purposes is the part, portion, or phase of the nonfederal undertaking that requires the Federal permit, license, or approval. BLM does not have any practical control over emissions resulting from activities on non-BLM administered lands. As a result, this conformity evaluation is limited to direct and indirect emissions associated with construction activity for the Agency Preferred Alternative on BLM-administered lands.

Construction of the West of Devers Upgrade Project is estimated to take approximately 3 to 4 years following approval and is scheduled to begin in the 3rd quarter of 2017.

Construction emissions that may be associated with future renewable energy projects on public lands, are either not currently identified or quantifiable due to the status and phasing of these potential projects and/or are not expected to be caused by the Federal action on or overlap with construction for the Agency Preferred Alternative. Additionally, these projects would be subject to additional environmental review under NEPA and the Clean Air Act, prior to any potential approvals.

As discussed in the Final EIS, construction of the West of Devers Upgrade Project would cause emissions from: ground disturbance, use and improvement of access roads, site preparation, surface clearing, excavation, foundation installation, steel structure and wood pole installation, installing guard structures and shoo-fly structures, transfer and removal of existing structures and facilities, and site restoration. The range of construction equipment that contributes to dust and exhaust emissions of air pollutants includes off-road equipment (e.g., loaders, dozers, graders, scrapers, compactors, cranes, drill rigs, and tension machines), helicopters, and on-highway (on-road) vehicles (e.g., water trucks, concrete pump trucks, dump trucks, and worker vehicles). Emissions would also occur from offsite activities such as construction-related haul trips and construction workers commuting. Over the course of construction, the equipment, traffic and other activities related to construction along the Selected Alternative would result in the direct and indirect emissions of air pollutants on Morongo tribal land in the South Coast Air Basin and on federal BLM-administered lands in the Salton Sea Air Basin. The sources of emissions would be localized mainly at the construction sites. See FEIS at Section D.3.3.3. Following construction, emissions from activities to support operation, maintenance, and inspection of the transmission lines and related components would be limited in nature, and quantities would be much lower than during construction.

The Final EIS shows that construction-phase emissions on Morongo tribal land in the South Coast Air Basin would be: 6.0 tons/year (NO_x), 1.0 tons/year (VOC), 0.9 tons/year (PM₁₀), 0.4

tons/year (PM2.5), and 3.6 tons/year (CO). The Final EIS shows that construction-phase emissions on federal BLM-administered lands in the Salton Sea Air Basin would be: 2.1 tons/year (NOx), 0.3 tons/year (VOC), and 0.2 tons/year (PM10). *See* FEIS at Section D.3.3.3, Table D.3-7. These emissions would not exceed the *de minimis* thresholds for any air pollutant.

Because emissions from the West of Devers Upgrade Project will be below General Conformity thresholds, no formal conformity determination is required.

Clean Water Act

The West of Devers Upgrade Project is expected to meet the requirements of the Clean Water Act (CWA). The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Point source discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process, outlined in CWA Section 402. NPDES permitting authority is delegated to, and administered by, California's nine Regional Water Quality Control Boards. California's State Water Resources Control Board regulates the NPDES storm water program. In addition, Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (ACOE) to regulate the discharge of dredged or fill materials into navigable waters of the U.S., including certain wetlands and other waters of the United States. The ACOE issues individual site-specific or general (nationwide) permits for such discharges.

As discussed in the Final EIS, construction of the West of Devers Upgrade Project may result in discharges to surface water and may require the construction of new access roads through streambeds that would require filling for access purposes. These and other potential impacts will require SCE to obtain approvals from the ACOE and the applicable Regional Water Quality Control Boards and the State Water Resources Control Board under the CWA, including certification (or a waiver) from the State that the proposed discharge complies with water quality standards. To ensure that no discharge to navigable waters will occur, this ROD and the BLM's right-of-way grants provide that no Notice(s) to Proceed may be issued to SCE for the West of Devers Upgrade Project until necessary authorization(s) under the CWA are obtained.

IV. MANAGEMENT CONSIDERATIONS AND DECISION RATIONALE

This decision approves a right-of-way grant for the Selected Alternative for the West of Devers Upgrade Project as analyzed in the Final EIS. BLM's decision to authorize these activities is based on the following rationale:

1. Under the Energy Policy Act of 2005, federal agencies are directed to encourage the development of renewable energy. By entering into a Memorandum of Understanding (MOU) in November 2008 with California Department of Fish and Game, California Energy Commission, and FWS, BLM has committed to work with state agencies to achieve California's Renewable Portfolio Standards (RPS) energy goals and greenhouse gas emission reduction standards in a manner that is both timely and in compliance with federal and state environmental laws. The purpose of the MOU is to assist with the implementation of applicable state and federal laws, regulations, and policies. The purpose is also to facilitate coordination between the agencies to develop guidelines and a comprehensive conservation strategy that would help reduce timelines for siting,

development, permitting and construction of qualifying RPS projects in the Mojave and Colorado Desert regions while enhancing and maximizing environmental protections.

The Selected Alternative is the preferred transmission alternative that would both increase transmission capacity and provide direct access to new renewable generation in Eastern Riverside County and Imperial County. The Selected Alternative would assist in the development of solar and other qualified RPS energy development.

2. The construction, operation, and maintenance activities associated with the Selected Alternative, either singularly or with mitigation, are in conformance with the following land use factors:
 - i. BLM policy and guidance for issuing rights-of-way including BLM Manual 2801.11;
 - ii. California Desert Conservation Area Plan of 1980, as amended (CDCA Plan);
 - iii. Land Use Plan Amendments in the Desert Renewable Energy Conservation Plan (DRECP)
3. Construction of the Selected Alternative is consistent with BLM Visual Resource Management (VRM) guidelines described in the South Coast Resource Management Plan
4. The Selected Alternative meets all project objectives, is technically, legally and regulatorily feasible.
5. The location of the Selected Alternative in existing utility corridors on BLM-administered land allows the BLM to most effectively manage existing and future utility usage within the corridor and to minimize conflicts with other existing and proposed utility facilities. In addition, placement of the West of Devers Upgrade Project within existing utility and transportation corridors minimizes surface disturbances by allowing for sharing of access and spur roads between facilities.
6. The Selected Alternative does not impact state- or federal-designated Wilderness.
7. The major resource issues identified through BLM interdisciplinary review have been addressed in the analysis and considered in the decision. Based on the analysis in the Final EIS, the BLM will require mitigation measures to reduce, minimize, and compensate for many of the impacts of the activities to be authorized. Many impacts have been avoided or minimized to the degree feasible. All of the alternatives considered would also have significant and unmitigable impacts. Significant and unmitigable impacts to were identified for air quality (dust and exhaust emissions), cultural resources (unknown buried resources or human remains), noise (disturbance of sensitive receptors), and visual resources (contrast due to vegetation removal and changes in visual character or quality) for all alternatives. The Selected Alternative reduces the visual impacts through implementation of the Iowa Street 66 kV Underground Alternative and the Tower Relocation Alternative. Based on the rationale listed above along with an alternatives comparison in Section G of the Final EIS, a determination has been made that the Selected Alternative is the BLM preferred alternative.

V. ALTERNATIVES CONSIDERED

The following alternatives were considered in the West of Devers Upgrade Project Final EIS, published in the Federal Register on August 5, 2016. The alternatives are described in detail in Section C of the Final EIS and are briefly summarized below.

Proposed Action/Project

The Proposed Project would include the removal and upgrade of approximately 181 circuit miles of existing 220 kV line facilities (approximately 48 corridor miles) primarily within existing West of Devers corridor currently in use for electric transmission. For purposes of planning and analysis, the proposed transmission line elements have been divided into six segments. These are:

- Segment 1 – San Bernardino (Milepost [MP] SB0 to MP SB3.5)
- Segment 2 – Colton, Grand Terrace and Loma Linda (MP 0 to MP 5.2)
- Segment 3 – San Timoteo Canyon (MP 5.2 to MP 15.2)
- Segment 4 – Beaumont and Banning (MP 15.2 to MP 27.4)
- Segment 5 – Morongo Tribal Lands and Surrounding Areas (MP 27.4 to MP 36.9)
- Segment 6 – Whitewater and Devers (MP 36.9 to MP 45)

Appendix C presents maps of the proposed transmission line route. Final engineering may result in additional ongoing minor changes in the locations of some towers, the heights of towers, and other aspects of the project.

The Proposed Project would ensure sustained transmission capacity while system upgrades are undertaken and would include removal and rebuilding of all or portions of these existing 220 kV lines

The Proposed Project would primarily be constructed on a combination of 220 kV double-circuit lattice steel towers (LSTs), double-circuit tubular steel poles (TSPs), and single-circuit TSPs. Each of the proposed 220 kV transmission lines would consist of overhead wires (conductors), which form three electrical phases. These conductors would be supported by LSTs and/or TSPs and would be electrically isolated from the structures by insulators. In addition to the conductors, structures, and insulators, the proposed transmission structures would be equipped with overhead ground wires and/or optical fiber ground wires for shielding and/or telecommunication purposes.

The only BLM-administered land crossed by the Proposed Project is within a portion of Segment 6, which extends approximately 3.5 miles on public lands easterly of the Morongo Reservation boundary at Rushmore Avenue (MP 36.9) to Devers Substation (MP 45). From the Morongo Band Reservation, the line would extend east along the foothills of the San Bernardino Mountains passing residences off Haugen-Lehmann Way and crossing Whitewater Canyon Road. The proposed route would travel past scattered residences and through wind generation projects, crossing Highway 62 into the Devers Substation. The newly rebuilt 220 kV transmission lines in this segment would connect to the existing 220 kV switchrack inside

Devers Substation. In Segment 6, the BLM land traversed by the project is north of Interstate 10, approximately 2,300 feet west of White Canyon Road

Tower Relocation Alternative

The Tower Relocation Alternative was developed in response to scoping comments of residents who expressed concerns that some proposed towers would be closer to their homes than the existing structures.

The Tower Relocation Alternative would place towers about 50 feet farther from adjacent residences in Segment 4 (Beaumont and Banning), Segment 5 (East Banning/Morongo), and Segment 6 (Whitewater) where potentially significant visual impacts of the Proposed Project have been identified. In general, the alternative would relocate 25 pairs of structures in Segment 4, 1 pair of structures in Segment 5, and 4 individual structures in Segment 6 approximately 50 feet to the north of the proposed tower locations. None of these relocations would be on BLM land.

Iowa Street 66 kV Underground Alternative

The Iowa Street 66 kV Underground Alternative was developed in response to scoping comments of residents who expressed concerns that some proposed towers would be closer to their homes than the existing structures.

The Iowa Street 66 kV Underground Alternative would require that the 66 kV subtransmission line transition from overhead to underground in Iowa Street approximately 275 feet north of Iowa Street's intersection with Orange Avenue. The subtransmission line would travel underground in new conduit in Iowa Street for approximately 1,600 feet before transitioning from underground to overhead on the south side of Barton Road, in line with the existing overhead San Bernardino–Redlands-Tennessee 66 kV subtransmission line running east-west along Barton Road. This underground alternative would replace a similar length of proposed new overhead subtransmission line that is part of the Proposed Project.

Phased Build Alternative

The Phased Build Alternative was developed to avoid most of the environmental impacts associated with removal of the existing double-circuit towers and construction of new double-circuit towers under the Proposed Project. The reduced transmission capacity (in comparison with the Proposed Project) was evaluated by the EIS team in power flow models to ensure that it would meet the Basic Project Objectives. This analysis is presented in detail in Final EIS Appendix 5, Section 4.4 and in additional detail in Attachment 2 to Appendix 5 (Project Alternatives Assessment: A Power Flow Analysis). The alternative would reduce environmental impacts, while still providing capacity for all the generation included in the CAISO 2024 Reliability Base Case. This scenario includes 3,754 MW of Total Generation On-line and 6,901 MW of Total Generation Capacity from all renewable and conventional resources, as well as the power flow on the system resulting from import of 1,400 MW from the Imperial Irrigation District into the Los Angeles Basin

This alternative was derived from the project proposed by SCE in 2005 as the West of Devers System Upgrades. The purpose of this alternative was to reduce construction by retaining as

many existing tower structures as possible and installing lighter-weight but higher-performance conductors on the retained towers. The high-performance conductors would maximize power transfer and avoid structurally overloading the existing towers.

No Action Alternative

Under the *No Action Alternative*, the BLM would not issue a Right-of-Way Grant for the construction of the West of Devers Upgrade Project.

VI. MITIGATION AND MONITORING

The Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for this project is located in Section H of the Final EIS. All mitigation measures are listed in Appendix A.

The BLM is a lead agency (for NEPA), along with the CPUC (for CEQA), in ensuring compliance with all adopted mitigation measures. Failure on the part of the grant holder to adhere to these terms and conditions could result in various administrative actions up to and including a termination of the grant and requirements to remove the facility and rehabilitate disturbances. All practicable means to avoid or minimize environmental harm have been adopted under this decision. Major elements of this mitigation/monitoring plan, including adopted mitigation measures and related monitoring and enforcement activities for the Selected Alternative, are attached to the right-of-way grant and included in the ROD as Appendix A.

VII. PUBLIC INVOLVEMENT

Scoping

The BLM published the Notice of Intent (NOI) to prepare a joint EIS/EIR for the Proposed West of Devers Upgrade Project on July 1, 2014 in the Federal Register. A Notice of Public Scoping Meetings was mailed to federal, state, regional, and local agencies, elected officials of affected areas, and the general public. Copies of the NOI were available at 14 local repositories. The BLM prepared and issued a press release announcing the start of the public scoping period and announcing the date, time, and location of the public scoping meeting. The BLM submitted this notice to print media for publication. The comment period began on July 1, 2014 the day of the NOI publication, and ended July 31, 2014. The CPUC held separate scoping meetings.

BLM's scoping meeting was held:

- July 16, 2014 at 2:00 p.m. in Banning, California

The CPUC held separate scoping meetings:

- May 19, 2014 at 6 p.m. in Banning, California
- May 20, 2014 at 6 p.m. in Loma Linda, California
- May 21, 2014 at 3 p.m. and at 7 p.m. in Beaumont, California

Comments received by both BLM and CPUC at the meetings and in writing were considered in preparation of the joint Draft EIR/EIS. The scoping process for the West of Devers Upgrade Project was designed to solicit input from the public, federal, state, and local agencies, and other

interested parties on the scope of issues that should be addressed in the Draft EIR/EIS. The scoping process was also intended to identify significant issues related to the West of Devers Upgrade Project. The West of Devers Upgrade Project and alternatives were revised to address comments and concerns raised during the scoping process.

Review of Draft EIR/EIS

A Notice of Availability (NOA) for the Draft EIR/EIS was published in the Federal Register on August 7, 2015. This initiated a 45-day public comment period. The NOA was mailed to interested parties, agencies, county and city departments, special districts, property owners, and occupants on or adjacent to the West of Devers Upgrade Project and alternative routes. Copies of the Draft EIR/EIS were shipped to 40 interested parties, and 14 copies were sent to local repositories. Nearly 200 copies of the Executive Summary and CDs with the full EIR/EIS were also mailed. Additional copies of the Executive Summary with CDs were distributed at public workshops in August and September 2015. Informational workshops on the Draft EIR/EIS were held on:

- August 26, 2015 at 2:00 p.m. and at 6:00 p.m. in Beaumont, California
- September 1, 2015 at 7:00 p.m. in Banning, California

Review of the Final EIS

The Final EIS was distributed to a variety of federal, state, and local government agencies, elected officials, environmental organizations, Native American tribes, and other interested parties for review. A NOA for the Final EIS was published by USEPA in the Federal Register, August 5, 2016; BLM published a separate notice on August 10, 2016. This started a 30-day protest period for the Final EIS. The BLM has considered all comments received on the Final EIS in the development of this ROD. In addition, the BLM will:

1. Distribute a news release about the ROD in the local and regional media;
2. Send the ROD to all those on the distribution list; and
3. Make the ROD available on the BLM website and to all who request a copy.

Summary of Protests and Comments

Release of the Final EIS initiated the 30-day protest period. During that period, any person who participated in the planning process and believed they would be adversely affected by the plan amendments had the opportunity to protest the proposed amendment to the Director of the BLM. No formal protest letters were filed with BLM.

BLM received one comment on the Final EIR/EIS from Southern California Edison. The issues raised in the comments generally included suggested minor modifications to text to match the CPUC's Final EIR; an Errata to the Final EIS has been prepared and is attached to this Record of Decision as Appendix B. BLM has determined that these comments did not raise any significant new circumstances or information relevant to environmental concerns associated with the West of Devers Upgrade Project.

This decision may be appealed to the Interior Board of Land Appeals (IBLA), Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4. If an appeal is filed, your notice of appeal must be filed in this office, at 1201 Bird Center Drive, Palm Springs, CA 92262, within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision, to IBLA, and to the Regional Solicitor, Pacific Southwest Region, U.S. Department of the Interior, 2800 Cottage Way, E-1712, Sacramento, CA 95825(see 43 CFR 4.413) at the same time the original documents are filed with this office. If a statement of reasons for the appeal is not included with the notice, it must be filed with the Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, VA 22203 within 30 days after the notice of appeal is filed with the Authorized Officer.

Approved by:



Doug Herrera, Field Manager
Bureau of Land Management
Palm Springs – South Coast Field Office

12/27/2016

Date

Appendix A: Mitigation Measures

Introduction

All mitigation measures presented in the Final EIS are listed below. Measures are presented by environmental discipline.

Mitigation Measures

Agriculture

AG-3a **Establish agreement and coordinate construction activities with agricultural landowners.** Sixty (60) days prior to the start of project construction, Southern California Edison (SCE) shall coordinate with property owners of Important Farmland (Prime Farmland, Farmland of Statewide Importance, Unique Farmland) that currently is being used for agricultural purposes and that will be used for construction and operation of the project, access and spur roads, staging areas, and other project-related activities. Should SCE require an additional agreement in addition to any new or existing agreement in force, the additional agreement would be for temporary purposes outside of the existing SCE ROW where SCE does not have an existing or newly acquired or modified easement right to perform construction activities.

The purpose of this agreement will be to set forth the use of agriculturally utilized Prime Farmland, Farmland of Statewide Importance, Unique Farmland during construction in order to: (1) schedule proposed construction activities at a location and time when damage to agricultural operations would be minimized, and (2) ensure that any areas damaged or disturbed by construction are restored to a condition mutually agreed upon by the landowner and SCE and in accordance with the existing easement language.

SCE shall coordinate with the agricultural landowners in the affected areas where Important Farmland will be temporarily disturbed in order to determine when and where construction should occur in order to minimize damage to agricultural operations. This includes avoiding construction during peak planting, growing, and harvest seasons as feasible. If damage or destruction does occur, SCE shall perform restoration activities on the disturbed area in order to return the area to a pre-determined condition or the pre-construction condition, whichever option is agreed upon by the landowner and SCE and in accordance with the existing easement language. This could include activities such as soil preparation, regrading, and reseeded. Restoration activities performed by SCE will vary, depending on the language in existing or newly acquired or revised easement documents. This measure applies to landowners with agriculturally utilized land that is impacted by the Proposed Project. SCE shall provide proof of the continued use of Important Farmland currently used for agriculture through the submittal of a signed temporary construction easement or grant of easement agreement between an individual property owner and SCE. The signed agreements shall be submitted to the CPUC for review and approval prior to the start of construction.

Air Quality

AQ-1a Control fugitive dust. SCE shall develop a Fugitive Dust Control Plan and at least 60 days prior to construction submit the plan to the CPUC/BLM and SCAQMD for review and approval. The approved plan shall be implemented for all construction activities that may be a source of fugitive dust. Any fugitive dust control requirements in the SCAQMD rules and regulations, specifically Rule 403 and Rule 403.1, that are in addition to or more stringent than the requirements listed below shall be implemented and included in the plan. The plan shall include the following feasible measures:

- Traffic speeds on unpaved roads shall not exceed 15 miles per hour.
- A traffic route plan shall be developed and vehicles shall follow routes that minimize unpaved road travel.
- Unpaved roads, substation areas, and staging areas shall be watered three times daily when being used by construction vehicle traffic, or non-toxic soil stabilizers (e.g., water, tackifiers, and soil binders) shall be applied per manufacturer's recommendations and in sufficient quantities to maintain compliance with SCAQMD and jurisdictional requirements to maintain no visible vehicle travel dust emissions.
- Inactive excavated or graded soils and soil piles shall be sufficiently watered or sprayed with a soil stabilizer to create a surface crust or shall be covered.
- Drop heights from excavators and loaders shall be minimized to a distance no more than 5 feet.
- Soil truck loads shall be covered and gate seals on dump trucks shall be tight.
- Construction activities that occur on unpaved surfaces shall be discontinued during periods when activities are causing visible dust plumes that cannot be avoided by approved dust suppression methods. All grading and excavation activities shall be suspended when wind speeds exceed 30 miles per hour unless otherwise approved in the Fugitive Dust Control Plan. Wind speed measurement methods shall be consistent with the SCAQMD Implementation Handbook for Rule 403 and Rule 403.1.

AQ-1b Control off-road equipment emissions. Off-road equipment with engines larger than 50 horsepower shall have engines that meet or exceed U.S. EPA/CARB Tier 3 Emissions Standards. Exceptions will be allowed only on a case by case basis for two specific situations: (1) an off-road equipment item that is a specialty, or unique, piece of equipment that cannot be found with a Tier 3 or better engine after a due diligence search; and/or (2) an off-road equipment item that will be used for a total of no more than 10 days.

AQ-1c Control helicopter emissions. Helicopter emissions shall be reduced by the following methods and measures:

- Helicopter idling will occur only when necessary for safe operation and emergency readiness purposes.

- Helicopter operators shall use the smallest practical and available helicopter for each lift operation.
- Fugitive dust from helicopter rotor wash will be reduced through the implementation of the following measures:
 - The helicopter staging areas, that are not on existing paved airfields or other large paved sites, shall be treated with soil amendments (e.g., water, tackifiers, soil binders) that shall be applied at a frequency necessary to create and maintain surface soil crusts where rotor wash creates fugitive dust emissions;
 - Enough land area shall be obtained for each helicopter staging area not located on existing paved airfields or other large paved sites, so that rotor wash does not create visible fugitive dust emissions outside of the controlled staging area or ROW.
 - Helicopter operations will take flight paths (i.e., elevation above ground) that will eliminate dust emissions from rotor wash when travelling between the helicopter staging area and the work sites.
 - The helicopter work sites shall be watered prior to helicopter visits. Alternatively, other soil stabilizers shall be applied at a frequency necessary to create and maintain a surface soil crust while helicopter visits are occurring at the work site.

Biological Resources – Vegetation

VEG-1a **Conduct biological monitoring and reporting.** The following provisions shall apply to the approved project during the construction and post-construction restoration phases.

Lead biologist: SCE shall designate a lead biologist and submit the individual's resume to the CPUC and BLM for concurrence, no less than 60 days prior to the start of any ground-disturbing activities, including those occurring prior to site mobilization (including, but not limited to geotechnical borings or hazardous waste evaluations). At minimum the lead biologist will hold a bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; have at least three years of experience in field biology and at least one year of direct field experience with biological resources found in or near the project area, *OR* relevant education and experience that demonstrates the ability to carry out the tasks required of a lead biologist. The resume shall demonstrate to the satisfaction of the CPUC and BLM the appropriate education and experience to accomplish the assigned biological resources tasks.

The lead biologist will be SCE's primary point of contact to CPUC, BLM, CDFW, and USFWS regarding any biological resources issues and implementation of related mitigation measures and permit conditions throughout project construction and post-construction restoration work. In addition, the lead biologist will oversee supervision and training of biological monitors

(below) and preparation and submission of all monitoring reports and notifications (below).

If the lead biologist is replaced, the specified information of the proposed replacement must be submitted to the CPUC and BLM at least ten working days prior to the termination or release of the preceding lead biologist. In an emergency, SCE shall immediately notify the CPUC and BLM to discuss the qualifications and approval of a short-term replacement while a permanent lead biologist is proposed for consideration.

Biological monitors: SCE shall assign qualified biological monitors to the project to monitor all work activities during the construction phase.

Monitors are responsible for ensuring that impacts to special-status species, native vegetation, wildlife habitat, and sensitive or unique biological resources are avoided or minimized to the fullest extent safely possible. Monitors are also responsible to ensure that work activities are conducted in compliance with APMs, mitigation measures, permit conditions, and other project requirements.

Resumes of all biological monitors, including specialty monitors (including but not limited to bat, nesting bird, and special-status species monitors), shall be provided for concurrence by the CPUC and BLM, at least 15 working days prior to the monitor commencing field duties. The resumes shall demonstrate, to the satisfaction of the CPUC and BLM, the appropriate education and experience to accomplish the assigned biological resources tasks.

Prior to monitors commencing field duties, SCE shall provide specific task training to biological monitors, in addition to general WEAP (see Mitigation Measure VEG-1b) training, which addresses the biological resources present or potentially present on the Proposed Project, as well as mitigation measures, permit requirements, project protocols, and the duties and responsibilities of a biological monitor.

Biological monitors shall inform construction crews daily of the location of any environmentally sensitive areas (ESAs), nest buffers, or other resource issues or restrictions that affect the work sites for that day. Biological monitors shall communicate with construction supervisors and crews as needed (e.g., at daily tailgate safety meetings (“tailboards”), by telephone, text message, or email) to provide guidance to maintain compliance with mitigation measures and permit conditions. SCE shall ensure that adequate numbers of monitors are assigned to effectively monitor work activities and that communications from biological monitors are promptly directed to crews at each work site for incorporation into daily work activities. If biological monitors are unavailable for a tailboard meeting, the construction supervisors shall communicate the location of all ESA, nest buffers, or other resource restrictions to crews during the meeting. SCE shall ensure that biological monitors are provided with an accurate daily construction work schedule as well as updated information on any alterations to the daily construction work schedule. This information shall also be provided to CPUC monitors. SCE shall ensure that biological monitors are provided with up-to-date biological resource maps and construction maps in hardcopy or digital format. These maps shall also be provided to CPUC monitors.

Monitors shall be familiar with the biological resources present or potentially present, ESAs, nest buffers, and any other resource issues at the site(s) they are monitoring, as well as the applicable mitigation measures and permit requirements. Monitors shall exhibit diligence in their monitoring duties and refrain from any conduct or potential conflict of interest that may compromise their ability to effectively carry out their monitoring duties.

Biological monitor duties and responsibilities: Throughout the duration of construction, SCE shall conduct biological monitoring of all activities in any area where there is a potential to impact sensitive biological resources or jurisdictional waters, including but not limited to vegetation removal/trimming/disturbance, all ground-disturbing work activities, and initial “drive and crush” in the project area, including work sites, yards, staging areas, access roads, and any area subject to project disturbance. Pre-construction activities (e.g., for geotechnical borings, hazardous waste evaluations, etc.) and post-construction restoration shall also be monitored by a biological monitor during all such activities.

Each day, prior to work activities at each site, the biological monitor(s) shall conduct clearance surveys (“sweeps”) for sensitive plant or wildlife resources that may be located within or adjacent to the construction areas. If sensitive resources are found, the biological monitor(s) shall take appropriate action as defined in all adopted mitigation measures, APMs, and permit conditions. Work activities shall not commence at any work site until the clearance survey has been completed and the biological monitor communicates to the contractor that work may begin.

Biological monitors shall clearly mark sensitive biological resource areas with staking, flagging, or other appropriate materials that are readily visible and durable. The monitors will inform work crews of these areas and the requirements for avoidance, and will inspect these areas at appropriate intervals for compliance with regulatory terms and conditions. The biological monitors shall ensure that work activities are contained within approved disturbance area boundaries at all times.

Biological monitors shall have the authority and responsibility to halt any project activities that are not in compliance with applicable mitigation measures, APMs, permit conditions, or other project requirements, or will have an unauthorized adverse effect on biological resources.

Handling, relocation, release from entrapment, or other interaction with wildlife shall be performed consistent with mitigation measures, safety protocols, permits (including CDFW and USFWS permits), and other project requirements.

Biological monitors shall, to the extent safe, practicable, and consistent with mitigation measures and permit conditions, actively or passively relocate wildlife out of harm’s way. On a daily basis, biological monitors shall inspect construction areas where animals may have become trapped, including equipment covered with bird exclusion netting, and release any trapped animals. Daily inspections shall also include areas with high vehicle activity (e.g., yards, staging areas), to locate animals in harm’s way and relocate them if necessary.

If safety or other considerations prevent biological monitors from aiding trapped wildlife or moving wildlife from harm's way, SCE shall consult with the construction contractor, CDFW, wildlife rehabilitator, or other appropriate party to obtain aid for the animal, consistent with Mitigation Measure WIL-1b (Ensure wildlife impact avoidance and minimization) (See Section D.5.3.3 (Biological Resources-Wildlife, Impacts and Mitigation Measures) for full text).

At the end of each work day, biological monitors shall verify that excavations, open tanks, and trenches have been covered or have ramps installed to prevent wildlife entrapment and communicate with work crews to ensure these structures are installed and functioning properly.

Biological monitors shall regularly inspect any wildlife exclusion fencing daily to ensure that it remains intact and functional. Any need for repairs to exclusion fencing shall be immediately communicated to the responsible party, and repairs shall be carried out in a timely manner, generally within one work day.

Reporting: SCE shall prepare and implement a procedure for communication among biological monitors and construction crews, to ensure timely notification (i.e., daily or sooner, as needed) to crews of any resource issues or restrictions. SCE will notify the CPUC and BLM of the procedure and will maintain records of daily communication. SCE will provide CPUC and BLM on-line access to project resource management maps and GIS data.

Monitoring activities shall be thoroughly and accurately documented on a daily basis. SCE shall prepare and submit daily, weekly, and annual, and final monitoring reports to the CPUC and BLM. Prior to the start of monitoring activities, SCE shall provide proposed report formats, describing content and organization, for CPUC and BLM review and approval in consultation with CDFW and USFWS. Report contents shall be as follows:

■ Daily reports:

- All daily special status species observations, including location of observation, location and description of project activities in the vicinity, and any avoidance or other measures taken to avoid the species. In addition, all special-status species observations shall be reported to the CNDDDB (California Natural Diversity Database; see Weekly reports).
- All non-compliance incident reports, including nest buffer incursions (see Mitigation Measure WIL-1c (Prepare and implement a Nesting Bird Management Plan)).
- Daily project activity plans, specifying each work site.

■ Weekly reports:

- Copies of all CNDDDB records for the preceding week and any additional reporting information for each species report (see Mitigation Measures WIL-2a through WIL-2k).

Weekly update of bird nesting activities and buffer distances (see Mitigation Measure WIL-1c).

- **Annual reports:** SCE shall submit an annual monitoring report by January 30 of each calendar year, with the following contents:
 - A summary of all compliance monitoring reports submitted throughout the calendar year;
 - A summary of all non-compliance records occurring during the calendar year, and remedial actions applied for each one, with additional explanatory text and explanation of resolution of each substantial non-compliance incident (often termed “Level 3 non-compliance”);
 - A summary of all nest buffer incursions, including helicopter incursions, (see Mitigation Measure WIL-1c), with explanation of follow-up actions and resolution for each one;
 - Running annual compilations of permanent and temporary impact acreages by vegetation or habitat type and land use jurisdiction;
 - Summaries of all other monitoring reporting requirements, as specified in mitigation measures in the Vegetation and Wildlife Resources sections; and
 - Discussion of “lessons learned” during the calendar year, and recommended or proposed measures to improve compliance throughout the remainder of the project.
- **Final report:** After construction has been completed, a final environmental compliance monitoring report shall be submitted to the CPUC and BLM for review and approval. This report shall be submitted within twelve (12) months of the completion of construction and shall include:
 - A summary of all non-compliance records occurring during the construction phase, and remedial actions applied for each one, with additional explanatory text and explanation of resolution of each substantial non-compliance incident (often termed “Level 3 non-compliance”);
 - A summary of all nest buffer incursions, including helicopter incursions, (see Mitigation Measure WIL-1c) occurring during the construction phase, with explanation of follow-up actions and resolution for each one;
 - Final compilations of permanent and temporary impact acreages by vegetation or habitat type and land use jurisdiction;
 - Summaries of all other monitoring reporting requirements, as specified in mitigation measures in the Vegetation and Wildlife Resources sections; and
 - Discussion of “lessons learned” during construction, and recommended or proposed measures to improve compliance for future projects.

Implementation locations: San Bernardino County (all); WR-MSHCP (within the WR-MSHCP regardless of SCE’s PSE status); CV-MSHCP (within the CV-MSHCP regardless of SCE’s PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

VEG-1b

Prepare and implement a Worker Environmental Awareness Program (WEAP). SCE shall prepare and implement a project-specific Worker Environmental Awareness Program (WEAP) to educate on-site workers about the Proposed Project's sensitive environmental issues. The WEAP shall be administered by the lead biologist or a biological monitor to all on-site personnel during the construction phase, including but not limited to surveyors, engineers, inspectors, contractors, subcontractors, supervisors, employees, monitors, visitors, and delivery drivers. If the WEAP presentation is recorded on video, it may be administered by any competent project personnel. Throughout the duration of construction, SCE shall be responsible for ensuring that all on-site project personnel receive this training prior to beginning work. A construction worker may work in the field along with a WEAP-trained crew for up to 5 days prior to attending the WEAP. SCE shall maintain a list of all personnel who have completed the WEAP training. This list shall be provided to the CPUC and BLM upon request.

The WEAP shall consist of a training presentation, with supporting written materials provided to all participants. At least 60 days prior to the start of ground-disturbing activities, SCE shall submit the WEAP presentation and associated materials to the CPUC and BLM for review and approval in consultation with the USFWS and CDFW.

The WEAP training shall include, at minimum:

- Overview of the project, the jurisdictions the project route passes through (e.g., BLM, reservation, WR-MSHCP, CV-MSHCP) and any special requirements of those jurisdictions.
- Overview of the federal and state Endangered Species Acts, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, and the consequences of non-compliance with these acts.
- Overview of the project mitigation and biological permit requirements, and the consequences of non-compliance with these requirements.
- Sensitive biological resources on the project site and adjacent areas, including nesting birds, special-status plants and wildlife and sensitive habitats known or likely to occur on the project site, project requirements for protecting these resources, and the consequences of non-compliance.
- Construction restrictions such as limited operating periods, ESAs, and buffers.
- Avoidance of invasive weed introductions onto the project site and surrounding areas, and description of the project's weed control plan and associated compliance requirements for workers on the site.
- Function, responsibilities, and authority of biological and environmental monitors (i.e., SWPPP monitors, cultural resource monitors, etc.) and how they interact with construction crews.

- Requirement to remain within authorized work areas and on approved roads, with examples of the flagging and signage used to designate these areas and roads, and the consequences of non-compliance.
- Procedure for obtaining clearance from a biological monitor to enter a work site and begin work (including moving equipment), and the requirement to wait for that clearance.
- One-hour hold (or other method SCE will use to halt work when necessary to maintain compliance) and the requirement for compliance.
- ESAs and associated restrictions, and other restrictions such as no grading areas, flagging or signage designations, and consequences of non-compliance.
- Nest buffers and associated restrictions and the consequences of non-compliance. Procedure and time frame for halting work and removing equipment when a new buffer is established. Discussion of nest deterrents.
- Explanation that wildlife must not be harmed or harassed. Procedures for covering pipes, securing excavations, and installing ramps to prevent wildlife entrapment. What to do and who to contact if dead, injured, or entrapped animals are encountered (see Mitigation Measure WIL-5b).
- General safety protocols such as hazardous substance spill prevention, containment, and cleanup measures; fire prevention and protection measures; designated smoking areas (if any) and cigarette disposal; safety hazards that may be caused by plants and animals; and procedure for dealing with rattlesnakes in or near work areas or access roads (see Mitigation Measure WIL-5b).
- Project requirements that have resulted in repeated compliance issues on other recent transmission line projects, such as dust control, speed limits, track out (dirt or mud tracked from access roads or work sites onto paved public roads or other areas), personal protective equipment (PPE), work hours, working prior to clearance, and waste containment and disposal.
- Printed training materials, including photographs and brief descriptions of all special-status plants and animals that may be encountered on the project, including behavior, ecology, sensitivity to human activities, legal protection, penalties for violations, reporting requirements, and protection measures.
- Contact information for SCE, construction management, and contractor environmental personnel, and who to contact with questions.
- Training acknowledgment form to be signed by each worker indicating that they understand and will abide by the guidelines and a hardhat sticker so WEAP attendance may be easily verified in the field.

WEAP Lite. An abbreviated version of WEAP training (“WEAP lite”) may be used for individuals who are exclusively delivery drivers, concrete truck drivers, or visitors to the project site, and will be provided by a qualified project biologist, biological monitor, or environmental field staff prior to those individuals entering or working on the project. Short-term visitors (total of 5

days or less per year) to the project site who will be riding with and in the company of WEAP-trained project personnel for the entire duration of their visit(s) are not required to attend WEAP or WEAP lite training.

WEAP lite training will provide sufficient information for the individual to understand and maintain compliance with project mitigation measures and permit conditions. WEAP lite presentations will be tailored to the situation and emphasize project requirements that are relevant to that situation (e.g., dust control, speed limits, staying within project roads and work areas, and use of washouts for concrete truck drivers).

A training acknowledgment form will be signed by each participant indicating that they understand and will abide by the guidelines and a hardhat sticker so WEAP lite attendance may be easily verified in the field. SCE will maintain a list of personnel who have completed WEAP lite training. This list will be provided to the CPUC and BLM upon request.

WEAP Refreshers. Biological monitors or environmental field staff will periodically present brief WEAP refresher presentations at tailboards to help construction crews and other personnel maintain awareness of environmental sensitivities and requirements. A 5- to 10-minute informal talk will be presented at each of the project's main contractor/subcontractor tailboards at least once a week.

When a contractor or subcontractor resumes work after a long break (more than six (6) consecutive calendar days with no substantial work on project construction in the field), a biological monitor or environmental field staff will provide an extended WEAP refresher presentation (10-20 minutes) at each of the contractor/subcontractor tailboards on the first day back to work.

The monitor will note the date, contractor or subcontractor, tailboard location and time, and topic(s) discussed during the WEAP refresher and include this information in their daily monitoring report.

Implementation locations: San Bernardino County (all); WR-MSHCP (within the WR-MSHCP regardless of SCE's PSE status); CV-MSHCP (within the CV-MSHCP regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

VEG-1c **Minimize native vegetation and habitat loss.** Final engineering of the project shall minimize the extent of disturbance and removal of native vegetation and habitat, to the extent safe and feasible. Wherever feasible, work activities and roadways will avoid or minimize direct or indirect effects to sensitive habitat types or jurisdictional waters and provide buffer areas to minimize disturbance. Wherever feasible, project access will use existing routes or bridges over jurisdictional waters.

As feasible, and consistent with project safety and security protocols, landowner preferences, and any other applicable regulations or requirements, existing gates on project access roads will be closed and secured when project personnel enter or leave an area.

Prior to beginning any ground-disturbing activities, SCE shall provide CPUC and BLM with final engineering GIS shapefiles depicting all temporary and permanent disturbance areas, as well as summary data on temporary and permanent disturbance for each vegetation or habitat type within each jurisdictional area (San Bernardino County, WR-MSHCP, CV-MSHCP, reservation, and BLM). All project disturbance areas within mapped grassland/forbland will be further categorized as either suitable or not suitable as Stephens' kangaroo rat habitat, and the relative cover of native perennial grasses shall be quantified (see VEG-1d, Part B).

On completion of project construction, SCE shall provide CPUC and BLM with GIS shapefiles of all actual temporary and permanent disturbance areas, aerial imagery of the project area, and summary data of all discrepancies between final engineering and "as-built" conditions for each vegetation or habitat type, within each jurisdictional area (San Bernardino County, WR-MSHCP, CV-MSHCP, reservation, and BLM).

To the extent feasible, vegetation removal within work areas will be minimized and construction activities will implement drive and crush access and site preparation rather than grading. To the extent feasible, stockpiling of spoils and salvaged topsoil will be located in previously disturbed areas, and will avoid native vegetation.

Prior to any construction, equipment or crew mobilization at each work site, work areas will be marked with staking or flagging to identify the limits of work and will be verified by project environmental staff and CPUC Environmental Monitor. Staking and flagging will clearly indicate the work area boundaries. Where staking cannot be used, traffic cones, traffic delineators, or other markers will be used. Staking and flagging or other markers will be in place during construction activities at each work site and will be refreshed as needed. Coded flagging colors or color combinations will be consistent and uniform across the project. All work activities, vehicles, and equipment will be confined to approved roads and staked and flagged or marked work areas.

Implementation locations: San Bernardino County (all); WR-MSHCP (within the WR-MSHCP regardless of SCE's PSE status); CV-MSHCP (within the CV-MSHCP regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

VEG-1d

Restore or revegetate temporary disturbance areas. [Supersedes APM BIO-1 to provide further specificity.] This measure has two parts: Part A and Part B. Part A is applicable to all temporary disturbance areas, and Part B is applicable to disturbance occurring in sensitive vegetation types and special-status species habitats.

For all revegetation or restoration areas, if a fire, flood, or other disturbance beyond the control of SCE, CPUC, and BLM damages a revegetation area within the monitoring period, SCE shall be responsible for a one-time replacement. If a second event occurs, no replanting is required, unless the event is caused by SCE's activity (based upon maintenance of erosion control

measures; fencing, gates, or other site control; or investigation by a firefighting agency).

Part A: Habitat restoration and revegetation for all temporary disturbance areas.

SCE shall prepare and implement a Habitat Restoration and Revegetation Plan (HRRP), to restore or revegetate all temporary disturbance areas, including temporary disturbance areas around tower construction sites, laydown or staging areas, temporary access and spur roads, cut and fill slopes, and locations of existing towers that are removed during construction of the project. For temporary disturbances in agriculture, developed/disturbed, and most grassland/forbland (excluding suitable Stephens' kangaroo rat habitat and any areas with 10 percent or greater relative cover of native perennial grass species), and for temporary disturbance areas that cannot be effectively revegetated and are therefore subject to off-site compensation (Mitigation Measure VEG-1e), the overall goals of the HRRP will be to minimize weed invasion, dust generation, and soil erosion. The goals for sensitive vegetation and special-status species habitat are described in Part B of this Mitigation Measure.

The Draft HRRP shall be submitted to CPUC and BLM review and approval prior to the beginning of ground-disturbing activities. SCE shall incorporate all requested revisions in coordination with the CPUC and BLM and finalize the HRRP within 12 months from the start of construction.

For all temporary disturbance areas, the HRRP shall include the following elements:

- A statement of revegetation goals and objectives for each portion of the project area, based on vegetation type and jurisdictional status of each site.
- Quantitative success criteria for each revegetation or restoration site or category.
- Implementation details, including but not limited to topsoil stockpiling and handling; post-construction site preparation; soil decompaction and recontouring; planting and seeding palettes to include only native, locally sourced materials with confirmed availability from suppliers; fall-season planting or seeding dates.
- Maintenance, including but not limited to irrigation or hand-watering schedule and equipment, erosion control, and weed control.
- Monitoring and Reporting, specifying monitoring schedule and data collection methods throughout establishment of vegetation with key indicators of successful or unsuccessful progress, and quantitative values to objectively determine success or failure at the conclusion of the monitoring period.
- Contingency measures such as re-planting, drainage repairs, adjustments to irrigation or weeding schedule, and extension of maintenance beyond the original schedule, to repair or remediate sites not on track to meet success criteria, or not meeting the criteria at the close of the originally scheduled monitoring period.

The Integrated Weed Management Plan (Mitigation Measure VEG-2a) will be implemented throughout implementation of the HRRP. For all revegetation or restoration areas, only seed or potted nursery stock of locally occurring native species from a local source will be used for revegetation. Seeding and planting will be conducted as described in Chapter 5 of *Rehabilitation of Disturbed Lands in California* (Newton and Claassen, 2003). The list of plants observed during botanical surveys of the project area will be used as a guide to site-specific plant selection.

For all revegetation or restoration areas, the HRRP will include objective, quantifiable success criteria, commensurate with the goals for each site. Monitoring of the reclamation, revegetation, or restoration sites will continue annually for no fewer than five (5) years or until the defined success criteria are achieved, whichever is later. SCE will be responsible for implementing remediation measures as needed. Following remediation work, each site will continue to be subject to the success criteria required for the initial reclamation, revegetation, or restoration. The monitoring period for remediation work will be concurrent with the monitoring period required for the initial reclamation, revegetation, or restoration.

Part B: Additional habitat restoration and revegetation requirements for sensitive vegetation and special-status species habitat.

For temporary disturbances in grassland/forbland that is either suitable Stephens' kangaroo rat habitat, or has 10 percent or greater relative cover of native perennial grass species (see VEG-1c), and in all other vegetation types (alluvial scrub, coast live oak woodland, coastal sage scrub, chaparral, desert scrub, riparian woodland, and aeolian sand), the Habitat Restoration and Revegetation Plan will be designed to replace the habitat values present prior to disturbance (i.e., native plant species cover, habitat structure, and soil or substrate conditions). Stephens' kangaroo rat habitat suitability is to be determined by a qualified SKR biologist. The following performance standards must be met by the end of the monitoring period:

- At least 80 percent of the vegetation cover within the restoration area shall be native species that naturally occur in local native habitats; in grassland or forbland habitat this criterion will be adjusted to account for pre-disturbance non-native grass cover;
- Absolute cover of native plant species and density of native shrubs and trees within the restoration areas shall equal at least 60 percent of the pre-disturbance or reference vegetation cover and density; and
- The site shall have persisted successfully without irrigation or remedial planting for a minimum of two years prior to completion of monitoring.

For revegetation or restoration in these vegetation or habitat types, the HRRP will include (in addition to the components listed in Part A):

- A map depicting the locations of all temporary disturbance areas in these vegetation or habitat types, including a quantitative evaluation of native grass cover

and Stephens' kangaroo rat habitat suitability in all mapped grassland/forbland areas, subject to requirements of Part B;

- An inventory of any temporary disturbance areas that cannot be effectively revegetated or restored to replace habitat values within a five-year timeframe (these will be categorized as “long-term disturbance areas,” to be addressed under habitat compensation, Mitigation Measure VEG-1e).

Reporting (for Part A and Part B). For all revegetation or restoration areas, SCE will provide annual reports to the CPUC and BLM verifying the total vegetation acreage subject to temporary and permanent disturbance, identifying which items of the HRRP have been completed, and which items are still outstanding. The annual reports will also include a summary of the reclamation, revegetation, or restoration activities for the year, a discussion of whether performance standards for the year were met, any remedial actions conducted and recommendations for remedial action, if warranted, that are planned for the upcoming year. Each annual report will be submitted within 90 days after completion of each year of revegetation and restoration work.

Implementation locations: Parts A and B of this mitigation measure shall apply as follows: San Bernardino County (all); WR-MSHCP (within the WR-MSHCP regardless of SCE's PSE status); CV-MSHCP (within the CV-MSHCP regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

VEG-1e

Compensate for permanent habitat loss. SCE shall compensate for permanent or long-term habitat loss through off-site habitat acquisition and management or through participation in an approved in-lieu fee compensatory mitigation bank. This compensation may be accomplished through participation in the WR-MSHCP, CV-MSHCP (within the respective MSHCP areas) if SCE obtains PSE status and submits the appropriate fees. This mitigation measure will be applicable to all permanent project disturbance areas and to areas designated as temporary disturbance, but that cannot be effectively revegetated or restored to replace habitat values within a five-year timeframe.

Habitat compensation for all permanent or long-term habitat loss that is not compensated through participation in the WR-MSHCP or CV-MSHCP will be accomplished by acquisition of mitigation land or conservation easements or by providing funding for specific land acquisition, endowment, restoration, and management actions. SCE will prepare a Habitat Compensation Plan to be reviewed and approved by the CPUC, BLM, in consultation with the USFWS and CDFW.

SCE will acquire and protect, in perpetuity, compensation habitat to mitigate impacts to biological resources as detailed below. SCE shall be responsible for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands. The compensation lands will be placed under conservation management to be funded through the terms described herein. If there is any conflict between the requirements of this mitigation measure and requirements of any resource agency permit (e.g., USFWS

Biological Opinion or CDFW Incidental Take Permit), the more stringent requirement shall apply.

The acreages of compensation land will be based upon final engineering calculation of impacted acreage for each resource and on ratios set forth in this measure, or in the USFWS Biological Opinion, the CDFW Streambed Alteration Agreement, or the CDFW Incidental Take Permit, whichever presents a higher ratio. Acreages will be adjusted as appropriate for other alternatives or future modifications during implementation.

Compensation will be provided for impacts to the following resources, at the ratios specified below (acres acquired and preserved to acres impacted). These ratios reflect multiple biological resource values, including habitat suitability for special-status species.

- Previously disturbed lands (agriculture, developed/disturbed) and open water: n/a (no habitat compensation required)
- Chaparral, desert scrub, and grassland/forbland: 1:1
- Alluvial scrub, coast live oak woodland, riparian woodland, and aeolian sand: 3:1
- Coastal sage scrub within USFWS designated coastal California gnatcatcher critical habitat and coastal sage scrub outside of designated critical habitat that is occupied by California gnatcatcher: 2:1
- Coastal sage scrub outside of USFWS designated coastal California gnatcatcher critical habitat that is suitable habitat, but not occupied by California gnatcatcher: 1:1

The Habitat Compensation Plan will specify compensation acreage for each ~~vegetation~~ or habitat type, based on final engineering and on MSHCP coverage as applicable. Final compensation requirements may be adjusted to account for any deviations in project disturbance, according to the as-built shapefiles aerial imagery (Mitigation Measure VEG-1c).

Compensation Land Selection Criteria. Criteria for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands for impacts to biological resources will include all of the following:

- Compensation lands will provide habitat value that is equal to or better than the quality and function of the habitat impacted by the project, taking into consideration soils, vegetation, topography, human-related disturbance, wildlife movement opportunity, proximity to other protected lands, management feasibility, and other habitat values, subject to review and approval by CPUC and BLM;
- To the extent that proposed compensation habitat may have been degraded by previous uses or activities, the site quality and nature of degradation must support the expectation that it will regenerate naturally when disturbances are removed, subject to review and approval by CPUC and BLM;

- Be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation;
- Not have a history of intensive recreational use or other disturbance that might cause future erosion or other habitat damage, and make habitat recovery and restoration infeasible;
- Not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration;
- Not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat;
- Must provide wildlife movement value equal to that on the project site, based on topography, presence and nature of movement barriers or crossing points, location in relationship to other habitat areas, management feasibility, and other habitat values; and
- Have water and mineral rights included as part of the acquisition, unless the CPUC and BLM, in consultation with CDFW and USFWS, agree in writing to the acceptability of land without these rights.

Review and Approval of Compensation Lands Prior to Acquisition. SCE shall submit a Draft Habitat Compensation Plan for review and approval by the CPUC and BLM describing the parcel(s) intended for protection. This Plan will discuss the suitability of the proposed parcel(s) as compensation lands in relation to the selection criteria listed above.

Management Plan. SCE or approved third party will prepare a management plan for the compensation lands in consultation with the entity that will be managing the lands. The goal of the management plan will be to support and enhance the long-term viability of the biological resources. The Management Plan will be submitted for review and approval to the CPUC and BLM, in consultation with CDFW and USFWS.

Compensation Lands Acquisition Requirements. SCE will comply with the following requirements relating to acquisition of the compensation lands after the CPUC and BLM have approved the proposed compensation lands:

- **Preliminary Report.** SCE or an approved third party will provide a recent preliminary title report, initial hazardous materials survey report, biological resources analysis, and other necessary or requested documents for the proposed compensation land to the CPUC and BLM. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the CPUC in consultation with CDFW and USFWS. For conveyances to the State, approval may also be required from the California Department of General Services, the Fish and Game Commission, and the Wildlife Conservation Board.

- **Title/Conveyance.** SCE will acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement, as required by the CPUC and BLM, in consultation with USFWS and CDFW. Any transfer of a conservation easement or fee title must be to CDFW, to a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM or other public agency approved by the CPUC and BLM. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement will be recorded in favor of CDFW or another entity approved by the CPUC and BLM. If an entity other than CDFW holds a conservation easement over the compensation lands, the CPUC and BLM may require that CDFW or another entity approved by the CPUC and BLM, in consultation with CDFW and USFWS, be named a third party beneficiary of the conservation easement. SCE will obtain approval of the CPUC and BLM of the terms of any transfer of fee title or conservation easement to the compensation lands.
- **Initial Protection and Habitat Improvement.** SCE will fund activities that the CPUC and BLM may require for the initial protection and habitat improvement of the compensation lands. These activities will vary depending on the condition and location of the land acquired, but may include trash removal, construction and repair of fences, invasive plant removal, and similar measures to protect habitat and improve habitat quality on the compensation lands. A non-profit organization, CDFW, or another public agency may hold and expend the habitat improvement funds if it is qualified to manage the compensation lands (pursuant to California Government Code section 65965), if it meets the approval of the CPUC and BLM, in consultation with USFWS and CDFW, and if it is authorized to participate in implementing the required activities on the compensation lands. If CDFW takes fee title to the compensation lands, the habitat improvement fund must be paid to CDFW or its designee.
- **Property Analysis Record.** Upon identification of the compensation lands, SCE will conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate amount of the long-term maintenance and management fund to pay the in-perpetuity management of the compensation lands. The PAR or PAR-like analysis must be approved by the CPUC and BLM, in consultation with USFWS and CDFW, before it can be used to establish funding levels or management activities for the compensation lands.
- **Long-term Maintenance and Management Funding.** SCE will provide funding to establish an account with non-wasting capital that will be used to fund the long-term maintenance and management of the compensation lands. The amount of money will be determined through an approved PAR or PAR-like analysis conducted for the compensation lands. SCE must obtain the BLM and Riverside County's approval of the entity that will receive and hold the long-term maintenance and management fund for the compensation lands. The CPUC and BLM will consult with USFWS and CDFW before deciding whether

to approve an entity to hold the project's long-term maintenance and management funds.

SCE will ensure that an agreement is in place with the long-term maintenance and management fund holder/manager to ensure the following requirements are met:

- **Interest.** Interest generated from the initial capital long-term maintenance and management fund will be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, habitat improvements, patrol and law enforcement activities, and any other action that is approved by the CPUC and BLM and is designed to protect or improve the habitat values of the compensation lands.
- **Withdrawal of Principal.** The long-term maintenance and management fund principal will not be drawn upon unless such withdrawal is deemed necessary by the CPUC and BLM, or by the approved third-party long-term maintenance and management fund manager, to ensure the continued viability of the species on the compensation lands.
- **Pooling Long-Term Maintenance and Management Funds.** An entity approved to hold long-term maintenance and management funds for the project may pool those funds with similar non-wasting funds that it holds from other projects for long-term maintenance and management of compensation lands. However, for reporting purposes, the long-term maintenance and management funds for this project must be tracked and reported individually to the CPUC and BLM.
- **Other Expenses.** In addition to the costs listed above, SCE will be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to the title and document review costs incurred from other state agency reviews, overhead related to providing compensation lands to CDFW or an approved third party, escrow fees or costs, environmental contaminants clearance, and other site cleanup measures.
- **Delegation.** The responsibility for acquisition of compensation lands may be delegated to a third party, by written agreement of the CPUC and BLM, in consultation with CDFW, prior to land acquisition, enhancement or management activities.

Implementation Locations: This mitigation measure applies to all locations within San Bernardino County and on all BLM lands, and is recommended for implementation on all tribal lands. Within the WR-MSHCP and CV-MSHCP areas, if SCE does not obtain PSE status under the applicable MSHCP, this mitigation measure shall apply within the MSHCP area. If SCE obtains PSE status under either MSHCP, the project's permanent habitat impacts will be compensated according to the requirements of the MSHCP and this mitigation measure will not apply within the applicable MSHCP area.

VEG-2a

Prepare and implement an Integrated Weed Management Plan. SCE shall prepare and implement an Integrated Weed Management Plan (IWMP) describing the proposed methods of preventing or controlling project-related spread of weeds or new weed infestations. The IWMP also must meet BLM's requirements for NEPA disclosure and analysis if herbicide use is proposed on BLM land (i.e., the IWMP must tier from the BLM's 2007 *Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States PEIS*). A Draft IWMP shall be submitted to the CPUC and BLM for review and approval at least 60 days prior to SCE's application for Notice to Proceed, and no pre-construction activities (e.g., for geotechnical borings, hazardous waste evaluations, etc.), construction, equipment or crew mobilization, or project-related ground-disturbing activity shall proceed until the IWMP is approved.

For the purpose of the IWMP, "weeds" shall include designated noxious weeds, as well as any other non-native weeds or pest plants identified on the weed lists of the California Department of Food and Agriculture, the California Invasive Plant Council, or identified by BLM as special concern. The IWMP will include the contents listed below. The IWMP will be implemented throughout project pre-construction, construction, and post-construction restoration phases. The IWMP will include the information defined in the following paragraphs.

Background. An assessment of the Proposed Project's potential to cause spread of invasive non-native weeds into new areas, or to introduce new non-native invasive weeds into the ROW. This section must list known and potential non-native and invasive weeds occurring on the ROW and in the project region, and identify threat rankings and potential consequences of project-related occurrence or spread for each species. This assessment will include, but is not limited to, weeds that (1) are rated high or moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006), and (2) aid and promote the spread of wildfires (such as cheatgrass, Saharan mustard, and medusahead). This section will identify control goals for each species (e.g., eradication, suppression, or containment) likely to be found within the Proposed Project area.

Pre-construction weed inventory. SCE shall inventory all areas (both within and outside the ROW) subject to project-related vegetation removal/disturbance, "drive and crush," and ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and any potential new or improved access and spur roads. The weed inventory shall also include vehicle and equipment access routes within the ROW and all project staging and storage yards. Weed occurrences shall be mapped and described according to density and area covered. The map will be updated at least once a year.

Pre-construction weed treatment. Weed infestations identified in the pre-construction weed inventory shall be evaluated to identify potential for project-related spread. The IWMP will identify any infestations to be controlled or eradicated prior to project construction, or other site-specific weed management requirements (e.g., avoidance of soil or transport and site-specific vehicle

washing where threat or spread potential is high). Control and follow-up monitoring of pre-construction weed treatment sites will follow methods identified in appropriate sections of the IWMP.

Prevention. The IWMP will specify methods to minimize potential transport of weed seeds and other propagules (e.g., rhizomes, stolons, roots) onto the ROW, or from one section of the ROW to another. The ROW may be divided into “weed zones,” based on known or likely invasive weeds in any portion of the ROW. The IWMP will specify inspection procedures for construction materials and equipment entering the Proposed Project area. Vehicles and equipment may be inspected and cleaned at entry points to specified portions of the ROW, and before leaving work sites where weed occurrences must be contained locally. Construction equipment shall be cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Equipment shall be inspected to ensure it is free of any dirt or mud that could contain weed seeds, and the tracks, outriggers, tires, and undercarriage will be carefully washed, with special attention being paid to axles, frame, cross members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies. Other construction vehicles (e.g., pick-up trucks) that will be frequently entering and exiting the site will be inspected and washed on an as-needed basis. Tools such as chainsaws, hand clippers, pruners, etc., shall be cleaned of dirt and mud before entering project work areas.

All vehicles will be washed off-site when possible. If off-site washing is infeasible, on-site cleaning stations will be set up at specified locations to clean equipment before it enters the work area. Wash stations will be located away from native habitat or special-status species occurrences. Wastewater from cleaning stations will not be allowed to run off the cleaning station site. When vehicles and equipment are washed, a daily log must be kept stating the location, date and time, types of equipment, methods used, and personnel present. The log shall contain the signature of the responsible crewmember. Written or electronic logs shall be available to BLM and CPUC monitors on request.

Erosion control materials (e.g., hay bales) must be certified free of weed seed before they are brought onto the site. The IWMP must prohibit on-site storage or disposal of mulch or green waste that may contain weed material. Mulch or green waste will be removed from the site in a covered vehicle to prevent seed dispersal, and transported to a licensed landfill or composting facility.

The IWMP will specify guidelines for any soil, gravel, mulch, or fill material to be imported into the Proposed Project area, transported from site to site within the Proposed Project area, or transported from the Proposed Project area to an off-site location, to prevent the introduction or spread of weeds to or from the Proposed Project area.

Monitoring. The IWMP shall specify methods to survey for weeds during pre-construction, construction, and restoration phases; and shall specify qualifications of personnel responsible for weed identification and monitoring. A monitoring schedule shall be included to ensure timely detection and immediate treatment of weed infestations to prevent further spread. Surveying

and monitoring for weed infestations shall occur at least two times per year, to coincide with the early detection period for early season and late season weeds (i.e., species germinating in winter and flowering in late winter or spring, and species germinating later in the season and flowering in summer or fall). It also must include methods for marking invasive weeds occurring within the ROW, and recording and communicating these locations to weed control staff. The map of weed locations (discussed above) shall be updated as necessary or no less frequently than once a year. The monitoring section shall also describe methods for post-treatment monitoring to evaluate success of control efforts and any need for follow-up treatments.

Control. The IWMP shall specify manual and chemical weed control methods to be employed. The IWMP shall include only weed control measures with a demonstrated record of success for target weeds, based on the best available information. The plan shall describe proposed methods for promptly scheduling and implementing control activity when any weed infestation is located, to ensure effective and timely weed control. Weed infestations shall be treated for control or eradication as soon as possible upon discovery before they go to seed, to prevent further spread. All proposed weed control methods must minimize the extent of any disturbance to native vegetation, limit ingress and egress to defined routes, and avoid damage from herbicide use or other control methods to any environmentally sensitive areas identified within or adjacent to the ROW.

Weed infestations will be treated at a minimum of once annually until eradication, suppression, or containment goals are met. For eradication, when no new seedlings or resprouts are observed for three consecutive, normal rainfall years, *OR* for five consecutive years regardless of rainfall, the weed occurrence can be considered eradicated and weed control efforts may cease for the site.

Manual control shall specify well-timed removal of weeds or their seed heads with hand tools; seed heads and plants must be disposed of in accordance with guidelines from the Riverside or San Bernardino County Agricultural Commissioners, if such guidelines are available. If there are no applicable guidelines, seed heads and plants will be removed from the site in a covered vehicle to prevent seed dispersal, and transported to a licensed landfill or composting facility.

The BLM requires the holder to submit a Pesticide Use Proposal prior to the use of chemical treatment. The chemical control section must include specific and detailed plans for any herbicide use. It must indicate where herbicides will be used, which herbicides will be used, and specify techniques to be used to avoid drift or residual toxicity to native vegetation or special-status plants, consistent with BLM's *Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States* (BLM, 2007) and *National Invasive Species Management Plan* (NISC, 2008). Only state and BLM-approved herbicides may be used. Herbicide treatment will be implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of predicted rain. Only water-safe herbicides shall be used in riparian areas or within channels (engineered or not) where they could run off into downstream areas. Herbicides shall not be applied when wind velocities exceed six (6) mph. All herbicide applications will follow

U.S. Environmental Protection Agency label instructions and will be in accordance with federal, state, and local laws and regulations.

Reporting schedule and contents. The IWMP shall specify reporting schedule and contents of each report.

Implementation locations: San Bernardino County (all); WR-MSHCP (all, regardless of SCE's PSE status); CV-MSHCP (all, regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

VEG-3a Minimize impacts and ensure no net loss for jurisdictional waters and wetlands.

Impact minimization. Project design and construction activities shall minimize impacts to drainage features, including ephemeral or intermittent washes, streams, and wetlands to the extent feasible. This mitigation measure is not limited to wetlands or mapped "blueline" streams, but encompasses all jurisdictional waters, generally including intermittent channels or washes.

No net wetlands loss and watercourse impacts minimization. SCE shall prepare an HMMP which will include restoration or compensation mitigation to assure no net loss of wetland acreage or wetland habitat value from direct or indirect project impacts, including reduction of wetland acreage, and downstream or upstream effects to channels or their associated habitat. The no net loss standard shall be reached through (1) ecological restoration or revegetation of temporarily disturbed areas to fully replace habitat extent and habitat value, and (2) compensation at a ratio of 1:1 to replace permanently impacted non-wetland jurisdictional areas, and at 3:1 to replace permanently impacted state or federally jurisdictional wetland areas. Restoration and compensation mitigation for impacts to jurisdictional waters shall conform to the requirements of Mitigation Measures VEG-1d (Restore or revegetate temporary disturbance areas) and VEG-1e (Compensate for permanent habitat loss). All wetlands and watercourses, whether intermittent or perennial, will be retained to the extent feasible, and appropriate setbacks or other means will be employed to prevent adverse impacts to surface waters or associated habitat values. The HMMP shall incorporate wetland/water permit requirements and shall be subject to review and approval by the CPUC and BLM. All restoration or compensation mitigation described in the HMMP shall be implemented in full. In the case of any conflict between the mitigation ratios or other requirements specified in wetland/water permits for the project and the mitigation ratios or other requirements specified in this mitigation measure, the higher mitigation ratios and more stringent requirements shall apply.

Clean Water Act and California Fish and Game Code permit compliance. SCE shall not proceed with any alteration or fill activities in potentially jurisdictional waters until obtaining applicable permits or authorizations, or written agency confirmation that no permit or authorization is required. SCE shall implement all terms or conditions of each permit or authorization. Regardless of any conditions specified in permits or authorizations, SCE shall prevent contaminants or pollutants from entering any state or federal jurisdictional waters.

Implementation locations: San Bernardino County (all); WR-MSHCP (all, regardless of SCE's PSE status); CV-MSHCP (all, regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

VEG-4a Minimize and mitigate impacts to special-status plants.

Pre-construction survey. SCE shall conduct focused surveys for federal- and state-listed and other special-status plants. All special-status plant species (including listed threatened or endangered species, and all CRPR 1A, 1B, 2, 3, and 4 ranked species) impacted by project activities shall be documented in pre-construction survey reports. Surveys shall be conducted during the appropriate season (i.e., when flowering) in all suitable habitat located within the project disturbance areas and access roads and within 100 feet of disturbance areas and access roads, and any additional area where direct or indirect effects to soils or vegetation could affect special-status plants (if present). Surveys shall be conducted by a qualified botanist. The field surveys and reporting must conform to current CDFW botanical field survey protocol (CDFG, 2009) or more recent updates, if available. The reports will describe any conditions that may have prevented previously reported or previously undocumented target species from being located or identified (e.g., poor rainfall, recent grazing, or wildfire). In some cases, follow-up surveys may be necessary to adequately evaluate impacts. Prior to construction, SCE shall submit pre-construction field survey reports along with maps showing locations of survey areas and special-status plants to the CPUC and BLM for review and approval in consultation with CDFW and USFWS.

If federally- or state-listed plants would be affected, SCE shall notify BLM, USFWS, and CDFW to obtain the appropriate permits from CDFW and USFWS and comply with permit requirements. Additional conservation measures to protect or restore listed plant species or their habitat may be required by BLM, CDFW, or USFWS before impacts are authorized.

Native cactus and Yucca. Most native cactus and shrubby Yucca species (Joshua tree and Mojave yucca) can be successfully salvaged and transplanted, and yuccas often provide an important vertical component to wildlife habitat. Therefore, native cactus (excluding chollas in the genus *Cylindropuntia*) and yuccas (excluding chaparral yucca, *Y. whipplei*), shall be avoided or salvaged according to the strategies described below.

Mitigation. SCE shall mitigate impacts to any state or federally listed plants or CRPR 1 or 2 ranked plants that may be located on the project disturbance areas or surrounding buffer areas through one or a combination of the following strategies.

Avoidance of special-status plants will be the preferred strategy wherever feasible. Where avoidance is not feasible, and the project would directly or indirectly affect more than 10 percent of a local occurrence,¹ by either number

¹ An occurrence for a plant is defined as any population or group of nearby populations located more than 0.25

of plants or extent of occupied habitat, SCE shall prepare and implement a mitigation plan to consist of off-site compensation. If off-site compensation is infeasible (e.g., if suitable occupied habitat is not available), then salvage, horticultural propagation, and off-site introduction may be implemented to mitigate the impact.

- **Avoidance.** Where feasible, towers, access roads, and other project work areas shall be located to avoid impacts to special-status plants. Effective avoidance through project design shall include a buffer area surrounding each avoided occurrence, where no project activities will take place. The buffer area will be clearly staked, flagged, and signed for avoidance prior to the beginning of ground-disturbing activities, and maintained throughout the construction phase. The buffer zone shall be of sufficient size to prevent direct or indirect disturbance to the plants from construction activities, erosion, inundation, or dust. The size of the buffer will depend upon the proposed use of the immediately adjacent lands and the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, water availability, edaphic physical and chemical characteristics), to be specified by a qualified botanist. At minimum, the buffer for trees or shrubs species shall be equal to twice the drip line (i.e., two times the distance from the trunk to the canopy edge) to protect and preserve the root systems. The buffer for herbaceous species shall be a minimum of 50 feet from the perimeter of the occupied habitat or the individual. If a smaller buffer is necessary due to other project constraints, SCE will develop and implement site-specific monitoring and put other measures in place to avoid the take of the species, with the approval of the CPUC and BLM, in consultation with USFWS and CDFW.
- **Off-site compensation.** SCE shall provide compensation lands consisting of habitat occupied by the impacted CRPR 1 or 2 ranked plants at a 1:1 ratio of acreage and number of plants for any occupied habitat affected by the project. Occupied habitat will be calculated on the project site and on the compensation lands as including each special-status plant occurrence and a surrounding 100-foot buffer area. Off-site compensation shall be incorporated into the project's Habitat Compensation Plan (under Mitigation Measure VEG-1e), for review and approval by the CPUC and BLM in consultation with CDFW and USFWS.
- **Salvage.** SCE shall consult with horticultural experts at regional institutions such as Rancho Santa Ana Botanic Garden (RSABG) regarding the feasibility and likely success of salvage and relocation efforts for each species to be salvaged. If salvage is deemed to be feasible, based on prior success with the species, then SCE shall prepare and implement a Special-status Plant Salvage and Relocation Plan, to be reviewed and approved by the CPUC and BLM, in consultation with CDFW, USFWS, and the horticultural expert, prior to direct or indirect disturbance of any occupied habitat. For special-status plants, the goal shall be establishment of a new viable occurrence, equal or greater in

miles from any other population (CDFW, 2009).

extent and numbers to the affected occurrence. For cacti and yuccas, the goal shall be maximum practicable survivorship of salvaged plants. The Plan will include at minimum: (a) species and locations of plants identified for salvage; (b) criteria for determining whether an individual plant is appropriate for salvage and relocation; (c) the appropriate season for salvage; (d) equipment and methods for collection, transport, and re-planting plants or recreating seed banks, to retain intact soil conditions and maximize success; (e) for shrubs, cacti, and yucca, a requirement to mark each plant to identify the north-facing side prior to transport, and replant it in the same orientation; (f) details regarding storage of plants or seed banks for each species; (g) location of the proposed recipient site, and detailed site preparation and plant introduction techniques for top soil storage, as applicable; (h) a description of the irrigation, weed control, and other maintenance activities; (i) success criteria, including specific timeframe for survivorship and reproduction of each species; and (j) a detailed monitoring program, commensurate with the Plan's goals.

Quarterly and annual monitoring reports shall be submitted to CPUC and BLM. Reports shall include, but not be limited to, details of plants salvaged, stored, and transplanted (salvage and transplanting locations, species, number, size, condition, etc.); adaptive management efforts implemented (date, location, type of treatment, results, etc.); and evaluation of success of transplantation.

- **Horticultural propagation and off-site introduction.** If salvage and relocation is not believed to be feasible for special-status plants, then SCE shall consult with RSABG, or another qualified entity, to develop an appropriate experimental propagation and relocation strategy, based on the life history of the species affected. The Plan will include at minimum: (a) collection and salvage measures for plant materials (e.g., cuttings), seed, or seed banks, to maximize success likelihood; (b) details regarding storage of plant, plant materials, or seed banks; (c) location of the proposed propagation facility, and proposed methods; (d); time of year that the salvage and other practices will occur; (e) success criteria; and (f) a detailed monitoring program, commensurate with the Plan's goals.

Implementation locations outside of MSCHPs: This mitigation measure shall apply to all lands in San Bernardino County, on all BLM lands, and they are recommended for implementation on Morongo Tribal Lands.

Implementation locations for WR-MSHCP and CV-MSHCP: If SCE does not obtain PSE status under the WR-MSHCP or CV-MSHCP, this mitigation measure shall apply in its entirety within the relevant MSHCP area. The Pre-construction Survey and Native Cactus and Yucca portions of this mitigation measure shall apply within both MSHCP areas regardless of SCE's PSE status. If SCE obtains PSE status under either MSHCP, mitigation for the project's impacts to special-status plants covered under the Plan may be implemented according to the requirements of the MSHCP, and the remainder of this mitigation measure will not apply within the MSHCP area for species covered under the Plan. For potential impacts to special-status plants not covered under the Plan, this measure will apply in full.

VEG-5a **Comply with local tree removal or resource protection policies.** SCE shall obtain permits from local jurisdictions and BLM for tree removal and other plant removal or harvest, in accordance with each applicable ordinance or policy, prior to removal or other impacts to regulated trees or other plants.

Implementation locations: San Bernardino County (all); WR-MSHCP (all, regardless of SCE's PSE status); CV-MSHCP (all, regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

VEG-5b **Ensure MSHCP consistency.** If SCE does not obtain PSE status under either the WR-MSHCP or CV-MSHCP, SCE shall prepare an analysis equivalent to the WR-MSHCP Consistency Analysis or the CV-MSHCP Joint Project Review Requirements, as appropriate. This analysis shall identify any potential conflict with the WR-MSHCP or CV-MSHCP and specify detailed measures that SCE will implement, as a non-participant in either plan, to prevent such conflict through habitat compensation or other measures. The analysis and its included specifications for avoiding MSHCP conflicts shall be subject to review and approval by CPUC and BLM, in consultation with CDFW, USFWS, the Western Riverside County Regional Conservation Authority, and the CVCC. The analysis and full implementation of each measure shall be completed prior to the start of any ground-disturbing activity within the WR-MSHCP or CV-MSHCP area.

Implementation locations: WR-MSHCP (all, if SCE does not obtain PSE status); CV-MSHCP (all, if SCE does not obtain PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

Biological Resources – Wildlife

WIL-1a **Conduct pre-construction biological resources surveys.** SCE shall assign qualified biologists to perform pre-construction biological surveys at each project work area and access route, and in the area surrounding each work site or access route. Survey distances will vary, as appropriate, based on target species and as stipulated by project work plans and mitigation plans, but will be no less than 300 feet surrounding each work site and along any access route being created or improved. (Improvement is considered to be both 'drive and crush' and any road work that causes greater disturbance than light blading of previously existing roads.) For project access along existing routes or routes improved during an earlier phase of the project, the survey requirement will be 100 feet. An exception would be if a greater distance is stipulated in other applicable project work plans or mitigation measures. Where suitable nest sites for raptors are present, the pre-construction surveys for raptor nests will extend to a 500-foot area surrounding the work area or road.

Pre-construction surveys shall be planned and implemented to identify locations of special-status plants and wildlife and nesting birds occurring at work areas, other portions of the ROW, or in adjacent buffer areas. Specific pre-construction survey methods or protocols will vary according to the resources which may be present at any given site, and according to season. At minimum, SCE shall complete pre-construction surveys 10 days prior to beginning work in

any given area, and repeat the surveys if the work site remains inactive for a period of ten days or more. During nesting season, a qualified biologist shall complete nesting bird surveys no more than four days prior to beginning work at any given area, and repeat the surveys regularly so long as work continues at the site during the nesting season.

SCE shall submit resumes of all biologists performing pre-construction biological surveys to the CPUC and BLM for review and approval, in coordination with CDFW and USFWS. Results of pre-construction surveys shall be submitted to CPUC and BLM for review and approval and no work shall occur until the CPUC Environmental Monitor has validated the survey results and any applicable resource and work area boundary staking. Each pre-construction survey report shall include methods and results of the preconstruction survey, and a list of biological resources detected at each site during prior focused surveys or pre-construction surveys. The pre-construction survey report format and contents shall be subject to CPUC and BLM review and approval.

SCE also shall conduct pre-construction “sweeps” of each work site immediately prior to beginning construction or disturbance work, to identify any vulnerable wildlife that may have entered the site. Based on the results of pre-construction surveys and sweeps, SCE or its contractor shall observe buffer areas or other access or activity restrictions to minimize potential impacts to the resources. SCE shall provide documentation of the methods and results of all pre-construction surveys, and follow-up buffer areas or other avoidance measures that are implemented, to the CPUC and BLM.

Implementation locations: San Bernardino County (all); WR-MSHCP (all, regardless of SCE’s PSE status); CV-MSHCP (all, regardless of SCE’s PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

WIL-1b

Ensure wildlife impact avoidance and minimization. SCE shall undertake the following measures during the construction, restoration, and O&M phases to avoid or minimize impacts to wildlife resources. Implementation of all measures shall be subject to review and approval by the CPUC and BLM in consultation with CDFW and USFWS. Impacts to nesting birds are addressed separately in Mitigation Measure WIL-1c (Prepare and implement a Nesting Bird Management Plan).

- **Minimize traffic impacts.** SCE will specify and enforce a maximum 15 mile per hour vehicle speed limit on access roads within the ROW and project vicinity. No project-related pedestrian or vehicle traffic will be permitted outside defined work site boundaries (as marked on the site according to Mitigation Measure VEG-1c (Minimize native vegetation and habitat loss)).
- **Minimize lighting impacts.** Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light towards surrounding fish or wildlife habitat.
- **Avoid use of toxic substances.** Soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be non-toxic to wildlife and plants.

- **Minimize noise and vibration impacts.** To minimize disturbance to wildlife nesting or breeding activities in surrounding habitat, project-related helicopter use shall be avoided or managed to the extent feasible from February 1 to August 31. Unnecessary noise (e.g., blaring radios) shall be avoided.
- **Water.** Potable and non-potable water sources such as tanks, ponds, and pipes shall be covered or otherwise secured to prevent animals (including birds) from entering. Prevention methods may include storing all water within closed tanks, covering open storage ponds or tanks with 2 centimeter netting, or other means as applicable. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards. Water sources (e.g., hydrants, tanks, etc.) shall be checked periodically by biological monitors to ensure they are not creating open water sources by leaking or consistently overflowing trucks.
- **Worker guidelines.** All trash and food-related waste shall be contained in vehicles or covered trash containers and removed from the site regularly. Workers shall not feed wildlife or bring pets to the project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons.
- **Wildlife netting or exclusion fencing.** SCE may install temporary or permanent netting or fencing around equipment, work areas, or project facilities to prevent wildlife exposure to hazards such as toxic materials or vehicle strikes, or prevent birds from nesting on equipment or facilities. Bird deterrent netting will be maintained free of holes and will be deployed and secured on the equipment in a manner that, insofar as possible, prevents wildlife from becoming trapped inside the netted area or within the excess netting. The biological monitor will inspect netting (if installed) twice daily, at the beginning and close of each work day, with the exception of netting installed in established material yards, which will be inspected at least once daily. The biological monitor will inspect exclusion fence (if installed) weekly and will inform SCE of any needed repairs; SCE shall promptly repair any damage to the exclusion fencing.
- **Wildlife entrapment.** Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate appropriate wildlife ramp(s) at a slope of no more than a 3:1 ratio, or other means to allow trapped animals to escape. Biological monitors shall provide guidance to construction crews to ensure that wildlife ramps or other means are sufficient to allow trapped animals to escape. At the end of each work day, a biological monitor shall ensure that excavations have been secured or provided with appropriate means for wildlife escape.

All pipes or other construction materials or supplies will be covered or capped in storage or laydown areas. No pipes or tubing will be left open either temporarily or permanently, except during use or installation. Any construction

pipe, culvert, or other hollow materials will be inspected for wildlife before it is moved, buried, or capped.

Dead animals. Dead animals of non-special-status species found on unpaved project roads, work areas, or the ROW shall be reported to the appropriate local animal control agency within 24 hours. A biological monitor shall safely move the carcass out of the road or work area as needed. Dead animals of special-status species found on unpaved project roads, work areas, or the ROW shall be reported to CDFW within one work day and the carcass handled as directed by CDFW.

Injured wildlife. SCE shall create and implement guidelines for dealing with injured or entrapped wildlife found on or near project roads, work areas, or the ROW, and provide these guidelines to all biological monitors. If an animal is entrapped, a qualified biological monitor shall free the animal if feasible, or work with construction crews to free the animal, in compliance with applicable safety regulations and project requirements. If biological monitors cannot free the animal or the animal is too large or dangerous for monitors to handle, SCE shall contact and work with animal control, CDFW, or other qualified party to obtain assistance for the animal as soon as possible.

SCE shall ensure that one or more qualified biological monitors receive training in the safe and proper handling and transport of injured wildlife and are provided with the appropriate equipment. These trained and equipped monitors shall be available to capture and transport injured wildlife to a local wildlife rehabilitator or veterinarian as needed. If the injured animal is too large or dangerous for monitors to handle, or a trained and equipped monitor is not available, SCE shall contact and work with a local wildlife rehabilitator, animal control, CDFW, or other qualified party to obtain assistance for the animal as soon as possible. SCE shall bear the costs of veterinary treatment and rehabilitation for any wildlife injured by project-related activities and any injured wildlife found on or near project roads, work areas, or the ROW, unless the injuries are clearly not project-related, as determined by a qualified biologist. Additionally, any entrapped or injured special-status species found on project roads, work areas, or the ROW shall be reported to the appropriate resource agency within one work day.

Rattlesnake guidelines. Prior to the start of construction, SCE shall prepare and implement guidelines for dealing with rattlesnakes found in or near project work areas and access roads and provide these guidelines to all biological monitors, safety staff, and other personnel. Killing or harming rattlesnakes or other wildlife is not authorized. If SCE determines that it is appropriate for biological monitors or other project personnel to handle rattlesnakes, SCE shall ensure that an adequate number of qualified individuals are trained in the safe and proper handling of rattlesnakes and provided with the appropriate safety and snake handling equipment, including a secure storage container for transporting snakes. These trained and equipped individuals shall be available to remove rattlesnakes found in or near project work areas and access roads as needed and relocate them to appropriate nearby habitat. Other project personnel shall not harass, or handle rattlesnakes, except as required to maintain immediate safety

or in accordance with the guidelines developed by SCE. Handling and relocation of rattlesnakes shall be documented, and the species of rattlesnake determined whenever possible. If a special-status rattlesnake is relocated, documentation shall be submitted to CPUC, BLM, and CDFW.

Alternately, SCE may determine that project personnel shall not handle or approach rattlesnakes. If so, the guidelines shall specify an alternate course of action for rattlesnake encounters, such as avoiding work activity near the snake and monitoring its location and activity until it leaves the area.

Implementation locations: San Bernardino County (all); WR-MSHCP (all, regardless of SCE's PSE status); CV-MSHCP (all, regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

WIL-1c

Prepare and implement a Nesting Bird Management Plan. [Supersedes APM BIO-3] SCE shall prepare a Nesting Bird Management Plan (NBMP) in coordination with CPUC, BLM, CDFW, and USFWS. The NBMP shall describe methods to minimize potential project effects to nesting birds, and avoid any potential for unauthorized take. Project-related disturbance including construction and pre-construction activities shall not proceed within 300 feet of active nests of common bird species or 500 feet of active nests of raptors or special-status bird species (except for golden eagle as described in Mitigation Measure WIL-2f) until approval of the NBMP by CPUC and BLM in consultation with CDFW and USFWS.

NBMP Content. The NBMP shall include: (1) definitions of default nest avoidance buffers for each species or group of species, depending on characteristics and conservation status for each species; (2) a notification procedure for buffer distance reductions should they become necessary ; (4) a rigorous monitoring protocol, including qualifications of monitors, monitoring schedule, and field methods, to ensure that any project-related effects to nesting birds will be minimized; and (5) a protocol for documenting and reporting any inadvertent contact or effects to birds or nests.

The paragraphs below describe the NBMP requirements in further detail.

Background. The NBMP shall include the following:

- A summary of applicable state and federal laws and regulations, including definition of what constitutes a nest or active nest under state and federal law.
- A procedure for amendment of the NBMP, should there be changes in applicable state or federal regulations or as necessary for adaptive management upon approval by CDFW, USFWS, CPUC, and BLM.
- A list of bird species potentially nesting on or near the ROW or other work areas, indicating approximate nesting seasons, nesting habitat, typical nest locations (e.g., ground, vegetation, structures, etc.), tolerance to disturbance (if known) and any conservation status for each species. This section will also note any species that do not require avoidance measures (e.g., rock pigeons).

- A list of the types of project activities (construction, operations, and maintenance) that may occur during nesting season, with a short description of the noise and physical disturbance resulting from each activity.
- Clearing of any vegetation, site preparation in open or barren areas, or other project-related activities that may adversely affect breeding birds shall be scheduled outside the nesting season, as feasible.

Pre-construction nest surveys. Pre-construction nest surveys will be conducted prior to any construction activities scheduled during the breeding period. For this project, the breeding period will be defined as January 1 through August 31. The NBMP shall describe the proposed field methods, survey timing, and qualifications of field biologists. Field biologist qualifications will be subject to review by CPUC and BLM. The avian biologists conducting the surveys shall be experienced bird surveyors and familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993). Nest surveys will focus on visual searches for nest locations and observations of bird activities and movement to detect nesting activity (e.g., carrying nest materials or food, territorial displays, courtship behavior). Surveys shall be conducted in accordance with the following guidelines.

- Surveys shall cover all potential nesting habitat within the ROW or other work areas and within 500 feet of these areas for raptors and 300 feet for non-raptors.
- Pre-construction surveys shall be conducted for each work area, no longer than 10 days prior to the start of construction activity. On the first day of construction at any given site, a qualified Avian Biologist will perform a pre-construction “sweep” to identify any bird nests or other resources that may have appeared since the 10-day survey.
- SCE shall provide the CPUC and BLM a report describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity of the surveyor(s); a list of species observed; and electronic data identifying nest locations and the boundaries of buffer zones. The electronic data set will be updated following each pre-construction nest survey throughout the nesting season. The format and contents of this report will be described in the draft NBMP and will be subject to review and approval by CPUC and BLM.

Nest Buffers and Acceptable Activities

The NBMP shall specify measures to delineate buffers on the work site, to consist of clearly visible marking and signage. Buffer locations shall be communicated to the construction contractor, and shall remain in effect until formally discontinued (when each nest is no longer active). In addition, the NBMP shall specify measures to ensure the buffers are observed, including a direct communication and decision protocol to stop work within buffer areas. In some cases, active nests may be found while work is underway. Therefore, the NBMP shall include a protocol for stopping ongoing work within the buffer area, securing the work site, and removing personnel and equipment from the buffer.

The NBMP shall describe proposed measures to avoid take or adverse effects to nests, such as buffer distances from active nests. These measures shall be based on the specific nature of the bird species and conservation status, and other pertinent factors.

The NBMP will identify bird species (or groups of species) that are relatively tolerant or intolerant of human activities and specify smaller or larger buffer distances as appropriate for each species. If no information is available to specify a buffer distance for a species, then the NBMP shall specify 300 feet as a standard buffer distance, and 500 feet for raptors and special-status species. Nest management for listed threatened or endangered species will be prescribed in a USFWS Biological Opinion, CDFW Incidental Take Permit, or both. All applicable avoidance measures, including buffer distances, must be continued until nest monitoring (below) confirms that the nestlings have fledged and dispersed, or the nest is no longer active.

For each special-status species potentially nesting within or near project work areas, the NBMP shall specify applicable buffers and any additional nest protection measures, specialty monitoring, or restrictions on work activities, if needed.

The NBMP shall identify acceptable work activities within nest buffers (e.g., pedestrian access for inspection or BMP repair) including conditions and restrictions, and any monitoring required. The NBMP shall include pictorial representation showing buffer distances for ground buffers, vertical helicopter buffers, and horizontal helicopter buffers for nests near the ground and nests in towers.

Nest Buffer Modification or Reduction

At times, SCE or its contractor may propose buffer distances different from those approved in the NBMP. Buffer adjustments shall be reviewed and recommended by a qualified avian biologist who has been approved by CPUC and BLM in consultation with the CDFW and USFWS. The NBMP shall provide a procedure and timing requirements for notifying CPUC, BLM, CDFW, and USFWS of any planned adjustments to nest buffers. Separate and distinct procedures will be provided for special-status birds. The NBMP will list the information to be included in buffer reduction notifications in a standardized format.

Nest deterrents. The NBMP shall describe any proposed measures or deterrents to prevent or reduce bird nesting activity on project equipment or facilities, such as buoys, visual or auditory hazing devices, bird repellents, securing of materials, and netting of materials, vehicles, and equipment. It shall also include timing for installation of nest deterrents and field confirmation to prevent effects to any active nest; guidance for the contractor to install, maintain, and remove nest deterrents according to product specifications; and periodic monitoring of nest deterrents to ensure proper installation and functioning and prevent injury or entrapment of birds or other animals. In the event that an active nest is located on project facilities, materials or equipment, SCE will avoid disturbance or use of the facilities, materials or equipment (e.g., by red-tag) until the nest is no longer active.

Communication. The NBMP shall specify the responsibilities of construction monitors in regards to nests and nest issues, and specify a direct communication protocol to ensure that nest information and potential adverse impacts to nesting birds can be promptly communicated from nest monitors to construction monitors, so that any needed actions can be taken immediately.

The NBMP shall specify a procedure to be implemented following accidental disturbance of nests, including wildlife rehabilitation options. It also shall describe any proposed measures, and applicable circumstances, to prevent take of precocial young of ground-nesting birds such as killdeer or quail. For example, chick fences may be used to prevent them from entering work areas and access roads. Finally, the NBMP will specify a procedure for removal of inactive nests, including verification that the nest is inactive and a notification/approval process.

Monitoring. SCE shall be responsible for monitoring the implementation, conformance, and efficacy of the avoidance measures (above). The NBMP shall include specific monitoring measures to track any active bird nest within or adjacent to project work areas, bird nesting activity, project-related disturbance, and outcome of each nest. For nests with reduced buffers, SCE shall monitor each nest until nestlings have fledged and dispersed or until the nest becomes inactive. Nests with default buffers do not require further monitoring once construction work is completed in the area. New nests discovered after work completion in an area would not require monitoring. In addition, monitoring shall include pre-construction surveys, daily sweeps of work areas and equipment, and any special monitoring requirements for particular activities (tree trimming, vegetation removal, etc.) or particular species (noise monitoring, etc.). Nest monitoring shall continue throughout the breeding season during each year of the project's construction activities.

Reporting. Throughout the construction phase of the project, nest locations, project activities in the vicinity of nests (including helicopter traces), and any adjustments to buffer areas shall be updated and available to CPUC monitors on a daily basis. All buffer reduction notifications and prompt notifications of nest-related non-compliance and corrective actions will be made via email to CPUC monitors. The draft NBMP shall include a proposed format for daily and weekly reporting (e.g., spreadsheet available online, tracking each nest). In addition, the NBMP shall specify the format and content of nest data to be provided in regular monitoring and compliance reports. At the end of each year's nest season, SCE will submit an annual NBMP report to the CPUC, BLM, CDFW, and USFWS. Specific contents and format of the annual report will be reviewed and approved by the CPUC and BLM in consultation with CDFW and USFWS.

Implementation locations: San Bernardino County (all); WR-MSHCP (all, regardless of SCE's PSE status); CV-MSHCP (all, regardless of SCE's PSE status); BLM (all); reservation (recommended for all Morongo Tribal Lands).

WIL-2a

Conduct desert tortoise surveys, monitoring, and avoidance. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial

burrow construction, egg handling, and other procedures shall be consistent with those described in the USFWS (2009) *Desert Tortoise Field Manual* or more current guidance provided by CDFW and USFWS.

Desert tortoise shall be handled only by a USFWS/CDFW permitted and authorized biologist (Authorized Biologist) following appropriate USFWS protocols and in compliance with appropriate regulatory permits. A biological monitor shall monitor construction activities in all areas with the potential to support desert tortoise. Observations of desert tortoise or sign shall be immediately communicated to the Authorized Biologist.

Within suitable habitat for desert tortoise, SCE shall survey the project area for desert tortoise burrows and pallets within fourteen (14) days preceding the initial start of construction. Follow-up surveys shall also be conducted within fourteen (14) days preceding additional construction after a gap in significant construction activities of 60 calendar days or more. Surveys shall include 100 percent of the area to be disturbed and a surrounding buffer of 100 feet.

Subject to authorization by CDFW and USFWS, tortoise burrows and pallets encountered within the disturbance area (if any) shall be conspicuously flagged by the surveying biologist(s) and avoided during construction activities. If a burrow suitable for desert tortoise cannot be avoided, it shall be excavated carefully using hand tools, by or under the supervision of an Authorized Biologist, and collapsed or blocked to prevent desert tortoise reentry. If the burrow is occupied, the Authorized Biologist may move the tortoise to another burrow.

Project personnel shall inspect for desert tortoises under parked vehicles or equipment prior to moving same. If a desert tortoise is found beneath a vehicle or equipment, the vehicle or equipment shall not be moved until the tortoise has voluntarily moved to a safe distance away. If the tortoise does not move on its own accord after 20 minutes, the tortoise may be moved by an Authorized Biologist, subject to authorization by CDFW and USFWS.

If a desert tortoise is found in a work area, the tortoise shall be allowed to passively traverse the site while construction in the immediate area is halted. If the tortoise does not move out of harm's way after 20 minutes, the tortoise may be moved by an Authorized Biologist, subject to conditions and authorization by CDFW and USFWS.

Subject to authorization by CDFW and USFWS, desert tortoises shall be moved the minimum distance possible within appropriate habitat. In general, desert tortoise will not be moved in excess of 1,000 feet for adults and 300 feet for hatchlings. Desert tortoises that are moved shall be placed in the shade of a shrub. After being moved, the desert tortoise shall be monitored to ensure its safety. Any time a tortoise is handled, the Authorized Biologist shall take photographs and record pertinent data in their daily monitoring report. This information shall be summarized and submitted to CPUC and BLM in annual environmental compliance reports.

Subject to authorization by CDFW and USFWS, a desert tortoise removed from its burrow shall be placed in an unoccupied burrow of approximately the same size and orientation. If an existing burrow is unavailable, the Authorized Biologist will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original burrow. Desert tortoises moved during inactive periods will be monitored for at least two days after placement in the new burrow to ensure their safety.

Subject to authorization by CDFW and USFWS, if a desert tortoise is moved at a time of the day when ambient temperatures are unfavorable (less than 40 degrees F or greater than 90 degrees F) it shall be held overnight in a clean cardboard box. The desert tortoise shall be kept in the care of the Authorized Biologist under appropriate controlled temperatures and released the following day when temperatures are favorable. All cardboard boxes will be appropriately discarded after one use.

Implementation locations: This mitigation measure shall apply in desert tortoise habitat within the project area (Segments 5 and 6), subject to the stipulations listed above. Specifically, this mitigation measure applies on BLM lands, throughout the CV-MSHCP area (regardless of SCE's PSE status), and is recommended on all Morongo Tribal Lands. No suitable desert tortoise habitat is present within San Bernardino County and the WR-MSHCP; therefore, this mitigation measure does not apply in these jurisdictions.

WIL-2b

Prepare and implement Raven Monitoring, Management, and Control Plan. SCE shall prepare and implement a Raven Monitoring, Management, and Control Plan (Raven Plan) consistent with USFWS raven management guidelines and that meets the approval of the CPUC and BLM in consultation with USFWS, and CDFW. The purpose of the Raven Plan shall be to minimize project-related predator subsidies and prevent any increases in raven numbers or activity within desert tortoise habitat during construction, restoration, and O&M phases. The Plan shall address all project components and their potential effects on raven numbers and activity. The threshold for implementation of raven control measures shall be any increases in raven numbers from baseline conditions, as detected by monitoring to be implemented pursuant to the Plan. Regardless of raven monitoring results, SCE shall be responsible for all other aspects of raven management described in the Raven Plan, such as avoidance and minimization of project-related trash, water sources, or perch/roost/nest sites that could contribute to increased raven numbers. In addition, to offset the cumulative contributions of the project to desert tortoise impacts from increased raven numbers, SCE shall contribute to the USFWS Regional Raven Management Program. SCE shall:

- 1. Prepare and Implement a Raven Management Plan** that shall include, but shall not be limited to the following components. The Plan shall be reviewed and approved by CPUC, BLM, USFWS, and CDFW prior to the start of construction activities.
 - a. Identify all potential project activities, structures, components, and other effects that could provide predator subsidies or attractants, including

potential sources of food and water, and nesting materials, as well as nest or perch sites. These will include, but will not be limited to: waste food material, road-killed animals, water storage, potential pooling from leaks, dust control, or wastewater, debris from brush clearing, and perch or roost sites on project facilities and infrastructure.

- b. Describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities.
 - c. Appoint a qualified biologist who will implement a monitoring schedule and field methods for the purpose of locating any ravens present in the project vicinity and detecting any increase in raven numbers or activity.
 - d. Specify raven activity thresholds for implementation of control measures.
 - e. Describe control practices for ravens to be implemented as needed based on the monitoring results.
 - f. Address monitoring and nest removal during construction and for the life of the project.
 - g. Describe reporting schedules and requirements.
2. **Contribute to the USFWS Regional Raven Management Program.** No later than 30 days prior to the start of construction, SCE shall contribute to the USFWS Regional Raven Management Program by making a one-time payment of \$105 per acre of long-term or permanent project disturbance within the geographic range of desert tortoise, or as specified by the USFWS, to the National Fish and Wildlife Foundation Renewable Energy Action Team raven control account.

Implementation locations: This mitigation measure applies on BLM lands and is recommended on all Morongo Tribal Lands. No suitable desert tortoise habitat is present within San Bernardino County and the WR-MSHCP; therefore, this mitigation measure does not apply in these jurisdictions. In the CV-MSHCP, this mitigation measure shall apply in its entirety regardless of SCE's PSE status.

WIL-2c

Conduct surveys and avoidance for threatened or endangered riparian birds. Construction activities shall avoid suitable habitat for listed riparian birds. If suitable habitat cannot be avoided, SCE shall consult with CDFW and USFWS and obtain appropriate take authorizations or permits. SCE shall implement the conservation measures contained within these permits.

If construction activities will occur during the breeding season potentially suitable habitat for listed riparian birds, a qualified biologist shall conduct protocol surveys of the project area and adjacent areas within 500 feet. USFWS protocol surveys shall be conducted for southwestern willow flycatcher, yellow-billed cuckoo, and least Bell's vireo. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season. Where protocol surveys determine that listed riparian birds are present, SCE shall conduct additional focused nest location surveys, to determine the

locations of nests and territories. Survey areas shall include a 500-foot buffer around project disturbance areas.

Protocol surveys, shall be conducted within one year prior to the start of construction and shall continue annually during each nesting season until completion of construction and restoration activities. At a minimum, surveys shall be conducted from 15 May to 17 July for southwestern willow flycatcher, from 10 April to 31 July for least Bell's vireo, and from 1 June to 31 August for yellow-billed cuckoo.

These surveys may be modified through coordination with the USFWS, CDFW, BLM, and the CPUC based on the condition of habitat, the observation of the species, or avoidance of riparian areas during the breeding season. SCE shall submit documentation providing results of the protocol surveys for listed riparian birds to the CPUC and BLM for review and approval in consultation with USFWS and CDFW.

If an active breeding territory or nest is confirmed, the CPUC, BLM, USFWS, and CDFW shall be notified immediately. All active nests shall be monitored on a weekly basis until the nestlings fledge or the nest becomes inactive. SCE shall provide monitoring reports to the CPUC and BLM for review in consultation with USFWS and CDFW.

In coordination with the USFWS and CDFW, a 500-foot disturbance-free ground buffer and 1,000-foot vertical helicopter buffer shall be established around the active nest and demarcated by fencing or flagging. No construction or vehicle traffic shall occur within nest buffers, except on existing paved public roads.

If an active breeding territory or nest is confirmed within 500 feet of any project activity site, SCE shall prepare and implement a Wildlife Noise Monitoring Plan throughout construction and demolition activities taking place while listed riparian birds occupy the nesting territory. Sound levels at the nest sites shall not exceed 8 dBA above ambient levels or 70 dBA (hourly average Leq), whichever is greater. Ambient levels will be established prior to initiation of construction and demolition, using the same methodology that will be used to take noise measurements during monitoring.

If the hourly average noise threshold is exceeded, or if the biological monitor determines that construction activities are disturbing nesting birds, additional noise reduction techniques shall be implemented to reduce project noise below the thresholds. Additional noise monitoring will be conducted to verify the reduction of noise levels below the thresholds. Noise reduction techniques can include, but are not limited to:

- Temporary noise barriers or sound walls
- Noise pads or dampers
- Replace and update noisy equipment
- Moveable task noise barriers

- Queue trucks to distribute idling noise
- Locate vehicle access points and loading and shipping facilities away from the nest site
- Reduce the number of noisy activities that occur simultaneously
- Relocate noisy stationary equipment away from the nest sites

Implementation locations: This mitigation measure applies on BLM lands, throughout the WR-MSHCP and CV-MSHCP areas (regardless of SCE’s PSE status), and within San Bernardino County, and is recommended on all Morongo Tribal Lands.

WIL-2d

Conduct surveys and avoidance for Stephens’ kangaroo rat. Prior to the start of construction, within suitable habitat for Stephens’ kangaroo rat (SKR), SCE shall conduct focused surveys to determine if SKR sign (burrows, scat, and etc.) is present in all areas within 100 feet of work sites or other project activities that would permanently or temporarily affect soils or vegetation. All surveys shall be conducted by a qualified biologist who holds the appropriate USFWS permits to conduct trapping surveys for SKR. If sign is present, then SCE shall conduct focused trapping surveys according to accepted protocols to determine presence or absence of SKR. If SKR are present, then SCE shall take additional measures to prevent or minimize take, such as installation of exclusion fences or other measures, subject to authorization by USFWS and CDFW.

Construction activities shall avoid suitable SKR habitat to the extent feasible. If SKR habitat cannot be avoided, SCE shall consult with CDFW and USFWS and obtain appropriate take authorization or permits. SCE shall implement the conservation measures contained within these permits.

Implementation locations: This mitigation measure shall apply within San Bernardino County, throughout the WR-MSHCP area (regardless of SCE’s PSE status), and is recommended within Morongo Tribal Lands. No suitable SKR habitat is present in the CV-MSHCP portions of the ROW or on BLM land, so this mitigation measure shall not apply within those areas.

WIL-2e

Conduct surveys and avoidance for coastal California gnatcatcher. SCE shall conduct protocol level surveys for coastal California gnatcatchers (CAGN) in all areas of coastal sage scrub habitat that may be affected by the project. Survey areas will include a 500-foot buffer around project disturbance areas. Presence or absence of CAGN shall be determined prior to construction activities. In occupied CAGN habitat, SCE shall conduct additional focused nest location surveys to determine the locations of nests and territories. Survey areas shall include a 500-foot buffer around project disturbance areas.

Surveys shall be conducted by qualified and permitted biologists. Surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season. Prior to construction, SCE shall submit documentation providing the results of the pre-construction focused surveys for CAGN to the CPUC and BLM for review and approval in consultation with USFWS and CDFW.

Protocol or focused nest location surveys, as appropriate, shall be conducted within one year prior to the start of construction and shall continue annually until completion of construction and restoration activities.

If an active breeding territory or nest is confirmed, the CPUC, BLM, USFWS, and CDFW shall be notified immediately and the observation will be included in the daily monitoring report. All active nests shall be monitored on a weekly basis until the nestlings fledge or the nest becomes inactive. SCE shall provide monitoring reports to the CPUC and BLM for review on a weekly basis.

In coordination with the USFWS and CDFW, a 500-foot disturbance-free ground buffer and 1,000-foot vertical helicopter disturbance-free buffer shall be established around the active nest and demarcated by fencing or flagging. These buffers may be adjusted in consultation with USFWS and CDFW based on type of work activity performed. No construction or vehicle traffic shall occur within nest buffers, except on existing paved public roads.

If an active breeding territory or nest is confirmed within 500 feet of any project activity site, the authorized nesting bird monitor shall monitor the nesting bird to evaluate impacts to the bird. If the construction, and associated noise, impacts nesting, in the opinion of the authorized nesting bird monitor, construction within 500 feet will immediately discontinue. If the authorized nesting bird monitor determines that construction may continue, SCE shall prepare and implement a Wildlife Noise Monitoring Plan throughout construction and demolition activities taking place while CAGN occupy the nesting territory. Sound levels at the nest sites shall not exceed 8 dBA above ambient levels or 70 dBA (hourly average Leq), whichever is greater. Ambient levels will be established prior to initiation of construction and demolition, using the same methodology that will be used to take noise measurements during monitoring.

If the hourly average noise threshold is exceeded, or if the biological monitor determines that construction activities are disturbing nesting CAGN, additional noise reduction techniques shall be implemented to reduce project noise below the thresholds. Additional noise monitoring will be conducted to verify the reduction of noise levels below the thresholds. Noise reduction techniques can include, but are not limited to:

- Temporary noise barriers or sound walls
- Noise pads or dampers
- Replace and update noisy equipment
- Moveable task noise barriers
- Queue trucks to distribute idling noise
- Locate vehicle access points and loading and shipping facilities away from the nest site
- Reduce the number of noisy activities that occur simultaneously
- Relocate noisy stationary equipment away from the nest sites

Construction activities shall avoid suitable habitat for CAGN, to the extent feasible. If suitable habitat cannot be avoided, SCE shall consult with CDFW and USFWS to obtain appropriate take authorization or permits. SCE shall implement the conservation measures contained within these permits.

Implementation locations: This mitigation measure shall apply within San Bernardino County, throughout the WR-MSHCP lands (regardless of SCE's PSE status), and is recommended within Morongo Tribal Lands. No suitable CAGN habitat is present in the CV-MSHCP portions of the ROW or on BLM land, so this mitigation measure shall not apply within those areas.

WIL-2f

Conduct surveys and avoidance for golden eagle. SCE shall implement the following measures to document golden eagle occurrence in the project area and surrounding mountains. Survey schedule and requirements will be as identified below unless otherwise authorized by the CPUC and BLM in consultation with the USFWS and CDFW.

- **Annual Nesting Season Surveys.** Beginning at least one year prior to the start of construction, and continuing throughout the construction phase of the project, SCE shall contract with a qualified biologist to conduct nesting season surveys of golden eagle habitat use within a 2-mile radius of the portions of the project area where work will occur during the breeding season (December 1 through July 31). Nesting season surveys will determine occupancy, productivity, and chronology of known or newly discovered nesting territories within the 2-mile radius. Survey methods for the inventory shall be either ground-based or helicopter-based, as described in the Golden Eagle Technical Guidance (Pagel et al., 2010) or more current guidance from the USFWS.
- **Nesting Season Inventory Data.** At a minimum, data collected during the nesting season surveys shall include the following: territory status (unknown, vacant, occupied, breeding successful, breeding unsuccessful); nest location, nest elevation; age class of golden eagles observed; nesting chronology; number of young at each visit; photographs; and substrate upon which nest is placed.
- **Determination of Unoccupied Territory Status.** A nesting territory or inventoried habitat shall be considered unoccupied by golden eagles only after completing at least two full surveys in a single breeding season.
- **Nest Buffer.** If an occupied nest (as defined by Pagel et al., 2010) is detected within 2 miles of the project, SCE shall implement a one mile line-of-sight and one-half mile no line-of-sight buffer to ensure that project construction activities do not result in injury or disturbance to golden eagles. Triggers for adaptive management shall include any evidence of project-related disturbance to nesting golden eagles, including but not limited to: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. Adaptive management actions, include, but are not limited to, cessation of construction activities that are deemed by a qualified biologist to be the source of golden eagle disturbance.

- **Reporting.** Golden eagle survey data and, if applicable, nest activity monitoring results and any adaptive management actions taken, will be provided to CPUC, BLM, CDFW, and USFWS in monthly monitoring reports, as seasonal data becomes available and if specific nest monitoring or any adaptive management actions are taken, and summarized in annual project monitoring reports.

Implementation locations: This mitigation measure shall apply within San Bernardino County, on BLM lands, and within the CV-MSHCP and WR-MSHCP areas (regardless of SCE's PSE status), and is recommended within Morongo Tribal Lands.

WIL-2g

Conduct surveys and avoidance for burrowing owl. Burrowing owl surveys shall be conducted in accordance with the most current CDFW guidelines (CDFG, 2012; or updated guidelines as they become available). SCE shall take measures to avoid impacts to any active burrowing owl burrow within or adjacent to a work area. The default buffer for a burrowing owl burrow is 300 feet for ground construction, and 300 feet horizontal and 200 feet vertical for helicopter construction. The Nesting Bird Management Plan (Mitigation Measure WIL-1c) will specify a procedure for adjusting this buffer, if needed. Binocular surveys may be substituted for protocol field surveys on private lands adjacent to the project site only when SCE has made reasonable attempts to obtain permission to enter the property for survey work but was unable to obtain such permission.

If active burrowing owl burrows are located within project work areas, SCE may passively relocate the owls by preparing and implementing a Burrowing Owl Passive Relocation Plan, as described below. SCE shall prepare a draft Burrowing Owl Passive Relocation Plan for review and approval by CPUC and BLM in consultation with CDFW and USFWS prior to the start of any ground-disturbing activities. SCE may not initiate burrowing owl passive relocation prior to finalization of the Plan and approval by CPUC and BLM. No active relocation shall be permitted. No passive relocation of burrowing owls shall be permitted during breeding season, unless a qualified biologist verifies through non-invasive methods that an occupied burrow is not occupied by a mated pair, and only upon authorization by CDFW. The Plan shall include, but not be limited to, the following elements:

- **Assessment of Suitable Burrow Availability.** The Plan shall include an inventory of existing, suitable, and unoccupied burrow sites within 300 feet of the affected project work site. Suitable burrows will include inactive desert kit fox, ground squirrel, or desert tortoise burrows that are deep enough to provide suitable burrowing owl nesting sites, as determined by a qualified biologist. If two or more suitable and unoccupied burrows are present in the area for each burrowing owl that will be passively relocated, then no replacement burrows will need to be built.
- **Replacement Burrows.** For each burrowing owl that will be passively relocated, if fewer than two suitable unoccupied burrows are available within 300 feet of the affected project work site, then SCE shall construct at least two

replacement burrows within 300 feet of the affected project work site. Burrow replacement sites shall be in areas of suitable habitat for burrowing owl nesting, and subject to minimal human disturbance and access. The Plan shall describe measures to ensure that burrow installation or improvements would not affect sensitive species habitat or any burrowing owls already present in the relocation area. The Plan shall provide guidelines for creation or enhancement of at least two natural or artificial burrows for each active burrow within the project disturbance area, including a discussion of timing of burrow improvements, specific location of burrow installation, and burrow design. Design of the artificial burrows shall be consistent with CDFW guidelines (CDFG, 2012; or more current guidance as it becomes available) and shall be approved by the CPUC, BLM, CDFW, and USFWS.

- **Methods.** Provide detailed methods and guidance for passive relocation of burrowing owls, outside the breeding season. An occupied burrow may not be disturbed during the nesting season (generally, but not limited to, February 1 to August 31), unless a qualified biologist determines, by non-invasive methods, that it is not occupied by a mated pair. Passive relocation would include installation of one-way doors on burrow entrances that would let owls out of the burrow but would not let them back in. Once owls have been passively relocated, burrows will be carefully excavated by hand and collapsed by, or under the direct supervision, of a qualified biologist.
- **Monitoring and Reporting.** Describe monitoring and management of the replacement burrow site(s), and provide a reporting plan. The objective shall be to manage the relocation area for the benefit of burrowing owls, with the specific goal of maintaining the functionality of the burrows for a minimum of two years. Monitoring reports shall be available to the CPUC and BLM on a weekly basis.

Implementation locations: This mitigation measure shall apply within San Bernardino County, on BLM lands, and within the WR-MSHCP and CV-MSHCP areas (regardless of SCE's PSE status), and is recommended within Morongo Tribal Lands.

WIL-2h

Conduct surveys and avoidance for special-status terrestrial herpetofauna. This measure will not apply to desert tortoise; instead, surveys and avoidance for desert tortoise are addressed in Mitigation Measure WIL-2a. Biological monitors shall conduct clearance surveys in areas with suitable habitat for special-status terrestrial herpetofauna prior to construction each day, monitor construction activities for compliance, and submit monitoring reports to the CPUC and BLM for review on a weekly basis. Following the clearance surveys, either (1) exclusion fencing will be erected or (2) a biological monitor will be on the site during construction activities, to prevent take of special-status herpetofauna. If the installation of exclusion fencing is deemed necessary, the biological monitor shall direct the installation of the fence.

If any terrestrial herpetofauna are found on the construction site, the animal will be allowed to move away from the construction site on its own, or a qualified

biologist will relocate it nearby suitable habitat outside the construction area and place it in the shade of a shrub. If potentially suitable burrows or rock piles are found, they will be checked for occupancy. Occupied burrows will be flagged and avoided (employing a 50-foot buffer) during construction. If the burrow cannot be avoided, it will be excavated and the occupant relocated to an unoccupied burrow outside the construction area and of approximately the same size as the one from which it was removed. If an existing burrow is unavailable, the biologist will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original.

Implementation locations: This mitigation measure shall apply within San Bernardino County, on BLM lands, within the WR-MSHCP and CV-MSHCP areas (regardless of SCE's PSE status), and is recommended within Morongo Tribal Lands.

WIL-2i

Conduct surveys and avoidance for bats. SCE shall conduct surveys for roosting bats within 300 feet of project activities, within 14 days prior to any grading of rocky outcrops or removal of towers or trees, particularly palm trees and large trees (12 inches in diameter or greater at 4.5 feet above grade) with loose bark or other cavities. Surveys shall be conducted during the breeding season (1 March to 31 July) and the non-breeding season. Surveys shall be performed by a qualified bat biologist (i.e., a biologist holding a CDFW collection permit and a Memorandum of Understanding with CDFW allowing the biologist to handle bats). The resume of the biologist shall be provided to the CPUC and BLM for concurrence in consultation with CDFW and USFWS prior to the biologist beginning field duties on the project. Surveys shall include a minimum of one day and one evening.

Any active bat roosts, including occupied day roosts, maternity roosts, and hibernacula, will be identified and clearly marked. An exclusion area will be established 165 feet from any active roost, and these areas will be avoided during construction activities. If active roosts are found, then focused surveys shall be conducted to determine if the sites support special-status bat species.

SCE shall submit documentation providing pre-construction survey results and any avoidance of roosting and nursery sites to the CPUC and BLM for review and approval.

Non-special-status bats. If non-breeding bat hibernacula are found in towers or trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the bats shall be safely evicted, under the direction of a qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures must be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action will allow all bats to leave during the course of one week. Roosts that need to be removed, in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist, shall first be disturbed by various means at the

direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal).

If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (i.e., not removed) by the project. If avoidance of the maternity roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other CDFW approved methods) for nearby alternative maternity colony sites. If the bat biologist determines in consultation with and with the approval of the CDFW, BLM, and CPUC that there are alternative roost sites used by the maternity colony and young are not present, then no further action is required and it will not be necessary to provide alternate roosting habitat. However, if there are no alternative roosts sites used by the maternity colony, substitute bat roosting habitat shall be provided, as detailed below. If an active maternity roost is located in an area to be impacted by the project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to 1 March) or after young are flying (i.e., after 31 July) using the exclusion techniques described above.

If a maternity roost will be impacted by the project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the project site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bats requirements in coordination with CDFW. By making the roosting habitat available prior to eviction, the colony will have a better chance of finding and using the roost. Large concrete walls (e.g., on bridges) on south or southwestern slopes that are retrofitted with slots and cavities are an example of structures that may provide alternative roosting habitat appropriate for maternity colonies. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFW shall also be notified of any hibernacula or active nurseries within the construction zone.

Special-status bats. If special-status bat species occur at these day roosts, maternity roosts, or hibernacula, then construction activities shall avoid these sites and a surrounding buffer distance of 300 feet. If construction activities cannot avoid these sites, construction at these sites shall be delayed until the breeding cycles for the special-status bats are completed. SCE shall consult with a bat specialist in order to determine when the breeding cycle for the special-status bats is completed. SCE shall consult with CDFW regarding eviction of non-breeding special-status bats.

Implementation locations: This mitigation measure shall apply within San Bernardino County, on BLM lands, within the WR-MSHCP and CV-MSHCP areas (regardless of SCE's PSE status), and is recommended within Morongo Tribal Lands.

WIL-2j

Conduct surveys and avoidance for special-status small mammals. SCE shall implement pre-construction surveys for special-status small mammals including San Diego black-tailed jackrabbit, northwestern San Diego pocket, pallid San Diego pocket mouse, Palm Springs pocket mouse, Los Angeles pocket mouse, Palm Springs round-tailed ground squirrel, and San Diego desert woodrat in suitable habitats. SCE shall submit documentation providing pre-construction survey results to the CPUC and BLM for review and approval in consultation with CDFW and USFWS. Prior to initiating construction-related activities, SCE shall prepare and implement construction minimization measures and habitat conservation measures for review and approval by CPUC and BLM in consultation with USFWS and CDFW to minimize habitat loss and potential take.

Active woodrat nests that may be occupied by *Neotoma lepida* shall be flagged and ground-disturbing activities shall be avoided within a minimum of 10 feet surrounding each active nest unless otherwise authorized by the CDFW and CPUC. If avoidance is not possible, SCE shall take the following sequential steps: (1) all understory vegetation will be cleared in the area immediately surrounding active nests followed by a period of one night without further disturbance to allow woodrats to vacate the nest, (2) each occupied nest will then be disturbed by a qualified wildlife biologist until all woodrats leave the nest and seek refuge off-site, and (3) the nest sticks shall be removed from the project site and piled at the base of a nearby shrub or tree. Relocated nests shall not be spaced closer than 100 feet apart, unless a qualified wildlife biologist has determined that a specific habitat can support a higher density of nests. SCE shall document all woodrat nests moved in weekly monitoring reports, and will include a written summary in each annual report to the CPUC, BLM, and CDFW. The resumes of the qualified biologists shall be provided to the CPUC and BLM (as appropriate) for concurrence.

Implementation locations: This mitigation measure shall apply within San Bernardino County, on BLM lands, within the WR-MSHCP and CV-MSHCP areas (regardless of SCE's PSE status), and is recommended within Morongo Tribal Lands.

WIL-2k

Conduct surveys and avoidance for American badger, ringtail, and desert kit fox. SCE shall conduct pre-construction surveys for desert kit fox, ringtail, and American badger no more than 30 days prior to initiation of construction activities. Surveys shall be conducted in areas that contain habitat for these species and shall include project disturbance areas and access roads plus a 300 buffer surrounding these areas. SCE shall submit documentation providing pre-construction survey results to the CPUC and BLM for review and approval. If dens are detected, each den shall be classified as inactive, potentially active, active non-natal or active natal.

Inactive dens located in project disturbance areas may be excavated by hand and backfilled to prevent reuse, only upon confirmation that they are inactive.

Active or potentially active dens shall be flagged and project activities, with exceptions as listed below, within 100 feet (non-natal dens) or 500 feet (natal dens or any active den during the breeding season) shall be avoided.

Ingress/egress of construction vehicles and equipment through buffers and low intensity activities such as inspections and BMP maintenance within buffers is allowed, provided a qualified biologist determines that these activities will not impact dens or denning animals. Buffers may be modified with concurrence of CPUC and BLM, in consultation with CDFW and USFWS. If active dens are found within project disturbance areas and avoidance is not possible, SCE shall take action as specified below, after notifying and obtaining concurrence from CPUC, BLM, and CDFW.

Active and potentially active non-natal dens. Outside the breeding season, any potentially active dens that would be directly impacted by construction activities shall be monitored by a qualified mammologist or biologist for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den may be excavated and backfilled by hand. If tracks are observed, the den may be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage continued use. After verification that the den is no longer active the den may be excavated and backfilled by hand.

Active natal dens. Active natal dens (any den with cubs or pups) or any den active during the breeding season will not be excavated or passively relocated. The cub or pup-rearing season is generally from January 15 through mid-September. A 500-foot no-disturbance buffer shall be maintained around all active natal dens. Discovery of an active natal den that could be impacted by the project shall be reported to the CPUC, BLM, and CDFW within 24 hours of the discovery along with a map of the den location and a copy of the survey results. A qualified biologist shall monitor the natal den until he or she determines that the pups have dispersed. Any disturbance to denning animals or activities that might disturb denning activities shall be prohibited within the buffer zone. Once the pups have dispersed, methods listed above for non-natal dens may be used to discourage den reuse. After verification that the den is unoccupied, it shall then be excavated by hand and backfilled to ensure that no animals are trapped in the den.

If canine distemper is reported in desert kit fox on the site or surrounding areas, then SCE shall coordinate with CPUC, BLM, and CDFW to identify appropriate actions prior to continuing implementation of this mitigation measure in respect to desert kit fox. Any observations of a kit fox that appears sick or any kit fox mortality shall be reported to CPUC, CDFW, and BLM within one work day.

In the event that passive relocation techniques fail, SCE shall contact the CPUC, BLM, and CDFW to explore other relocation options.

All den monitoring and excavation activities and passive relocations shall be documented and reported to the CDFW, BLM, and CPUC in weekly monitoring reports, and a written summary will be included in each annual monitoring report.

Implementation locations: This mitigation measure shall apply within San Bernardino County, on BLM lands, within the CV-MSHCP and WR-MSHCP areas (regardless of SCE's PSE status), and is recommended within Morongo Tribal Lands.

WIL-3a **Evaluate bird collision risk and implement APLIC design guidelines.** SCE shall adhere to recommendations published by APLIC (2012, *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*).

Cultural Resources

CL-1a **Avoid environmentally sensitive areas.** SCE shall perform focused pre-construction surveys for any project areas not yet surveyed (e.g., new or modified staging areas, pull sites, or other work areas). Resources discovered during the surveys would be subject to Mitigation Measures CL-1b (Develop Cultural Resource Management Plan [CRMP]) and CL-1d (Conduct construction monitoring). Where operationally feasible, all NRHP- and CRHR-eligible resources shall be protected from direct project impacts by project redesign (i.e., relocation of the line, ancillary facilities, or temporary facilities or work areas). In addition, all historic properties/historic resources shall be avoided by all project construction, operation and maintenance, and restoration activities. Avoidance mechanisms shall include fencing off such areas as Environmentally Sensitive Areas (ESAs) for the duration of the Proposed Project or as outlined in the CRMP.

CL-1b **Develop Cultural Resource Management Plan (CRMP).** SCE shall prepare and submit for approval a Cultural Resource Management Plan (CRMP) to guide all cultural resource management activities during project construction. Management of cultural resources shall follow the standards and guidelines established by the National Park Service for implementing Section 106 of the National Historic Preservation Act ("Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines," 48 Federal Register 190 (29 September 1983), pp. 44716-44742). The CRMP shall be submitted to the CPUC and BLM for review and approval at least 60 days before the start of construction.

The CRMP shall define and map all known NRHP- and CRHR-eligible properties in or within 100 feet of the Proposed Project APE and shall identify the cultural values that contribute to their NRHP- and CRHR-eligibility. A cultural resources protection plan shall be included that details how NRHP- and CRHR-eligible properties will be avoided and protected during construction. Measures shall include, at a minimum, designation and marking of ESAs, archaeological monitoring, personnel training, and effectiveness reporting. The plan shall detail: what measures will be used; how, when, and where they will be implemented; and how protective measures and enforcement will be coordinated with construction personnel.

The CRMP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried NRHP- and CRHR-eligible cultural resources, including burials, cremations, or sacred features. The CRMP shall

detail provisions for monitoring construction in these high-sensitivity areas. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing NRHP- and CRHR-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the CRMP shall detail the methods, the consultation procedures, and the timelines for assessing NRHP- and CRHR-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be reviewed by appropriate Native Americans and approved by the BLM, CPUC, and the California Office of Historic Preservation (OHP) prior to implementation. The CRMP shall also define the process for compliance with the Native American Graves Protection and Repatriation Act (NAGPRA), defined in Mitigation Measure CL-2b.

The CRMP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land) and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by BLM, and dissemination of reports to local and State repositories, libraries, and interested professionals. The BLM will retain ownership of artifacts collected from BLM managed lands. SCE shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections. The CRMP shall specify that archaeologists and other discipline specialists conducting the studies meet the Professional Qualifications Standards mandated by the OHP.

CL-1c **Train construction personnel.** Prior to the initiation of construction, all construction personnel shall be trained, by a qualified archaeologist, regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. SCE shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program so they are aware of the potential for inadvertently exposing buried archaeological deposits. SCE shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA and anticipated procedures to treat unexpected discoveries.

CL-1d **Conduct construction monitoring.** Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historic and prehistoric resources that could be encountered within the Proposed Project area. Monitoring shall occur in all areas of ground-disturbing activity that occur within 100 feet of a cultural resource ESA. The qualifications of the principal archaeologist and cultural resource monitors shall be approved by the CPUC and BLM. As specified

in the CRMP, intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the principal archaeologist, as identified in the CRMP. Copies of monitoring reports shall be submitted to the CPUC/BLM on a weekly basis.

A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Native American tribes. SCE shall retain and schedule any required Native American monitors.

CL-2a **Treat previously unidentified cultural resources.** If previously unidentified cultural resources are unearthed during construction activities, construction work in the immediate area of the find shall be halted and directed away from the discovery until a qualified archaeologist assesses the potential significance of the resource. Once the find has been inspected and a preliminary assessment made, SCE will consult with the CPUC and BLM to make the necessary plans for evaluation and treatment of the find(s).

CL-2b **Properly treat human remains.** SCE shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains. Avoidance and protection of inadvertent discoveries which contain human remains shall be the preferred protection strategy with complete avoidance of impacts to such resources protected from direct project impacts by project redesign.

If human remains are discovered during construction, all work shall be diverted from the area of the discovery and the BLM authorized officer and CPUC shall be informed immediately. If the remains are on federal land, the remains shall be treated in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). If the remains are not on federal land, the remains shall be treated in accordance with Health and Safety Code Section 7050.5, CEQA Section 15064.5(e), and Public Resources Code Section 5097.98. SCE shall assist and support the CPUC and BLM, as appropriate, in all required NAGPRA and Section 106 actions, government to-government and consultations with Native Americans, agencies and commissions, and consulting parties as requested by the CPUC or BLM. SCE shall comply with and implement all required actions and studies that result from such consultations.

Geology and Soils

G-1a **Conduct fault evaluation study and minimize project structures within active fault zones.** Prior to final Project design, SCE shall perform fault evaluation studies to confirm the location of mapped traces of active and potentially active faults crossed by the project route or other project structures, as described in Section D.9.1.2 for each project segment. For crossings of active faults, the project design shall not locate towers or other project structures on the traces of active faults; and additionally, all other project components shall be placed as far as feasible outside the areas of mapped fault traces.

SCE shall provide CPUC and BLM a letter signed by a California registered geotechnical engineer following the completion date of all of the foundation

activities for each segment. The letter will confirm that SCE followed the geotechnical report recommendations and the common engineering practice in southern California at the time of project construction.

G-2a **Conduct geotechnical surveys for landslides and unstable slopes.** SCE shall conduct design-level geotechnical surveys for the project that include slope stability surveys in areas where project components are located on hills or hill tops. These surveys will acquire data that will allow identification of specific areas with the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and along other project components crossing these hills such as access and spur roads. The investigations shall include an evaluation of subsurface conditions, identification of potential landslide hazards, and provide potential modifications to the project design to avoid areas of unstable slopes and landslide hazards, such as modification of tower locations. Where the geotechnical surveys determine that landslide hazard areas cannot be avoided, best engineering design and construction measures shall be incorporated into the project designs to prevent potential damage to project facilities.

SCE shall provide CPUC and BLM a copy of the geotechnical survey report for review, at least 60 days before construction. In addition, SCE shall submit a letter signed by a California registered geotechnical engineer following the completion date of all of the foundation activities for each segment. The letter will confirm that SCE followed the geotechnical report recommendations and the common engineering practice in southern California at the time of the project.

G-5a **Assess soil characteristics to aid in appropriate foundation design.** The design-level geotechnical studies conducted for the project shall include soils analyses to identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates, and soils with moderate to high shrink/swell or expansion potential. If corrosive soils are identified, appropriate design measures for protection of reinforcement, concrete, and metal structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems. If expansive soils are identified, the project design shall be modified to include appropriate design features, such as including excavation of potentially expansive or during construction and replacement with engineered backfill, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils.

SCE shall provide CPUC and BLM a copy of the design-level geotechnical studies for review at least 60 days before the start of construction. In addition, SCE shall submit a letter signed by a California registered geotechnical engineer following the completion date of all of the foundation activities for each segment. The letter will confirm that SCE followed the geotechnical report recommendations and the common engineering practice in southern California at the time of the project.

Hazards and Hazardous Materials

HH-1a Prepare a Hazardous Materials and Waste Management Plan. SCE shall prepare a Project-specific Hazardous Materials and Waste Management Plan. Hazardous materials used and stored on site for the proposed construction activities — as well as hazardous wastes generated onsite as a result of the proposed construction activities — shall be managed according to the specifications outlined below.

- **Hazardous Materials and Hazardous Waste Handling:** A project-specific hazardous materials management and hazardous waste handling program shall developed prior to initiation of the project. The program will include the following components: (1) proper hazardous materials use, storage and disposal requirements as well as hazardous waste management procedures; (2) the program shall identify types of hazardous materials to be used during the project and the types of wastes that would be generated; and (3) all project personnel shall be provided with project-specific training to ensure that all hazardous materials and wastes associated with the project are handled in a safe and environmentally sound manner and disposed of according to applicable rules and regulations. Specifically, employees handling wastes shall have or receive hazardous materials training and shall be trained in hazardous waste procedures, spill contingencies, waste minimization procedures and treatment, storage and disposal facility (TSDF) training in accordance with current OSHA Hazard Communication Standard and Title 22 CCR. SCE shall use landfill facilities that are authorized to accept the types of waste generated and hauled.
- **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 stored 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 U.S. Department of Transportation and Caltrans regulations. A qualified transporter would be selected to comply with U.S. Department of Transportation and Caltrans regulations.
- **Fueling and Maintenance of Construction Equipment:** Written procedures for fueling and maintenance of construction equipment would be prepared prior to construction. Refueling and maintenance procedures may require vehicles and equipment to be refueled on site or by tanker trucks. Procedures will require 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 would be located in areas where absorbent pad 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. Procedures may require helicopters be refueled at construction work areas, 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 areas where absorbent pad 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. The plan must 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. Hazardous materials shall not be stored near drains or waterways. Fueling shall not take place within 200 feet of drains or waterways with flowing water or within 75 feet of drains or waterways that are dry. All construction personnel, including environmental monitors, would be made aware of state and federal emergency response reporting guidelines for accidental spills.

The Plan shall be submitted to CPUC and BLM 30 days prior to the start of construction for review and approval.

HH-2a

Prepare a Soil Management Plan. A Soil Management Plan shall 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, 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, Occupational Safety and Health Administration (Cal-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:

- Identifying impacted soil
- Assessing impacted soil
- Soil excavation
- Impacted soil storage
- Verification sampling
- Impacted soil characterization and disposal

The plan shall outline how Project construction crews would identify, handle, and dispose of potentially contaminated soil; identify the qualifications of the appropriately trained professionals that would monitor soil conditions and conduct soil sampling during construction; coordinate laboratory testing; and oversee disposal. The Plan shall identify the anticipated field screening methods and appropriate regulatory limits to be applied to determine proper handling and disposal. The Soil Management Plan shall also include requirements for documenting and reporting incidents of encountered

contaminants, such as documenting locations of occurrence, sampling results, and reporting actions taken to dispose of contaminated materials. In the event that potentially contaminated soils were encountered within the footprint of construction, soils would be tested and stockpiled. The appropriate Certified Unified Program Agency (CUPA) or RWQCB would determine whether further assessment is warranted.

The Soil Management Plan shall be submitted to the CPUC and BLM 30 days prior to the start of construction for review and approval. Once the Soil Management Plan is made final, a copy shall be provided as a courtesy to each jurisdiction through which the Project passes.

HH-3a **Identify pesticide/herbicide contamination.** Prior to construction, soil samples shall be collected in construction areas where the land has historically or is currently being used for agriculture and would be subject to ground disturbance by the project. The sampling is to identify the possible presence of and to delineate the extent of pesticide and/or herbicide contamination. Excavated project materials containing elevated levels of pesticide or herbicide will require special handling and disposal procedures consistent with the requirements of Mitigation Measure HH-2a (Prepare a soils management plan). In the event pesticide or herbicide contamination is found, CPUC/BLM shall be notified of the event and shall be kept apprised of the steps taken to address the problem.

Land Use and BLM Realty

LU-1a **Prepare construction notification plan.** Sixty days prior to construction, SCE shall prepare and submit a Construction Notification Plan to the CPUC and BLM for approval. The Plan shall identify the procedures to ensure that SCE will inform property and business owners of the location and duration of construction, identify approvals that are needed prior to posting or publication of construction notices, and include template copies of public notices and advertisements (i.e., formatted text). The details of notification, as described below, may be modified in consultation with CPUC and BLM as warranted by circumstances. To ensure effective notification of construction activities, the plan shall address at a minimum the following components:

Public notice mailer. No less than 15 days prior to construction that would affect property access, a public notice mailer shall be distributed. The notice shall identify construction activities that would restrict, block, or require a detour to access existing residential properties, retail and commercial businesses, wilderness and recreation facilities, and public facilities (e.g., schools and memorial parks). The notice shall state the type of construction activities that will be conducted, and the location and duration of construction. SCE shall mail the notice to all residents or property owners within 300 feet of the right-of-way and to specific public agencies with facilities that could be impacted by construction. If construction delays of more than seven days occur, SCE shall notify residents or property owners of the delay and provide an estimated of when construction would occur.

Newspaper advertisements. Fifteen days prior to construction, within a route segment a newspaper advertisement shall be placed in local newspapers and bulletins of general circulation in the area. The advertisement shall state when and where construction will occur and provide information on the public liaison person and hotline identified below. If construction is delayed as noted above, an additional round of newspaper ads shall be placed to discuss the status and schedule of construction.

Public venue notices. Thirty days prior to construction, notice of construction shall be posted at public venues such as trail crossings, rest stops, desert centers, resource management offices (e.g., Bureau of Land Management field offices, San Bernardino National Forest Ranger Station), and other public venues to inform residents and visitors of the purpose and schedule of construction activities. For public trail closures, SCE shall post information regarding the closure and any related trail detour at applicable resource management offices and post the notice within 2 miles north and south of any such point of trail closure and detour. For recreation facilities, the notice shall be posted along the access routes to known recreational destinations that would be restricted, blocked, or detoured and shall provide information on alternative recreation areas that may be used during the closure of these facilities.

Public liaison person and toll-free information hotline. SCE shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring property owners about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public. SCE shall also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures for handling and responding to calls shall be addressed in the Construction Notification Plan. SCE shall provide CPUC and BLM an itemized monthly summary of complaints and inquiries received and their resolution. This shall include the name and telephone number of the caller, if provided, and the location and resolution of the complaint or inquiry.

Mineral Resources

MR-1a **Coordinate with quarry operations.** Prior to construction within the Banning Rock Plant No. 66, SCE would consult with the plant owners and plant operations and management personnel. The consultation will include identification of locations of active mining and coordination of construction activities in and through those areas and to determine the best way to proceed with project construction, all with the goal of minimizing any disruption to plant operations. A plan to avoid or minimize interference with mining operations shall be prepared by SCE documenting how coordination with the quarry operators is expected to occur. Prior to construction in the quarry area, SCE shall provide CPUC and BLM a copy of this plan.

Noise

- N-1a** **Implement best management practices for construction noise.** SCE shall employ the following noise-control techniques, at a minimum, to reduce construction noise exposure at noise-sensitive receptors and to avoid possible violations of local rules, standards, and ordinances during construction:
- Construction noise shall be confined to daytime, weekday hours (7:00 a.m. to 6:00 p.m.) or an alternative schedule developed by SCE based on its coordination with the local jurisdiction.
 - Construction equipment shall use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.
 - Stationary noise sources (e.g., generators, pumps) at staging areas and on the ROW within 1,400 ~~1,4000~~ feet of sensitive receptors shall be shielded at the source to the extent feasible. Examples of feasible shielding may include an enclosure, temporary sound walls, or acoustic blankets. For best performance, sound walls or acoustic blankets shall have a height of no less than 8 feet, a Sound Transmission Class (STC) of 27 or greater, and a surface with a solid face from top to bottom without any openings or cutouts.
 - Construction traffic and helicopter flight shall be routed away from residences and schools, where feasible.
 - Unnecessary construction vehicle use and idling time shall be minimized to the extent feasible, such that if a vehicle is not required for use immediately or continuously for safe construction activities, its engine should be shut off.
- N-1b** **Implement a helicopter noise control strategy.** As part of the final Helicopter Use Plan, SCE shall include a helicopter noise control strategy that identifies the established helicopter flight corridors and minimum transit elevations above ground level to avoid noise-sensitive receptors on the ground. The noise control strategy shall prohibit helicopter hovering (greater than 15 minutes) within 250 feet of residences in any vertical or horizontal direction.

Paleontological Resources

- PAL-1a** **Inventory and evaluate paleontological resources.** Prior to construction and all other surface-disturbing activities, the Applicant shall have conducted and submitted an inventory of significant paleontological resources within the Proposed Project area. The report shall be based on the paleontological field reconnaissance surveys (conducted by PaleoSolutions, February 2012 to April 2013).
- If any changes are made to the extent or alignment of the Proposed Project subsequent to the completed field surveys, then additional field surveys shall be conducted within new project areas. The additional field surveys shall be conducted in areas identified as having moderate, undetermined, or high paleontological resource potential. The purpose of the field survey is to visually

inspect the ground surface for exposed fossils and to evaluate geologic exposures for their potential to contain preserved fossil material at the subsurface. Field surveys shall be conducted in all areas of potential ground disturbance, outside of the previously surveyed potential impact areas.

As part of the inventory report, the paleontological sensitivity rankings of geologic units examined in the field shall be evaluated using the BLM's (2008) PFYC System and refined based on the results of the pedestrian surveys. The report shall be submitted to the CPUC and BLM for review at least 60 days before the start of construction, and shall be modified in response to agency comments, with the final report completed at least 30 days before the first ground disturbance.

PAL-1b

Develop Paleontological Resource Mitigation and Monitoring Plan.

Following completion and approval of the Paleontological Resources Report (required in Mitigation Measure PAL-1a) and prior to the start of ground-disturbing construction, the Applicant shall prepare and submit to CPUC and BLM for review and approval, a Paleontological Resources Mitigation and Monitoring Plan (Plan), consistent with the following requirements:

- The Plan shall be prepared by a Qualified Paleontologist and shall be based on Society of Vertebrate Paleontology (SVP) guidelines and meet all regulatory requirements. The qualified paleontologist shall have a Master's Degree or Ph.D. in paleontology, shall have knowledge of the local paleontology, and shall be familiar with paleontological procedures and techniques.
- The Plan shall include a site-specific investigation to identify construction impact areas of moderate (PFYC 3a) to very high (PFYC 5) sensitivity for encountering significant resources and the approximate depths at which those resources are likely to be encountered for each component of each segment of the Proposed Project.
- The Plan shall require the qualified paleontological monitor to monitor all construction-related ground disturbance in sediments determined to have a moderate (PFYC 3a) to very high (PFYC 5) sensitivity.
- The Plan shall define monitoring procedures and methodology, and shall specify that sediments of undetermined sensitivity shall be monitored on a part-time basis (as determined by the Qualified Paleontologist). Sediments with very low or low sensitivity will not require paleontological monitoring.
- The Plan shall state which resources will be avoided and which shall be recovered for their data potential. Where possible, recovery is preferred over avoidance in order to mitigate the potential for looting of paleontological resources. The Plan shall also detail methods of recovery, preparation and analysis of specimens, final curation of specimens at a federally accredited repository, data analysis, and reporting.
- The Plan shall specify that all paleontological work undertaken by the Applicant on public lands administered by BLM shall be carried out by

qualified, permitted paleontologists with the appropriate current Paleontological Resources Use Permit.

PAL-1c Train construction personnel. Prior to the initiation of construction, all construction personnel shall be trained regarding the recognition of possible subsurface paleontological resources and protection of all paleontological resources during construction. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) may include areas determined to be paleontologically sensitive. The ESAs must be avoided and travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of protected fossils on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- The Applicant shall provide a background briefing for supervisory personnel describing the potential for exposing paleontological resources, the location of any potential ESAs, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils.
- Upon discovery of paleontological resources by paleontologists or construction personnel, work in the immediate area of the find shall be halted and the Applicant's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's paleontologist will notify the BLM and CPUC and proceed with data recovery in accordance with the approved Plan consistent with Mitigation Measure PAL-1b (Develop Paleontological Resource Mitigation and Monitoring Plan).

PAL-1d Monitor construction for paleontological resources. Based on the paleontological sensitivity assessment and Paleontological Resource Mitigation and Monitoring Plan consistent with Mitigation Measure PAL-1b (Develop Paleontological Mitigation and Monitoring Plan), the Applicant shall conduct full-time construction monitoring through its qualified paleontological monitor in areas determined to have moderate (PFYC 3a) to very high (PFYC 5) sensitivity. Sediments of unknown (PFYC 3b) sensitivity shall be monitored by a qualified paleontological monitor on a part-time basis (as outlined in the Plan). Geologic Units with very low (PFYC 1) or low (PFYC 2) sensitivity shall not be monitored. Monitoring will entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor will have the authority to temporarily halt the construction equipment around the find until it is assessed for scientific significance, and collected. A temporary construction exclusion zone (i.e., environmentally sensitive area

[ESA]) of at least 50 feet, consisting at a minimum of lath and flagging tape, will be erected around the discovery. The exclusion zone acts as a buffer around the discovery and is maintained for safety. SCE will report the discovery to the CPUC and BLM within 24 hours and/or as outlined in the Plan. Construction activities can occur outside the buffer if it is safe to do so. The size of the buffer may be increased or decreased once the monitor adequately explores the discovery to determine its size and significance. If indicators of potential microvertebrate fossils are found, screening of a test sample shall be carried out as outlined in SVP 2010. This procedure will be outlined in the Plan.

Paleontological resource monitors per SVP (2010) shall have the equivalent of the following qualifications:

- BS or BA degree in geology or paleontology and one year experience monitoring in the state or geologic province of the specific project. An associate degree and/or demonstrated experience showing ability to recognize fossils in a biostratigraphic context and recover vertebrate fossils in the field may be substituted for a degree. An undergraduate degree in geology or paleontology is preferable, but is less important than documented experience performing paleontological monitoring, or
- AS or AA in geology, paleontology, or biology and demonstrated two years of experience collecting and salvaging fossil materials in the state or geologic province of the specific project, or
- Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in the state or geologic province of the specific project.
- Monitors must demonstrate proficiency in recognizing various types of fossils, in collection methods, and in other paleontological field techniques

Copies of Monitoring Reports shall be submitted to the CPUC/BLM on a weekly basis.

PAL-1e

Final reporting and curation. At the conclusion of laboratory work and museum curation, a final report will be prepared describing the results of the paleontological monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the Proposed Project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report will also be submitted to the designated museum repository.

All significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation no more than 60 days after all analyses are completed. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossils specimens will be identified to the lowest taxonomic level, cataloged, analyzed, and delivered to an accredited

museum repository for permanent curation and storage. The cost of curation is assessed by the repository and is the responsibility of the Applicant.

Recreation

R-1a **Coordinate construction schedule and activities with a representative for the recreation area.** No less than 30 days prior to construction that would affect recreation areas, SCE shall coordinate construction activities and the project construction schedule with a representative of the recreation areas listed below. SCE shall use best efforts to schedule construction activities to avoid heavy recreational use periods, including major holidays, in coordination with the representative. If SCE is unable to accommodate this avoidance, it will notify the CPUC and BLM as to the dates and reasons they are not able to comply. ~~SCE shall schedule construction activities to avoid conflicting with the entirety of a heavy use season, in coordination with the representative.~~ SCE shall locate construction equipment to avoid temporary preclusion of recreation area use whenever feasible per the recommendations of the representative. SCE shall also prepare a public notice of construction activities consistent with Mitigation Measure LU-1a (Prepare Construction Notification Plan). SCE shall document its coordination efforts with the representative, and provide this documentation to the CPUC and the BLM 30 days prior to construction.

- Rancho Mediterrania Park
- South Hills Preserve
- Lillian V. Miller Memorial Trail
- Rest areas
- Stetson Community Park
- Noble Creek Regional Park
- Trevino Community Park
- Bike lane on Barton Road, Beaumont Avenue, Drainage and SCE Corridor
- Class I path, Cherry Avenue
- Norton Younglove Preserve
- San Timoteo Canyon State Park
- Cherry Valley Lakes RV Campground
- Oak Valley Golf Club and Park
- Pacific Crest Trail

R-1b **Coordinate with local agencies to identify alternative recreation areas.** SCE shall coordinate with the local parks and recreation departments regarding construction activities at the park and recreation facilities listed in R-1a, in order to identify alternative recreation sites that may be used by the public. SCE shall post a public notice at recreation facilities to be closed or have limited access during construction consistent with Mitigation Measure LU-1a (Prepare Construction Notification Plan) as allowed by the facility representative and identify any alternative recreation sites. SCE shall document its coordination with the parks and recreation departments and shall submit this documentation to the CPUC and the BLM 30 days prior to initiating project construction.

R-1c **Provide a temporary detour for Pacific Crest National Scenic Trail users.** No less than 60 days prior to construction affecting the PCT, SCE shall coordinate with the USFS to establish a temporary detour of the trail during trail closure to avoid hazardous construction areas. SCE shall prepare a public notice of the temporary trail closure and information on the trail detour consistent with Mitigation Measure L-1a (Prepare Construction Notification Plan). SCE shall document its

coordination efforts with the UFSF and submit this documentation to the CPUC and the BLM 30 days prior to construction.

Transportation and Traffic

T-1a Prepare Construction Transportation Plan. Where construction traffic has the potential to significantly affect regional and local roadways by generating additional vehicle trips, SCE shall prepare a Construction Transportation Plan (CTP) describing timing of commutes, methods of reducing crew-related traffic, and other methods for reducing construction-generated additional traffic on regional and local roadways. The CTP also shall require construction workers to park personal vehicles at yards or designated assembly points and carpool to work locations in order to limit the number of construction-related vehicles on the road. At construction sites, vehicles shall be required to park within the project ROW or approved disturbance areas or on access roads to the maximum extent possible. Parking shall not be permitted in areas with dry vegetation that could pose a fire hazard. SCE shall submit the CTP to Caltrans and the affected local jurisdictions for review and approval at least 30 days prior to commencing construction activities.

At least 15 days prior to construction, SCE shall provide a letter or email to CPUC and BLM confirming that the mitigation measure has been executed and shall provide a copy of the final CTP. This communication shall identify persons or agencies contacted, contact information, and the date of contact, and shall summarize discussions and/or agreements reached, if any.

T-1b Prepare Traffic Control Plans. Prior to the start of construction and as part of the required traffic encroachment permits, SCE shall submit Traffic Control Plans (TCPs) to agencies with jurisdiction over the public roads that would be affected by overhead or underground construction. The measures included in the TCPs shall be consistent with the California Joint Utility Traffic Control Manual and the standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, the U.S. Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD), and the Work Area Traffic Control Handbook (WATCH).

Road Safety

TCPs shall identify:

- the locations of all roads or traffic lanes that would need to be temporarily closed due to construction activities, including aerial hauling by helicopter and conductor stringing activities
- the use of flag persons, warning signs, lights, barricades, cones, and similar means to provide safe work areas and to warn, control, protect, and expedite vehicular and pedestrian traffic
- use of guard poles, netting, or similar means to protect moving traffic and structures for any construction or installation work requiring the crossing of a local street, highway, or rail line

- the use of continuous traffic breaks operated by the California Highway Patrol on state highways
- measures to avoid disruptions or delays in access for emergency service vehicles (such as immediately stopping work for emergency vehicle passage, short detours, and alternate routes developed in conjunction with local agencies).

Emergency Services

Police departments, fire departments, ambulance services, and paramedic services shall be notified at least 30 days in advance by SCE of the proposed locations, nature, timing, and duration of any construction activities affecting roads and advised of any access restrictions that could impact their effectiveness. TCPs shall also include measures ensuring work crews are ready at all times to accommodate emergency vehicles, such as having the ability to immediately stop work for emergency vehicle passage and implement short detours and alternate routes developed in conjunction with local agencies. TCPs also shall identify all emergency service agencies, include contact information for those agencies, assign responsibility for notifying service providers, and specify coordination procedures.

Copies of the TCPs shall be provided to the CPUC, BLM, Caltrans, the planning or traffic departments of the affected local jurisdictions, and all affected police departments, fire departments, and ambulance and paramedic services. Documentation of coordination with service providers shall be provided to the CPUC and BLM at least 30 days prior to the start of construction.

T-1c **Restrict lane closures.** To minimize traffic congestion and delays during construction, SCE shall restrict all necessary lane closures or obstructions on major roadways (as designated by applicable County and City General Plans) associated with overhead construction activities to off-peak traffic periods. Unless absolutely necessary, lane closures must not occur between the peak hours of 6:00 and 9:00 a.m. and 3:30 and 6:30 p.m., or as directed in writing by the affected public agency in the encroachment permit

T-1d **Minimize disruption of bus and transit service.** SCE shall coordinate with local and regional agencies or organizations providing regular bus or transit service in the project area at least 30 days prior to construction to reduce potential interruption of these services. At least 15 days prior to construction, SCE shall provide a letter or email to CPUC and BLM confirming that the mitigation measure has been executed. This communication shall identify persons or agencies contacted, contact information, and the date of contact, and shall summarize discussions and/or agreements reached, if any.

T-1e **Ensure pedestrian and bicycle circulation and safety.** Where construction will result in temporary closures of sidewalks or other pedestrian facilities, SCE shall provide temporary pedestrian access, through detours or safe areas along the construction zone. Where construction activity will result in bike route or bike path closures, appropriate detours shall be established, and detour signs shall be posted. Detours and closures required for safe pedestrian and bicycle access

through or around the construction area shall be identified in a circulation plan included in the TCP's required under Mitigation Measure T-1b. All detours and related signage shall be consistent with the standard guidelines outlined in the U.S. Department of Transportation's Manual on Uniform Traffic Control Devices (MUTCD).

T-1f **Provide access to property.** When construction activities block access to a property and the property includes a residence or business, SCE shall work with the property owner, tenant, or business owner to provide reasonable alternate access. If construction involves trenching across or in front of the property's point of access and alternative access is not available, SCE shall lay a temporary steel plate trench bridge as needed and upon request in order to ensure access when not actively constructing at the affected location.

T-3a **Avoid conflicts with planned transportation improvements.** Prior to final project design, SCE shall review project plans with Caltrans and local traffic departments or public works departments of the counties and the individual cities through which the proposed transmission route would pass. The review will be conducted to identify planned transportation projects potentially affected, to ensure that Project structures are placed to avoid conflict with any planned transportation projects, and to inform the jurisdictions of the timing and location of any trenching or boring that may affect road surfaces and the flow of traffic. If there are conflicts they shall be addressed through mutual agreement of SCE and the jurisdiction.

At least 15 days prior to construction, SCE shall provide a letter or email to CPUC and BLM confirming that the mitigation measure has been executed. This communication shall identify persons or agencies contacted, contact information, and the date of contact, and shall summarize discussions and/or agreements reached.

T-4a **Repair roadways damaged by construction activities.** If roadways, sidewalks, medians, curbs, shoulders, or other such features are damaged by the project's construction activities, as determined by the affected public agency, such damage shall be repaired and streets restored to their pre-project condition by SCE. Prior to construction, SCE shall confer with agencies having jurisdiction over the roads anticipated to be used by delivery vehicles and equipment. Unless an alternative method for determining roadway condition is required by a given jurisdiction, at least 30 days prior to construction, SCE shall photograph or video record all construction route public roads within 500 feet in each direction of project access points (i.e., locations where vehicles leave public roads to reach project sites) and roadways where the road surface will be damaged by project-related trenching or digging, and shall provide the respective local jurisdictions, CPUC, BLM, and Caltrans (if applicable) with a copy of these images.

At least 15 days prior to construction, SCE shall provide a letter or email to CPUC and BLM confirming that the mitigation measure has been executed. This communication shall identify persons or agencies contacted,

contact information, and the date of contact, and shall summarize discussions and/or agreements reached.

At the end of major construction, SCE shall coordinate with each affected jurisdiction to confirm what repairs would be required. Any damage shall be repaired to the pre-construction condition within 60 days from the end of all construction, or on a schedule mutually agreed to by SCE and the jurisdiction. SCE shall provide CPUC and BLM confirming documentation when the coordination has been completed and when the repairs have been completed.

T-5a Obtain required permits or approvals for crossing or working in railroad rights-of-way. SCE shall obtain permits/approvals from affected railway operators (Union Pacific Railroad and Burlington Northern Santa Fe Railway) to ensure that project construction activities in the rail ROW comply with each company's safety requirements and to avoid disruption to rail traffic. Copies of required permits or approvals shall be submitted to the CPUC and BLM prior to construction in or across rail ROWs.

T-6a Notify public of short-term elimination of public parking spaces. As required in Mitigation Measure LU-1a, prior to construction activity on major roadways, using media such as local newspapers and on-site postings, SCE shall notify the public of the potential for public parking spaces to be temporarily eliminated and identify where temporary parking spaces would be located. This requirement shall apply when more than five parking spaces are affected. The elimination of parking and location of alternative parking must be in conformance with the requirements of agencies responsible for parking management.

T-7a Prepare and implement a final helicopter use plan. SCE and its contractor shall prepare and obtain approval of a Final Helicopter Use Plan prior to using helicopters to transport personnel, materials, or equipment for the deconstruction of existing project facilities or construction of new or replacement project facilities. The Final Helicopter Use Plan shall draw upon protocols and methods used on previous transmission line projects and shall be submitted to CPUC and BLM for approval.

The Federal Aviation Agency (FAA) has jurisdiction over U.S. airspace, aircraft, aircraft operations, airports, and pilots. To the extent that they do not conflict with any FAA requirements, the following shall apply to helicopter use and be incorporated in the Final Helicopter Use Plan.

- All aircraft and pilots shall be in full compliance with applicable FAA requirements and standards.
- On the prior day, helicopter flight information shall be provided to CPUC/BLM monitors regarding the specific sites to be used for helicopter picks and the destination of the materials or assemblages being lifted out.
- Daily flight notifications shall be issued by e-mail prior to commencement of any project flight activity. Information provided in the e-mail shall include pilot name, contact number, aircraft type, aircraft registration number, aircraft

color, work/flight area, beginning time, estimated completion time, and scope of work. This information will be provided to CPUC/BLM monitors as well.

- The specific facilities, towers, poles, and spans requiring deconstruction or construction using helicopters shall be identified.
- Temporary staging of materials and assembly of tower sections outside of approved yards shall not occur without prior approval of CPUC or BLM, as appropriate.
- The yards to and from which helicopters would fly (fly yards) shall be identified and shall be of sufficient size to ensure safe operations, given the other activities occurring at the yards and the vicinity.
- Fly yards shall be sufficiently far from occupied residences to not create an unacceptable level of noise or dust.
- The means used for dust and noise control and for safe refueling shall be specified for each fly yard.
- Flight paths that minimize flights near schools, hospitals, nursing homes, and other sensitive group receptors shall be identified and followed.
- Except in an emergency, helicopters shall land or hover near the ground only in areas previously approved for landing, and all dust control and biological and cultural resource protection requirements shall apply.
- External loads will be secured by appropriate rigging, including boxing, netting, choking, and cabling, or other suitable means. Only qualified riggers shall prepare and attach external loads to helicopters, and rigging shall be appropriate to the nature of the load, including the use of devices as necessary to prevent materials being lost in flight. Where appropriate to reduce load in-flight spinning and movement, drag chutes will be attached to loads. The need for drag chutes will be determined by the pilot and rigging personnel, where appropriate. At locations where rigging is to occur, a sufficient supply of appropriate rigging and containment materials in good repair shall be on hand at all times.
- All aircraft are to be configured with weight sensors such that, when preparing to haul external loads, the pilot is able to determine the weight of the load being lifted.
- Yards or landing zones shall have a designated qualified individual managing the movement of aircraft in and out of the yard or landing zone when flight activity is high.
- Appropriate protocols for communication among pilots and between pilots and the ground shall be developed and implemented.
- A GPS-based data system shall be installed in each aircraft
 - The system shall identify for the pilot all project-approved project flight paths and those areas where overflights are restricted (such as seasonally restricted bird nesting areas and sensitive residential or institutional areas), and shall be updated as often as any flight restrictions are implemented or lifted.

- The system shall automatically record and preserve flight data sufficient to identify the aircraft's flight path, including altitude above ground. The system shall be capable of providing the information required with regard to flight path and aircraft identifier, and provide a location "ping" no less frequently the once every 3 seconds. These data shall be collected daily and maintained by SCE or its contractor for a period of no less than six months and made available to CPUC or BLM upon request.

The Helicopter Use Plan shall be submitted to CPUC and BLM for review and approval at least 60 days prior to the use of helicopters on the project. Once the Helicopter Use Plan is made final, a copy shall be provided as a courtesy to each jurisdiction through which the Project passes.

T-8a Obtain FAA review and approval of all structures and spans posing potential aircraft safety hazards. SCE shall submit the required forms and information to FAA for its review and approval of transmission structures and conductor spans that may require installation of safety devices or other restrictions. Copies of FAA's review and approval shall be provided to CPUC and BLM at least 60 days prior to erection of structures or installation of conductors that would be in violation of FAA standards and requirements. These structures and spans shall be identified to CPUC and BLM, and the planned installation of required lighting and marker balls described.

Utilities and Public Services

UPS-1a Use non-potable water for construction purposes. Project water supply for dust control, soil compaction activities, and site restoration/revegetation shall be obtained from non-potable sources, as feasible, and ensured in a water contract through a local water agency or district. The Applicant shall provide a letter describing the availability of non-potable water and efforts made to obtain it for use during construction to the CPUC and BLM a minimum of 60 days prior to the start of construction.

UPS-2a Protect pipelines and overhead and underground utilities. Prior to commencing construction, SCE shall perform engineering studies to determine whether and what cathodic protection would be required on pipelines potentially affected. SCE shall submit to the CPUC and BLM written documentation of the following:

- Evidence of coordination with all pipeline and utility owners with facilities in the vicinity of planned construction, including their review of SCE's construction plans and a description of any protective measures or compensation to be implemented to protect affected facilities;
- Copy of the Applicant's database of emergency contacts for pipelines and utilities that may be in close proximity or require monitoring during construction of the project; and
- Evidence that the project meets all applicable local requirements.

Visual Resources

- VR-1a** **Screen construction activities from view.** Construction yards, staging areas, and material and equipment storage areas shall be visually screened using temporary screening fencing. Fencing will be of an appropriate structure, material, and color for each specific location. This requirement shall not apply if SCE can demonstrate that construction yards are located away from areas of high public visibility including public roads, residential areas, and public recreational facilities. For any site that SCE proposes to exempt from the screening requirement, SCE shall define the site on a detailed map demonstrating its visibility from nearby roads, residences, or recreational facilities to the CPUC and BLM for review and approval at least 60 days prior to the start of construction at that site.
- VR-2a** **Minimize vegetation removal and ground disturbance.** Only the minimum amount of vegetation necessary for the construction of structures and facilities shall be removed during construction. . At the structure locations defined in Table D.18-11, structure and access road scars may be highly visible when located on hill slopes and along ridges, or when visible from elevated vantage points. In order to reduce visual impacts, the boundaries of all areas to be disturbed at the locations defined in Table D.18-11 shall be delineated consistent with the requirements of Biological Resources Mitigation Measure VEG-1c. Staking shall define staging areas, access roads, spur roads, tower locations, pulling sites, and sites for temporary placement of spoils. Stakes and flagging shall be installed before construction and in consultation with the Project Biologist and the CPUC/BLM Environmental Monitor or Visual Specialist. Areas staked shall be as small as possible in order to minimize the visibility of ground disturbance from sensitive viewing locations such as roads, trails, residences, and recreation facilities and areas. Parking areas and staging and disposal site locations shall be similarly located in areas approved by the Project Biologist and CPUC/BLM's Environmental Monitor or Visual Specialist prior to the start of construction. All disturbances by Proposed Project vehicles and equipment shall be confined to the staked and flagged areas.
- VR-3a** **Reduce color contrast of retaining walls, land scars, and graveled surfaces.** Where construction would unavoidably create land scars or retaining walls visible from sensitive public viewing locations (as defined in Table D.18-11), disturbed soils and new walls shall be treated with an appropriate color or material (Natina Concentrate, Eonite, or Permeon, or similar). The material shall be approved by the CPUC and BLM, and the intent shall be to reduce the visual contrast created by the lighter-colored disturbed soils and rock with the darker soil and vegetated surroundings. SCE shall consult with the CPUC and BLM and/or their authorized representative(s) on a site-by-site basis and obtain written approval prior to the use of any colorants.
- VR-4a** **Minimize in-line views of retaining walls and land scars.** In its final Project design, SCE shall incorporate design features that reduce the in-line visibility of all access and spur roads, retaining walls, and ground disturbance areas at the locations defined in Table D.18-11. These design features include alternative

access and spur road routes, the use of “drive and crush” access, and redesign and placement of retaining walls to reduce the need for new roads and retaining walls and to reduce or eliminate the in-line visibility of these facilities. SCE’s final design shall document the process used to minimize visibility of the access roads or other visible road features and shall include the following:

- ~~Approximate location, length, and design of alternative access or spur road routes that would replace proposed roads.~~
- Vegetation that would be affected and steepness of terrain for consideration of vegetation and erosion impacts.
- Areas where “drive and crush” access is a feasible measure to avoid access road scars (i.e., no grading or vegetation removal is required). SCE shall define frequency of driving, vehicle types to be used, and likelihood of vegetation recovery.
- This documentation shall be provided to the CPUC/BLM at least 90 days prior to the start of construction.

VR-5a Prohibit construction marking of natural features. SCE shall not apply paint or permanent discoloring agents to rocks or vegetation to indicate survey or construction activity limits or for any other purpose. This measure does not apply to temporary marking agents used to identify underground utilities.

VR-7a Minimize night lighting at project facilities. SCE shall avoid night lighting where possible and minimize its use under all circumstances. To ensure this, SCE shall prepare a Night Lighting Management Plan for both construction and operation, incorporating the following general principles and specifications:

- Use of portable truck-mounted lighting.
- Emphasis on use of low-pressure sodium (LPS) or amber light-emitting diode (LED) lighting.
- White lighting (metal halide) would: a) only be used when necessitated by specific work tasks; b) would not be used for dusk-to-dawn lighting; and c) would be less than 3500 Kelvin color temperature.
- All lamp locations, orientations, and intensities including security, roadway, and task lighting.
- Each light fixture and each light shield.
- Total estimated outdoor lighting footprint expressed as lumens or lumens per acre.
- Detailed list of anticipated circumstances and activities that would require night lighting including the expected frequency of the activity, the duration of the activity, and the expected amount of lighting that would be necessary for that activity.

- Light fixtures that could be visible from beyond project facility boundaries shall have cutoff angles sufficient to prevent lamps and reflectors from being visible beyond the project facility boundary, including security lighting.
- Motion sensors and other controls to be used, especially for security lighting such that lights operate only when the area is occupied.
- Surface treatment specification that will be employed to minimize glare and sky glow.

The Night Lighting Management Plan shall also consider the following factors:

- All temporary construction lighting and permanent exterior lighting shall include: (a) lamps and reflectors that are not visible from beyond the construction site or facility including any off-site security buffer areas; (b) lighting that shall not cause excessive reflected glare; (c) direct lighting that shall not illuminate the nighttime sky, except for required FAA aircraft safety lighting (which, if required, shall be an on-demand, audio-visual warning system that is triggered by radar technology); (d) minimization of illumination of the Proposed Project and its immediate vicinity; (e) creation of sky glow caused by project lighting shall be avoided; and (f) compliance with local policies and ordinances to be outlined in the Night Lighting Management Plan. All permanent light sources shall be below 3,500 Kelvin color temperature (warm white) and shall be full cutoff fixtures.
- Always-on security lighting is to be limited to one low-wattage, fully shielded, full cutoff light fixture at the main entrance to facilities. All other security lighting is to be motion activated only through the use of passive infrared sensors and controlled as specific zones such that only targeted areas are illuminated. No other lighting is to be utilized on a nightly basis when a facility is not occupied.
- Lighted nighttime maintenance is to be minimized or avoided as a routine practice and should occur only during emergencies.

The draft Night Lighting Management Plan shall be submitted to the CPUC and BLM at least 60 days prior to the start of construction. Following the BLM's and CPUC's review of the draft plan, and at least 15 days prior to the start of construction, SCE shall submit to the CPUC and BLM for review and approval, a final Night Lighting Management Plan. Construction activities shall not start until CPUC's and BLM's approvals of the plan have been received.

VR-8a

Minimize visual contrast in project design. In the final design of approved project structures in locations identified in the Final EIS as having Class I impacts, SCE shall use design fundamentals that reduce the visual contrast of new structures and components to the characteristic landscape. These include siting and location; reduction of visibility; repetition of form, line, color, and texture of the landscape; and reduction of unnecessary disturbance. SCE shall provide to the CPUC and BLM for review, a draft Project Design Plan describing the siting, placement, and other design considerations to be employed to minimize Proposed Project contrast. The draft plan must explain how the design will minimize visual

intrusion and contrast by blending the earthwork, vegetation manipulation, and facilities with the landscape. Design strategies to address these fundamentals shall be based on the following factors.

- **Earthwork.** Select locations and alignments that fit into the landforms to minimize the sizes of cuts and fills.
- **Vegetation Manipulation.** Use existing vegetation to screen graded areas and facilities from public viewing to the extent feasible. Feather and thin the edges of cleared areas and retain a representative mix of plant species and sizes.
- **Reclamation and Restoration.** Blend the disturbed areas into the characteristic landscape including access and spur roads and disturbed areas created during construction (transmission line structures, and construction yards and staging areas). Replace soil, brush, rocks, and natural debris over these disturbed areas. Newly introduced plant species shall be of a form, color, and texture that blend with the landscape.

The Project Design Plan shall be submitted to CPUC and BLM at least 60 days prior to the start of construction. If the CPUC or BLM notifies SCE that revisions to the plan are needed before the plan can be approved, within 30 days of receiving that notification, SCE shall submit a revised plan. Once the plan is made final, SCE shall provide a copy as a courtesy to the incorporated cities and county jurisdictions where the significant visual impacts have been identified, through which the project passes

VR-9a

Treat structure surfaces. For locations of the project identified in the Final EIS as having significant and unmitigated impacts (Class I), SCE shall treat the surfaces of all structures and new buildings visible to the public such that: a) their colors minimize visual contrast by blending with the characteristic landscape colors; b) their colors and finishes do not create excessive glare; ~~and e) their colors and finishes are consistent with local policies and ordinances.~~ The transmission structures and conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive. SCE shall consider the use of special galvanizing treatments or post-manufacture application of chemical treatments (such as Natina Steel) to ensure that transmission structures are sufficiently dulled and non-reflective and are of the appropriate color to blend effectively with the surrounding landscape. SCE shall comply with CPUC and BLM requirements regarding appropriate surface treatments for Proposed Project elements.

SCE shall provide to the CPUC and BLM for review, a draft Surface Treatment Plan describing the application of colors and textures to all new facility structures, buildings, walls, fences, and components comprising all facilities to be constructed. The draft Surface Treatment Plan must explain how the design will reduce glare and minimize visual intrusion and contrast by blending the facilities with the landscape. The draft plan shall be submitted to CPUC and BLM at least 60 days prior to ordering the first structures that are to be color-treated during manufacture or prior to construction of any of the facility components, whichever comes first. If the BLM or CPUC notifies SCE that

revisions to the plan are needed before the plan can be approved, within 30 days of receiving that notification, SCE shall prepare and submit for review and approval a revised plan. The draft Surface Treatment Plan shall include the following components and specifications.

- Specification, and 11" x 17" color simulations at life-size scale, of the treatment proposed for use on structures, including structures treated during manufacture.
- A list of each major structure, building, tower and/or pole, and fencing specifying the color(s) and finish(es) proposed for each (colors must be identified by name and by vendor brand or a universal designation).
- Two sets of brochures and/or color chips for each proposed color.
- A detailed schedule for completion of the treatment.
- A procedure to ensure proper treatment maintenance for the life of the Proposed Project.
- Until SCE receives notification of approval of the Surface Treatment Plan by the CPUC and BLM, SCE shall not specify to the vendors the treatment of any buildings or structures for manufacture and shall not perform the final treatment on any buildings or structures treated on site. Additionally, construction activities shall not start until approval of the plan from the CPUC and BLM has been received. Within 14 days following the completion of treatment on any facility component, SCE shall notify the CPUC and BLM that the component (e.g., structure or building) is ready for inspection.

Water Resources and Hydrology

WR-2a **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** SCE shall develop and submit an Erosion Control Plan to the CPUC and BLM for approval at least 60 days prior to construction. The Erosion Control Plan may be part of the Stormwater Pollution Prevention Plan, and kept onsite and readily available on request.

Soil disturbance at structures and access roads is to be minimized and designed to prevent long-term erosion. The Erosion Control Plan shall include:

- The location of all soil-disturbing activities, including but not limited to new and/or improved access and spur roads.
- The location of all streams and drainage structures that would be directly affected by soil-disturbing activities (such as stream crossings or public storm drains by the right-of-way and access roads).
- BMPs to protect drainage structures, such as public storm drains, downstream of soil disturbance activities.
- Design features to be implemented to minimize erosion during construction and during operation (if the project feature is to remain permanent after construction).

- If soil cement is proposed, the specific locations must be defined in the Plan, and evidence of approval by appropriate jurisdiction shall be submitted to the CPUC and BLM prior to its use.
- If design features include the use of retaining structures and/or walls, the design of the features shall be consistent with Mitigation Measure VR-3a (Reduce color contrast of retaining walls and land scars).
- The location and type of BMPs that would be installed to prevent off-site sedimentation and to protect aquatic resources.
- Specifications for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design and installation details.
- Proposed schedule for inspection of erosion control/SWPPP measures and schedule for corrective actions/repairs, if required. Erosion control/SWPPP inspection reports shall be provided to the CPUC EM.

Locations requiring erosion control/SWPPP corrective actions/repairs shall be tracked, including dates of completion, and documented during inspections. Inspections and monitoring shall be performed in compliance with the Federal and California Construction General Permits. The inspection reports shall be maintained and kept in their respective SWPPP, kept on site as required by the Federal and State Construction General Permits, and made available to the RWQCB, CPUC, BLM, counties, local municipalities, and tribal governments, on request. Additionally, an Annual Report shall be filed for each reporting period in compliance with Federal and California Construction General Permit reporting requirements.

SCE shall submit to the CPUC and BLM Grading Plans that define the locations of the specific features listed above.

SCE shall submit to the CPUC and BLM evidence of possession of applicable required permits for the representative land disturbance prior to engaging in soil-disturbing construction/demolition activities. Such permits may include, but are not limited to, a CWA Section 402 NPDES California General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) from the applicable Regional Water Quality Control Board(s) (RWQCBs), and the Federal General Permit for Storm Water Discharges Associated with Construction Activities on Tribal Land.

WR-3a

Implement flood, erosion, and scour protection for aboveground and below-ground improvements. SCE shall make a determination during final project design phase as to the lateral erosion and 100-year scour potential for watercourses near proposed structures and other above-ground features, as well as new underground conduits. This determination shall be made by a registered professional engineer with expertise in river mechanics. If the determination identifies specific structures or underground conduits that may be subject to scour or lateral movement of a stream channel, these structures shall be protected against 100-year scour and/or lateral erosion through modifications of the

foundation design, or otherwise in a manner determined to be appropriate by the river mechanics engineer.

SCE shall provide the determination of lateral erosion and scour potential, and documentation of corrective actions and the engineering basis thereof, to the CPUC and BLM prior to the start of construction (as defined in Mitigation Measure EM-1a (Prepare monitoring plan)).

SCE shall evaluate and conform to NPDES MS4 Phase I and II requirements for post-construction BMPs and, in consultation with San Bernardino and Riverside Counties and applicable local jurisdictions and agencies, prepare or conform to existing Water Quality Management Plans where determined necessary.

Wildland Fire

WF-1a Prepare and implement a Fire Management Plan. A Project-specific fire prevention plan for both construction and operation of the project shall be prepared by SCE and submitted to for review prior to initiation of construction. The draft copy of this Plan is to be provided to each fire agency at least 90 days before the start of any construction activities in areas designated as Very High or High Fire Hazard Severity Zones. Plan reviewers shall include CPUC, BLM, CAL FIRE, San Bernardino and Riverside Counties, and local municipal fire agencies with jurisdiction over areas where the project is located. Comments on the Plan shall be provided by SCE to all other participants, and SCE shall resolve each comment in consultation with CAL FIRE, BLM, and the Morongo Fire Department, as appropriate. The final Plan shall be approved by these agencies at least 30 days prior to the initiation of construction activities. SCE shall fully implement the Plan during all construction and maintenance activities.

A project Fire Marshal or similar qualified position shall be established by SCE to enforce all provisions of the Fire Management Plan as well as perform other duties related to fire detection, prevention, and suppression for the project. SCE shall monitor construction activities to ensure implementation and effectiveness of the plan.

The Plan shall include at a minimum SCE's Specification E-2005-104 (Transmission line Project Fire Plan), including any updates and amendments, and other requirements specified below.

The plan should recognize and prepare for the high probability that fast moving, wind driven wildfires will burn adjacent or through the Proposed Project with some regularity as the result of severe fire weather conditions, flash fuels such as provided by perennial grasslands, and abundant ignition sources. Wind driven fires can quickly overcome operational and maintenance crews, placing their health and safety at risk.

The Plan shall cover:

- The purpose and applicability of the plan;
- Responsibilities and duties;
- Preparedness training and drills;

- Procedures for fire reporting, response, and prevention that include
 - identification of daily site-specific risk conditions
 - the tools and equipment needed on vehicles and to be on hand at sites
 - reiteration of fire prevention and safety considerations during tailboard meetings
 - daily monitoring of the red-flag warning system with appropriate restrictions on types and levels of permissible activity,
- Coordination procedures with BLM and San Bernardino and Riverside County fire officials.
- Crew training, including fire safety practices and restrictions,
- Method for verification that Plan protocols and requirements are being followed.

Electrical Interference and Safety

- EIS-1a** **Limit the conductor surface gradient.** As part of the design and construction process for the project, SCE shall limit the conductor surface gradient in accordance with the Institute of Electrical and Electronic Engineers Radio Noise Design Guide.
- EIS-1b** **Document and resolve electronic interference complaints.** After energizing the transmission line, SCE shall respond to, document, and resolve radio/television/electronic equipment interference complaints received. These records shall be made available to the CPUC and BLM for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.
- EIS-2a** **Implement grounding measures.** As part of the siting and construction process, SCE shall identify objects (such as metal fences, metal buildings, and metal pipelines) within and near the right-of-way that have the potential for induced voltages and shall implement electrical grounding of metallic objects in accordance with SCE's standards. The identification of objects shall document the threshold electric field strength and metallic object size at which grounding becomes necessary.

Appendix B: Errata to Final EIS

Changes have been made to the Final EIS as shown below (with underline for added text and strikeout for deleted text). These changes have been made to the Final EIS files on the BLM website at:

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=64793&dctmId=0b0003e880bed5f7>

Executive Summary

page ES-13:

In total, the alternatives screening process identified ~~14~~ 15 potential alternatives for consideration. These alternatives encompass both the 220 kV and 66 kV lines.

page ES-23. Figure ES-3B:

The wrong figure was placed on page 23 on the BLM website version of the Final EIS. This has been corrected on the website.

page ES-70:

Section ES.6.3 presents a comparison of the No Action Alternative with the Proposed Project. ~~alternative that is determined in Section ES.6.2 to be environmentally preferred.~~”

page ES-72

Section ES.6.3 (heading) should be modified as follows:

Comparison of the Proposed Project ~~Environmentally Preferred Alternative~~ with the No Action Alternative

Section B, Project Description

page B-89:

Figure B-5b had an error. It stated “Average Height: 1451 Feet” and should have read “Average Height: ~~1451~~ 145 Feet.” This has been corrected in Figure B-5b on the BLM website.

Section D.4, Vegetation

page D.4-41, Mitigation Measures VEG-1e

The Habitat Compensation Plan will specify compensation acreage for each ~~vegetation or~~ habitat type, based on final engineering and on MSHCP coverage as applicable. Final compensation requirements may be adjusted to account for any deviations in project

disturbance, according to the as-built shapefiles aerial imagery (Mitigation Measure VEG-1c).

Section D.5, Wildlife

page D.5-30 to -33, Mitigation Measure WIL-1c

“Prepare and implement a Nesting Bird Management Plan...

A procedure for amendment of the NBMP, should there be changes in applicable state or federal regulations or as necessary for adaptive management upon approval by CDFW, USFWS, CPUC, and BLM.”

Section D.13, Noise

Page D.13-18, Mitigation Measure N-1a

Mitigation Measure N-1a: Implement best management practices for construction noise.

Stationary noise sources (e.g., generators, pumps) at staging areas and on the ROW within 1,400 ~~1,4000~~ feet of sensitive receptors shall be shielded at the source to the extent feasible. Examples of feasible shielding may include an enclosure, temporary sound walls, or acoustic blankets. For best performance, sound walls or acoustic blankets shall have a height of no less than 8 feet, a Sound Transmission Class (STC) of 27 or greater, and a surface with a solid face from top to bottom without any openings or cutouts.”

Section D.15, Recreation

Pages D.15-23 to -24, Table D.15-3D

R-1a: Coordinate construction schedule and activities with a representative for the recreation area. No less than 30 days prior to construction that would affect recreation areas, SCE shall coordinate construction activities and the project construction schedule with a representative of the recreation areas listed below. SCE shall use best efforts to schedule construction activities to avoid heavy recreational use periods, including major holidays, in coordination with the representative. If SCE is unable to accommodate this avoidance, it will notify the CPUC and BLM as to the dates and reasons they are not able to comply. ~~SCE shall schedule construction activities to avoid conflicting with the entirety of a heavy use season, in coordination with the representative.~~ SCE shall locate construction equipment to avoid temporary preclusion of recreation area use whenever feasible per the recommendations of the representative. SCE shall also prepare a public notice of construction activities consistent with Mitigation Measure LU-1a (Prepare Construction Notification Plan). SCE shall document its coordination efforts with the representative, and provide this documentation to the CPUC and the BLM 30 days prior to construction...

Section D.18, Visual Resources

Pages D.18-35 and -36, Mitigation Measure VR-4a

VR-4a Minimize in-line views of retaining walls and land scars. In its final Project design, SCE shall incorporate design features that reduce the in-line visibility of all access and spur roads, retaining walls, and ground disturbance areas at the locations defined in Table D.18-11. These design features include alternative access and spur road routes, the use of “drive and crush” access, and redesign and placement of retaining walls to reduce the need for new roads and retaining walls and to reduce or eliminate the in-line visibility of these facilities. SCE’s final design shall document the process used to minimize visibility of the access roads or other visible road features and shall include the following:

- ~~Approximate location, length, and design of alternative access or spur road routes that would replace proposed roads.~~
- Vegetation that would be affected and steepness of terrain for consideration of vegetation and erosion impacts.
- Areas where “drive and crush” access is a feasible measure to avoid access road scars (i.e., no grading or vegetation removal is required). SCE shall define frequency of driving, vehicle types to be used, and likelihood of vegetation recovery.
- This documentation shall be provided to the CPUC/BLM at least 90 days prior to the start of construction.

Pages D.18-54 to -55, Mitigation Measure VR-8a

VR-8a: Minimize visual contrast in project design. In the final design of approved project structures in locations identified in the Final EIS as having Class I impacts, SCE shall use design fundamentals that reduce the visual contrast of new structures and components to the characteristic landscape to the extent feasible. These include siting and location; reduction of visibility; repetition of form, line, color, and texture of the landscape; and reduction of unnecessary disturbance. SCE shall provide to the CPUC and BLM for review, a draft Project Design Plan describing the siting, placement, and other design considerations to be employed to minimize Proposed Project contrast. The plan must explain how the design will minimize visual intrusion and contrast by blending the earthwork, vegetation manipulation, and facilities with the landscape. Design strategies to address these fundamentals shall be based on the following factors.

- **Earthwork.** Select locations and alignments that fit into the landforms to minimize the sizes of cuts and fills.

- **Vegetation Manipulation.** Use existing vegetation to screen graded areas and facilities from public viewing to the extent feasible. Feather and thin the edges of cleared areas and retain a representative mix of plant species and sizes.
- **Reclamation and Restoration.** Blend the disturbed areas into the characteristic landscape including access and spur roads and disturbed areas created during construction (transmission line structures, and construction yards and staging areas). Replace soil, brush, rocks, and natural debris over these disturbed areas. Newly introduced plant species shall be of a form, color, and texture that blend with the landscape.

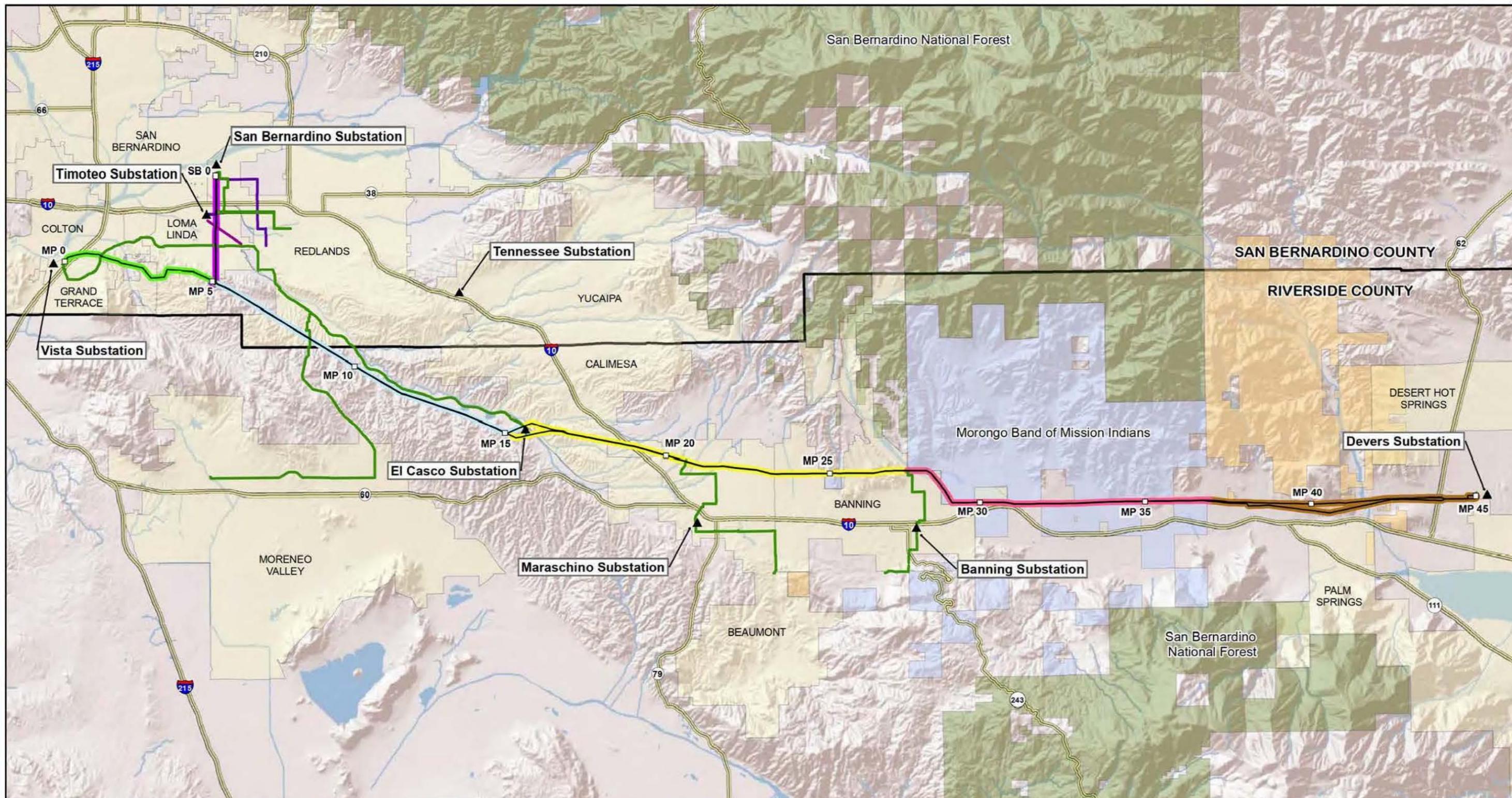
The Project Design Plan shall be submitted to CPUC and BLM at least 60 days prior to the start of construction. If the CPUC or BLM notifies SCE that revisions to the plan are needed before the plan can be approved, within 30 days of receiving that notification, SCE shall submit a revised plan. Once the plan is made final, SCE shall provide a copy as a courtesy to the incorporated cities and county jurisdictions where the significant visual impacts have been identified. ~~through which the project passes~~

Pages D.18-55-to 56, Mitigation Measure **VR-9a**

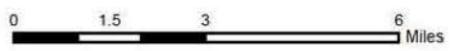
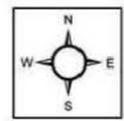
VR-9a: Treat structure surfaces. For locations of the project identified in the Final EIS as having significant and unmitigated impacts (Class I), SCE shall treat the surfaces of all structures and new buildings visible to the public such that: a) their colors minimize visual contrast by blending with the characteristic landscape colors; b) their colors and finishes do not create excessive glare; ~~and c) their colors and finishes are consistent with local policies and ordinances.~~ The transmission structures and conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive. SCE shall consider the use of special galvanizing treatments or post-manufacture application of chemical treatments (such as Natina Steel) to ensure that transmission structures are sufficiently dulled and non-reflective and are of the appropriate color to blend effectively with the surrounding landscape. SCE shall comply with CPUC and BLM requirements regarding appropriate surface treatments for Proposed Project elements.

Appendix C: Maps

- Figure ES-1, Proposed Project and Project Vicinity
- Figure B-6a, Proposed Transmission Line Route, Segment 6 (this includes the Morongo land)
- Figure B-7a, Proposed Transmission Line Route, Segment 6 (this includes the BLM land)



Sources: SCE 2013



Components of Proposed Project

- ▲ Substation
- Milepost (e.g. MP 10, SB 0)
- Telecommunication Lines
- County Line
- Distribution Lines
- Subtransmission Lines

Legend

Proposed Project Segments*

- Segment 1
- Segment 2
- Segment 3
- Segment 4
- Segment 5
- Segment 6

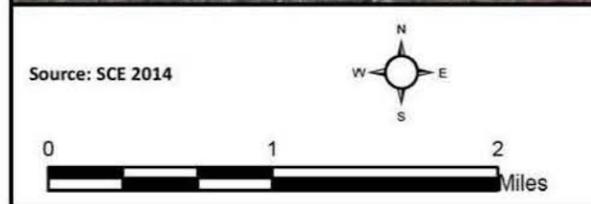
*All segments include both 220 kV conductors and telecommunications lines.

Land Jurisdiction

- City Boundary
- Morongo Band of Mission Indians
- Bureau of Land Management
- U.S. Forest Service

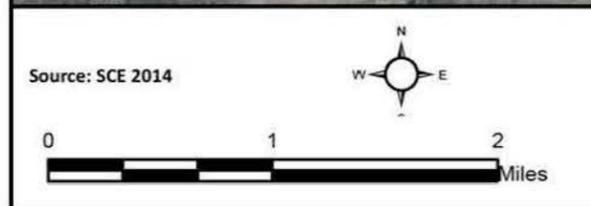
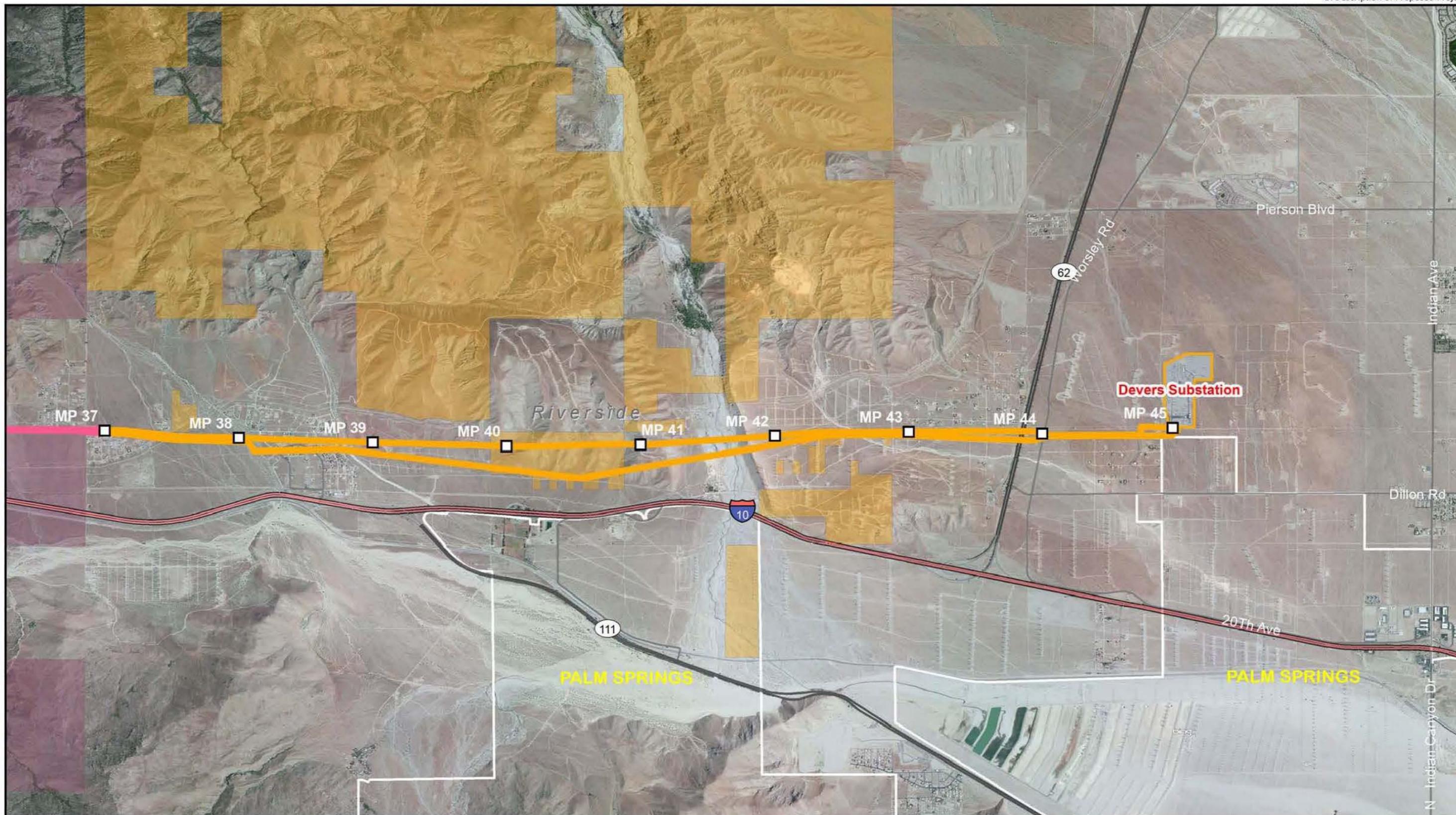
West of Devers Upgrade Project

**Figure ES-1
Proposed Project
and Project Vicinity**



□ Mileposts	█ Segment 4	— Major Highways	█ Bureau of Indian Affairs (Morongo)
	█ Segment 5	— Major Roads	█ Bureau of Land Management
	█ Segment 6	▭ City Boundary	

West of Devers Upgrade Project
 Figure B-6a
 Proposed Transmission Line Route
 Segment 5



Mileposts	Segment 5	County Line	Major Highways	Bureau of Indian Affairs (Morongo)
Substation	Segment 6	City Boundary	Highways	Bureau of Land Management
			Major Roads	

West of Devers Upgrade Project
 Figure B-7a
 Proposed Transmission Line Route
 Segment 6

Appendix D: Biological Opinion Dated December 23, 2016



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008



In Reply Refer To:
FWS-SB-RIV-14B0011-16F0668

December 23, 2016
Sent by Email

Memorandum

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

Attention: Kim Marsden

From: Field Supervisor, Carlsbad Fish and Wildlife Office
Carlsbad, California ☞

Subject: Formal and Informal Section 7 Consultation on the West of Devers Upgrade Project,
San Bernardino County and Riverside County, California

This memo transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the West of Devers Upgrade Project (Project) and its effects on Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*; milk-vetch) and its designated critical habitat, coastal California gnatcatcher (*Polioptila californica californica*; CAGN) and its designated critical habitat, southwestern willow flycatcher (*Empidonax traillii extimus*) and its designated critical habitat, least Bell's vireo (*Vireo bellii pusillus*), Stephens' kangaroo rat (*Dipodomys stephensi*; SKR), and desert tortoise [Mojave population DPS (*Gopherus agassizii*)] in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). Southern California Edison (SCE) is applying to the Bureau of Land Management (BLM) for a right-of-way (ROW) grant for the Project over BLM-administered lands. In addition, the Bureau of Indian Affairs (BIA) proposes to issue a ROW grant for the transmission line alignment across Morongo Band of Mission Indians tribal trust lands. The BLM is the lead agency and BIA is a cooperating agency for this consultation.

This consultation is based on information provided in the following documents: (1) Biological Assessment (BA), West of Devers Upgrade Project San Bernardino and Riverside Counties, California (CH2MHill 2016b); (2) Final Environment Impact Statement (EIS) for Southern California Edison's West of Devers Upgrade Project (BLM 2016); (3) Intra-Service Formal Section 7 Consultation/Conference for Issuance of Endangered Species Act Section 10(a)(1)(B) Permit TE-088609-0 for the Western Riverside County Multiple Species Habitat Conservation Plan (Service 2004); (4) Intra-Service formal section 7 consultation for issuance of a section 10(a)(1)(B) (TE-104604-0) incidental take permit under the Endangered Species Act for the

Coachella Valley Multiple Species Habitat Conservation Plan, Riverside County, California (Service 2008); (5) Amendment of an Intra-Service Section 7 Consultation Regarding the Amendment to a Section 10(a)(1)(B)(TE-104604-0) Incidental Take Permit under the Endangered Species Act for the Coachella Valley Multiple Species Habitat Conservation Plan, Riverside County, California (Service 2015b); (6) Western Riverside Multi-species Habitat Conservation Plan Consistency Determination Report (CH2MHill 2016d); (7) Coachella Valley Multiple Species Habitat Conservation Plan Consistency Analysis for the West of Devers Upgrade Project (CH2MHill 2016j); and (8) written, telephone, and electronic mail correspondence received during the consultation time period.

Regional Habitat Conservation Plan Consistency Discussion

The proposed Project occurs on both Federal and non-Federal lands in Riverside and San Bernardino Counties. Portions of the proposed Project on non-Federal lands with effects to federally listed species in Riverside County will be addressed under either the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) or the Coachella Valley MSHCP. We issued section 10(a)(1)(B) permits for these regional plans on June 22, 2004, and October 1, 2008, respectively. These plans establish species conservation programs to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permits. SCE proposes to receive authorization for the Project-related incidental take of desert tortoise, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and Stephens' kangaroo rat on non-Federal lands through the MSHCPs. SCE will receive incidental take coverage by becoming a Participating Special Entity (PSE) per relevant sections of those regional plans.

Western Riverside MSHCP

Based on our review of the information provided to us (CH2MHill 2016d-i), we have determined the Project is consistent with relevant Western Riverside MSHCP policies and procedures.

Approximately 22 linear miles of the Proposed Project is located in the Western Riverside MSHCP including: (1) the eastern portions of Segment 3 from the San Bernardino-Riverside County line to the existing El Casco Substation, (2) the entirety of Segment 4, and (3) the western portion of Segment 5 that does not include the Morongo Band of Mission Indians tribal trust lands.

Within the Western Riverside MSHCP plan area, the Project will traverse suitable habitat for Stephens' kangaroo rat, least Bell's vireo, southwestern willow flycatcher, and coastal California gnatcatcher. Habitat assessments and focused surveys for these species were performed from April to July in 2012, 2013, and 2015 in areas of suitable habitat (CH2MHill 2016b, LSA 2013a). All other survey requirements identified in the Western Riverside MSHCP were also conducted (CH2MHill 2016a-f).

Based on our review of the PSE consistency determination document (CH2MHill 2016d), the Project is consistent with the conservation goals developed for the Area Plans/Subunits Criteria

Cells traversed by the Project. Project activities will (1) not impede the assembly of Core Areas, Proposed Linkages, or Reserve Assembly; (2) result in overall biologically equivalent or superior preservation of riparian/riverine resources, vernal pools, and associated species; and (3) result in overall biologically equivalent or superior preservation for Narrow Endemic Plant Species.

The status of SKR, least Bell's vireo, southwestern willow flycatcher, CAGN and its designated critical habitat, and the effects of implementing the Western Riverside MSHCP were previously addressed in our biological opinion for the Western Riverside MSHCP dated June 22, 2004. In the biological opinion for the Western Riverside MSHCP, we concluded the level of anticipated take in the plan area from the Western Riverside MSHCP was not likely to result in jeopardy to SKR, least Bell's vireo, southwestern willow flycatcher, or CAGN, or adversely modify CAGN designated critical habitat. Given that the Project is consistent with the Western Riverside MSHCP, we do not anticipate any adverse effects to SKR, least Bell's vireo, southwestern willow flycatcher or CAGN that were not previously evaluated in the biological opinion for the Western Riverside MSHCP. No incidental take of SKR, least Bell's vireo, southwestern willow flycatcher, or CAGN beyond that anticipated in the biological opinion for the Western Riverside MSHCP is expected to occur.

Coachella Valley MSHCP

Based on our review of the information provided to us (CH2MHill 2016j), we have determined the Project is consistent with relevant Coachella Valley MSHCP policies and procedures. Approximately 16 linear miles of the Project traverses the Coachella Valley MSHCP plan area and four Conservation Areas designated under that plan, including: Cabazon, Stubbe and Cottonwood Canyons, Whitewater Canyon, and Upper Mission Creek/Big Morongo Canyon.

The disturbance authorized for this Project will not be deducted from the individual jurisdictions that are Permittees under the plan, as calculated in Section 4 of the Coachella Valley MSHCP; however, an analysis was conducted for SCE's application for Participating Special Entity under the plan to show the magnitude of the ground disturbance with regards to each of the individual Conservation Areas. The analysis shows the new disturbance associated with the Project is small in terms of the total disturbance authorized in each of the Conservation Areas and is within the "Rough Step" acres available in each of the modeled habitats except for Desert Dry Wash Woodland natural community and Other Conserved Habitat for Coachella Valley Jerusalem cricket. As described in Section 6.5 of the Coachella Valley MSHCP, Rough Step analysis ensures, on an annual basis, that conservation of Additional Conserved Lands is within 10 percent of the level needed to stay in balance with the level of new development permitted under the plan. The Coachella Valley Conservation Commission (CVCC) is generally permitted a total level of incidental take under the plan for disturbance to Covered Species and Natural Communities that is not allocated by Conservation Area. CVCC will extend its permitted take to SCE under the PSE provision of the plan.

Ground disturbance quantified in SCE's PSE document is the maximum potential disturbance that could occur, and will likely be much less once project construction is complete and a final GIS

accounting of actual “as-built” impacts is determined. If final ground disturbance associated with the Desert Dry Wash Woodland natural community and Other Conserved Habitat for Coachella Valley Jerusalem cricket will be more than the Rough Step acres available for these resources in the affected Conservation Areas, SCE has proposed seven options to ensure Rough Step acres balance with the level of new development permitted under the plan in the Conservation Areas. A detailed mitigation strategy will be developed in cooperation with CVCC and the Wildlife Agencies [Service and the California Department of Fish and Wildlife (CDFW)] that will include one, several, or all of the seven options.

The status of desert tortoise and Coachella Valley milk-vetch and the effects of implementing the Coachella Valley MSHCP were previously addressed in our biological opinions dated July 3, 2008 and August 3, 2015. In those biological opinions, we concluded the level of anticipated take in the plan area for the Coachella Valley MSHCP was not likely to result in jeopardy to desert tortoise or the Coachella Valley milk-vetch. Given the Project is consistent with the MSHCP and its PSE provision, we do not anticipate incidental take of desert tortoise beyond that anticipated in the biological opinion for the Coachella Valley MSHCP will occur.

Informal Consultation

Your agency has determined the Project may affect, but is not likely to adversely affect, individual CAGN, least Bell's vireos, southwestern willow flycatchers, SKR, and Coachella Valley milk-vetch; and designated southwestern willow flycatcher and Coachella Valley milk-vetch critical habitats in areas not covered by MSHCP permits. Least Bell's vireo and SKR designated critical habitats do not occur in the action area. Your determination is based on the following information:

Protocol surveys conducted in 2015 for CAGN (AMEC 2015a), SKR (AMEC 2015c), and southwestern willow flycatcher (AMEC 2015b), did not detect these species in the action area. There is a small area of southwestern willow flycatcher designated critical habitat present in proximity to the action area near the telecom improvements but no direct or indirect effects to designated critical habitat are anticipated. Least Bell's vireo occupy the action area in Riverside County (see Figure 3 of the BA) so adverse effects are addressed through the PSE process as described above.

To avoid adverse impacts to these species, avoidance measures are proposed and incorporated into the proposed action. Measures to avoid adverse effects to individual CAGNs, southwestern willow flycatcher, and least Bell's vireo include pre-construction surveys, construction monitoring, avoidance of unoccupied suitable habitat during the breeding season where feasible, and avoidance of impacts to riparian habitats to the greatest extent feasible.

Measures to avoid adverse effects to SKR include pre-construction focused pedestrian surveys immediately prior to the start of construction in suitable habitat to determine if SKR sign (burrows, scat, etc.) is present in all areas within 100-feet of work sites or other project activities that would permanently or temporarily affect soils or vegetation. If sign is present, then SCE will

conduct focused trapping surveys according to accepted protocols to determine presence or absence of SKR. If SKR is found, SCE will halt construction and contact the Service to determine next steps.

Temporary ground disturbance of up to 6.91 acres of Coachella Valley milk-vetch designated critical habitat within Unit 2 in the Whitewater River on lands owned by the Metropolitan Water District will occur as a result of the installation of temporary guard structures and construction access. Unit 2 is described as 7,298 acres of lands that contain the physical or biological features essential to the conservation of Coachella Valley milk-vetch, including the following physical and biological features: active and ephemeral sand fields and stabilized and partially stabilized sand fields that provide substrate components and conditions suitable for the growth of Coachella Valley milk-vetch, and areas where unobstructed aeolian sand transport can occur (Service 2013). Unit 2 is also identified as a biological corridor, allowing for gene flow and seed dispersal between Units 1 and 3 (Service 2013). In 2011, the Service evaluated a project which led to the loss of about 1 acre of designated critical habitat in Unit 2 (Service 2012a). Therefore, Unit 2 currently supports about 7,297 acres of lands that provide substrate components and conditions suitable for the growth of Coachella Valley milk-vetch and areas where unobstructed aeolian sand transport can occur. Additionally, Project construction will permanently impact up to 2.22 acres and temporarily impact up to 8.49 acres of modeled Coachella Valley milk-vetch habitat on BLM lands. Based on surveys conducted in 2013 and 2015 (LSA 2013a, CH2MHill 2016a), no individual Coachella Valley milk-vetch plants were found.

Measures to avoid and minimize impacts to individual Coachella Valley milk-vetch plants and destruction or adverse modification to designated critical habitat include pre-construction surveys, avoidance of individual plants where feasible, collection and dispersal of seeds, and salvage of topsoil. Because Project impacts to designated critical habitat are temporary, the substrate components and conditions suitable for the growth of Coachella Valley milk-vetch and areas where unobstructed aeolian sand transport can occur will revert to pre-Project conditions once Project construction is complete. Therefore Unit 2 would continue to support about 7,297 acres of lands that provide substrate components where unobstructed aeolian sand transport can occur because the Project will be constructed in a manner to maintain the fluvial sand transport capacity of the system. Additionally, gene flow and seed dispersal between Units 1 and 3 would be maintained. For purposes of the adverse modification determination, the effects of the proposed Federal action on the critical habitat of Coachella Valley milk-vetch are evaluated in the context of the range-wide condition of the critical habitat, taking into account any cumulative effects, to determine if the critical habitat range-wide would remain functional (or would retain the current ability for the physical and biological features to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the milk-vetch. Therefore, we anticipate the minimal critical habitat acreage impacted by the Project is not likely to appreciably diminish the value of the entire range-wide designated critical habitat for the conservation and recovery of Coachella Valley milk-vetch because the ecological functions and values essential to the conservation of Coachella Valley milk-vetch within Unit 2 would be maintained.

We do not anticipate measurable adverse effects to CAGN, least Bell's vireo, southwestern willow flycatcher, SKR, or Coachella Valley milk-vetch with implementation of the proposed Project. This conclusion is based on the lack of species occurrence within the Project area and the Project's avoidance measures. Therefore, we concur with the BLM's determination that the proposed Project is not likely to adversely affect CAGN, least Bell's vireo, southwestern willow flycatcher or its designated critical habitat, SKR, or Coachella Valley milk-vetch and its designated critical habitat.

Although our concurrence ends informal consultation, obligations under section 7 of the Act will be reconsidered if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered, or this action is subsequently modified in a manner that was not considered in this assessment.

Connected Actions

A number of existing or proposed solar generation projects (see Table A-8 in the EIS) east of the Devers Substation may depend on the Project to move to construction and operation because of inadequate transmission capacity west of the Devers Substation. These existing or potential projects require Federal approval through the BLM and have undergone or will undergo their own project-level effects analysis under section 7 of the Act and the National Environmental Policy Act (NEPA), and are not included in this analysis.

CONSULTATION HISTORY

Between March 2014 and June 2016, staff from the Palm Springs Fish and Wildlife Office (PSFWO) worked with the BLM, SCE, CDFW, and project consultants to clarify the Project Description, survey protocols, effects to desert tortoise, effects to listed birds, and avoidance and minimization measures. Efforts to clarify these issues included commenting on environmental documents, conducting site visits and meetings, assessing baseline conditions, and providing comments on a draft copy of the BA.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The information below provides a summary of the proposed action. Refer to the BA (CH2MHill 2016b) for a more detailed description of Project activities.

The Project purpose is to upgrade the existing West of Devers transmission lines between Devers, El Casco, Vista, and San Bernardino Substations, portions of which fall within an existing BLM transmission corridor, to increase electric power transmission capacity. The proposed action is the issuance of a BLM ROW grant to SCE to allow SCE to replace or upgrade the existing West of Devers 220-kV transmission lines and associated structures with new, higher-capacity 220-kV transmission lines and structures; modify existing substation facilities; remove and relocate

existing sub-transmission (66-kV) lines; remove and relocate existing distribution (12-kV) lines; and make various telecommunication improvements on BLM-managed lands. Additionally, the BIA proposes to issue a ROW grant for the transmission line alignment across Morongo Band of Mission Indians tribal trust lands. The BIA is a cooperating agency and the BLM is the lead agency in the preparation of the biological assessment. The proposed Project will increase the transmission capacity out of Devers substation by approximately 3,200 megawatts (MW) from 1,600 MW to 4,800 MW to accommodate and deliver renewable generated power to achieve State and Federal renewable energy goals.

The Project will include a number of permanent and temporary features necessary to remove existing facilities and construct and support upgrades to the transmission line and existing substations. Features include: construction staging yards, crane pads and support structures, spur and access roads, shoo-fly sites, wire installation sites, retaining walls, and splicing and pulling sites. Ground-disturbance acreage estimates for these features are provided in Tables 2-13 of the BA. These acreage estimates are based on current engineering designs and are a worst-case scenario in terms of potential ground impacts. Changes to structures may occur based on final engineering, and may result in changes to ground disturbance acreage. The effects analysis below is based on the worst-case acreage estimates as shown in Table 2 below.

The ROW includes three existing parallel transmission lines: one double-circuit 220 kV structure and two single-circuit 220 kV structures (support structures include a combination of steel towers or wood poles). Because the existing transmission lines are currently supported on a combination of double-circuit and single-circuit structures, construction will involve removal of existing conductors and support structures and replacing them with larger conductors and support structures. Most of the structures that support the existing conductors cannot be reused and will be removed and replaced with stronger structures in slightly different locations. In some locations, two sets of single-circuit transmission lines will be replaced with one double-circuit transmission line. Construction will be performed in phases and will require multiple mobilizations along each part of the project alignment over the course of several years. Temporary disturbances will occur repeatedly at the locations where shoo-fly structures are installed and removed, at new support structure installation sites, and existing support structure removal sites. Temporary disturbances will also occur repeatedly at locations where guard structures are installed to protect existing infrastructure and at wire-pulling and splicing sites.

The proposed Project is separated into six segments as follows:

1. Segment 1 is approximately 3.5 miles long and extends due south from the San Bernardino Substation in the City of Redlands, across Interstate (I) 10, to the San Bernardino Junction in the City of Loma Linda (see Figure B-2a in the EIS). Currently, there are two existing 220 kV transmission lines, which include four 220 kV transmission circuits and three sets of 66 kV towers supporting six separate 66 kV lines in this ROW. Project work specific to the 220 kV lines within Segment 1 includes replacing 45 support structures with 49 support structures and modification of 1 existing support structure.

2. Segment 2 is approximately 5 miles long and extends east from the Vista Substation to the San Bernardino Junction. The ROW crosses I-215 through the Cities of Colton and Grand Terrace (see Figure B-3a in the EIS). The ROW has three existing parallel transmission lines on lattice steel towers, but the Proposed Project includes upgrades only to the existing transmission line supporting the Devers-Vista No. 1 and No. 2 220 kV transmission circuits. Most of the corridor in Segment 2 is in the hills south of Loma Linda. Project work specific to the 220 kV lines within Segment 2 includes replacing 25 support structures with 28 support structures and modification of 4 existing support structures.
3. Segment 3 is approximately 10 miles long and extends east from the San Bernardino Junction to El Casco Substation. There are three existing parallel transmission lines: one double-circuit 220 kV structure and two single-circuit 220 kV structures (on a combination of steel towers or wood poles) in this ROW. The ROW in Segment 3 roughly parallels San Timoteo Canyon Road for much of its length where it crosses from San Bernardino County into Riverside County (see Figure B-4a of the EIS). Project work within Segment 3 includes replacing 118 support structures with 104 support structures and modification of 4 existing support structures.
4. Segment 4 is approximately 12 miles long and extends east from the El Casco Substation to San Gorgonio Avenue in the City of Banning. The ROW runs through unincorporated Riverside County and a southern portion of the City of Calimesa, crossing I-10 to the northeast into the Cities of Beaumont and Banning as it continues due east, paralleling Oak Valley Parkway to the north (see Figure B-5a in the EIS). Project work within Segment 4 includes replacing 161 support structures with 112 support structures and modification of 5 existing support structures.
5. Segment 5 is approximately 9.5 miles long and extends east from San Gorgonio Avenue in the City of Banning to the eastern limit of the Morongo Reservation at Rushmore Avenue (see Figure B-6a in the EIS). Within this segment, approximately 3 miles of existing ROW through the Morongo Reservation will be abandoned and replaced with a new 3-mile alignment south of the current alignment pursuant to the SCE-Morongo ROW agreement. Project work within Segment 5 includes replacing 137 support structures with 98 support structures.
6. Segment 6 is approximately 8 miles long and extends east from the eastern boundary of the Morongo Reservation to the Devers Substation near the City of Palm Springs. The ROW extends east along the foothills of the San Bernardino Mountains and crosses Whitewater Canyon Road and Highway 62 (Figure B-7b in the EIS). Project work within Segment 6 includes replacing 112 support structures with 79 support structures.

Additional facility replacement and upgrades include substation equipment upgrades; relocation of approximately 2 miles of 66 kV subtransmission lines and approximately 4 miles of 12 kV distribution lines; and installation of telecommunications lines and equipment for the protection,

monitoring, and control of transmission lines and substation equipment. Substations to be upgraded include the Devers, El Casco, Etiwanda, San Bernardino, and Vista.

Replacement of transmission towers and their associated stub roads will generally result in new permanent impacts. However, many of the sites where the existing support structures and stub roads are removed would be revegetated following construction. Areas affected temporarily by installation and removal of temporary features such as shoo-flies, guard structures, and wire pulling and splicing activities will also be revegetated post-construction.

Main Project construction activities are described below.

Support Structure Removal – Removal of both Lattice Steel Towers and Tubular Steel Poles structures would involve removing structures, wires, conductors, and associated hardware. The following would be performed (in order of removal):

1. **Road Work**: Existing access roads would be used to access structures, but some road rehabilitation and grading to establish temporary crane pads may be necessary before removal activities can begin. Some existing access roads may be widened to allow adequate and safe passage for construction equipment. Affected areas will be refined as engineering design is completed and through microsite adjustments in the field to avoid unnecessary impacts to biological resources.
2. **Wire-pulling Locations**: Wire-pulling sites for wire removals would be located according to a Pulling Plan. The Pulling Plan would be completed after final engineering.
3. **Conductor Removal**: While the wire-pulling equipment is being installed, rollers would be installed on existing structures, and the old conductor would be unclipped from the supporting structures, placed in the rollers, and pulled out with a pulling rope and/or cable attached to the trailing end of the conductor.
4. **Structure Removal**: For each structure to be removed, a laydown/work area appropriate to the structure type being removed would be required. Most structure removal activities would use the crane pad or other disturbed area previously established for structure installation. If previously disturbed areas adjacent to the structure site are not available, an area will need to be cleared of vegetation and graded if the ground is not level. The crane would be positioned approximately 60 feet from the Lattice Steel Tower or Tubular Steel Pole location to dismantle the structure. Lattice Steel Towers and Tubular Steel Poles would be dismantled down to the foundations, and the materials would be transported to a recycling center.
5. **Footing/Foundation Removal**: Foundations/footings would typically be deconstructed by mechanical means such as a pneumatic hammer or jackhammer. Footings would be removed to a depth approximately 2 to 3 feet below grade, and the holes would be filled with excess soil and smoothed to match the surrounding grade. Demolished footing

materials would be transported to a construction yard where they will be prepared for disposal or reuse.

Shoo-flies – A shoo-fly is a temporary electrical line on temporary structures that is used during construction to maintain electrical service to the area while allowing portions of a permanent line to be taken out of service, thereby ensuring safe working conditions during construction activities. Temporary shoo-fly facilities would be used to maintain continuous power flow during construction. The shoo-fly facilities would be removed after construction is completed and all associated disturbance areas would be restored per the Habitat Restoration and Revegetation Plan described below.

Structure Site Preparation – Pad locations and laydown/work areas for new structures would be graded and/or cleared of vegetation. Sites would be graded in such a manner to prevent ponding and to enable water flow in the direction of the natural drainage. In addition, drainage would be designed to prevent ponding and erosive water flows that could cause damage to the structure footings. The graded area would be compacted to be capable of supporting heavy vehicular traffic. Structure assembly typically requires establishment of a crane pad. The crane pad will typically occupy an area of approximately 50 feet by 50 feet and be located adjacent to each structure within the laydown/work area used for structure assembly and erection.

Foundation Installation – Foundations for each Lattice Steel Tower would typically consist of four poured-in-place concrete footings, whereas foundations for each Tubular Steel Pole would require a single drilled poured-in-place concrete footing. Actual footing diameters and depths for each of the structure foundations would depend on the structure design, as well as the soil conditions and topography at each site, and would be determined during final engineering.

Lattice Steel Tower Installation – Lattice Steel Towers would primarily be assembled within the construction areas at each tower site. Structure assembly begins with the hauling and stacking of steel bundles, per engineering drawing requirements, from a material-staging yard to each structure location. This activity requires use of several trucks with 40-foot flatbed trailers and a rough terrain forklift. After steel is delivered and stacked, crews would proceed with assembly of leg extensions, body panels, boxed sections, and the cages/bridges. Assembled sections would be lifted into place with a crane and secured by a combined erection and torquing crew. When the steel work is completed, the construction crew may opt to install insulators and wire rollers (travelers).

Tubular Steel Pole Installation – Tubular Steel Pole installations consist of multiple sections. The pole sections would be placed in temporary laydown areas at each pole location. Depending on conditions at the time of construction, the top sections may come pre-configured, may be configured on the ground, or configured after pole installation with the necessary cross arms, insulators, and wire stringing hardware. A crane would then be used to set each steel pole base section on top of the previously prepared foundations. If existing terrain around the Tubular Steel Pole location is not suitable to support crane activities, a crane pad would be constructed within the laydown area. When the base section is secured, the subsequent section of the Tubular Steel Pole would be slipped together into place onto the base section. The pole sections may also be

spot welded together for additional stability. Depending on the terrain and available equipment, the pole sections could also be pre-assembled into a complete structure prior to setting the poles.

Guard Structures – Guard structures are typically 2 to 4 standard wood poles, buried 6 to 8 feet deep, installed on either side of a transportation feature (e.g., road, railroad, etc.), major flood control, or utility crossings occur to keep a conductor (wire) from sagging below conventional stringing height. SCE estimates that approximately 663 guard structure locations may need to be constructed along the proposed 220 kV ROW. For the 66 kV subtransmission line relocations, SCE estimates that construction of approximately 70 guard structure locations may be needed.

Wire Stringing – Wire stringing includes all activities associated with the installation of the primary conductors onto transmission line structures. The activities include the installation of conductor, ground wires, insulators, stringing sheaves (rollers or travelers), vibration dampeners, weights, and suspension or dead-end hardware assemblies for the entire length of the route.

Wire-Pulling and Splicing Locations – Wire pulling and splicing would be carried out on existing roads and other predominately level areas to minimize the need for grading and cleanup. The number and location of the sites would be determined during final engineering. The approximate area needed for stringing setups associated with wire installation is variable and depends upon terrain.

Energizing Transmission Lines – Temporary de-energizing of the circuits involved with the Proposed Project will take place throughout the duration of this project. Energizing the new lines is the final step in completing the transmission and subtransmission construction. To reduce the need for electric service interruption, de-energizing and re-energizing the existing lines may occur at night when electrical demand is low.

Telecommunication System Construction – Telecommunications construction would include installation of ground wires, fiber-optic cable, or a combination thereof. The telecommunications work is necessary to maintain the operation of the telecommunications network during the removal and installation of the Proposed Project.

Access Road and Spur Road Construction – Typical construction activities associated with rehabilitation of existing dirt access roads include vegetation clearing, blade-grading, and recompacting to remove potholes, ruts, and other surface irregularities to provide a smooth, dense riding surface capable of supporting heavy construction and maintenance equipment. Existing dirt roads may also require additional upgrades such as protection of underground utilities and widening roads that are too narrow for safe vehicle operation. Repair and stabilization of slides, washouts, and other slope failures may be necessary to prevent future failures. The type and extent of work would be based on specific site conditions and determined during final engineering. Typical construction activities associated with new roads generally include activities similar to those described for the rehabilitation of existing dirt roads, but may also include additional construction requirements that depend upon the existing terrain.

Staging Yards – Construction of the Proposed Project would require the establishment of temporary staging yards. Staging yards would be used as a reporting location for workers, vehicle and equipment parking, and material storage. Typically, each yard would be 3 to 20 acres in size, depending on land availability and intended use. Preparation of the staging yard would include temporary perimeter fencing and, depending on existing ground conditions at the site, grubbing the existing vegetation prior to the application of gravel or crushed rock.

Substations – The Proposed Project does not include the construction of any new substations; however, there would be modifications to the existing Vista, San Bernardino, El Casco, Etiwanda, and Devers substations. Activities would be confined inside each existing site boundary fence for all the facilities. The substations may also be used for material storage.

Operations and Maintenance Activities – Following completion of project construction, operation and maintenance (O&M) will commence and will continue for the life of the transmission line, anticipated to be 30 years. The following description of O&M activities comes from SCE's O&M Plan on Public Lands (SCE 2013). It is relevant to note that SCE currently performs O&M activities on the existing WOD lines. Given that the proposed Project is essentially replacing existing facilities with new facilities in the same alignment, O&M activities are not likely to change and any disturbances related to O&M activities should not increase substantially beyond current baseline conditions and may initially be less than current baseline because newer facilities generally need less maintenance.

For the proposed Project, SCE will conduct an environmental review of all O&M activities that involve ground disturbance to determine potential risks to listed species that occur along the line. Following the review, SCE environmental staff will issue an Environmental Clearance, which O&M work crews would review and adhere to during pre-construction and construction for O&M to avoid adverse effects to listed species. SCE will coordinate with the BLM, Service, and CDFW, as appropriate, if future O&M impacts are expected to adversely affect listed species beyond what is analyzed in this biological opinion, and BLM would reinitiate consultation with us as appropriate.

Repair and maintenance activities that may result in ground or vegetation disturbance include repairs to existing and upgraded facilities. Road maintenance, tree trimming, and brush and weed control are included repair and maintenance activities because disturbance to the ground surface and/or vegetation is expected during these activities.

It is anticipated that the future O&M activities will be limited to the permanent disturbance areas described below. Activities that would result in effects beyond the areas addressed in this biological opinion would likely be the result of emergency repairs or will be addressed through a separate consultation. SCE will coordinate with the BLM, Service, and CDFW, as appropriate, if impacts to occupied listed species habitat occur beyond the area disturbed through the construction of the proposed Project.

Conservation Measures

The following section describes the conservation measures proposed by SCE to avoid and/or minimize impacts to special status species, or to compensate for impacts to wildlife and plant habitats during preconstruction, construction, post construction, and restoration activities. SCE is applying to be a PSE in both the Western Riverside and Coachella Valley MSHCPs. SCE will implement both MSHCPs under the terms of the respective certificates of inclusion. The measures listed below apply to the portions of the Action Area not included in the aforementioned regional habitat conservation plans, namely in San Bernardino County, on the Morongo Reservation, and on BLM lands in Riverside County. However, general conservation measures or species specific measures that avoid or reduce adverse effects were incorporated into Project requirements during the PSE application and review process.

General Conservation Measures

- CM 1. At least 60 days prior to the initiation of ground-disturbing activities, SCE will designate one or more field contact representatives (FCR) who will be responsible for overseeing compliance with conservation measures outlined in this biological opinion and the avoidance, minimization, and mitigation measures included in the PSE documents. The FCR will retain a copy of all conservation measures readily available at the project field office while conducting work on site and oversee coordination between workers, Biological Monitors, and the Authorized and Qualified Biologists¹ (as defined in the following species-specific measures). The FCR will be present for all ground-disturbing activities within gnatcatcher and desert tortoise habitat, and will have the authority to halt all work activities that are not in compliance with the project's conservation measures and incidental take statement terms and conditions. The FCR will be responsible for ensuring that any activities found to be out of compliance with the conservation measures are corrected immediately and the corrective action documented.
- CM 2. SCE will prepare and implement a Worker Education and Awareness Program (WEAP) that will be presented by the FCR (or a biologist designated by the FCR) to all existing and new employees and contractors prior to their involvement in any onsite project activities. The WEAP will include the following elements for CAGN, southwestern willow flycatcher, least Bell's vireo, desert tortoise, Coachella Valley milk-vetch, SKR, and San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*): (a) distribution, general behavior, and ecology of the species; (b) species sensitivity to human activities; (c) legal protection; (d) penalties for violation of state and federal laws; (e) worker responsibilities for trash disposal; and (f) reporting requirements for sightings or incidents involving sensitive species. The WEAP will also include an explanation of the purpose and function of the conservation measures for each species, which will be distributed to all workers, and the possible penalties for not adhering to those measures. All

¹ The qualifications and description of these individuals is defined below under the species specific measures.

employees and contractors will be informed that the FCR, Authorized and Qualified Biologists, and Biological Monitors have the authority to halt work in any area where an unauthorized adverse impact to biological resources may occur if the activities continued. The FCR will provide all workers with contact information for the FCR, Authorized and Qualified Biologists and Biological Monitors. All workers will sign a training acknowledgment form indicating that they received WEAP training and will abide by the guidelines.

- CM 3. Project components will be located to avoid sensitive plants, plant communities, and sensitive animals to the maximum extent practicable. Disturbance areas will be minimized to the extent feasible. Access to sites will be via pre-existing access routes to the greatest extent possible. Motor vehicles will be limited to maintained roads, designated routes, and areas identified as permanently or temporarily impacted by construction.
- CM 4. Prior to the initiation of ground-disturbing activities, all work area boundaries associated with temporary and permanent disturbances will be conspicuously staked, flagged, marked, or otherwise identified to minimize surface disturbance activities. Construction employees will strictly limit their activities, vehicles, equipment, and construction materials to the designated staging areas and routes of travel.
- CM 5. To minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations, personnel will not be allowed to bring pets or firearms into the action area. This measure does not apply to law enforcement personnel and working dogs.
- CM 6. Motor vehicle speeds along Project routes and existing access roads will not exceed 25 miles per hour (mph), except in occupied desert tortoise habitat where vehicles are limited to 15 mph. Speed limits will be clearly marked and all workers will be made aware of these limits.
- CM 7. Removal of perennial, native vegetation in work areas will be avoided to the maximum extent practicable, particularly while accessing pulling and splicing stations and during pulling and splicing activities. Where needed and to the maximum extent practicable, access to work areas in undisturbed habitat will be achieved by crushing vegetation, instead of vegetation removal.
- CM 8. To the extent feasible, construction yards and staging areas will be located in previously disturbed areas to minimize impacts to native vegetation and habitats for sensitive species.
- CM 9. SCE will prepare and implement an Integrated Weed Management Plan (IWMP) identifying areas that require treatment and describing the proposed methods of preventing or controlling project-related spread of weeds or new weed infestations.

The IWMP will meet BLM's requirements for NEPA disclosure and analysis if herbicide use is proposed for the project. For the purpose of the IWMP, "weeds" will include designated noxious weeds, as well as any other non-native weeds or pest plants identified on the weed lists of the California Department of Food and Agriculture, the California Invasive Plant Council, or identified by BLM as of special concern.

- CM 10. To the extent feasible, any native vegetation removal in gnatcatcher, southwestern willow flycatcher, and least Bell's vireo habitat will be completed outside of the breeding season. In general, the avian breeding season is defined as January 1 to August 31.
- CM 11. As feasible, and consistent with project safety and security protocols, landowner preferences, and any other applicable regulations or requirements, existing gates on project access roads will be closed and secured when project personnel enter or leave an area.
- CM 12. All food and other trash that could attract predators will be properly disposed of in self-closing, sealable containers, with lids that latch to prevent wind, common ravens (*Corvus corax*; raven), and other scavengers from opening containers. All trash receptacles will be regularly inspected and emptied to prevent spillage and maintain sanitary conditions. Trash will be regularly removed from the work area.
- CM 13. Any uncapped pipes with an inside diameter of 1.5 inches or greater stored overnight within the construction site will be thoroughly inspected by a qualified biologist (i.e., Biological Monitor, Authorized or Qualified Biologist) for the presence of wildlife before the pipe is used or moved in any way. If wildlife are discovered, the qualified biologist will relocate the animal(s) to an appropriate location outside of the construction area. Only Authorized or Qualified Biologists (as defined in the following sections), as appropriate, may handle listed species. Unburied pipe laid in trenches overnight will be capped at the end of the work day.
- CM 14. At the end of each work day, any trenches or open pits on the Project site will be completely covered or a ramp will be placed to allow a means of escape for any animals that may fall in.
- CM 15. Night lighting used during facility construction will be directed away from adjacent habitat areas to the greatest extent feasible.
- CM 16. SCE will adhere to recommendations published by the Avian Power Line Interaction Committee (APLIC) in *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*. SCE will work with the Service and CDFW to evaluate the bird collision risk. The evaluation will include at a minimum an avian risk assessment to evaluate collision risk, and collision monitoring, if necessary, to

examine the causes and conditions associated with the risk and to help determine the appropriate collision reduction solution.

- CM 17. SCE will comply with and implement all measures identified in the final PSE documents and the certificate of inclusion for the Western Riverside MSHCP and Coachella Valley MSHCP.

Coastal California Gnatcatcher (CAGN)

In addition to the general measures above, the following measures will be implemented during pre-construction, construction, and post-construction/restoration to avoid take of CAGN and its habitat, including designated critical habitat:

- CM 18. A CAGN Qualified Biologist² will conduct protocol-level surveys for CAGN in suitable habitat within the action area during the appropriate protocol periods in the year prior to the initial start of construction. In addition, a Qualified Biologist will conduct preconstruction clearance surveys within 10 days prior to the start of construction at Project sites during the defined breeding season. A Biological Monitor³ will conduct a preconstruction sweep each morning prior to the start of activities for the day. The surveys and sweeps will include a minimum 500-foot buffer around construction areas. The purpose of the surveys and sweeps would be to identify and delineate any nesting CAGN activity within the action area.
- CM 19. The Qualified Biologist will monitor construction activities in coastal sage scrub during the breeding season. The Qualified Biologist will have the authority to halt construction. Should nesting CAGN be found, a 500-foot buffer will be established surrounding the active nest before the start or continuation of construction activities. The Qualified Biologist may work with the construction contractor and SCE to propose reduced buffers based on the site-specific conditions and nature of the construction activities. Proposed buffer reductions would be subject to review and approval by the PSFWO. Buffer reduction requests will include proposed measures to avoid effects to the nesting birds. The Qualified Biologist will have the authority to increase buffers at their discretion if activities occurring in reduced buffers may affect the nesting process. No activity or personnel will be allowed within the established buffers. If the Qualified Biologist determines that nesting activity is being disrupted, they will immediately halt construction activity and contact the PSFWO to determine what additional steps need to be taken.

² A CAGN Qualified Biologist is defined as a wildlife biologist who has been approved by the Service and BLM to conduct protocol-level surveys and monitoring for CAGN. A Qualified Biologist for CAGN may possess a valid Section 10(a)(1)(A) permit for CAGN or be approved by the Service and BLM under the biological opinion for the project.

³ A Biological Monitor is defined as a wildlife biologist who has been approved by the BLM and will monitor construction activities for compliance with required biological mitigation, conservation measures, and permit conditions for the Proposed Project.

- CM 20. SCE will conduct monitoring in coastal sage scrub vegetation for CAGN during construction. Monitoring will be conducted by a Biological Monitor. The Biological Monitor will work with construction personnel to limit disturbances to native vegetation to the extent possible. The Biological Monitor will have the authority to halt work. If CAGN are detected, the Biological Monitor will halt work and contact a CAGN Qualified Biologist to investigate the occurrence.

Southwestern Willow Flycatcher (SWFL)

In addition to the general measures above, the following measures will be implemented during pre-construction, construction, and post-construction/restoration to avoid potential take of SWFL and impacts to its habitat:

- CM 21. A SWFL Qualified Biologist⁴ will conduct protocol-level surveys for SWFL in suitable habitat within the action area during the appropriate protocol survey periods in the year prior to the initial start of construction if it is scheduled during the breeding season. Suitable habitat areas will be identified in consultation with the Wildlife Agencies. In addition, a Qualified Biologist will conduct preconstruction clearance surveys within 10 days prior to the start of construction at Project sites during the defined breeding season. A Biological Monitor will conduct a preconstruction sweep each morning prior to the start of activities for the day. The surveys and sweeps will include a minimum 500-foot buffer around construction areas.
- CM 22. A SWFL Qualified Biologist will monitor construction activities in nesting SWFL habitat, if identified, during the defined breeding season. A 500-foot avoidance buffer will be established prior to the start or continuation of construction activities if an active nest is found. The Qualified Biologist will have the authority to halt construction, if necessary. The Qualified Biologist may work with the construction contractor and SCE to propose reduced buffers based on the site-specific conditions and nature of the construction activities. Proposed buffer reductions would be subject to review and approval by the PSFWO. Buffer reduction requests will include proposed measures to avoid effects on the nesting birds. The Qualified Biologist will have the authority to increase buffers at their discretion if activities occurring in reduced buffers may affect the nesting process. If the Qualified Biologist determines that nesting activity is being disrupted, they will immediately halt construction activity and contact the PSFWO to determine what additional steps need to be taken.

⁴ A SWFL Qualified Biologist is defined as a wildlife biologist who has been approved by the Service, CDFW, and BLM to conduct protocol-level surveys and monitoring for SWFL. A Qualified Biologist for SWFL may possess a valid Section 10(a)(1)(A) permit for SWFL or be approved by the Service, CDFW, and BLM under the biological opinion for the project.

- CM 23. SCE will monitor vegetation trimming or clearing (if any) in suitable SWFL habitat. Monitoring will be conducted by a Biological Monitor. The Biological Monitor will have the authority to halt work. If SWFL are detected in areas not previously known to be occupied, then the Biological Monitor will halt work and contact a SWFL Qualified Biologist to investigate the occurrence.

Least Bell's Vireo (LBV)

In addition to the applicable general measures above, the following measures will be implemented during preconstruction, construction, and post-construction/restoration to avoid potential take of LBVI and impacts to its habitat:

- CM 24. An LBV Qualified Biologist⁵ will conduct protocol-level surveys for LBV in suitable habitat within the action area during the appropriate protocol survey periods in the year prior to the initial start of construction. Suitable habitat areas will be identified in consultation with the Wildlife Agencies. In addition, a Qualified Biologist will conduct preconstruction clearance surveys within 10 days prior to the start of construction at Project sites during the defined breeding season. A Biological Monitor will conduct a preconstruction sweep each morning prior to the start of activities for the day. The surveys and sweeps will include a minimum 500-foot buffer around construction areas.
- CM 25. An LBV Qualified Biologist will monitor construction activities in nesting habitat, if identified, during the defined breeding season. A 500-foot avoidance buffers will be established prior to the start or continuation of construction activities if an active nest is found. The Qualified Biologist may work with the construction contractor and SCE to propose reduced buffers based on the site-specific conditions and nature of the construction activities. Proposed buffer reductions would be subject to review and approval by the PSFWO. Buffer reduction requests will include proposed measures to avoid effects on the nesting birds. The Qualified Biologist will have the authority to increase buffers at their discretion if activities occurring in reduced buffers may affect the nesting process. If the Qualified Biologist determines that nesting activity is being disrupted, they will immediately halt construction activity and contact the PSFWO to determine what additional steps need to be taken.
- CM 26. SCE will monitor vegetation clearing (if any) in suitable LBV habitat. Monitoring will be conducted by a Biological Monitor. The Biological Monitor will have the authority to halt work. If LBV are detected in areas not previously known to be

⁵ A Qualified Biologist for LBV is defined as a wildlife biologist who has been approved by BLM, CDFW, and the Service to conduct protocol-level surveys and monitoring for LBV. A Qualified Biologist for LBV may possess a valid Section 10(a)(1)(A) permit for LBVI or be approved by the Service, CDFW, and BLM under the biological opinion for the project.

occupied, then the Biological Monitor will halt work and contact a Qualified Biologist to investigate the occurrence.

Desert Tortoise (DETO)

In addition to the applicable general measures above, the following measures will be implemented during pre-construction, construction, post-construction, and restoration to avoid and/or minimize potential take of desert tortoise and impacts to its habitat.

- CM 27. At least 30 days prior to the initial start of any ground disturbing activity in desert tortoise habitat, SCE will submit resumes and desert tortoise qualification forms of potential Authorized Biologists to the BLM for approval. Authorized Biologist(s) will have the authority to select biological monitors for the project; they will also be responsible for compliance with the desert tortoise measures outlined in this biological opinion. The Authorized Biologist(s) and biological monitors will have the authority to halt construction activities that are in violation of conservation measures and/or if a desert tortoise is found to be in harm's way.
- CM 28. An Authorized Biologist will be present during all construction activities in desert tortoise habitat (modeled and/or occupied habitat) during the tortoise's more active seasons (April through May and September through October).
- CM 29. The Authorized Biologist will conduct tortoise handling following procedures outlined in the Service's *Desert Tortoise Field Manual* (Service 2009) or more current Service guidance.
- CM 30. Biological monitors will conduct pre-construction clearance surveys according to Service protocol (Service 2009) under supervision of an Authorized Biologist within 7 days prior to initiation of ground-disturbing activities in desert tortoise habitat regardless of the time of year, and a pre-construction sweep will be conducted within 24 hours prior to the start of ground-disturbing activities. The goal of a clearance survey and sweep is to find all desert tortoises on the surface and in burrows that could be harmed by construction activities. Surveys and sweeps will cover 100 percent of the acreage to be disturbed, plus a 100-foot buffer, access permitting. All potential burrows within 100 feet of construction activity will be marked, avoided, and monitored by the biological monitor; burrows that cannot be avoided will be excavated by the Authorized Biologist. If fresh sign is located during pre-construction clearance surveys, SCE will contact the Service and CDFW to determine if installation of tortoise fencing is necessary to avoid and minimize harm. Fresh sign includes all currently active burrows, with tortoise present or recent tortoise sign (e.g., scat); tortoise burrows in good condition; wet scat (not from rain or dew) or freshly dried with an obvious odor; scat dried with glaze with some odor, dark brown in color.

- CM 31. When possible, desert tortoises found on the surface during pre-construction clearance surveys, during pre-construction sweeps, or during construction activities will be allowed reasonable time to move out of harm's way under on their own accord. Desert tortoises found to be at risk of direct harm by construction activities will be moved out of harm's way by an Authorized Biologist and released within 1,640 feet from point of collection, consistent with the Service's *Desert Tortoise Field Manual* (Service 2009) or more current Service guidance. Desert tortoises that are moved out of harm's way will be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow in accordance with approved techniques (Service 2009).
- CM 32. Desert tortoises found in burrows during pre-construction clearance surveys or during construction activities during the species' less active period (November through March and June through August) will be avoided to the extent practicable, as determined by an Authorized Biologist. Those that cannot be avoided will be excavated and the desert tortoise removed, blocked into an artificial or empty natural burrow within 1,640 feet from the construction area, and monitored until construction activities in the area are complete. Excavation, creation of artificial burrows, and handling of eggs, juveniles, and adults will be conducted by an Authorized Biologist in accordance with the Service's *Desert Tortoise Field Manual* (Service 2009) or more current Service guidance.
- CM 33. During construction, in desert tortoise habitat, the ground under vehicles stopped or parked will be inspected prior to being moved. If a desert tortoise is found beneath a vehicle, the Authorized Biologist will be contacted to move the animal out of harm's way, or the vehicle will not be moved until the desert tortoise moves on its own accord.
- CM 34. The Authorized Biologist will be responsible for performing measures consistent with the Service's *Desert Tortoise Field Manual* (Service 2009) to ensure that any desert tortoises moved in this manner are not exposed to temperature extremes that could be harmful.
- CM 35. Constructed road berms will be less than 12 inches high and have slopes less than 30 degrees in desert tortoise habitat.
- CM 36. SCE will prepare and implement a Raven Monitoring, Management, and Control Plan (Raven Plan) consistent with Service common raven management guidelines and that meets the approval of the BLM, Service, and CDFW. The purpose of the Raven Plan will be to minimize project-related predator subsidies and prevent any increases in raven numbers or activity within desert tortoise habitat during construction and restoration phases. The Raven Plan will address all project components and their potential effects on raven numbers and activity. The

threshold for implementation of raven control measures will be any increases in raven numbers from baseline conditions, as detected by monitoring to be implemented pursuant to the Raven Plan. Regardless of raven monitoring results, SCE will be responsible for all other aspects of raven management described in the Raven Plan, such as avoidance and minimization of project-related trash, water sources, or perch/roost/nest sites that could contribute to increased raven numbers. In addition, to offset the cumulative contributions of the project to desert tortoise impacts from increased raven numbers, SCE will contribute to the Service's Regional Raven Management Program.

The Raven Plan will include, but will not be limited to the following components:

- a. Identification of project activities, structures, components, and other effects that could provide predator subsidies or attractants – including potential sources of food and water, nesting materials, as well as nest or perch sites. These will include, but will not be limited to, waste food material, road-killed animals, water storage, potential pooling from leaks, dust control, or wastewater, debris from brush clearing, and perch or roost sites on project facilities and infrastructure.
- b. Management practices to avoid or minimize conditions that might increase raven numbers and predatory activities.
- c. Appointment of a qualified biologist who will implement a monitoring schedule and field methods for locating any ravens present in the project vicinity and detecting any increase in raven numbers or activity.
- d. Specification of raven activity thresholds for implementation of control measures.
- e. Description of control practices for ravens to be implemented as needed based on the monitoring results.
- f. Monitoring and nest removal during construction and as needed thereafter. Post-construction nest monitoring and removal, searches for desert tortoise remains, and common raven removal will be conducted for 3 to 5 years after construction and post-construction restoration activities are completed or until SCE demonstrates, and California Public Utilities Commission (CPUC), BLM, Service, and CDFW agree, that any or all of these actions are no longer necessary based on the results of the nest monitoring surveys.
- g. Reporting schedules and requirements.
- h. No later than 30 days prior to the start of construction, SCE will contribute to the Service's Regional Raven Management Program by making a one-time payment of \$105 per acre of long-term or permanent project disturbance

within the geographic range of desert tortoise or as specified by the Service to the National Fish and Wildlife Federation Renewable Energy Action Team raven control account.

Coachella Valley Milk-vetch (CVMV)

In addition to the applicable general measures above, SCE will implement the following measures during pre-construction, construction, and post-construction/restoration to avoid and/or minimize potential impacts to the milk-vetch and its designated critical habitat:

- CM 37. A biological monitor familiar with Coachella Valley milk-vetch in all its life forms will conduct pre-construction surveys, between January and May, during the plant's growing and flowering season. GPS coordinates of plant locations will be recorded with high precision (to within 1 meter), stored in an electronic database, and submitted to the Service and the California Natural Diversity Database within 1 year of the survey.
- CM 38. If present, the milk-vetch plants will be marked conspicuously with pin flags and protected in place to the maximum extent practicable by using a barrier such as exclusion fencing to protect populations. If the milk-vetch plants cannot be avoided, the biological monitor will collect milk-vetch seeds from within the Project impact area. Seed collection will occur when the seed is past "soft dough" and prior to being naturally dispersed. The biological monitor will collect the top 4 inches of soil surrounding the identified plants and place in plastic bags. The biological monitor will distribute this seed and soil immediately following collection to locations pre-determined by the Service and BLM on non-reservation land, and by the BIA and Morongo Band of Mission Indians if the milk-vetch is found on the Morongo Reservation.
- CM 39. For work areas in designated critical habitat, disturbances will be limited to "drive and crush" to the extent feasible; this means no grading and/or removal of plant roots will occur. Where grading and/or excavation are needed in native habitats, the top 4 inches of top soil will be salvaged and stockpiled onsite. Upon completion of the construction activities, the topsoil will be spread across the disturbance areas to conserve the native seed bank.

Stephens' Kangaroo Rat (SKR)

In addition to the applicable general measures above, the following measures will be implemented during pre-construction, construction, and post-construction/restoration to avoid potential take of SKR and impacts to habitat:

- CM 40. A SKR Qualified Biologist⁶ will conduct protocol trapping surveys for SKR in suitable habitats within the action area in the trapping season prior to the initial start of construction. The trapping area will include a 100-foot buffer around construction areas. The name and qualifications of the SKR Qualified Biologist will be submitted to BLM at least 30 days prior to project construction in suitable SKR habitat.
- CM 41. Immediately prior to the start of construction in suitable habitat for SKR, the SKR Qualified Biologist will conduct focused pedestrian surveys to determine if SKR sign (burrows, scat, etc.) is present in all areas within 100-feet of work sites or other project activities that would permanently or temporarily affected soils or vegetation. If sign is present, then SCE will conduct focused trapping surveys according to accepted protocols to determine presence or absence of SKR. If SKR are present, then SCE will halt construction in potential SKR occupied habitat and contact the Service to determine next steps.

Habitat Restoration, Mitigation, and Conservation

Prior to starting construction, SCE will prepare a Habitat Restoration and Revegetation Plan (HRRP) to restore or revegetate all temporary disturbance areas, including temporary disturbance areas around tower construction sites, laydown or staging areas, temporary access areas and roads, cut and fill slopes, and locations of existing towers that are removed during construction of the proposed Project. The HRRP will guide the revegetation in the action area where dominant land cover consists of native vegetation as defined and agreed to by the BLM, Morongo Band of Mission Indians, and the Wildlife Agencies. The HRRP will be designed to replace the habitat values present prior to disturbance (i.e., native plant species cover, habitat structure, and soil or substrate conditions). The HRRP will address site-specific conditions, methodology and technique, implementation schedule, monitoring and maintenance, and success criteria. Temporary disturbance areas that cannot be effectively revegetated or restored to replace habitat values within a 5-year timeframe will be categorized as permanent disturbance areas and addressed through the compensation measures described below. The HRRP will be submitted to the BLM, Service, and CDFW for review and approval after completion of final engineering and prior to the start of construction. The HRRP will also be submitted for review and approval to the BIA and Morongo Band of Mission Indians for tribal trust lands.

SCE will compensate for permanent or long-term habitat loss on lands not covered through the MSHCP PSE process through off-site habitat acquisition and management, or through

⁶ A Qualified Biologist for SKR is a biologist approved by BLM to conduct surveys, trapping, and monitoring for SKR.

participation in an approved in-lieu fee compensatory mitigation bank. This compensation may be accomplished by contributing to or complementing the reserve assembly in each MSHCP region. This approach will be applicable to all permanent project disturbance areas and to areas designated as temporary disturbance that cannot be effectively revegetated or restored to pre-construction conditions.

Habitat compensation for all permanent or long-term habitat loss that is not compensated through participation in the Western Riverside MSHCP or Coachella Valley MSHCP will be accomplished by acquisition of mitigation land or conservation easements or by providing funding for specific land acquisition, endowment, restoration, and other management actions. SCE will acquire and protect, in perpetuity, compensation habitat to mitigate impacts to biological resources as detailed in the following paragraphs. SCE will be responsible for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands.

The acquired lands will occur in covered species' habitat, with equivalent function and value. The replacement habitats are intended to benefit any populations of CAGN, SWFL, LBV, SKR, and desert tortoise adversely affected by the project; therefore, replacement habitat to offset impacts to applicable modeled habitats will be located within or adjacent to priority conservation areas in the Western Riverside MSHCP or Coachella Valley MSHCP with comparable or better habitat value and habitat acquired for impacts to CAGN designated critical habitat will be located within designated CAGN critical habitat with comparable or better habitat value within San Bernardino County. If designated critical habitat for CAGN is not available from willing sellers, alternative compensation lands of equivalent or better habitat function and value in modeled habitat will be considered.

SCE may proceed with ground-disturbing activities before completing all of the required mitigation (including acquisition of lands), monitoring, and reporting activities by ensuring funding to complete those activities. SCE will provide to the Wildlife Agencies, no later than 30 days prior to commencing ground-disturbing activities, documentation (e.g., letter of credit or other agreed upon financial instrument) demonstrating sufficient funds are available to cover all mitigation costs. Funding will be based on the estimated costs of implementing the mitigation, monitoring, and reporting requirements; land acquisition costs for impacts to habitat; costs of enhancing mitigation lands; and long-term maintenance and management. SCE must complete the required acquisition, protection, and transfer of all lands and record the required conservation easements, deed restriction, or other protection measures no later than 18 months after the start of ground disturbing activities. If the 18 month time period is not met and another agreed upon date has not been negotiated with the Wildlife Agencies, SCE will halt construction until a date has been determined.

Immediately after completion of construction-related activities, SCE will record the perimeter of the post-construction project footprints, including all tower pads, spur roads, pulling and splicing stations and access routes, substation components, and other project-related infrastructure in a geographic information system (GIS)-compatible format to verify the extent of project disturbance. The "as-built" impacts will be compared to impact acres identified in this biological

opinion to determine final ground-disturbance associated with project construction. If the final impact acreages are less than those identified in this biological opinion, excess mitigation land can be applied to future impacts along the West of Devers ROW not covered by this biological opinion or the MSHCP's.

In addition, SCE will identify areas suitable for restoration where existing facilities are removed (e.g., tower removal sites and abandoned access roads) and where impacts not related to SCE construction or O&M (e.g., public off-highway vehicle use) have been observed. Successfully restored areas of these types will serve as onsite mitigation for permanent construction impacts of the specific species habitat in which they occur at a ratio of 1:1. Many disturbance areas where existing structures were located are included within larger temporary construction disturbance areas (e.g., removed towers). These areas will be addressed as described in the HRRP. Disturbance areas where existing facilities were located that are not included within larger temporary construction disturbance areas (e.g., existing access roads), and areas not related to SCE construction or O&M for which additional restoration is attempted, will not be added to SCE's compensation burden if not successfully restored in the 5-year timeframe. Due to the preliminary nature of the engineering design, these onsite mitigation areas have not yet been determined. SCE will provide updates, including a quantification of the restoration areas, as the data are available. SCE will focus on identifying areas for onsite mitigation in CAGN critical habitat and desert tortoise modeled habitat on BLM Lands and the Morongo Reservation.

Table 1: Mitigation Ratios by Species

Species	Mitigation Ratio	
	Temporary Impacts	Permanent Impacts
Coastal California gnatcatcher	1:1 for critical habitat ¹	2:1 for critical habitat ¹
Agassiz's desert tortoise	1:1 for occupied habitat	1:1 for occupied habitat

¹ Mitigation for areas of critical habitat exhibiting primary constituent elements.

Monitoring and Reporting Plan

SCE will conduct biological monitoring of construction activities in the action area, including the laydown, staging, access roads, and any area subject to project disturbance, to avoid and minimize impacts to listed species. In addition to performing the duties described in the above measures, project biologists will monitor for any sensitive wildlife species that may be located within or immediately adjacent to the construction areas. If those species are found, the biological monitor will stop work if necessary to prevent imminent harm to the animals and will report the occurrence to a FCR, Qualified Biologist, and/or Authorized Biologist. The FCR will be responsible for overseeing compliance with the mitigation and monitoring measures, and the Authorized and/or Qualified Biologist will be responsible for executing the duties defined therein. Monitoring notes and observations will be recorded daily. An annual report describing monitoring efforts and summarizing observations and actions taken will be prepared and submitted to the BLM, Service, CDFW, BIA, and Morongo Band of Mission Indians. SCE will notify the BLM, Service, and CDFW, if any species listed under the Act are located during construction of the

project. Likewise, the BIA and Morongo Band of Mission Indians will be notified if any listed species are located on the Morongo Reservation during project construction.

SCE will coordinate with the FCR(s), Authorized Biologists, and Qualified Biologists to provide an annual written report to the BLM, Service, and CDFW detailing completed and ongoing construction-related compliance activities, any non-compliance issues pertaining to the CAGN and desert tortoise, and any incidental observations of healthy, injured, or dead individuals of these species. SCE will prepare and provide the annual report by January 31 following each year of construction for the proposed Project. The annual report will describe the activities determined to be out of compliance with the conservation measures and the corrective measures implemented to bring the proposed Project back into compliance. The annual report will also quantify the amount of permanent and temporary suitable/modeled habitat that has been impacted by Project activities for each species listed in the first paragraph of this document.

Action Area

The implementing regulations to section 7(a)(2) of the Act describe the action area to be all areas affected directly or indirectly by the Federal action and not merely the immediate area affected by the Project (50 CFR § 402.02). The action area is the area of potential direct or indirect effects of the proposed action and any interrelated or interdependent human activities; the direct and indirect effects of these activities include associated physical, chemical, and/or biological effects of considerable likelihood. Indirect effects are those that are caused by the proposed action and are later in time but are still reasonably certain to occur (50 CFR § 402.02). Analyses of the environmental baseline, effects of the action on the species and designated critical habitat, cumulative effects, and the impacts of the incidental taking, are based upon the action area as determined by the Service.

The action area consists of the transmission line ROW and the area 500 feet from the outer edges of the ROW; additionally, the action area includes a distance of 1,640 feet from the outer edges of the ROW in desert tortoise habitat. The action area also includes access roads, temporary work areas, pull and tension sites, and staging areas that include a 500-foot buffer that are beyond or located outside the existing transmission ROW.

Finally, the action area will encompass any specific areas protected to offset impacts to listed species as a result of and during the course of implementing this biological opinion. The conservation areas to be acquired as compensation (mitigation) for Project impacts are expected to have only beneficial effects to the species addressed in this consultation, and their descriptions will be added to the administrative record for this consultation once specific locations are known.

CLIMATE CHANGE

The Intergovernmental Panel on Climate Change (IPCC) has concluded that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts

of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased (IPCC 2013). The rapidly changing climate has the potential to affect wildlife throughout North America, either directly or indirectly through responses to changing habitat conditions (Inkley *et al.* 2004).

Climate change assessments that encompass the action area suggest that since the 1970s, the region appears to have experienced widespread warming trends in winter and spring, increased minimum winter temperatures, and more variable precipitation (Weiss and Overpeck 2005). An ecoregional climate change analysis conducted by the Point Reyes Bird Observatory (PRBO) had similar conclusions for the Sonoran (Colorado) desert region of California (PRBO 2011). These assessments align with the general overall climate change predictions for California (Moser *et al.* 2012) and the Southwest in general (Dominguez *et al.* 2010) to indicate a significant rise in temperatures and a shift toward dryer conditions and unpredictable precipitation patterns.

Climate change may have unpredictable effects on the species addressed in this biological opinion, perhaps resulting in a loss of suitable habitat and/or a change in distribution. However, in most cases, we are unable to assess in specific quantitative terms the magnitude of the impact due to the uncertainty relative to climate change effects that will occur and the degree to which suitable habitats will be affected. The best available data indicate long-term climate change effects will continue to have an overall negative effect on the available habitat throughout the range of CAGN and desert tortoise. Where we have specific information on impacts of climate change on CAGN and desert tortoise, it is described below under their individual species accounts.

ANALYTICAL FRAMEWORK FOR THE 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 listed species. It relies on four components: (1) the *Status of the Species*, which describes the rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (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 species; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

ANALYTICAL FRAMEWORK FOR THE DESTRUCTION OR ADVERSE MODIFICATION DETERMINATION

Section 7(a)(2) of the ESA requires that Federal agencies insure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat (CH). A final rule revising the regulatory definition of “destruction or adverse modification” (DAM) was published on February 11, 2016 (81 FR 7214). The final rule became effective on March 14, 2016. The revised definition states:

“Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.”

The DAM analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which describes the range-wide condition of the CH in terms of the key components (i.e., essential habitat features, primary constituent elements, or physical and biological features) that provide for the conservation of the listed species, the factors responsible for that condition, and the intended value of the CH overall for the conservation/recovery of the listed species; (2) the *Environmental Baseline*, which analyzes the condition of the CH in the action area, the factors responsible for that condition, and the value of the CH in the action area for the conservation/recovery of the listed species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated and interdependent activities on the key components of CH that provide for the conservation of the listed species, and how those impacts are likely to influence the conservation value of the affected CH; and (4) *Cumulative Effects*, which evaluate the effects of future non-Federal activities that are reasonably certain to occur in the action area on the key components of CH that provide for the conservation of the listed species and how those impacts are likely to influence the conservation value of the affected CH.

For purposes of making the DAM determination, the Service evaluates if the effects of the proposed Federal action, taken together with cumulative effects, are likely to impair or preclude the capacity of CH in the action area to serve its intended conservation function to an extent that appreciably diminishes the rangewide value of CH for the conservation of the listed species. The key to making that finding is to understand the value (i.e., the role) of the CH in the action area for the conservation/recovery of the listed species based on the *Environmental Baseline* analysis.

GENERAL ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR § 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all

proposed Federal projects in the action area that have undergone section 7 consultation and the impacts of State and private actions that are contemporaneous with the consultation in progress.

Habitat Characteristics of the Action Area

The transmission lines traverse the San Timoteo Badlands, span San Timoteo Creek, the San Gorgonio River, and the Whitewater River, and run through the San Gorgonio Pass into the western Sonoran Desert. Collectively, these areas contain vegetation communities and landcover that include grassland (both native and non-native), chaparral, coastal sage scrub, desert scrub, coast live oak woodland, riparian woodland, alluvial scrub, dirt roads/trails, agricultural land, and open water.

Habitat Conservation Plans within the action area

In Riverside County, 18.4 linear miles of the route (Segment 4 and portions of Segments 3 and 5) are within the Western Riverside MSHCP and 22 linear miles (Segment 6 and portions of Segment 5) are within the Coachella Valley MSHCP. Within the Western Riverside MSHCP the route traverses the Reche Canyon/Badlands and the Pass Area Plans. Within the Coachella Valley MSHCP area the route traverses through the following Conservation Areas (from west to east): Cabazon, Stubbe and Cottonwood Canyons, Whitewater Canyon, and Upper Mission Creek/Big Morongo Canyon.

The Western Riverside MSHCP plan area encompasses approximately 1.26 million acres in western Riverside County and includes conservation objectives to conserve species and associated habitats to address biological and ecological diversity conservation needs. The Plan calls for the conservation and management of approximately 500,000 acres within western Riverside County. Of the 500,000 acres, approximately 347,000 acres were in public/quasi-public ownership when the conservation strategy was developed. Achievement of the 500,000-acre goal depends on conservation of an additional 153,000 acres within the plan area. As of 2013, 46,861 acres of the 153,000 acres needed to achieve the conservation goals have been acquired (RCA 2015). Monitoring activities within the conservation areas have provided information on species distribution and persistence, effects of invasive species, and effectiveness of biological corridors.

The Coachella Valley MSHCP plan area encompasses approximately 1.1 million acres in Riverside County's Coachella Valley. The Coachella Valley MSHCP includes conservation objectives that provide for the long-term conservation of ecological diversity by conserving core habitat for covered species and natural communities, essential ecological processes necessary to maintain habitat viability, and biological corridors and linkages within 21 Conservation Areas. This plan calls for the conservation and management of approximately 746,100 acres within the plan area. Of the 746,100 acres, approximately 557,100 acres were existing conservation lands when the Cooperative Agreement for developing the plan was signed in 1996. Achievement of the 746,100 acre goal depends on conservation of an additional 189,000 acres within the plan area. As of 2015, 87,000 acres of the 189,000 acres needed to achieve the conservation goals have been acquired (CVCC 2016). Monitoring activities within the Conservation Areas have provided

information on species distribution and persistence, effects of invasive species, and effectiveness of biological corridors.

SPECIES BY SPECIES EVALUATIONS AND CONCLUSIONS

Status of CAGN Designated Critical Habitat

We proposed critical habitat on February 7, 2000, and designated final critical habitat on October 24, 2000 (65 FR 63680). We then revised the designated critical habitat and issued a revised proposed rule on April 24, 2003. We issued a revised final designation of CAGN critical habitat on December 19, 2007 (72 FR 72010). The designated critical habitat includes 197,303 acres of Federal, state, local, and private land in Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego Counties.

Designated critical habitat is divided into 13 critical habitat units and provides habitat features essential for the conservation and recovery of CAGN (Service 2007). These habitat features include: (1) dynamic and successional sage scrub habitats consisting of Venturan coastal sage scrub, Diegan coastal sage scrub, Riversidean sage scrub, maritime succulent scrub, Riversidean alluvial fan scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub that provide space for individual and population growth, normal behavior, breeding, reproduction, nesting, dispersal, and foraging; and (2) non sage scrub habitats such as chaparral, grassland, and riparian areas, in proximity to sage scrub habitats as described above that provide space for dispersal, foraging, and nesting. These sage scrub habitats are patchily distributed throughout the range of the species, and CAGN are not uniformly distributed within the structurally and floristically variable coastal sage scrub vegetation community.

Designated critical habitat includes suitable habitat throughout the species' range under private, state, and Federal ownership and include populations throughout the U.S. range of the species in a variety of climatic zones and vegetation types to preserve the genetic and behavioral diversity that currently exist within the species. Known movement corridors are also included to allow for demographic and genetic interchange between populations.

The Project action area, specifically Segment 2, is within Unit 10 of CAGN designated critical habitat. Unit 10 includes approximately 27,529 acres, the majority of which is under private and Federal (U.S. Forest Service, BLM) ownership. Of this total, 21,776 acres are in the Western Riverside MSHCP Plan Area and approximately 5,757 acres are within southern San Bernardino County adjacent to the Western Riverside MSHCP boundary. About 73 percent (4,226 acres) of the critical habitat lands in San Bernardino County are under private ownership. These areas were designated as critical habitat because at the time of designation they were occupied and/or contained the habitat features essential to the conservation and recovery of the CAGN. The conservation function of critical habitat in this area is to provide live-in habitat where CAGN can forage, shelter, reproduce, and disperse. Habitat features that support this function include sage scrub habitats. Additional habitat features that support dispersal are found in undeveloped areas that provide connectivity or linkage between larger core areas, including open space and ruderal

(weedy areas that contain introduced plant species) and areas that may receive low human use. Additionally, this unit provides for connectivity and genetic interchange among core populations and contains blocks of high-quality habitat capable of supporting persistent populations of CAGN. The habitat features contained within this unit may require special management considerations or protection to minimize impacts associated with habitat type conversion and degradation occurring in conjunction with urban and agricultural development.

Environmental Baseline – CAGN Designated Critical Habitat

Designated critical habitat occurs just east of the Vista Substation where the existing West of Devers corridor passes through the cities of Grand Terrace and Loma Linda on either side of Reche Canyon Road, in Segment 2. Within this segment, the Project ROW, along with a 300 foot survey buffer, includes about 510.67 acres of CAGN designated critical habitat, all within San Bernardino County. The Project is located on the northwestern edge of this critical habitat unit and includes patchily distributed sage scrub and grassland habitats. Portions of the designated critical habitat in this area have been disturbed by roads, residential areas, and off-road vehicle activity; however, most of the area provides suitable habitat for breeding, nesting, foraging, and dispersal and contains high-quality habitat capable of supporting persistent populations (LSA 2013b). This unit also provides a habitat linkage and genetic interchange between the most northerly population of CAGN (Highland/Redlands and Lytle Creek) and populations throughout the Western Riverside MSHCP.

Most of the conservation efforts within Unit 10 include implementation of the Western Riverside MSHCP. We concluded in the 2004 biological opinion for that plan that effects of issuing the Western Riverside MSHCP permit on designated critical habitat for the CAGN, together with the offsetting land conservation and adaptive management prescriptions, would not appreciably diminish the value of the habitat features essential to the species' conservation and recovery.

Effects of the Action – CAGN Designated Critical Habitat

Direct Effects

The Project will result in the permanent loss of up to 10.11 acres of CAGN designated critical habitat and temporary loss of up to 41.01 acres of CAGN designated critical habitat in Unit 10 in San Bernardino County. Project effects will be isolated to small patches along an approximately 3.4 mile long 500 foot-wide ROW. Construction within the ROW would consist of ground disturbance from tower removal and installation, spur and access road construction, shoo-fly sites, wire installation sites, and slicing and pulling sites (Table 2). These impacts represent less than 0.2 percent of the 27,529 acres of designated critical habitat within Unit 10.

Removal of vegetation and grading will eliminate potential cover and nesting sites and forage areas. The loss of habitat may reduce the unit's value as a linkage between populations to the north of the species range. This area is the only critical habitat unit that connects the Highland/Redlands and Lytle Creek populations to populations in Riverside County, such as those

in the Western Riverside MSHCP. The disturbance of this habitat could also reduce the exchange of genetic material between nearby populations and isolate the southern and northern populations.

To offset permanent loss of habitat and ensure habitat connectivity is not diminished, SCE will provide funds to acquire, preserve, and manage up to 20.22 acres of designated critical habitat or habitat that supports the essential habitat features necessary for the conservation and recovery of the species in Unit 10. Temporary loss of up to 41.01 acres of CAGN designated critical habitat will be offset by on-site restoration of designated critical habitat in Unit 10.

Indirect Effects

The Project could lead to an increase in the factors leading to habitat type conversion, such as, the introduction of invasive species, wildland fire activity, and urbanization. The introduction of invasive species in conjunction with the opening/disturbing of land for construction can result in habitat type conversion (Service 2016). Invasive plants respond positively to ground surface disturbing activities and are able to quickly recolonize areas disturbed by construction activities. To offset these effects, SCE will limit the areas to be disturbed by construction to the extent feasible (CM 3) (CH2MHill 2016b), avoid removal of native vegetation during construction (CM 7), and prepare and implement an Integrated Weed Management Plan (CM 9) and a Habitat Restoration and Revegetation Plan.

Although there have not been recent fires in the CAGN habitat in the action area, there has been a general increase in fire frequency throughout southern California. To prevent the impact of wildfires SCE will implement best management practices to avoid and prevent the spread of fires including maintaining a vegetation-free corridor on roads (CH2MHill 2016b).

Utility access roads have become a gateway for off-road vehicles to access the hills east and west of Reche Canyon and create social vehicle trails. Satellite images show numerous spur roads originating from the SCE utility access roads (BA Figure 7 Sheets 50-53). Use of unauthorized off-road areas results in adverse effects to designated critical habitat through direct destruction of CSS habitat and indirectly through introduction of invasive plant species (notably grass species), wildland fires due to increased ignition sources, increased erosion, noise disturbance, pollution, and litter. SCE will, as feasible, close and secure access roads and limit traffic to only project personnel (CM 11).

Effect on Recovery

According to section 2(b) of the Act, the primary purposes of the Act are to provide a means whereby the ecosystems upon which listed species depend may be conserved, and to provide a program for the recovery of listed species. Under section 2(c), Congress established a policy requiring all Federal agencies to use their authorities in seeking to recover listed species in furtherance of the purposes of the Act. Consistent with these purposes and Congressional policy, sections 3(5), 4(f), 7(a)(1), the implementing regulations to section 7(a)(2) at 50 CFR § 402.02

and related preamble at 51 FR 19926 (June 3, 1986) generally require Federal agencies to further the survival and recovery of listed species in the use of their authorities.

Although the Project will result in the permanent loss of CAGN designated critical habitat, these impacts are not likely to affect recovery of CAGN since they are spread over about 510.67 acres and will occur in small isolated patches measured in acres or square feet, thus minimizing effects to the physical and biological features that support the conservation and recovery of CAGN. Also, permanent impacts will be offset at a 2:1 ratio, totaling 20.22 acres to be managed in perpetuity for the recovery of the species. Upon completion of project construction, all temporary impacts to CAGN designated critical habitat will be restored to pre-impact conditions with native plant species. Restoration of temporary impacts will ensure these areas are available for breeding, nesting, foraging, and dispersal following project completion. SCE will prepare a HRRP prior to the start of construction to describe the methods of revegetation and restoration of temporary impact sites and ensure restoration is successful.

Cumulative Effects – CAGN Designated Critical Habitat

Cumulative effects include the effects of future State, Tribal, local, or private actions 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. We have no information regarding any future non-Federal actions within the action area that may affect the CAGN.

Conclusion – CAGN Designated Critical Habitat

The Project will result in the permanent loss of up to 10.11 acres of CAGN designated critical habitat and temporary loss of up to 41.01 acres of CAGN designated critical habitat. The Service evaluates whether the effects of the proposed Federal action, taken together with cumulative effects, are likely to impair or preclude the capacity of designated critical habitat in the action area to serve its intended conservation function to an extent that appreciably diminishes the rangewide value of designated critical habitat for the conservation of the species.

After reviewing the current status of CAGN designated critical habitat, environmental baseline for the action area, effects of the proposed action, and the cumulative effects, it is our biological opinion the proposed action is not likely to result in destruction or adverse modification to CAGN designated critical habitat because Unit 10 will continue to support habitat components that provide for breeding, foraging, sheltering, roosting, dispersal, and genetic exchange and designated critical habitat rangewide will continue to serve its intended conservation function.

Our conclusion is based on the following effects of the project:

1. Impacts to CAGN designated critical habitat will be adequately minimized by adhering to the avoidance and minimization measures described in the conservation measures section above.

2. Permanent impacts to CAGN designated critical habitat will be adequately offset by protecting and managing in perpetuity up to 20.22 acres of designated critical habitat or habitat with the essential habitat features to support the conservation and recovery and CAGN.
3. Temporary effects will be minimized by the restoration and/revegetation of all temporarily effected areas with native vegetation in accordance with the approved HRRP and IWMP.

Table 2 - Impact Assessment

West of Devers Biological Assessment Impact Analysis - April 2016				
PROJECT COMPONENT	California Gnatcatcher ¹		Desert Tortoise	
	Unoccupied Suitable Habitat	Designated Critical Habitat	Modeled Habitat on Morongo Indian Reservation	CVMSHCP Modeled Habitat on BLM Lands
Permanent Access Road	0.76	1.80	1.36	0.98
Permanent Drainage/Erosion Control Features	0.01	0.04	0.01	0.01
Permanent Tower Disturbance Area	1.04	2.78	2.10	1.31
Potential Road Widening	1.44	5.49	2.65	1.80
Permanent Total	3.25	10.11	6.12	4.10
Temporary Staging Areas	1.03	1.74	0.00	0.01
Temporary Access Road Work Limits	0.68	0.00	0.00	0.20
Temporary Drainage/Erosion Control Work Areas	0.13	0.91	0.21	0.24
Temporary Guard Structure Area	0.73	0.62	0.61	0.00
Temporary Shoofly Work Areas	0.00	7.73	0.00	0.00
Temporary Splice Removal Areas	0.26	0.00	2.76	0.05
Temporary Subtrans/Distribution/Telecom Work Areas	0.00	0.00	0.00	0.00
Temporary Tower Disturbance Area	8.50	26.78	22.54	12.31
Temporary Wire Setup	3.92	3.23	12.37	3.77
Temporary Total	15.25	41.01	38.49	16.58
PERMANENT and TEMPORARY TOTALS	18.50	51.12	44.61	20.68

Notes:

[1] Impact acreages only include areas within San Bernardino County.

Status of the Desert Tortoise

The Service listed the desert tortoise as threatened in 1990 (55 FR 12178). The threats described in the listing rule and both the original and revised recovery plans (Service 1994, 2011) continue to affect the species. The most apparent threats to the desert tortoise are those that result in mortality and permanent habitat loss across large areas, such as urbanization and large-scale renewable energy projects, and those that fragment and degrade habitats, such as proliferation of roads and highways, off-highway vehicle activity, and habitat invasion by non-native invasive plant species.

Threats

We remain unable to quantify how threats affect desert tortoise populations. The assessment of the original recovery plan emphasized the need for a better understanding of the implications of multiple, simultaneous threats facing desert tortoise populations and of the relative contribution of multiple threats on demographic factors [i.e., birth rate, survivorship, fecundity, and death rate; (Tracy *et al.* 2004)].

To better understand the relationship of threats to populations of desert tortoises and the most effective manner to implement recovery actions, the Desert Tortoise Recovery Office developed a spatial decision support system that models the interrelationships of threats to desert tortoises and how those threats affect population change. The spatial decision support system describes the numerous threats that desert tortoises face, explains how these threats interact to affect individual animals and habitat, and how these effects in turn bring about changes in populations. For example, in the case of transmission lines we have long known the construction of these structures can result in the death of desert tortoises and loss of habitat. We have also known that common ravens, known predators of desert tortoises, use the transmission line's pylons for nesting, roosting, and perching and that the access routes associated with transmission lines provide a vector for the introduction and spread of invasive weeds and facilitate increased human access into an area. Increased human access can accelerate illegal collection and release of desert tortoises and their deliberate maiming and killing, as well as facilitate the spread of other threats associated with human presence, such as vehicle use, garbage and dumping, and invasive plants (Service 2011). Changes in the abundance of native plants because of invasive weeds can compromise the physiological health of desert tortoises, making them more vulnerable to drought, disease, and predation. The spatial decision support system allows us to map threats across the range of the desert tortoise and model the intensity of stresses that these multiple and combined threats place on desert tortoise populations.

Figure 1 depicts the 12 critical habitat units of the desert tortoise, linkages between conservation areas (e.g., desert wildlife management areas, Service critical habitat, BLM Areas of Critical Environmental Concern, and national parklands and wildlife refuges), and the aggregate stress that multiple, synergistic threats place on desert tortoise populations, as modeled by the spatial decision support system.

Recovery Plan

The Service (1994, 2011) has issued an initial recovery plan and a revised recovery plan for the desert tortoise. The revised recovery plan for the desert tortoise (Service 2011) lists three objectives and associated criteria to achieve delisting: (1) maintain self-sustaining populations of desert tortoises within each recovery unit into the future; (2) determine the distribution of desert tortoises throughout recovery units; and (3) connect blocks of desert tortoise habitat, such as critical habitat units and other important areas to maintain gene flow between populations. For more information on recovery goals and objectives, refer to the 2011 recovery plan (Service 2011).

Five-Year Review

In the desert tortoise 5-year review (Service 2010), the Service discusses the status of the desert tortoise as a single distinct population segment and provides information on the Federal Register notices that resulted in its listing and the designation of critical habitat. The Service also describes the desert tortoise's ecology, life history, spatial distribution, abundance, habitats, and the threats that led to its listing (i.e., the five-factor analysis required by section 4(a)(1) of the Endangered Species Act). In the 5-year review, the Service concluded by recommending the status of the desert tortoise as a threatened species be maintained.

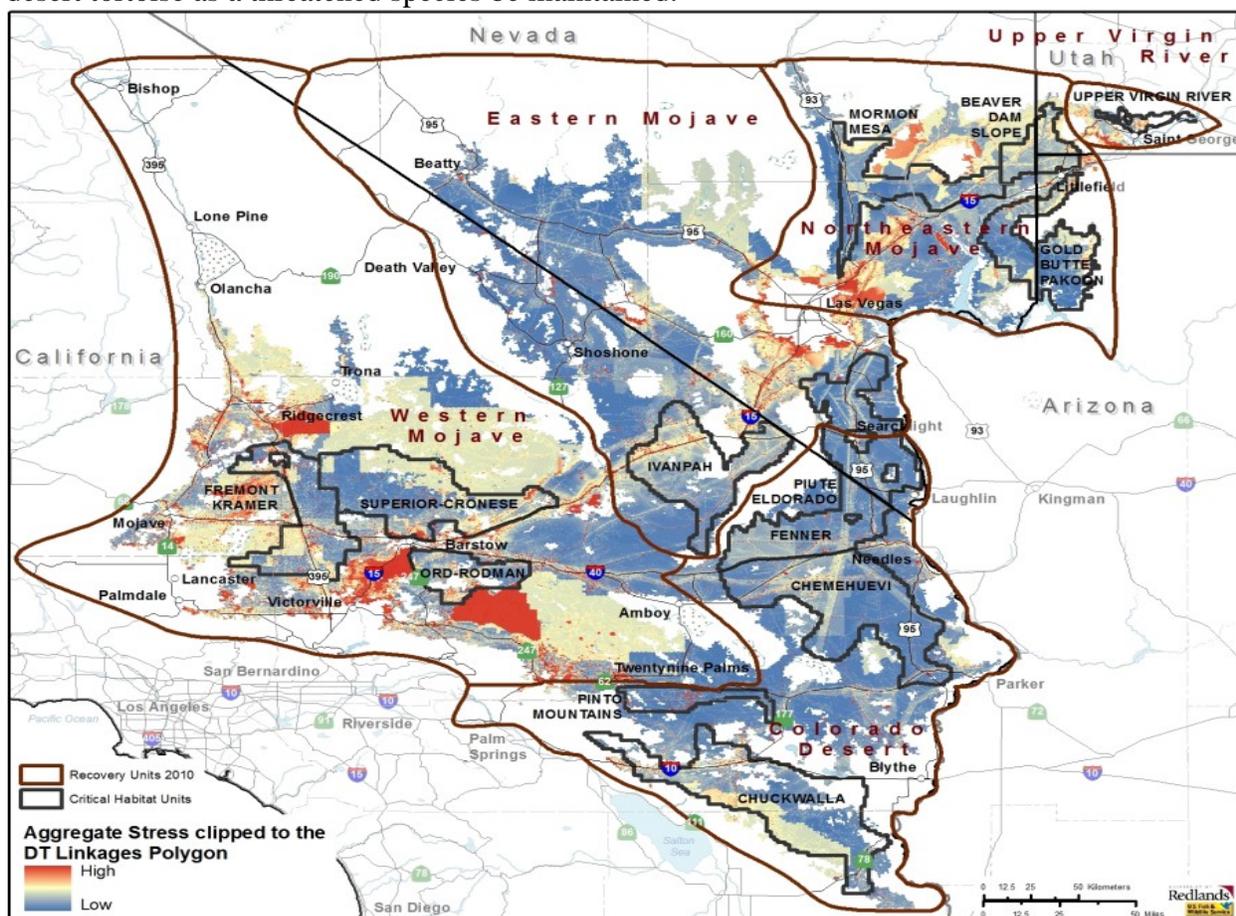


Figure 1. Map of desert tortoise critical habitat units with associated linkage stressors.

Of key importance to assessing threats to the species and to developing and implementing a strategy for recovery is that desert tortoises are long lived, require up to 20 years to reach sexual maturity, and have low reproductive rates during a long period of reproductive potential. The number of eggs that a female desert tortoise can produce in a season is dependent on a variety of factors including environment, habitat, availability of forage and drinking water, and physiological condition. Predation seems to play an important role in clutch failure. Predation and environmental factors also affect the survival of hatchlings. The Service notes in the 5-year

review that the combination of the desert tortoise's late breeding age and a low reproductive rate challenges our ability to achieve recovery.

Since the completion of the 5-year review, the Service has issued numerous biological opinions on proposed renewable energy projects impacting thousands of acres of desert tortoise habitat. These biological opinions concluded that proposed solar plants were not likely to jeopardize the continued existence of the desert tortoise primarily because they were located outside of critical habitat and desert wildlife management areas that contain most of the land base required for the recovery of the species. The proposed actions also included numerous measures intended to protect desert tortoise during the construction of the projects, such as translocation of affected individuals. The mitigation required by the BLM and California Energy Commission when permitting many of these facilities resulted in the acquisition of private land and funding for the implementation of various actions that are intended to promote the recovery of the desert tortoise. We expect, based on the best available scientific information, that the mitigation measures will result in conservation benefits to the desert tortoise; however, it is difficult to assess how desert tortoise populations will respond because of the long generation time of the species.

As the Service notes in the 5-year review (Service 2010), "(t)he threats identified in the original listing rule continue to affect the (desert tortoise) today, with invasive species, wildfire, and renewable energy development coming to the forefront as important factors in habitat loss and conversion." Global climate change is also likely to affect the prospects for the long-term conservation of the desert tortoise. For example, predictions for climate change within the range of the desert tortoise suggest more frequent and/or prolonged droughts with an increase of the annual mean temperature by 3.5 to 4.0 degrees Celsius (Christensen *et al.* 2007 in Service 2010). The greatest increases will likely occur in summer months (June-July-August) with mean increase of as much as 5 degrees Celsius. Precipitation will likely decrease by 5 to 15 percent annually, with winter precipitation decreasing by up to 20 percent and summer precipitation increasing by up to 5 percent (Christensen *et al.* 2007 in Service 2010). Because germination of the desert tortoise's food plants is highly dependent on cool-season rains, the forage base could be reduced due to increasing temperatures and decreasing precipitation in winter. Although drought occurs routinely in the Mojave Desert, extended periods of drought have the potential to affect desert tortoises and their habitats through physiological effects to individuals (i.e., stress) and limited forage availability. To place the consequences of long-term drought in perspective, Longshore *et al.* (2003) demonstrated that even short-term drought (i.e., 2-years) could result in elevated levels of mortality of desert tortoises. Therefore, long-term drought is likely to have even greater effects, particularly given that the current fragmented nature of desert tortoise habitat (e.g., urban and agricultural development, highways, freeways, military training areas, etc.) will make recolonization of extirpated areas difficult, if not impossible.

Criteria for the Jeopardy Determination

Based on information in our 5-year review and more recent information, the following summarizes the status of the desert tortoise with respect to its reproduction, numbers, and distribution.

Reproduction

In the 5-year review, the Service identifies various factors that impact desert tortoise reproduction. For instance, desert tortoises increase their reproduction in high rainfall years; more rain provides desert tortoises with more high quality food (i.e., plants that are higher in water and protein), which, in turn, allows them to lay more eggs. Conversely, the physiological stress associated with foraging on food plants with insufficient water and nitrogen can negatively impact desert tortoise body condition and result in greater vulnerability to disease (Ofstedal *et al.* 2002 in Service 2010). The reproductive rate of desert tortoises under these stressors is likely lower than that of animals not exposed to these conditions. Both adult and young desert tortoises rely upon high-quality, low-fiber plants (e.g., native annual plants) with nutrient levels not found in the invasive weeds that have increased in abundance across their range (Ofstedal *et al.* 2002; Tracy *et al.* 2004). Compromised nutrition of young desert tortoises likely represents an effective reduction in reproduction by reducing the number of animals that reaches adulthood. Consequently, although we do not have quantitative data that show a direct relationship, the abundance of weedy species within the range of the desert tortoise has the potential to negatively affect both the reproduction of adult desert tortoises and recruitment into the adult population. Various human activities and associated disturbance (e.g., paved and unpaved roads, railroads, motorcycle trials, etc.) serve as pathways that facilitate the introduction and spread of invasive weeds in desert tortoise habitat that can negatively affect desert tortoise reproduction.

Numbers

In the 5-year review, the Service discusses the various methods researchers have used to determine the abundance of desert tortoises and the strengths and weaknesses of those methods. Due to differences in methodology (e.g., coverage site selection and site selection) data gathered by the Service's current range-wide monitoring program cannot currently be reliably compared to information gathered through other means.

Data from small-scale study plots (e.g., 1 square mile) established as early as 1976 and surveyed primarily through the mid-1990s indicate that localized population declines occurred at many sites across the desert tortoise's range, especially in the western Mojave Desert; spatial analyses of more widespread surveys also found evidence of relatively high mortality in some parts of the range (Tracy *et al.* 2004). Although population densities from the local study plots cannot be extrapolated to provide an estimate of the number of desert tortoises on a range wide basis, historical densities in some parts of the desert exceeded 100 adults in a square mile (Tracy *et al.* 2004). The Service (2010) concluded that "appreciable declines at the local level in many areas, which coupled with other survey results, suggest that declines may have occurred more broadly."

The range-wide monitoring the Service initiated in 2001 is the first comprehensive attempt to determine the densities of desert tortoises in conservation areas across their range. The Desert Tortoise Recovery Office (Service 2015a) used annual density estimates obtained from this sampling effort to evaluate range-wide trends in the density of desert tortoises over time. The analysis indicates that densities in the Northeastern Mojave Recovery Unit have increased since

2004, with the increase apparently resulting from increased survival of adults and sub-adults moving into the adult size class. The analysis also indicates populations in the other four recovery units are declining (Table 3). Densities in the Joshua Tree and Piute Valley conservation areas within the Colorado Desert Recovery Unit seem to be increasing, although densities in the recovery unit as a whole continue to decline.

Table 3. Change in desert tortoise abundance in among recovery units between 2004 and 2014 sampling periods.

Recovery Units	2014 Density (adults/km²)	2004 Abundance	2014 Abundance	Change	Percentage of Change
Western Mojave	2.8	35,777	17,644	-18,133	-51
Colorado Desert	4.0	67,087	42,770	-24,317	-36
Northeastern Mojave	4.5	4,920	18,220	+13,300	+270
Eastern Mojave	1.9	16,165	5,292	-10,873	-67
Upper Virgin River	15.3	2,397	1,760	-637	-27
Total		126,346	85,686	-40,660	-32

In our summary of the results of range-wide sampling (Service 2014), we extrapolated the densities obtained within conservation areas to all modeled habitat of the desert tortoise. This extrapolation likely exaggerated the number of desert tortoises because we applied the values for areas where densities are generally highest (i.e., the conservation areas) to areas where desert tortoises exist in very low densities (e.g., the Antelope Valley). We are also aware of a few areas where the density of desert tortoises outside of conservation areas is higher than inside.

To further examine the status of desert tortoise populations over time, we compared the densities of desert tortoises in the Western Mojave Recovery Unit between 2004 and 2014 (see Service 2015a). In 2004, desert tortoise conservation areas surveyed in the Western Mojave Recovery Unit supported an average density of approximately 5.7 adult desert tortoises per square kilometer (14.8 desert tortoises per square mile). In contrast, surveys in the same areas in 2014 indicated that densities had decreased to 2.8 adult desert tortoises per square kilometer (7.3 tortoises per square mile). This decline in desert tortoise densities is consistent with decreases in density of desert tortoise populations in all recovery units over the same time period, with the exception of the Northeastern Mojave Recovery Unit. Historical survey data from the Western Mojave Recovery Unit during the late 1970s and early 1980s suggests that densities of adult desert tortoise in numerous survey plots ranged from 50-150 adult tortoises per square mile (Tracy *et al.* 2004).

Allison (2014) evaluated changes in desert tortoise size-class distribution since 2001. In the Western Mojave and Colorado Desert recovery units, the relative number of juveniles to adults indicates that juvenile numbers are declining faster than adults. In this context, we consider “juvenile” desert tortoises to be animals smaller than 180 millimeters in length. In the Eastern Mojave, the number of juvenile desert tortoises is also declining, but not as rapidly as the number of adults. In the Upper Virgin River Recovery Unit, trends in juvenile numbers are similar to those of adults; in the Northeastern Mojave Recovery Unit, the number of juveniles is increasing, but not as rapidly as are adult numbers in that recovery unit. Juvenile numbers, like adult densities, indicate consistent trajectories, with increasing, stable, or decreasing trends, depending

on the recovery unit where they are found. The Service does not include juveniles detected during range-wide sampling in density estimations because they are more difficult to detect and frequently missed during sampling. However, this systematic range-wide sampling provides us with an opportunity to compare the proportion of juveniles to adults observed between years.

Distribution

In recognition of the absence of specific and recent information on the location of habitable areas of the Mojave Desert, especially at the outer edges of this area, Nussear *et al.* (2009) developed a quantitative, spatial habitat model for the desert tortoise north and west of the Colorado River. The model incorporates environmental variables such as precipitation, geology, vegetation, and slope and is based on occurrence data of desert tortoises from sources spanning more than 80 years, including data from the 2001 to 2008 range-wide monitoring surveys. The model predicts the relative potential for desert tortoises to be present in any given location, given the combination of habitat variables at that location in relation to areas of known occupancy throughout the range; calculations of the amount of desert tortoise habitat in the 5-year review (Service 2010) use a threshold of 0.5 or greater predicted value for potential desert tortoise habitat. Similarly, the Coachella Valley MSHCP modeled desert tortoise habitat within the plan area based on a suite of environment variables and then delineated core habitat areas based on input from desert tortoise experts (CVAG 2007). These models do not account for anthropogenic effects to habitat and represent the potential for occupancy by desert tortoises absent these effects.

Prior to 1994, desert tortoises were extirpated from large areas within their known distribution by urban and agricultural development (e.g., the cities of Barstow and Lancaster, California; Las Vegas, Nevada; and St. George, Utah; agricultural areas south of Edwards Air Force Base and east of Barstow), military training (e.g., Fort Irwin, Leach Lake Gunnery Range), and off-road vehicle use (e.g., portions of off-road management areas managed by the BLM and unauthorized use in areas such as east of California City, California).

Since 1994, urban development around Las Vegas has likely been the largest contributor to habitat loss throughout the range. Desert tortoises have been essentially removed from the 18,197-acre southern expansion area at Fort Irwin (Service 2012b). The development of large solar facilities has also reduced the amount of habitat available to desert tortoises. No solar facilities have been developed within desert tortoise conservation areas, such as desert wildlife management areas, although these projects have occurred in areas the Service considers important linkages between conservation areas (e.g., Silver State South Project in Nevada).

Table 4 summarizes acreages of habitat (as modeled by Nussear *et al.* 2009, using only areas with a probability of occupancy by desert tortoises greater than 0.5 as potential habitat) within desert tortoise recovery units and of impervious surfaces as of 2006 (Fry *et al.* 2011); calculations are by Darst (2014). Impervious surfaces include paved and developed areas and other disturbed areas that have zero probability of supporting desert tortoises.

In our 5-year review (Service 2010), we concluded, the distribution of the desert tortoise has not changed substantially since the publication of the original recovery plan in 1994 in terms of the overall extent of its range. Since 2010, we again conclude the species' distribution has not changed substantially in terms of the overall extent of its range, although desert tortoises have been removed from several thousand acres because of solar development and military activities.

Table 4. Amount (in acres) of modeled desert tortoise habitat by recovery unit.

Recovery Units	Modeled Habitat	Impervious Surfaces (percentage)	Remaining Modeled Habitat
Western Mojave	7,585,312	1,989,843 (26)	5,595,469
Colorado Desert	4,950,225	510,862 (10)	4,439,363
Northeastern Mojave	3,012,293	386,182 (13)	2,626,111
Eastern Mojave	4,763,123	825,274 (17)	3,937,849
Upper Virgin River	231,460	84,404 (36)	147,056
Total	20,542,413	3,796,565 (18)	16,745,848

Critical Habitat

The Service designated critical habitat for the desert tortoise in portions of California, Nevada, Arizona, and Utah in a final rule published February 8, 1994 (59 FR 5820). In California there are approximately 4,754,400 acres of designated critical habitat (Service 1994).

The Service designates critical habitat to identify the key biological and physical needs of the species and key areas for recovery and to focus conservation actions on those areas. Designated critical habitat is composed of specific geographic areas that contain the physical and biological features essential to the species' conservation and recovery and that may require special management considerations or protection. The specific physical and biological features of desert tortoise critical habitat are: sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow; sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species; suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human-caused mortality.

There are no desert tortoise critical habitat units that overlap the Project area. The nearest critical habitat units include the Chuckwalla Unit 23 miles to the east-southeast and the Pinto Mountains Unit 32 miles to the east of the Devers Substation at the eastern terminus of the Project.

Environmental Baseline – Desert Tortoise

As defined in the “Action Area” section above, the Project action area consists of the transmission line ROW, access roads, and temporary work areas for the removal and replacement of transmission lines and towers. In desert tortoise habitat the action area also extends 1,640 ft from the outer edge of the ROW, the maximum distance that any desert tortoises found in harm's way

during Project activities will be moved. This buffer distance was based on a study of desert tortoise translocation at the Fort Irwin National Training Center that determined tortoises moved from harm's way $\leq 1,640$ ft (500 m) generally remained within normal home ranges and areas of familiar resources (e.g., burrows), thus avoiding negative impacts related to moving individuals larger distances (Walde *et al.* 2011). We defined suitable desert tortoise habitat based on the Coachella Valley MSHCP habitat model, which was used in the biological assessment (CH2MHill 2016b) and we consider a more conservative approach than using the USGS modeled habitat (Service 2010).

The Project action area overlaps the range of the desert tortoise and associated suitable habitat along Segments 5 and 6, stretching from approximately the City of Banning east to the Devers Substation. These areas include portions of the Morongo Reservation and BLM administered lands that are the focus of this biological opinion. The range of the desert tortoise in the Coachella Valley is included in the Colorado Desert Recovery Unit, where approximately 8,710 acres of the recovery unit overlap the action area. The action area (including BLM, Morongo Reservation, and Coachella Valley MSHCP covered lands) comprises approximately 0.11 percent of the Colorado Desert Recovery Unit (8,710 acres in the action area; 7,635,464 acres in the Colorado Desert Recovery Unit).

Previous Consultations in the Action Area

The Service has conducted multiple Section 7 consultations in the immediate vicinity of Segments 5 and 6 (i.e., within 1 mile of these areas). In 2011 the Service provided informal Section 7 consultation for a pavement rehabilitation and shoulder widening project along State Route (SR) 62 in the city of Desert Hot Springs. This project was located between the SR 62/I-10 intersection and Indian Avenue and crossed the West of Devers transmission line immediately to the west of the Devers Substation. Of note, a live adult desert tortoise was encountered during project activities in 2014 at milepost 2.5 along SR 62, approximately 1.3 mile north of where the West of Devers transmission line crosses SR 62.

In 2012 the Service provided informal Section 7 consultation for a traffic control modification project along SR 62 located 0.3 mile south of where the West of Devers transmission line crosses SR 62. The project involved realignment of the existing left turn lanes along SR 62 and installing flashing beacons and a traffic signal. Similarly in 2014 the Service provided informal Section 7 consultation for installation of a guardrail system on SR 62 from the Dillon Road junction near Hwy 10 north to the Riverside/San Bernardino County Line. The project crossed the West of Devers transmission line at SR 62 west of the Devers Substation.

Additionally, the Service provided informal Section 7 consultation in 2014 for the Seminole Drive Extension project located within 0.4 mile of the eastern end of Segment 5 of the West of Devers transmission line with estimated permanent impacts to 8.1 acres of lightly disturbed Sonoran creosote bush scrub on the Morongo Reservation. The Service concurred with the BIA determination that the project was not likely to adversely affect the desert tortoise.

Characteristics of the Action Area

The following summarizes the description of the action area and habitats along Segments 5 and 6 based on the desert tortoise survey reports compiled in the Project biological technical report (LSA 2013a). The topography ranges from moderately flat to hilly with some areas of steep slopes and elevations ranging from approximately 1,100-2,500 ft. The dominant vegetation communities include catclaw scrub, creosote bush scrub, grassland/forbland, and riparian wash/scrublands. Examples of exotic species present and even abundant in some areas include red brome (*Bromus madritensis* ssp. *rubens*), red-stem filaree (*Erodium cicutarium*), Sahara mustard (*Brassica tournefortii*), and split grass (*Schismus* spp.). Soils range from soft sand to gravelly sand and cobble substrates to boulders. Land uses within the action area include cattle grazing, residential housing, and paved and dirt roads.

Status of the Desert Tortoise in the Action Area

The following summarizes the desert tortoise status information based on the biological assessment (CH2MHill 2016b) and survey reports compiled in the biological technical report (LSA 2013a). Focused desert tortoise field surveys conducted at the Project included the following: a fall 2011 (October 11-21) survey along Segments 5 and 6; a spring 2012 (April 9-14) survey along Segment 6; and a spring 2013 (May 8-29) survey along Segment 5 (LSA 2013a). Surveys followed Service protocols with observers walking 10-meter (30 ft) wide belt transects in all areas of potentially suitable habitat within the ROW. Surveys in 2012 also included transects within a 600-meter buffer of the ROW. Results of focused desert tortoise surveys on the Morongo Reservation included detections of desert tortoise sign, both scat and burrows, but no live desert tortoises. This desert tortoise sign was primarily concentrated east of Deep Creek Road along Lion Creek Wash and the wash directly to the east, north of Seminole Road terminus (LSA 2013a). General biological surveys in 2010 found desert tortoise sign further west, between Millard Canyon Wash and Deep Creek Road, and also sign and a single live desert tortoise further east (Garcia and Associates, Inc. 2010). Of note, during special-status plant surveys in 2015, three live adult desert tortoises and scat were encountered along Lion Creek Wash (CH2MHill 2016a). Results of focused desert tortoise surveys conducted at Segment 6 between the Morongo Reservation and Devers Substation (including BLM lands) did not result in observations of any live tortoise or definitive sign; however, a recently dead adult desert tortoise was located near the ROW immediately west of the Devers Substation (LSA 2013a). See Appendix P in the biological technical report (LSA 2013a) for maps with locations of desert tortoises and sign found at the Project during surveys up to 2013. In summary, based on the presence of suitable habitat and detections of live desert tortoises and sign, we can confirm the presence of desert tortoises in the action area and assume that tortoises continue to use the area.

To estimate the number of desert tortoises in the action area, the ROW and a 1,640 ft buffer in areas of desert tortoise habitat, we applied an estimated density of desert tortoises in the area to the amount of desert tortoise habitat in the action area. It was not possible to calculate the density of desert tortoises in the action area based on site-specific surveys conducted at the Project because of the lack of live animals detected during surveys. Therefore we used a density estimate

of 4.0 animals >180 mm in length per square kilometer for the Colorado Desert Recovery Unit, based on range-wide sampling conducted in 2014 (Service 2015a). This information yields an estimated 30 desert tortoises >180 mm in length (29.6 rounded up to the nearest whole number) that could occur on the estimated 1,828.6 acres of desert tortoise habitat on Morongo Reservation and BLM lands in the action area (see Appendix A for calculations). This likely overestimates the number of desert tortoises that occupy the action area because the habitat is more fragmented by development and disturbance than the sites used to calculate desert tortoise densities for the larger Colorado Desert Recovery Unit; however, relatively high desert tortoise densities do occur at a long-term study site within 2 miles of the Project (Lovich 2013).

To provide an estimate of desert tortoises <180 mm in length, we used an indirect method based on a life table produced for the desert tortoise on a study plot in San Bernardino County, California (Turner *et al.* 1987). This study determined that 87% of a desert tortoise population was comprised of animals <180 mm in length; thus based on our estimate of larger desert tortoises at the Project we estimated 231 desert tortoises <180 mm in length occur in the action area (Appendix A). As stated in Turner *et al.* (1987), the life table has limited predictive ability because it assumes invariant schedules of reproduction and death, and constant annual rates of increase or decrease in size. Use of the life table for estimating individuals <180 mm in length also assumes that current egg production and survival rates in the action area are similar to that on the Turner *et al.* (1987) study site in the early 1980s. However, differences in resource availability, threats, and a variety of other variables can result in differences in the overall mortality rate of individuals at different sites and times and thereby create differences in the proportion of the population composed of individuals in these smaller classes. When we consider this estimate in combination with the other information discussed in this section on threats and the existing condition of the action area, it is likely that the actual size of the population for these smaller size classes is much lower than that reflected above. We did not attempt to estimate the number of desert tortoise eggs that may be impacted by the Project because of the numerous variables involved, but anticipate relatively few, if any, eggs would be present based on the overall low density of desert tortoises in the area. Additionally, eggs are not present year-round and some are destroyed by predators.

The estimates provided above are based on the best available information. However, given the results of Project surveys, the published literature regarding desert tortoise densities adjacent to roads, and the fragmented habitat in the action area, we expect the desert tortoise density and overall population size to be lower than the estimates provided. We are unable to predict how the number of desert tortoises in the project area is likely to change during the life of the Project; however, the number of desert tortoises in the Colorado Desert Recovery Unit has declined by an estimated 36% over the 10-year period from 2004-2014 (Service 2015a).

Status of Critical Habitat in the Action Area

There is no desert tortoise designated critical habitat within the Project Action Area and the nearest critical habitat unit is a distance of approximately 23 miles. Therefore there are no anticipated direct or indirect effects to desert tortoise designated critical habitat from the Project

and impacts to desert tortoise designated critical habitat are not discussed further in this biological opinion.

Effects on Desert Tortoise

In the following analysis, we considered the general manner in which the proposed Project may affect desert tortoises and then summarized the overall effects of the proposed Project on the reproduction, numbers, and distribution of the desert tortoise.

Construction

The following section references activities conducted during construction, including associated pre-construction and post-construction activities, and restoration within the Project area. As outlined in the Conservation Measures section above (CM 30), SCE will conduct pre-construction clearance surveys within 7 days prior to initiation of ground-disturbing activities in desert tortoise habitat, regardless of the time of year, and a pre-construction sweep will be conducted within 24 hours prior to the start of ground-disturbing activities. The goal of a clearance survey and sweep is to find all desert tortoises on the surface and in burrows that could be harmed by construction activities. The relatively small size of the disturbance area increases the probability that large (>180 mm) desert tortoises will be encountered during clearance surveys and sweeps. When possible, desert tortoises found on the surface will be allowed reasonable time to move out of harm's way under on their own accord.

Desert tortoises found to be at risk of direct harm by construction activities will be moved out of harm's way. Handling desert tortoises can cause elevated levels of stress that may render these animals more susceptible to disease or directly result in injury or mortality and also can sometimes cause them to void the contents of their bladder. Averill-Murray (2002) provided evidence that handling-induced voiding may adversely affect survivability, although the amount of fluid discharged is usually small. However, because SCE will use only experienced biologists (i.e., authorized biologists) approved by the Service (CM 27) and approved handling techniques, desert tortoises moved out of harm's way are unlikely to experience substantially elevated stress levels, or be killed or injured. Additionally, the relatively short distance that any desert tortoises will be moved, within 1,640 ft of the ROW (CM 31), means that handling times will be minimal and these individuals will remain within their home range, thus also minimizing stress.

If desert tortoises are not detected and moved prior to the onset of ground-disturbing activities or re-enter a site after the initial survey, it is possible that they would be injured or killed by vehicles and heavy equipment. The presence of authorized biologists and biological monitors during construction (CM 28) should substantially reduce this risk of injury or death. Because they are more difficult to detect, desert tortoises <180 mm in length are those individuals most likely to be missed during surveys or not detected during construction activities, and thus are at the greatest risk of harm. Desert tortoises bury their eggs at the mouths of burrows and other areas; if any are present at the time construction occurs, it is likely they would be missed during surveys and destroyed.

Desert tortoises would be most at risk during construction when large numbers of vehicles routinely use the road. SCE will maintain and enforce speed limits of 15 miles per hour in areas of desert tortoise habitat (CM 6); this protective measure should reduce (but not eliminate) the likelihood of mortality because drivers are more likely to see desert tortoises when driving at slower speeds and signage should alert drivers to be more aware in these areas. Again, smaller desert tortoises would be at the greatest risk of being struck by a vehicle. The worker education program (CM 2) should assist in further reducing the likelihood of injury or mortality because workers will be required to immediately report any desert tortoises and cease operations if any are in harm's way.

Operations and Maintenance (O&M)

As outlined in the "Description of the Proposed Action" above, the period of O&M activities will commence following completion of construction and restoration activities and continue for the life of the transmission line. SCE currently performs O&M activities on the existing West of Devers lines and with few exceptions the new facilities proposed for the current Project will follow the existing alignment. These activities are not likely to change and therefore any new disturbance should not increase substantially beyond current baseline conditions and will likely be less than the current baseline due to the reduction in the footprint of the facilities (i.e., fewer towers). Potential risks to desert tortoises from O&M activities will be outlined in an environmental review conducted by SCE and appropriate protective measures implemented following review by the BLM, Service, and CDFW. For instance, desert tortoises will be most at risk during O&M activities from vehicle use of service roads; reduced speed limits (15 mph) in areas of desert tortoise habitat should minimize this risk. We anticipate that future O&M activities will be limited to the permanent disturbance areas within the transmission ROW. Activities that would result in effects beyond the areas addressed in this biological opinion would likely be the result of emergency repairs or will be addressed through a separate consultation.

Common Ravens

The presence of human activity in some cases can attract common ravens and ultimately result in increased predation of desert tortoises by ravens. For instance, food waste and water used for dust suppression can provide supplemental resources that are attractive to common ravens. Additionally, construction equipment and newly installed lattice transmission towers can provide nesting substrate for common ravens. However, the Project conservation measures and the raven management plan proposed by SCE, ensures the proposed Project is not likely to add to baseline levels of desert tortoise predation by common ravens within the action area. Examples of these conservation measures include worker education on feeding common ravens and controlling trash. Additionally, the proposed Project will result in a net reduction in the total number of transmission towers, thereby resulting in a net reduction in nesting opportunities for common ravens.

Habitat Loss

The proposed Project will result in permanent or temporary impacts of up to 65.3 acres of desert tortoise habitat (Table 2). To offset the permanent loss of desert tortoise habitat, SCE will fund the acquisition, protection, and management, in perpetuity, of habitat with comparable or better habitat value that is located within or adjacent to priority conservation areas in the Coachella Valley MSHCP. Additionally, SCE will conduct habitat restoration and revegetation in areas of temporary disturbance, including locations of existing towers that are removed during Project construction, thus enabling desert tortoises to use these areas for foraging and sheltering at some point in the future. Because one or more transmission lines exist within the Project area along with associated access and spur roads, an increase in habitat fragmentation or restricted movement of desert tortoise is not expected.

Introduction of Nonnative Plant Species

Project vehicles and equipment have the potential to introduce invasive nonnative plant species from offsite areas. Nonnative species may outcompete and reduce the occurrence of native species used by desert tortoises for forage and cover and thereby negatively impact tortoise health and survival. Additionally, nonnative species can increase the risk of wildfire which may spread farther and burn hotter than under natural conditions (i.e., in absence of nonnatives). Fires can also kill desert tortoises that are outside of their burrows and further degrade desert tortoise habitat.

As previously described, SCE will prepare and implement an Integrated Weed Management Plan (IWMP) in areas that require treatment to prevent or control the project-related spread of weeds or new weed infestations. Any proposed herbicide use will meet BLM's requirements for NEPA disclosure and analysis and must consider potential direct and indirect impacts to desert tortoises. If properly implemented the IWMP should prevent an increase in the abundance and distribution of non-native species in the action area.

Cumulative Effects – Desert Tortoise

Cumulative effects include the effects of state, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Any future Federal actions that are unrelated to the proposed action would require a separate consultation pursuant to section 7(a)(2) of the Endangered Species Act. At this time we are not aware of other planned state, tribal, local or private actions adjacent to the Project and therefore do not anticipate any cumulative effects associated with the proposed action.

Conclusion – Desert Tortoise

In the following sections, we will synthesize the analyses contained in the Effects of the Action section of this biological opinion to determine how the Project affects the reproduction, number, and distribution of the desert tortoise. We will then assess the effects of the Project on the

recovery of the species and whether those effects are likely to appreciably reduce the likelihood of both the survival and recovery of the desert tortoise.

Reproduction

The proposed Project has the potential to kill reproductively mature desert tortoises and an unknown number of eggs. We will discuss the effect of the loss of desert tortoises in the following section. No other aspect of the proposed Project would affect the reproductive capacity of desert tortoises. Consequently, based on the relatively low density of desert tortoises and eggs in the action area and conservation measures that will be implemented to avoid and minimize adverse effects, the proposed Project will not have an appreciable effect on the reproductive capacity of desert tortoises that live in the action area or in the surrounding habitat.

Numbers

Because the biological assessment did not provide sufficient information to determine the number of desert tortoises in the action area, we used regional densities and life tables to conservatively estimate that as many as 30 desert tortoise >180 mm in length and 231 smaller desert tortoises could occur in the Project action area. We cannot predict how the number of desert tortoises in the local area is likely to change over the 30-year life of the project covered in this Biological Opinion.

The conservation measures outlined in this biological opinion are likely to minimize the number of large desert tortoises that are injured or killed over the life of the Project, also not all desert tortoises in the action area would be directly affected by Project activities. Project activities may also result in injury or mortality of smaller desert tortoises and eggs because of their small size and cryptic nature make it less likely monitors and workers will detect them during surveys and Project activities. Over the life of the Project, vehicle traffic on service roads would pose the most substantial threat to desert tortoises; however, given that few desert tortoises reside in the area and conservation measures should minimize impacts to desert tortoises on roads, we expect that few desert tortoises are likely to be killed over the life of the Project.

Assuming all desert tortoises >180 mm in length estimated to occur in the action area are killed, the loss of these 30 desert tortoises from the estimated 42,770 that occur in the Colorado Desert Recovery Unit (Table 3) would comprise a 0.07 percent loss to this population. This calculation presents a worst-case scenario because we expect that far fewer than 30 desert tortoises >180 mm in length are likely to be encountered in the actual areas of activity and killed or injured as a result of the proposed action. The action area also supports additional desert tortoises <180 mm in length. Because we anticipate that implementation of the proposed Project would injure or kill less than 0.07 percent of the number of larger desert tortoises in the Colorado Desert Recovery Unit, we conclude that it would have a negligible effect on the number of desert tortoises in the recovery unit.

Distribution

The disturbance of up to 65.3 acres of desert tortoise habitat that would result from the proposed Project would have a negligible effect on the distribution of the desert tortoise. The Colorado Desert Recovery Unit may support as much as 4,950,225 acres of desert tortoise habitat (Table 4; Darst 2014). Consequently, the Project activities would result in the disturbance of approximately 0.001 percent of the 4,950,225 acres of modeled desert tortoise habitat in the Colorado Desert Recovery Unit and an even smaller percent on the amount of habitat available range-wide. Assuming successful habitat restoration in areas of temporary impacts, approximately 55.1 acres of these disturbed areas would again be available for use by desert tortoises in the near-term.

Effects on Recovery

SCE has committed to offsetting the permanent and temporary loss of suitable desert tortoise habitat at a 1:1 ratio through funding the acquisition and conservation of lands supporting comparable or better habitat values. SCE will be responsible for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands acquired as mitigation for Project impacts.

The management goal for compensation lands would be directed largely to the conservation of desert tortoises and any future action on the acquired lands that may affect the desert tortoise would be subject to the consultation provisions of section 7(a)(2) of the Act. Thus, the compensation may assist in furthering the recovery of the desert tortoise. In aggregate and over the long term, the restoration of the temporarily impacted areas and tower removal sites, and the provision of compensation for the disturbance, have the potential for the proposed Project to result in a net positive effect on the recovery of the desert tortoise.

After reviewing the current status of the desert tortoise, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the West of Devers transmission line upgrade project, as proposed, is not likely to jeopardize the continued existence of the desert tortoise. We have reached this conclusion for the following reasons:

1. The proposed action will not appreciably reduce the reproductive capacity of desert tortoises.
2. The number of desert tortoises likely to occur at the Project is low and SCE will implement measures to protect them over the life of the Project.
3. The estimated acreage of desert tortoise habitat impacted by the Project (65.3 acres, Table 2) represents a small percentage of habitat available both in the vicinity of the Project and within the larger Colorado Desert Recovery Unit. Assuming even partial success of restoration on the approximately 55.1 acres of habitat with temporary disturbance, the proposed action would not have a measurable effect on the distribution of the desert tortoise.

4. The successful restoration of previously disturbed areas and provisions of compensation for new disturbance have the potential to offset impacts for the proposed Project and possibly result in a net positive effect on the recovery of the desert tortoise.

INCIDENTAL TAKE STATEMENT

Section 9 of the Endangered Species Act and Federal regulation pursuant to section 4(d) of the Endangered Species 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 attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Harass is defined as intentional or negligent actions that create the likelihood of injury to listed species 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 7(o)(2) of the Endangered Species Act, taking that is incidental to and not intended as part of the proposed action is not considered to be prohibited taking under the Endangered Species Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary and the BLM (as lead agency) and BIA (as cooperating agency) must include these measures in their authorizations of the proposed action that it provides to SCE for the exemption in section 7(o)(2) to apply. If BLM and BIA fail to implement the terms and conditions, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of the incidental take, the BLM and BIA must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

Construction and O&M

We estimated that as many as 30 large and 231 small desert tortoises may occur within the Project action area and even fewer in the desert tortoise habitat to be disturbed by Project activities. Determining the precise number present at this time is not possible because desert tortoises are cryptic (i.e., individuals spend much of their lives underground or concealed under shrubs), they are inactive in years of low rainfall, and their numbers and distribution within the action area may have changed since the range-wide surveys in 2014 because of hatchings, deaths, immigration, and emigration. The numbers of hatchlings and eggs are even more difficult to quantify because of their small size, the location of eggs underground, and the fact that their numbers vary depending on the season; that is, at one time of the year, eggs are present but they become hatchlings later in the year.

Determining the amount or extent of the forms in which the take is likely to occur (killed, injured, or moved) is also difficult. As we noted previously, prior to construction SCE would likely detect and move most of the large individuals (i.e., those >180 mm in length) within the Project area

from harm's way to adjacent habitat. Speed limits enforced during construction and O&M activities should limit the potential for harming desert tortoises over the estimated 30-yr lifespan of the Project. The presence of Authorized Biologists during construction and certain O&M activities should further reduce the risk to desert tortoises. However, occasionally even large animals are not detected by monitors and workers and these animals may be killed or injured during construction and normal O&M activities. Some carcasses may be inadvertently buried by heavy equipment and others may be scavenged; therefore, not all animals that are killed or injured at the Project are likely to be detected.

We anticipate that all desert tortoises within the estimated desert tortoise disturbance areas are likely to be taken during construction or O&M activities. We anticipate that most desert tortoises within this area are likely to be moved to nearby suitable habitat; however, the potential exists that desert tortoises may be killed or injured. Because we cannot precisely quantify the number of individuals that are likely to be killed, injured, or moved during construction or O&M, we will consider the amount or extent of take to be exceeded if two desert tortoises of any size class are killed or injured within the Project area. We are not establishing a re-initiation criterion for the number of large or small desert tortoises that would be moved out of harm's way during construction. Furthermore, we are not establishing a re-initiation criterion for the loss of eggs.

The exemption provided by this incidental take statement to the prohibitions against take contained in section 9 of the Endangered Species Act extends only to the action area as described in the Environmental Baseline section of this biological opinion.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of desert tortoises during the implementation (i.e., construction, restoration, and O&M) of the West of Devers transmission upgrade project:

1. The BLM and BIA must ensure the level of incidental take anticipated in this biological opinion is not exceeded.
2. The BLM and BIA will ensure the conservation measures and assurances as described in the Project description are fully implemented.

Our evaluation of the proposed action includes consideration of the protective measures proposed in the biological assessment and in this 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 or CAGN designated critical habitat that was not considered in the biological opinion and require re-initiation of consultation, pursuant to the implementing regulations of the section 7(a)(2) of the Act (50 CFR 402.16).

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the BLM and BIA must ensure that SCE complies with the following terms and conditions, which implement the reasonable and prudent measures described above, and the reporting and monitoring requirements. These conditions are non-discretionary.

1. The following term and condition implements reasonable and prudent measure 1:
 - a. To ensure the level of incidental take anticipated in this biological opinion is not exceeded, the BLM and BIA must contact the Service immediately if they become aware that a desert tortoise has been killed or injured by Project activities. At that time, the BLM, BIA, and SCE must review the circumstances surrounding the incident with the Service to determine whether the proposed protective measures and terms and conditions are effective and being properly implemented or whether additional protective measures are required. Project activities may continue pending the outcome of the review, provided the proposed protective measures and any appropriate terms and conditions of this biological opinion have been and continue to be fully implemented.
2. The following terms and conditions implements reasonable and prudent measure 2:
 - a. The BLM, in coordination with the BIA and SCE, including all of their agents/contractors, shall implement all biological conservation measures and/or assurances, as described in the Project description summarized in this biological opinion, and ensure they are fully implemented. The BLM and SCE shall report in writing to the Service, within 60 days of Project construction, noting compliance with each of the measures included in the Description of the Proposed Action, including the amount of acreage impacted and the number of desert tortoise captured, relocated, and incidentally killed from Project construction activities.
 - b. The BLM, BIA, and SCE will ensure Service personnel have the right to access and inspect the project site during project implementation (with prior notification from us) for compliance with the project description, conservation measures, and terms and conditions of this biological opinion.

REPORTING REQUIREMENTS

Within 60 days of the completion of construction activities, the BLM, in coordination with the BIA, must provide a report to the Service that provides details on the effects of the action on the desert tortoise. Because SCE will conduct O&M activities at the Project for approximately 30 years, the BLM, in coordination with the BIA, must also provide an annual report by December 31 of each year. Specifically, these reports must include information on any instances when desert tortoises or individuals of other listed species were killed, injured, or handled; the

circumstances of such incidents; and any actions undertaken to prevent similar instances from re-occurring. As part of these reports, the BLM must describe the monitoring efforts that occurred during the reporting period.

We request that the BLM and BIA provide us with any recommendations that would facilitate the implementation of the protective measures while maintaining protection of the desert tortoise. We also request that the BLM and BIA provide us with the names of any monitors who assisted the authorized biologist for the desert tortoise and an evaluation of the experience they gained on the Project. This information would provide us with additional reference material in the event these individuals are submitted as potential authorized biologists for future projects.

DISPOSITION OF DEAD OR INJURED INDIVIDUALS OF LISTED SPECIES

Within 3 days of locating any dead or injured desert tortoises, you must notify the Palm Springs Fish and Wildlife Office by telephone (760-322-2070) or email (felicia_sirchia@fws.gov). The report must include the date, time, location of the carcass, a photograph, cause of death (if known), and any other pertinent information.

The BLM and BIA must take care in handling dead specimens to preserve biological material in the best possible state for later analysis, if such analysis is needed. The Service will provide the appropriate guidance when the BLM or BIA provides notice that a desert tortoise has been killed by Project activities.

The BLM and BIA must require that SCE take any injured desert tortoises to a qualified veterinarian for treatment. If any injured desert tortoises survive, you must contact the Service regarding their final disposition.

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, help implement recovery plans, or to develop information.

We recommend the BLM and BIA require that SCE refrain from moving desert tortoises during their period of summer inactivity by avoiding occupied burrows until desert tortoises become active again in the fall.

RE-INITIATION NOTICE

This concludes formal consultation on the proposed West of Devers transmission upgrade project in Riverside and San Bernardino Counties. As provided in 50 CFR 402.16, re-initiation of formal consultation is required where discretionary Federal involvement or control over the 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 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, the exemption issued pursuant to section 7(o)(2) may have lapsed and any further take would be a violation of section 4(d) or 9. Consequently, we recommend that any operations causing such take cease pending re-initiation.

If you have any questions, please contact Felicia Sirchia or other staff at my office at (760) 322-2070.

Appendix A: Calculations

Estimation of the Number of Desert Tortoises in the Project Area.

1. The West of Devers action area includes 1,828.6 acres of modeled desert tortoise habitat on Morongo Reservation and BLM lands. The estimated density of desert tortoises in the Colorado Desert Recovery Unit based on range-wide surveys in 2014 was 4.0 desert tortoises larger than 180 millimeters per square kilometer (Service 2015a). Based on these data we used the following calculations to estimate the number of desert tortoises in the West of Devers action area.

1.0 square kilometer (km²) = 247.1 acres (ac)

$$\frac{X \text{ desert tortoises on site}}{4.0 \text{ desert tortoises on } 1 \text{ km}^2} = \frac{7.4 \text{ km}^2 (1,828.6 \text{ ac}) \text{ on site}}{247.1 \text{ acres in } 1 \text{ km}^2} = 29.6 \text{ desert tortoises}$$

The result was an estimated 30 desert tortoises (rounded up to nearest whole animal) >180 mm in length.

- 2) Turner *et al.* (1987) determined that desert tortoises smaller than 180 millimeters comprised approximately 87 percent of a population of desert tortoises at Goffs in eastern San Bernardino County. To account for desert tortoises smaller than 180 millimeters, which are generally not detected by surveyors, we applied the following equation:

$$\frac{1 \text{ desert tortoise } >180 \text{ mm on site}}{X \text{ total desert tortoises on site}} = \frac{13\% \text{ of total}}{100\%} = 230.8 \text{ desert tortoises}$$

The result was an estimated 231 desert tortoises (rounded up to the nearest whole number) <180 mm in length.

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