



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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In Reply Refer To:
FWS-ERIV-07B0060-10F0884

JAN 11 2011

Memorandum

To: Field Manager, Palm Springs South Coast Field Office, Bureau of Land Management, Palm Springs, California

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

Subject: Section 7 Biological and Conference Opinion on the Devers to Palo Verde No. 2 Transmission Line Project, Riverside County, California

This memorandum transmits the U.S. Fish and Wildlife Service's (Service) biological/conference opinion on the subject project, located in Riverside County, California, and its effects on the endangered Stephens' kangaroo rat (*Dipodomys stephensi*, "kangaroo rat"), endangered Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*, "milk-vetch"), threatened Coachella Valley fringe-toed lizard (*Uma inornata*, "fringe-toed lizard") and its designated critical habitat, threatened desert tortoise (*Gopherus agassizii*, "tortoise") and its designated critical habitat, and proposed threatened flat-tailed horned lizard (*Phrynosoma mcallii*, "horned lizard") in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

This biological/conference opinion is based on information provided in the following documents and communications: (1) *Southern California Edison's Devers-Palo Verde 500 kV No. 2 Project Final Environmental Impact Report/Environmental Impact Statement*, dated October 2006 (final EIR/EIS), (2) *Amended Biological Assessment, Devers-Palo Verde No. 2 500 kV Transmission Line Project, Riverside County, California*, dated February 24, 2010 (SCE 2010), (3) final and draft revised recovery plans for the tortoise (Service 1994a, 2008a), (4) final recovery plan for the fringe-toed lizard (Service 1985), (5) project-specific survey reports for the kangaroo rat, milk-vetch, fringe-toed and horned lizards, and tortoise, (6) supplemental materials provided during the consultation process, (7) electronic transmissions from your agency, the Bureau of Land Management (BLM), and Southern California Edison (SCE), and (8) pertinent literature contained in our files. The complete project file for this consultation is on file at the Carlsbad Fish and Wildlife Office (CFWO).

CONSULTATION HISTORY

The Service initially issued a biological opinion (1-6-87-F-57) addressing the potential impacts of this transmission line project on federally listed species on November 13, 1987. At that time, the proposed project extended from the Palo Verde Nuclear Generating Station in Arizona to the Devers Substation near Palm Springs, California. A final supplemental EIS was completed in 1988 and BLM issued a record of decision in 1989. The Service provided comments on the final supplemental EIS for the portion of proposed project in California on January 11, 1989. However, in 1997, due to intervening events, including industry restructuring, SCE requested and received approval from the California Public Utilities Commission (CPUC) to abandon construction of the project.

After an independent review of the purpose of the proposed project in 2005, the California Independent System Operator directed SCE to proceed with permitting and construction of the Devers to Palo Verde No. 2 Transmission Line Project, herein referred to as the DPV2 project. A draft EIR/EIS was issued in May 2006 and the final EIR/EIS was issued in October 2006.

On February 23, 2007, the Service received BLM's request to initiate formal consultation on the DPV2 project under section 7 of the Act. The BLM's request was based on information in the final EIR/EIS that addressed the construction of a new 438-kilometer (km) [272-mile (mi)] 500-kV transmission line installed parallel to the existing Devers-Palo Verde No. 1 transmission line (referred to herein as DPV1, which was constructed in 1982) and extending from the Harquahala Substation in Arizona to the existing Devers Substation in Palm Springs, California, and then to the existing Valley Substation near Perris, California.

On June 6, 2007, the Arizona Corporations Commission denied SCE's Certificate of Environmental Compatibility application to construct the part of the DPV2 project within Arizona. In May 2009, SCE decided to suspend pursuit of the Arizona portion of the DPV2 project. As a result, SCE submitted a revised project description and impact analysis for federally listed species to the BLM and Service on June 26, 2009.

On November 24, 2009, the BLM informed the Service that the North of Alligator Rock alternative was no longer the superior project alternative and, therefore, proposed that the project parallel the existing DPV1 transmission line through the BLM's Alligator Rock Area of Critical Environmental Concern (ACEC). Based on this change to the project description, the consultation was extended by mutual agreement among the BLM, Service, and SCE, and BLM submitted an amended initiation request and amended biological assessment updating the project description for the DPV2 project to the Service on February 24, 2010.

Between February 2007 and November 2010, the Service, BLM, SCE, and California Department of Fish and Game (CDFG) participated in numerous meetings and several site visits to ensure that the project description was accurate and complete. A draft project description, including revised conservation measures, was provided to the BLM, SCE, and the CDFG on June 25, 2010, and a draft biological/conference opinion was provided to the BLM on

September 10, 2010. All comments received from the BLM, SCE, and CDFG were incorporated into this biological/conference opinion as appropriate. Refer to SCE (2010) for additional details on the consultation history of this project.

BIOLOGICAL/CONFERENCE OPINION

DESCRIPTION OF THE PROPOSED ACTION

Refer to the biological assessment for this project (SCE 2010) for a more detailed description of the project.

The proposed action is the BLM's issuance of a right-of-way (ROW) grant that will authorize SCE to construct, operate, and maintain a new 246-km (153-mi), 500-kV DPV2 transmission line project. The DPV2 project will be composed of two lines in Riverside County, California: the Devers-Valley line extending 67 km (42 mi) from SCE's existing Devers Substation near Palm Springs, west to SCE's existing Valley Substation near Hemet, and the Colorado River Switchyard (CRS)-Devers line extending 177 km (110 mi) from a new substation, the Colorado River Switchyard (CRS), located 16 km (10 mi) southwest of Blythe, east to SCE's existing Devers Substation (Figure 1). The Devers-Valley segment crosses approximately 7 km (4.5 mi) of Federal lands and 60 km (37 mi) of private lands, while the CRS-Devers segment crosses approximately 84 km (52 mi) of Federal lands, 0.8 km (0.5 mi) of State lands, and 92 km (57 mi) of private lands.

Construction

The DPV2 project will include a number of permanent and temporary features necessary to construct and support the proposed transmission line including a new substation, upgrades to an existing substation, construction yards, helicopter assembly sites/landing pads, tower pads and structures, spur roads to access the towers, wire installation, and slicing and pulling sites. Ground-disturbance acreage estimates for these features are provided in Table 1. These estimates are based on current engineering designs. Changes to structures may occur based on final engineering, and result in changes to ground disturbance acreage estimates.

The majority of the DPV2 alignment will be within an existing 40-meter (m) [330-foot (ft)] BLM ROW crossing Federal, State, and private lands that now contains SCE's DPV1 line. The DPV2 transmission line will be constructed approximately 40 m (130 ft) from the existing DPV1 transmission line, and the placement of the DPV2 towers will match the DPV1 towers to the extent possible. Access to the DPV2 transmission line ROW will occur via the existing access road associated with DPV1 transmission line. No new roads to access the DPV2 transmission line ROW will be constructed as part of the DPV2 project.

Approximately 543 four-legged, single-circuit, lattice steel towers will be constructed along the 246-km (153-mi) DPV2 alignment. Each tower pad will be approximately 0.4 ha (0.9 ac) and require construction of a spur road from the existing ROW access road to the newly constructed

tower site. The majority of the spur roads will be up to 40 m (130 ft) long and 4 m (14 ft) wide, and impact up to 0.02 ha (0.04 ac) each. However, approximately 25 percent of the spur roads will be required to be up to 61 m (200 ft) in length depending on site conditions. In such areas, the ROW width will be a minimum of 49 m (160 ft) on Federal or State lands, and a minimum of 61 m (200 ft) on private lands. SCE anticipates that some spur roads will be less than 40 m (130 ft). These spur roads will provide access to each tower site for construction crews, materials, and equipment, and after project construction, these spur roads will be used by maintenance crews and repair vehicles to access individual towers for inspection and maintenance activities.

Construction of each tower will require four augured, cast-in-place, concrete piles or footings. Concrete will be hauled to tower sites in standard concrete trucks. Approximately 8 to 16 concrete trucks, will be working simultaneously at peak construction along the Devers-Valley line and CRS-Devers line, respectively, each making one round trip per day. At any given tower site, eight concrete trucks will be working to support the installation of the needed four footings. Tower section subassemblies will be built at the tower site or construction yards and will be lifted into place with a crane and erected on their foundations.

Prior to stringing activities, temporary wood pole guard structures will be erected at crossings for roads, streets, railroads, highways, or other transmission, distribution, or communication facilities, as required. Guard structures may not be necessary on roads where traffic is light, though the use of barriers, flagmen, and/or temporary stopping of traffic will be required. The stringing of conductor and overhead groundwire on new transmission lines typically commences once a number of structures have been erected and inspected. Stringing equipment locations will be temporarily setup between towers. A helicopter will pull small and lightweight pilot lines through the stringing travelers. These lightweight lines will be used to subsequently pull larger steel cable. The conductor or groundwire will then be pulled from the established setup points by wire stringing equipment. Stringing will require construction of a 0.4-ha (0.9-ac) pulling station and a 0.1-ha (0.2-ac) splicing station approximately every 3 km (2 mi) along the transmission route. Five helicopter assembly sites will be constructed in the Devers-Valley line and three will be constructed in the CRS-Devers line (Table 1). Two temporary wash stations will also be located in two of the eight helicopter assembly sites (H1A/X-DV and H2-DV) on either side of the San Bernardino National Forest towers.

Construction equipment and materials will be stored in up to seven construction yards (Table 1) that are in the process of being acquired for the project. Two of the seven proposed yards [Blythe (B-1) and Desert Center (DC-1)] were previously used for the construction of the Blythe Energy transmission line and are therefore in previously disturbed areas. To the extent possible, the remaining five yards will be constructed in previously disturbed areas. Each yard will have temporary office trailers for supervisory and clerical personnel, serve as a reporting location for workers, and provide vehicle and equipment parking and material storage. A permanent wash station for noxious weeds will be located within the fenced Devers (D-1) construction yard.

Proposed construction along the Devers-Valley line will also include modifications within the existing Valley Substation and installation of telecommunications systems on the transmission

line towers. However, neither of these activities will result in new ground disturbance. Along the CRS-Devers line, proposed construction will also include construction of one series capacitor bank located adjacent to a DPV1 series capacitor bank approximately 103 km (64 mi) east of Devers Substation and modifications within the existing Devers Substation. Some of the modifications at the Devers Substation will occur within the existing fenced area; however, approximately 4 ha (10 ac) will be disturbed as a result of the expansion of the Devers Substation (Table 1).

Construction along the CRS-Devers line will also include construction of the new switchyard (CRS) adjacent to the DPV2 ROW, approximately 16 km (10 mi) southwest of Blythe. The new CRS will accommodate the required dead-end structures, switching facilities, telecommunications facility, loop-in structures, transformer banks, equipment room, and an expansion area to accommodate additional switchracks for generation tie (gen-tie) transmission lines for the Blythe Solar Power and Genesis Solar Energy projects to interconnect with the DPV2 transmission system. Construction of the CRS will include the following components: the substation, a substation expansion area, a temporary construction staging area and access road, temporary work zone/perimeter buffer, two permanent driveways to the CRS, permanent concrete perimeter wall, improved access road from Wiley Wells Road to CRS, drainage and sideslope grading along the substation perimeter, and a storm water detention basin (Table 1). Construction of the CRS will also include two new telecommunications transmission lines, one extending from the CRS on the proposed CRS distribution/power line and temporary access road north to an existing power pole transmission line. The other telecommunication line will extend from the CRS on the existing DPV1 towers south until a point just before the agricultural area in Blythe where it will be attached to new wood pole along an existing transmission access road. The proposed location of the CRS is identified in the final EIR/EIS and in BioResource Consultants (2008) where it is referred to as the Midpoint Substation. While the exact location of the CRS has not yet been finalized, we anticipate it to be located within an approximately 1.61-km (1-mi) radius of its proposed location. This 1.61-km (1-mi) area around the proposed location was surveyed for tortoise and other sensitive plant and animal species in 2010 (see AECOM 2010a).

Construction of the DPV2 project will occur in several phases over a period of approximately 2 years, beginning in 2011, and is anticipated to be complete in 2013.

Operations and Maintenance

Following completion of project construction, operation and maintenance (O&M) of the new transmission line and associated facilities will commence and is anticipated to continue for the 30-year life of the project. O&M activities covered under this biological/conference opinion include (a) routine maintenance activities (Class 1), (b) repairs of existing facilities (Class 2), and (c) emergency repairs (Class 4). Class 3 activities, defined by SCE as “installation of new facilities” are not covered under this biological/conference opinion. Frequency of O&M activities varies in relation to the level of dirt, dust, bird droppings, etc. present on the structures in a particular geographic area, the level of vandalism of facilities (e.g., gunshot insulators), the

severity of storms (e.g., Santa Ana winds) and other natural disasters (fires, floods, and earthquakes), and accidents.

O&M will include the following activities:

Class 1 - Routine Maintenance Activities: activities that will not result in ground or vegetation disturbance outside of areas disturbed during initial construction. These activities include routine inspection and maintenance of the transmission line and substations and their associated components.

Routine Transmission Line Inspection and Maintenance

The transmission line will be inspected using helicopters and vehicles to identify corrosion, equipment misalignment, loose fittings, and other mechanical problems, and the need for vegetation management.

The frequency of inspection and maintenance will depend on various conditions, including length of the line and weather effects. These patrols are conducted on an as-needed basis to ensure continued public safety and system reliability. Inspection and maintenance activities typically include senior patrolman, foreman, lead lineman, journeyman lineman, apprentices, groundmen, helicopter pilots, equipment operators, and laborers. If the magnitude of repairs identified by routine patrols is substantial, other specialized employees (i.e., surveyors, engineers, clerical personnel, technicians) will be attached to maintenance crews, as required, to address any unique problem that may arise due to such variables as substantial storm damage or vandalism.

During a typical patrol, a helicopter will fly above the top of the towers. In populated areas, patrols will fly at higher elevations or away from the centerline of the transmission lines to avoid flying close to houses or penned animals. In cases where flying near a home cannot be avoided, the patrolman will use gyro-binoculars to increase the inspection distance between the structures and helicopter to the greatest extent possible. In rural areas, unless designated otherwise, proximity to the ground is not restricted with the exception of safety and environmental concerns.

Yearly patrols during operation of the proposed project will be combined with the yearly patrols of the existing DPV1 line. The entire DPV1 and DPV2 transmission line corridor will be patrolled every year. The yearly patrol alternates between helicopter and truck. Annually the patrol will be performed by helicopters and will take approximately a full day (8 hours) to accomplish. SCE anticipates a total of 12 hours of helicopter patrol time per year. The next year, the patrol will be performed by truck and will take up to 4 weeks per year. A yearly patrol is the minimum patrol requirement. For additional patrols, either helicopters or trucks will be used based on the availability of resources and criticality of time.

Starting approximately 15 years after the operational date, maintenance on the DPV2 line will be expected to increase. Initial additional corridor maintenance will be due principally to weather and vandalism to the DPV2 line. As insulators and steel age on the DPV2 line, the frequency of lattice steel tower hardware maintenance activities will increase. However, no significant increase in annual patrols or grading will be required.

Maintenance activities performed during routine inspections of transmission line components include replacement of defective or broken materials (e.g., conductors, switches, transformers), restringing of conductors, and routine washing of insulators to prevent arcing. Insulator washing will be performed using a water truck with a high pressure hose(s) and will occur about two times per year. These maintenance activities will be conducted from a vehicle that remains on the existing access roads in designated work areas and will not result in ground disturbance in areas outside of those disturbed during initial project construction. Any routine transmission line maintenance activities (e.g., re-stringing conductors) that result in ground disturbance outside of the areas disturbed during initial construction will be considered Class 2 activities (see “Class 2 - Repairs of Existing Facilities” section below).

Routine Substation Inspection and Maintenance

Substation maintenance includes scheduled equipment repairs, cleaning, and testing to prevent service interruptions. These maintenance activities will be conducted from a vehicle that remains on the existing access roads or on foot or on lift trucks within the existing fenced substation area and will not result in ground disturbance in areas outside of those disturbed during initial project construction.

Class 2 - Repairs of Existing Facilities: activities that may result in ground or vegetation disturbance outside of areas disturbed during construction activities. These activities include tower maintenance (e.g., repairing or replacing existing towers), wire maintenance (e.g., re-stringing conductors), ROW road maintenance and routine vegetation management. Road maintenance and routine vegetation management will be conducted at a frequency that precludes establishment of suitable habitat for federally listed species; otherwise consultation with the Service may be needed.

Tower and Wire Maintenance

In cases where towers do not have existing access roads, the tower are accessed on foot by climbing the structure, by helicopter, or by creating temporary helicopter landing pads. Types of vehicles utilized for repairs will range from light duty vehicles to heavy construction equipment.

Existing conductors may require re-stringing to accommodate higher voltages or repair damages. Although re-stringing conductors is typically accomplished from trucks parked on existing access roads (Class 1), some pulling site locations may be in previously undisturbed areas and at times, conductors may be passed through existing vegetation on route to their destination.

Routine ROW Road Maintenance

Routine access road maintenance will be conducted on an as-needed basis. Road conditions vary based on seasonal impacts from weather and road usage. Road grading will be conducted using heavy equipment to create a smooth drivable surface and will be accomplished using road graders, bulldozers, loaders, and backhoes. Road widths can vary depending on the voltage of the line and the type of vehicles that need to access the structures. The standard road width is typically 4 m (14 ft). If berms are present they typically extend 0.3 to 0.6 m (1 to 2 ft) on either side of the bladed road. Road maintenance will include maintaining a vegetation-free corridor (to facilitate access and prevent fire) and blading to smooth over washouts, eroded areas, and washboard surfaces as needed.

Access road maintenance may include brushing (i.e., trimming or removal of shrubs) approximately 0.6 to 1.5 m (2 to 5 ft) beyond the berm or road edge when necessary to keep vegetation from intruding into the roadway. Generally, a companion vehicle accompanies the construction equipment in order to assist the equipment operator in brushing and clearing on an as-needed basis. Road grading will also include cleaning ditches, moving and establishing berms, clearing and making functional drain inlets to culverts, culvert repair, clearing and establishing water bars, and cleaning and repairing over-side drains. Culverts may require inlet cleaning, with limited disturbance of surrounding soils.

Brush and weed control activities will be conducted within the ROW from vehicles that remain on the existing access roads and in designated work areas to the extent possible. However, activities may result in ground disturbance outside of the areas disturbed during initial project construction. Embankments on the uphill side of access roads generally are not maintained. Fill slopes will be restored and stabilized if washed out. Local material will be used to the extent possible.

As safety permits, stream crossings and washes with low flows or no flows are crossed but not graded. Equipment operators will generally lift the blade 8 m (25 ft) before the crossing and drop the blade 8 m (25 ft) after it. Visual references may be established in conjunction with the BLM and CDFG to determine what defines a stream crossing or wash. Where extensive ground disturbance or vegetation removal are required in stream crossings, the site will be evaluated by SCE environmental staff to determine if regulatory approval is required to conduct work activities.

Routine ROW Vegetation Management

Regular tree/shrub trimming and pruning is crucial for maintaining reliable service, especially during severe weather or disasters, and will be performed to maintain compliance with existing State and Federal laws, rules, and regulations. Tree limb and branch contact with energized lines is a potential cause of power outages and a possible ignition source for fires. Tree pruning standards for distances from overhead lines have been set by the CPUC (General Order-95, Rule 35), Public Resource Code 4293, California Code of Regulations Title 14, Article 4, and other

government and regulatory agencies. However, the standards required by these government and regulatory agencies may vary based on field conditions. SCE's standard approach to tree pruning is to remove at least the minimum required by law plus one year's growth (species-dependent). The minimum clearance for 500kV transmission circuits is 12.19 m (40 ft), plus one year's growth. The minimum distances are required at the time the vegetation is pruned; that is, pruning must be done before limbs and branches grow to within these distances and will result in greater than the minimum distances to allow for new growth. In addition, the clearances between lines and vegetation must be visible from the ground sufficient for personnel working around lines to keep themselves and their tools away from danger. The CPUC, CAL FIRE (California Department of Forestry and Fire Protection), and other agencies or groups monitor compliance with the clearance standards and take prompt enforcement action when clearances are not maintained.

Tree/shrub pruning will be done with power and hand tools, including chainsaws, pole pruners, and hand saws. Debris will be mulched or removed to a landfill or disposed of at SCE facility. Debris will not be placed on sensitive resources, such as sensitive plant populations or streams. All use of internal combustion engines will be operated in compliance with Federal and State requirements. To the extent possible, tree/shrub trimming and pruning activities will be conducted from a vehicle that remains on the existing access roads in designated work areas. However, these activities may result in some additional ground disturbance outside of those areas disturbed during initial construction.

Class 4 - Emergency Repairs: SCE conducts a wide variety of emergency repairs in response to emergency situations such as high winds, storms, wildfires, and other natural disasters (e.g., slumps, slides, surface fault ruptures, erosion, major subsidence) and accidents. Such repairs may include replacement of transmission towers, lines or re-stringing conductors, repair of access or stub road wash-outs, and other features/structures associated with the DPV2 project. While Class 1 and 2 activities can be scheduled reasonably well in advance of the activity, emergency repairs may be needed at any time.

Re-evaluation of Project Description

As stated above, construction of the proposed project is anticipated to take approximately 2 years, though O&M activities will be conducted over the 30-year life of the project. To ensure that the effects analysis in this biological/conference opinion accurately reflects the O&M activities as outlined in the "Project Description" section above, SCE, the BLM, Service, and CDFG will re-evaluate the project description and effects analysis in this biological/conference opinion every 10 years starting from the date the biological/conference opinion is issued. If at the time of the re-evaluation, the BLM, Service, and CDFG agree that the O&M activities outlined in the project description of this biological/conference opinion are still relevant and that no additional impacts outside those considered in the effects analysis have or will occur as a result of ongoing O&M activities, the BLM, Service and CDFG will provide written concurrence to SCE stating so. However, if the BLM, Service, or CDFG determine that O&M activities have been implemented inconsistent with the effects analysis of this biological/conference opinion, the

BLM will reinitiate formal consultation on the DPV2 project consistent with 50 CFR § 402.16 (see “Reinitiation Notice” section below for additional details). Also, if after re-evaluation, the BLM, Service, and CDFG agree that certain O&M measures are no longer relevant or impacts are less than anticipated, the conservation measures can be revised accordingly, and the agencies will provide written concurrence to SCE of any such revisions.

CONSERVATION MEASURES

The proposed project includes the following conservation measures and/or design features that will be implemented to avoid, minimize, and offset potential adverse effects to all life stages of the kangaroo rat, milk-vetch, fringe-toed and horned lizard, and tortoise. These measures were developed and coordinated with SCE, the BLM, and the CDFG, and based on information in the project’s BA, final EIR/EIS, and supplemental material provided during the consultation process. Conservation measures will be implemented during the project construction phase and during long-term O&M of the project. The final EIR/EIS includes additional measures to offset proposed project impacts on rare and sensitive species, which will be implemented to further reduce impacts to biological resources in the proposed project footprint.

Construction

The following general and species-specific Conservation Measures, identified individually by number (e.g., CM 14) or grouped (e.g., CMs 22, 26, 30, 31, and 43), will be implemented during the construction phase of the project.

General Conservation Measures – Construction Phase

1. At least 60 days prior to the initiation of ground-disturbing activities, SCE will designate a field contact representative (FCR) who will be responsible for overseeing compliance with project specifications and all conservation measures outlined in this biological/conference opinion. The Authorized¹ or Qualified² Biologist may serve as the FCR. 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 and the Authorized and Qualified Biologists.
2. The FCR will be on site for all ground-disturbing activities within kangaroo rat, milk-vetch, fringe-toed and horned lizard, and 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 requirements. The FCR will be responsible for ensuring that any activities found to be out of compliance with the conservation measures are corrected

¹ An Authorized Biologist is defined as a wildlife biologist who has been authorized by the BLM, Service and CDFG to conduct surveys, monitoring, and handling for tortoise.

² A Qualified Biologist is defined as a wildlife biologist who has been authorized by the BLM, Service, and CDFG to conduct surveys, monitoring, and/or relocation/salvage activities for kangaroo rats, milk-vetch, fringe-toed and horned lizards.

immediately and the corrective action documented. The following incidents will require immediate cessation of non-compliant construction activities causing the incident, including (1) imminent threat of injury or death to kangaroo rats, milk-vetch, fringe-toed lizard and horned lizards, and tortoises; (2) unauthorized handling of a kangaroo rat, milk-vetch, fringe-toed and horned lizard, or tortoise, regardless of intent; (3) operation of construction equipment or vehicles outside the project footprint cleared of kangaroo rats, milk-vetch, fringe-toed or horned lizards, and tortoises, except on designated roads, and (4) construction activity without a Authorized or Qualified Biologist where one is required. If the Authorized or Qualified Biologist and FCR do not agree on an issue, the BLM's compliance officer will be contacted for resolution. All parties may refer the resolution to the BLM's authorized officer.

3. The FCR will coordinate with the Authorized or Qualified Biologist to provide a monthly written report to the BLM, Service, and CDFG, detailing completed and ongoing construction-related compliance activities, any non-compliance issues pertaining to the kangaroo rat, milk-vetch, fringe-toed or horned lizard, and tortoise, and any incidental observations of healthy, injured, or dead individuals of these species. The Authorized or Qualified Biologist will coordinate his/her activities with the FCR as frequently as needed to effectively implement the project's conservation measures.
4. All final contract documents involving project construction activities that relate to the project's conservation measures will ensure (a) the FCR is vested with oversight authority for all activities of contractors and subcontractors in the action area, including the halting of any project-related activities; (b) all contractors and subcontractors are obligated to adhere to any orders issued by the FCR addressing compliance issues with the project's conservation measures; (c) adherence of all project-related activities and designs to the requirements of the conservation measures; and (d) the obligation of all workers in the action area to complete the WEAP (see CM 14) and immediately report the observation of any healthy, injured, or dead kangaroo rats, milk-vetch, fringe-toed or horned lizards, or tortoises or crushed milk-vetch to the FCR or Authorized or Qualified Biologist, whoever is first available.
5. Should any kangaroo rats, milk-vetch, fringe-toed or horned lizards, or tortoises be injured or killed, or milk-vetch crushed during ground-disturbing activities, all activities in the immediate area will be halted, and the FCR and/or Authorized or Qualified Biologist will be immediately contacted. The FCR, Authorized or Qualified Biologist will be responsible for reporting the incident (via fax or email) to the BLM, Service, and CDFG within 24 hours of the incident.
6. Prior to the initiation of ground-disturbing activities, all work area boundaries associated with temporary and permanent disturbances will be conspicuously staked, flagged, or marked to minimize surface disturbance activities. All workers will strictly limit activities and vehicles to the designated work areas.

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. Access to work areas in undisturbed habitat will be achieved by crushing, instead of removal, to the maximum extent practicable.
8. To minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations, project personnel will not be allowed to bring pets into the action area.
9. During construction-related activities, motor vehicles will be limited to maintained roads, designated routes, and areas identified as permanently or temporarily impacted by construction of the project.
10. Motor vehicle speed along project routes and existing access roads within modeled³, critical, and/or occupied⁴ habitat for the kangaroo rat, fringe-toed or horned lizard, or tortoise will not exceed 25 miles per hour (mph). Speed limits will be clearly marked and all workers will be made aware of these limits.
11. All project components (e.g., towers, spur roads, pulling/splicing stations, construction yards/staging areas) will be located as to avoid sensitive plants and plant communities, or sensitive animals (e.g., burrows) to the maximum extent practicable.
12. Construction yards and helicopter assembly sites will be located outside of kangaroo rat, fringe-toed lizard, and horned lizard habitat (modeled, critical, or occupied habitat).
13. All auger holes, trenches, pits, or other steep-sided excavations that pose a hazard to kangaroo rats, fringe-toed or horned lizards, or tortoises will be securely fenced or covered when unattended to prevent accidental death or injury. At the start and end of each workday, and just before backfilling, all excavations will be inspected for trapped animals. If found, trapped animals will be removed by the Authorized or Qualified Biologist.
14. SCE will prepare a Worker Education and Awareness Program (WEAP) that will be presented by the FCR or Authorized or Qualified Biologist to all existing and new employees/contractors prior to their involvement in any onsite project activities. The WEAP, at a minimum, will consist of the following elements for kangaroo rat, milk-vetch, fringe-toed lizard, horned lizard, and tortoise: (a) distribution, general behavior, and ecology, (b) species sensitivity to human activities, (c) legal protection, (d) penalties for

³ Modeled habitat refers to areas modeled as habitat for the milk-vetch, fringe-toed and horned lizards, and tortoise by the Coachella Valley Association of Governments (CVAG) for the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). See "Status of the Species" sections for the milk-vetch, fringe-toed and horned lizards, and tortoise below for additional discussion of CVAG modeled habitat.

⁴ For tortoise, occupied habitat refers to areas outside of modeled and critical habitat in which live tortoise and/or sign was found during project-specific surveys. For the kangaroo rat, occupied habitat refers to areas in which kangaroo rats were found during project-specific surveys.

violation of State and Federal laws, (e) worker responsibilities for trash disposal and safe/humane treatment of species found in the action area and associated reporting requirements, (f) handout materials summarizing all the contractual obligations and protective requirements specified in the biological/conference opinion, and (g) requirements and penalties regarding adherence to speed limits in the project footprint. The outline of the WEAP will be submitted to the BLM, Service, and CDFG for review and approval at least 60 days prior to the initiation of surface-disturbing activities. The names of all employees, contractors, etc., who have participated in the WEAP will be kept on file at the project field construction office.

15. To prevent the spread of invasive nonnative plant species (as designated by BLM or the California Department of Food and Agriculture) into previously uninfested areas, a Qualified Botanist or Range Ecologist⁵ will survey all proposed work areas prior to construction within the transmission line corridor. Any areas that contain BLM- and/or State-listed invasive plant species will be clearly demarcated in the field. All construction activities, vehicle operation, material and equipment storage, and any other surface disturbing activities will be prohibited in the demarcated area. If avoidance is not possible in the demarcated zone, the invasive plant species will be removed via acceptable mechanical, cultural, or herbicidal methods approved by the BLM, Service, and CDFG. Prior to entering the action area for the first time, all ground-disturbing equipment will be thoroughly cleaned at one of the wash stations at a construction yard to ensure against the introduction of invasive nonnative plants. The wash stations will be located outside of suitable habitat for kangaroo rat, milk-vetch, fringe-toed lizard, horned lizard, and tortoise.
16. Immediately after completion of construction-related activities, the FCR or designated representative will record the perimeter of the post-construction project footprint, including all tower pads, spur roads, pulling and splicing stations and access routes, substation components, and other project-related infrastructure in a GIS-compatible format to verify the extent of project disturbance. The GIS coverage layer will be provided to the BLM, Service, and CDFG within 90 days of completing construction; the coverage will be compared to impact acreages estimated in this biological/conference opinion to determine final ground-disturbance associated with project construction. If final impact acreages are less than those estimated in Table 1 of this biological/conference opinion, SCE will receive a mitigation credit that could be applied to mitigation for future activities along the DPV1/DVP2 ROW.

Stephens' Kangaroo Rat Conservation Measures – Construction Phase

17. During construction-related activities in occupied habitat, a Qualified Biologist will install exclusion fencing around work areas where impacts will occur, trap animals from inside impact areas, and relocate trapped animals out of harm's way outside of exclusion fencing until construction is completed. The Qualified Biologist will be present during

⁵ The Qualified Botanist or Range Ecologist will be approved by the BLM.

construction to ensure that animals are not harmed. Following completion of construction, SCE will remove all exclusion fencing and recontour the soils to the preconstruction condition. The name and qualifications of the Qualified Biologist will be submitted to the Service and CDFG for approval at least 30 days prior to project construction in occupied kangaroo rat habitat.

18. During construction in suitable habitat, work will only occur during daylight hours and no night lighting will be used in kangaroo rat habitat.
19. During construction in suitable habitat, a load spreading device (e.g., plywood) will be used to reduce impacts to burrow systems. Load spreading devices must be removed each night.
20. To reduce the potential for kangaroo rats to utilize access roads, and therefore be subject to impact, along the DPV2 alignment, earthen berm heights will not exceed 13 centimeter (cm) [5 inches (in)] in height in suitable habitat.
21. No fuel modification will be conducted in suitable habitat.
22. To partially offset the impacts of permanent and temporary/long-term losses of kangaroo rat habitat associated with the proposed project, SCE will acquire at least 0.08 ha (0.20 ac) and restore/enhance at least 1.13 ha (2.80 ac) of kangaroo rat habitat. The compensation ratio will be 1:1 for permanent and temporary/long-term impacts to kangaroo rat habitat [0.08 ha (0.20 ac) of permanent impacts $\times 1 = 0.08$ ha (0.20 ac); and 1.13 ha (2.80 ac) of temporary/long term impacts $\times 1 = 1.13$ ha (2.80 ac)]. Permanent impacts will be offset through the purchase of 0.08 ha (0.20 ac) of occupied kangaroo rat habitat within the Southwestern Riverside County Multiple Species Reserve. Payment of \$2,800 (at \$14,000/ac) will be made to the Metropolitan Water District of Southern California for acquisition of kangaroo rat habitat prior to any project work within kangaroo rat habitat. Temporary impacts will be offset by the restoration or enhancement of 1.13 ha (2.80 ac) of kangaroo rat habitat within the Lake Perris State Recreation Area portion of the San Jacinto Lake Perris Stephens' Kangaroo Rat Reserve as designated within the Habitat Conservation Plan for the Stephens' Kangaroo Rat in Riverside County. The habitat enhancement will consist of nonnative grass suppression by mowing, hand clearing and/or fusillade application in kangaroo rat habitat. The enhancement will be funded by SCE (at \$1,050/ac) and be carried out under the direction of the California Department of Parks and Recreation. SCE will provide payment of \$2,940 to the California Department of Parks and Recreation prior to the initiation of construction in kangaroo rat habitat.

Coachella Valley Milk-vetch Conservation Measures – Construction Phase

23. To the extent possible, all construction activities in modeled habitat will be conducted outside of the seed germination and growing season, generally January to May.

24. A Qualified Biologist will conduct preconstruction focused surveys in areas of the project in modeled habitat in the winter (generally January and February) preceding initiation of ground disturbing activities and be present throughout construction activities in modeled habitat. The name and qualifications of the Qualified Biologist will be submitted to the BLM and Service for approval at least 30 days prior to project construction in modeled habitat.
25. Milk-vetch locations identified during the preconstruction surveys will be delineated on aerial photography, incorporated into the construction management plans, and avoided to the maximum extent possible. Where avoidance is not possible, SCE will develop a Plant Salvage Plan to be submitted to the BLM and Service for approval 30 days prior to the initiation of ground disturbing activities where milk-vetch will be impacted. The Salvage plan will include, but is not limited to, seed collection and storage at an appropriate facility (e.g., Rancho Santa Ana Botanical Garden), reseeding in appropriate existing or restored habitat, or other similar activities. Salvage will be conducted by a Qualified Biologist.
26. To partially offset the impacts of permanent and temporary/long-term losses of milk-vetch modeled habitat associated with the proposed project, SCE will acquire at least 50.99 ha (126 ac) of milk-vetch habitat. The compensation ratio will be 2:1 for permanent and temporary/long-term impacts to milk-vetch modeled habitat [25.50 ha (63 ac) of impact \times 2 = a total of 50.99 ha (126 ac)]. The lands will be purchased either by SCE or SCE can deposit funds with the National Fish and Wildlife Foundation (NFWF) account governed by the Renewable Energy Action Team/NFWF Memorandum of Agreement (REAT/NFWF MOA 2010); if funds are deposited with NFWF, a compensation fee will be assessed based on current fair market appraised value for the specific geographic area in which the acquisition occurs. The acquired lands will occur in milk-vetch habitat with equivalent function and value. The replacement habitat is intended to benefit the population of milk-vetch adversely affected by the project, and will be located within or adjacent to priority conservation areas in the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) with comparable or better habitat value. The BLM and Service will coordinate to reach mutual agreement on the selection and ownership/management of acquired lands.

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

Regardless of the acquisition method (by SCE or NFWF), SCE will establish a management fund for the agency that owns and manages the acquired lands. The management fund will consist of an interest-bearing account (as described in the REAT/NFWF MOA), with the amount of capital commensurate to generate sufficient interest to fund all monitoring, management, and protection of the acquired lands, including

reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and other actions designed to protect or improve the habitat values of the acquired lands. A Property Analysis Record, as described at: http://cnlm.org/cms/index.php?option=com_content&task=view&id=21&Itemid=155 or comparable method, will be conducted by SCE and reviewed by the BLM and Service to determine the management needs and costs described above, which then will be used to calculate the amount of capital needed for the management fund. This management fund will be held and managed by NFWF or another entity approved by the BLM and Service.

Coachella Valley Fringe-toed and Flat-tailed Horned Lizard Conservation Measures – Construction Phase

27. To the extent possible, all construction activities within modeled/blow sand habitat will be conducted during the active season, between April and October (inclusive of both months). Construction activities in modeled/blow sand habitat may be extended beyond the active season if exclusionary fencing is installed during the active season.
28. A Qualified Biologist will conduct preconstruction clearance surveys immediately prior to the initiation of ground disturbing activities during the active season, between April and October (inclusive of both months), in modeled/blow sand habitat and be present during all construction activities in these areas. The name and qualifications of the Qualified Biologist will be submitted to the BLM, Service, and CDFG for approval at least 30 days prior to project construction in modeled/blow sand habitat.
29. If fringe-toed or horned lizards are found, the Qualified Biologist will capture and relocate any individuals to the nearest suitable habitat in modeled/blow sand habitat outside of the DPV1/DPV2 ROW.
30. To partially offset the impacts of permanent and temporary/long-term losses of fringe-toed lizard habitat, SCE will acquire at least 35.61 ha (88 ac) of fringe-toed lizard habitat. The compensation ratio will be 2:1 for permanent and temporary/long-term impacts to fringe-toed lizard modeled habitat [7.28 ha (18 ac) of impact $\times 2$ = a total of 14.57 ha (36 ac)] and critical habitat [10.52 ha (26 ac) of impact $\times 2$ = a total of 21.04 ha (52 ac)]. The lands will be purchased either by SCE or SCE can deposit funds with the NFWF under the account governed by the REAT/NFWF MOA (REAT/NFWF MOA 2010); if funds are deposited with NFWF, a compensation fee will be assessed based on current fair market appraised value for the specific geographic area in which the acquisition occurs. The acquired lands will occur in fringe-toed lizard habitat with equivalent function and value. The replacement habitat is intended to benefit the population of fringe-toed lizard adversely affected by the project; therefore, replacement habitat to offset impacts to fringe-toed lizard modeled habitat will be located within or adjacent to priority conservation areas in the CVMSHCP with comparable or better habitat value and habitat acquired for impacts to fringe-toed lizard critical habitat will be located within designated critical habitat with comparable or better habitat value. The BLM, Service, and CDFG will coordinate to reach

mutual agreement on the selection and ownership/management of acquired lands. If critical habitat for fringe-toed lizard is not available from willing sellers, alternative compensation lands of equivalent or better habitat function and value in modeled habitat will be considered.

If funds are provided to NFWF, the compensation (1) funds will be provided no later than 30 days prior to ground disturbance, (2) lands will be acquired no later than 18 months after ground-disturbing activity, and (3) lands will be conserved in perpetuity by a legal mechanism agreed to by the three agencies. SCE will establish a management fund for the agency that owns and manages the acquired lands. The management fund will consist of an interest-bearing account (as described in the REAT/NFWF MOA), with the amount of capital commensurate to generate sufficient interest to fund all monitoring, management, and protection of the acquired lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and other actions designed to protect or improve the habitat values of the acquired lands. A Property Analysis Record, as described at: http://cnlm.org/cms/index.php?option=com_content&task=view&id=21&Itemid=155 or comparable method, will be conducted by SCE and reviewed by the BLM, Service, and CDFG, to determine the management needs and costs described above, which then will be used to calculate the amount of capital needed for the management fund. This management fund will be held and managed by NFWF or another entity approved by the BLM, Service, and CDFG.

If conservation lands are acquired directly by SCE they must meet the CDFG's fully mitigated standard. Lands purchased will be transferred in fee title to CDFG, a CDFG-approved non-profit organization qualified pursuant to California Government Code section 65965, or other government entity with either a conservation easement, deed restriction, or other protective measures (as approved by BLM and CDFG) over those lands. If lands are transferred to CDFG, SCE will reimburse CDFG for reasonable expenses incurred during title and documentation review, expenses incurred from other state agency reviews, and overhead related to transfer of the lands. CDFG estimates that this project will create an additional cost to CDFG of no more than \$3,000 for every fee title deed or easement processed. If lands are transferred via donation to BLM, similar transfer fees may be incurred.

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 CDFG, no later than 30 days prior to commencing ground-disturbing activities, an irrevocable letter of credit or another form of security (security) approved by CDFG's Office of the General Counsel. The security will allow CDFG to draw on the principal sum if CDFG, at its sole discretion, determines that SCE has failed to comply with the Conditions of Approval.

The security will be in the amount of \$413,600 based on the following estimated costs of implementing the mitigation, monitoring and reporting requirements: land acquisition costs for impacts to habitat, calculated at \$3,000.00/ac for 35.61 ha (88 ac): \$264,000; costs of enhancing mitigation lands, calculated at \$250.00/ac: \$22,000; long term maintenance and management, calculated at \$1,450.00/ac: \$127,600. Even if the security is provided, 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.

31. To partially offset the impacts of permanent and temporary/long-term losses of horned lizard habitat, SCE will acquire at least 12.95 ha (32 ac) of horned lizard habitat. The compensation ratio will be 2:1 for permanent and temporary/long-term impacts to horned lizard modeled habitat [6.47 ha (16 ac) of impact $\times 2 =$ a total of 12.95 ha (32 ac)]. The lands will be purchased either by SCE or SCE can deposit funds with the NFWF under the account governed by the REAT/NFWF MOA (REAT/NFWF MOA 2010); if funds are deposited with NFWF, a compensation fee will be assessed based on current fair market appraised value for the specific geographic area in which the acquisition occurs. The acquired lands will occur in horned lizard habitat with equivalent function and value. The replacement habitat is intended to benefit the population of horned lizard adversely affected by the project, and will be located within or adjacent to priority conservation areas in the CVMSHCP with comparable or better habitat value. The BLM and Service will coordinate to reach mutual agreement on the selection and ownership/management of acquired lands.

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

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

Desert Tortoise Conservation Measures – Construction Phase

32. To the extent possible, all construction activities in modeled, critical, and occupied habitat will be conducted when tortoises are less active, generally November to March.
33. An Authorized Biologist will be present during all construction activities in tortoise habitat (modeled, critical habitat, and/or occupied habitat) during the tortoise's more active season (April thru May and September thru October). The name and qualifications of the Authorized Biologist will be submitted on the Service's *Desert Tortoise Authorized Biologist Request Form* (September 2009) or most current version to the BLM, Service, and CDFG for approval at least 30 days prior to initiation of ground-disturbing activities in tortoise habitat.
34. The Authorized Biologist will conduct clearance surveys and tortoise handling following procedures outlined in the Service's *Desert Tortoise Field Manual* (December 2009) or more current Service guidance.
35. The Authorized Biologist will conduct preconstruction clearance surveys immediately prior to initiation of ground disturbing activities in tortoise habitat regardless of the time of year. The goal of a clearance survey is to find all tortoises on the surface and in burrows that could be harmed by construction activities. Surveys will cover 100 percent of the acreage to be disturbed. All potential burrows within 30.5 m (100 ft) of construction activity will be marked and avoided to the extent practicable. Those that cannot be avoided will be excavated by the Authorized Biologist.
36. Tortoises found on the surface during preconstruction clearance surveys or during construction activities will be moved out of harm's way and released within 500 m (1,640 ft) from point of collection.
37. Tortoises found in burrows during preconstruction clearance surveys or during construction activities during the species' less active period (November to March) will be avoided to the extent practicable. Those that cannot be avoided will be excavated and the tortoise removed, blocked into an artificial or empty natural burrow within 500 m (1,640 ft) 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 in accordance with the Service's *Desert Tortoise Field Manual* (December 2009) or more current Service guidance.
38. During construction, parked vehicles will be inspected prior to being moved. If a 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 tortoise leaves on its own accord. The Authorized Biologist will be responsible for taking appropriate measures to ensure that any tortoises moved in this manner is not exposed to temperature extremes which could be harmful to the animal.

39. Constructed road berms in modeled, critical, and occupied habitat will be less than 30.48 cm (12 in) in height and have slopes less than 30 degrees.
40. A trash collection system will be established to ensure that all food and other trash that could attract tortoise predators is properly disposed of in self-closing, sealable containers with lids that latch to prevent wind, common ravens, and mammals from opening containers. All trash receptacles will be regularly inspected and emptied to prevent spillage and maintain sanitary conditions, and removed from the project footprint when construction activities are complete.
41. Road-killed animals or other carcasses detected in the DPV2 ROW access road during DPV2-related construction activities will be picked up and disposed of immediately (e.g., removal to a landfill or disposal at SCE facility). For special-status species road-kill, the Qualified Biologist or FCR will contact CDFG and Service within 1 working day of receipt of the carcass for guidance on disposal or storage of the carcass.
42. Raven Control Plan: SCE will implement a Raven Control Plan (RCP) to minimize avian predation on tortoise for the 30-year life of the proposed project. The goal of the RCP will be to utilize methods to deter raven depredation of juvenile tortoises, as well as other wildlife species that may be listed or may be considered sensitive, in order to ensure that overall numbers of tortoises along DPV2 do not decrease. The plan will incorporate an adaptive management strategy that will be implemented immediately following construction and evaluated after 5 years of monitoring. The following activities will be implemented as part of the RCP: (1) Common Raven Nest Monitoring and (2) Contribution to the Raven Management Plan.

Common Raven Nest Monitoring: A Qualified Biologist(s) or Service-approved SCE designee with expertise identifying common raven nests and tortoise remains (e.g., carcass, shell and bone fragments) will conduct surveys for the presence of common raven nests on DPV2 tower structures and for the presence of tortoise remains within a 15-m (49-ft) radius of each tower in tortoise modeled, critical, and occupied habitat. The name and qualifications of the Qualified Biologist will be submitted to the BLM, Service, and CDFG for approval 30 days before the commencement of monitoring each year. Nest surveys will be conducted at least once per month, between the 15th and last day of each month, during the primary common raven nest building period (February to May) and will begin the first common raven nesting season following the completion of tower construction in tortoise habitat. Nest surveys methods may include vehicular windshield surveys or pedestrian surveys, as appropriate. In the event that a common raven is documented initiating a new nesting attempt during the May surveys, follow up visits to that nest will be made in the subsequent months to establish whether or not the pair is bringing tortoises back to the nest. Throughout the survey period, if tortoise remains are found below an active nest, SCE will document the remains and verify the nesting status of the common ravens (e.g., incubating, feeding nestlings), herein referred to as offending ravens, and notify the BLM, Service, and CDFG verbally (via phone call) and in writing (via email or fax) within 24 hours of

documenting the remains. Upon being notified, the Service will contact the Common Raven Management Working Group which will coordinate immediate removal of the offending common raven(s). SCE will establish a Cooperative Service agreement with USDA/APHIS allowing for Wildlife Services to conduct the removal efforts of offending common raven(s) within the DPV2 ROW. SCE will be responsible for expenses attributed to removal of offending ravens nesting on DPV2 towers.

Also, at least once per year outside of the avian breeding season and the tortoise's more active season (April thru May and September thru October), SCE will remove all previously documented offending raven nests from all DPV2 tower structures along the surveyed transmission line and completely dispose of the nesting material so that it is no longer available for use for nest building (e.g., removal to a landfill or disposal at SCE facility). Raven nest removal will be scheduled in a manner that does not impact personnel safety or system reliability.

The Qualified Biologist(s) or Service-approved SCE designee will also conduct nest surveys at the Devers and Colorado River substations. Surveys will begin in February and will continue through May, occurring between the 15th and last day of each month. If an active common raven nest is located, searches for the presence of tortoise remains within a 15-m (49-ft) radius of the nest will be conducted. If tortoise remains are found, SCE will follow the same procedure outlined above. Similarly, offending ravens nesting on the substation facilities will be removed in accordance with the aforementioned procedures. Raven nest removal will be scheduled in a manner that does not impact personnel safety or system reliability.

SCE will submit a report on the survey effort and a GIS layer to the Service of all the nests recorded during the year within 90 days of the last survey effort. The Service will be responsible for sharing the nest information with the Common Raven Management Work Group.

An evaluation of the effectiveness of this conservation measure will be reviewed by SCE, the BLM, Service, and CDFG on an annual basis in order to develop appropriate adaptive measures for DPV2 for the next breeding season. The frequency and type of surveys implemented may increase or decrease depending on survey results and the effectiveness of the monitoring and removal. SCE will implement adaptive management measures after consultation with the Service based on the effectiveness of conservation measures. Nest monitoring and removal, searches for desert tortoise remains, and common raven removal will be conducted for the life of the project or until SCE demonstrates, and the BLM, Service, and CDFG agree, that any or all of these actions are no longer necessary based on the results of the nest monitoring surveys.

Contribution to the Raven Management Plan: SCE will provide funds to the NFWF to contribute to a region-wide raven control plan to help address raven predation on the tortoise. This contribution will be used to address raven predation on a regional basis and

will be calculated as the linear extent of DPV2 line in tortoise habitat [152.05 km (94.48 mi)] multiplied by tower pad width [61 m (200 ft)] plus acres of tortoise habitat impacted by construction of the CRS⁶ [32.37 ha (80ac)] multiplied by \$105 per acre⁷. Based on this calculation (94.48 mi × 200 ft + 80 ac = 2,499 ac × \$105/ac), SCE will provide a one-time payment of \$262,416 to NFWF's Raven Management Plan fund. If the NFWF is not prepared to accept funds at the time of project authorization, the payment will be provided directly to BLM for raven management within tortoise habitat on BLM lands. SCE will provide these funds to NFWF or the BLM (if NFWF is not ready to accept funds), prior to the initiation of construction activities in tortoise habitat.

43. To partially offset the impacts of permanent and temporary/long-term losses of tortoise habitat, SCE will acquire at least 670.16 ha (1,656 ac) of tortoise habitat. For impacts to habitat in the Chuckwalla Critical Habitat Unit (CHU) or Chuckwalla Desert Wildlife Management Area (DWMA) but outside of modeled habitat, the compensation ratio will be 5:1 for permanent and temporary/long-term impacts to tortoise habitat [63.54 ha (157 ac) of impact × 5 for a total of 1,939.78 ha (785 ac)]. For habitat in the Chuckwalla CHU or DWMA also identified as modeled habitat, the compensation ratio also will be 5:1 [43.71 ha (108 ac) of impact × 5 for a total of 218.53 ha (540 ac)].

For impacts to modeled habitat outside the Chuckwalla CHU or DWMA, the compensation ratio will be 1:1 for permanent and temporary/long-term impacts to tortoise habitat [72.84 ha (180 ac) of impact × 1 for a total of 72.84 ha (180 ac)]. For impacts to occupied habitat outside the Chuckwalla CHU, DWMA, or modeled habitat, the compensation ratio will also be 1:1 [61.11 ha (151 ac) of impact × 1 for a total of 61.11 ha (151 ac)].

The lands will be purchased either by SCE or SCE can deposit funds with the NFWF under the REAT account governed by the REAT/NFWF MOA (REAT/NFWF MOA 2010); if funds are deposited with the NFWF, a compensation fee will be assessed based on current fair market appraised value for the specific geographic area in which the acquisition occurs. The acquired lands will occur in tortoise habitat with equivalent function and value. The replacement habitat is intended to benefit the population of tortoises adversely affected by the project. Therefore, replacement habitat will be acquired to offset impacts as follows: (a) habitat intended to replace modeled habitat in the CVMSHCP area will be located within or adjacent to priority conservation areas in the CVMSHCP area, (b) habitat intended to compensate for impacts to critical habitat in the CVMSHCP area will be located within critical habitat in the CVMSHCP area, (c) habitat intended to compensate for impacts to critical habitat outside of the CVMSHCP area will be located within critical habitat in the NECO plan area, and (d) habitat intended to replace occupied habitat outside of the CVMSHCP area and outside of critical habitat will be located within the NECO plan

⁶ Acreage includes the station footprint, expansion area, water detention basin, and distribution line (see Table 1).

⁷ See *Renewable Energy Development and Common Raven Predation on the Desert Tortoise* (May 2010) and *Cost Allocation Methodology for Implementation of the Regional Raven Management Plan* (July 9, 2010) for additional details on how the cost per acre was derived.

area. The BLM, Service, and CDFG will coordinate to reach mutual agreement on the selection and ownership/management of acquired lands.

If funds are provided to NFWF, the compensation (1) funds will be provided no later than 30 days prior to ground disturbance, (2) lands will be acquired no later than 18 months after ground-disturbing activity, and (3) lands will be conserved in perpetuity by a legal mechanism agreed to by the three agencies. SCE will establish a management fund for the agency that owns and manages the acquired lands. The management fund will consist of an interest-bearing account (as described in the REAT/NFWF MOA), with the amount of capital commensurate to generate sufficient interest to fund all monitoring, management, and protection of the acquired lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and other actions designed to protect or improve the habitat values of the acquired lands. A Property Analysis Record, as described at: http://cnlm.org/cms/index.php?option=com_content&task=view&id=21&Itemid=155 or comparable method, will be conducted by the SCE and reviewed by the BLM, Service, and CDFG, to determine the management needs and costs described above, which then will be used to calculate the amount of capital needed for the management fund. This management fund will be held and managed by NFWF or another entity approved by the BLM, Service, and CDFG.

If conservation lands are acquired directly by SCE they must meet the CDFG's fully mitigated standard. Lands purchased outside of the CVMSHCP area will be transferred in fee title to CDFG, a CDFG-approved non-profit organization qualified pursuant to California Government Code section 65965, or other government entity with either a conservation easement, deed restriction, or other protective measures (as approved by the BLM and CDFG) over those lands. If lands are transferred to CDFG, SCE will reimburse CDFG for reasonable expenses incurred during title and documentation review, expenses incurred from other state agency reviews, and overhead related to transfer of the lands. The CDFG estimates that this project will create an additional cost to CDFG of no more than \$3,000 for every fee title deed or easement processed. If lands are transferred via donation to BLM, similar transfer fees may be incurred.

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 CDFG, no later than 30 days prior to commencing ground-disturbing activities, an irrevocable letter of credit or another form of security (security) approved by CDFG's Office of the General Counsel. The security will allow CDFG to draw on the principal sum if CDFG, at its sole discretion, determines that SCE has failed to comply with the Conditions of Approval.

The security will be in the amount of \$4,471,200 based on the following estimated costs of implementing the mitigation, monitoring and reporting requirements: land acquisition costs for impacts to habitat, calculated at \$1,000.00/ac for of 1,656 ac: \$1,656,000; costs of

enhancing mitigation lands, calculated at \$250.00/ac: \$414,000; long term maintenance and management, calculated at \$1,450.00/ac: \$2,401,200. Even if the security is provided, 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.

Operations and Maintenance

The following general and species-specific Operations and Maintenance (O&M) Conservation Measures will be implemented during the O&M phase over the life of the project.

General Conservation Measures – O&M Phase

44. General O&M Plan. SCE will submit an O&M Plan for the DPV2 project to the BLM, Service, and CDFG within 90 days following the completion of construction activities. The project-specific O&M Plan will specify the location of maintained facilities, patrol and inspection procedures, detailed description of routine O&M activities, location of suitable habitat for listed plant and wildlife species covered in this biological/conference opinion, measures to avoid and minimize impacts to listed plants and wildlife, and procedures for action and reporting during non-routine maintenance activities. The O&M plan will include biological resource maps compiled during the DPV2 project's construction phase to be used to determine location of suitable habitat for listed species covered by this biological/conference opinion. The worker education program for sensitive biological resource prepared for project construction will be adapted for O&M activities and be provided to O&M crews when working in suitable habitat for listed species.
45. Annual O&M Work Plan. SCE will submit an annual O&M work plan to the BLM, CDFG, and Service at least 3 months prior to the initiation of Class 1 and Class 2 O&M activities planned each calendar year. The annual O&M work plan will specify all routine O&M activities anticipated to occur in the given year and include maps depicting the location of anticipated O&M activities relative to the location of modeled, critical, and/or occupied habitat for the kangaroo rat, milk-vetch, fringe-toed and horned lizards, and tortoise, and list the conservation measures from this biological/conference opinion that will be implemented to avoid, minimize, and offset impacts to these species.
46. Annual Reporting. SCE will report on the status of all O&M activities identified in the annual O&M work plan as part of the annual report [required as a Term and Condition of this biological/conference opinion (see "Terms and Conditions" section below)]. Annual reporting will include a description of the O&M activities initiated, in progress, and completed, the location of these activities, the amount of new ground disturbance in kangaroo rat, milk-vetch, fringe-toed and horned lizard, and tortoise modeled, critical and/or occupied habitat requiring additional habitat compensation.

47. Class 4 (Emergency Repair) O&M Activities. During emergency repairs, all Conservation Measures will be followed to the extent practicable. Within 2 business days of the start of emergency repairs, SCE will notify the BLM, Service, and CDFG verbally (via telephone) of the type of repairs anticipated, the location of the repairs relative to sensitive species habitat, and whether or not an Authorized or Qualified Biologist will be on site during repairs. Once the emergency has been abated, any unavoidable environmental damage will be reported to the project FCR or Qualified Biologist, who will submit a written report of such impacts to the BLM, Service, and CDFG and any other government agencies having jurisdiction over the emergency actions within 14 days of completion of emergency repair activities. If required by the BLM, Service, CDFG, or government agencies, the FCR or Qualified Biologist will develop a reasonable and feasible mitigation plan consistent with the Conservation Measures and any permits previously issued for the project by the governmental agencies.
48. SCE will offset additional impacts to kangaroo rat, milk-vetch, fringe-toed or horned lizard, and tortoise modeled, critical, occupied, or suitable habitat associated with Class 2 and Class 4 O&M activities following the process and compensation ratios identified in CMs 22, 26, 30, 31, and 43 above.
49. Routine Maintenance Limits. The area limits of project maintenance activities will be limited to the permanent disturbance areas noted on the final design engineering drawings and the vegetation-free buffers [typically 0.61 to 1.52 m (2 to 5 ft) beyond berm's or road's edge] for access and fire prevention along roads as described in the Routine ROW road maintenance (Class 2) description. Routine maintenance activity will be restricted to and confined within those limits. In addition, maintenance personnel will keep vehicles on existing roads. No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate limits of maintenance activity where any sensitive biological resources or wildlife habitats occur. Temporary demarcation methods such as flagging tape, pin flags, or wooden stakes will be used when necessary to ensure that all workers strictly limit activities and vehicles to the designated work areas.
50. All existing and new employees/contractors will undergo the WEAP (see CM 14) prior to their involvement in all Class 1 and Class 2 O&M activities.

Stephens' Kangaroo Rat Conservation Measures – O&M Phase

In addition to construction-related CMs 7, 8, 9, 11, 12, 13, 15, 18, 19, and 20 outlined above, the following species-specific O&M Conservation Measures will be implemented during the O&M phase.

51. During Class 2, ground-disturbing O&M activities in occupied habitat, a Qualified Biologist will determine if trapping is necessary to reduce harm to kangaroo rats. If kangaroo rats are found in the disturbance area, and the work will take less than 2 days to complete the Qualified Biologist will trap the area and hold kangaroo rats until the project

is complete. If the Class 2 O&M activity will take more than 2 days, an exclusionary fence will be installed around the work areas where impacts will occur. The area will then be trapped and animals from inside the impact area will be relocated out of harm's way, outside of exclusion fencing until construction is completed. Following completion of O&M activities in the area occupied by kangaroo rats, SCE will remove all exclusion fencing and recontour the soils to the preconstruction condition. The name and qualifications of the Qualified Biologist will be submitted to the BLM, Service and CDFG for approval at least 30 days prior to O&M activities in occupied kangaroo rat habitat.

Coachella Valley Milk-vetch Conservation Measures – O&M Phase

In addition to construction-related CMs 7, 9, 11, 15, and 23 outlined above, the following species-specific O&M Conservation Measures will be implemented during the O&M phase.

52. A Qualified Biologist will be present during Class 2, ground-disturbing O&M activities conducted in modeled habitat during the species' seed germination and growing season, generally January to May. The name and qualifications of the Qualified Biologist will be submitted to the BLM and Service for approval at least 30 days prior to project construction in modeled habitat. Milk-vetch locations identified during the preconstruction surveys will be surveyed to determine if additional germination has occurred. Any milk-vetch locations found during O&M activities will be marked (e.g., flagging tape, pin flags, wooden stakes) and avoided to the maximum extent possible. Where avoidance is not possible, milk-vetch plants will be salvaged following the Plant Salvage Plan (see CM 25). The name and qualifications of the Qualified Biologist will be submitted to the BLM, Service, and CDFG for approval at least 30 days prior to O&M activities in modeled habitat.

Coachella Valley Fringe-toed and Flat-tailed Horned Lizard Conservation Measures – O&M Phase

In addition to construction-related CMs 7, 8, 9, 11, 12, 13, 15, and 27 outlined above, the following species-specific O&M Conservation Measures will be implemented during the O&M phase.

53. Class 2, ground-disturbing O&M activities within modeled/blow sand habitat, defined in the post-construction O&M Plan Maps, will be conducted between April and October (inclusive of both months) when air temperature is above 75 degrees Fahrenheit to minimize potential impacts to fringe-toed and horned lizards.
54. To reduce direct impacts to fringe-toed and horned lizards during O&M activities, a Qualified Biologist will monitor all Class 2 ground-disturbing activities within modeled/blow sand habitat. The Qualified Biologist(s) will be present throughout ground disturbing O&M activities in modeled/blow sand habitat to identify, capture, and relocate any individuals to the nearest suitable habitat outside of the DPV1/DPV2 ROW. The name

and qualifications of the Qualified Biologist will be submitted to the BLM, Service, and CDFG for approval at least 30 days prior to O&M activities in modeled/blow sand habitat.

Desert Tortoise Conservation Measures – O&M Phase

In addition to construction-related CMs 7, 8, 9, 11, 13, 15, 32, 39, and 42 outlined above, the following species-specific O&M Conservation Measures will be implemented during the O&M phase.

55. During the tortoise's most active season (April thru May and September thru October), operators of heavy equipment (such as road graders) will be accompanied by an Authorized Biologist during Class 2 ground-disturbing O&M activities in tortoise modeled, critical habitat, and/or occupied habitat. The Authorized Biologist will have the responsibility and authority to halt all project activity should danger to a tortoise arise. Work will proceed only after hazards to the tortoise are removed, the tortoise is no longer at risk, or the tortoise has been moved from harm's way of its own will or by the Authorized Biologist. The name and qualifications of the Authorized Biologist will be submitted on the Service's *Desert Tortoise Authorized Biologist Request Form* (September 2009) or most current version to the BLM, Service, and CDFG for approval at least 30 days prior to initiation of ground disturbing O&M activities in tortoise habitat.
56. During Class 2 ground-disturbing O&M activities conducted during the tortoise's less active period (generally November thru March) in modeled, critical habitat, and/or occupied habitat, an Authorized Biologist will conduct burrow searches prior to initiation of ground-disturbing activities that take place beyond existing permanent disturbance areas, such as existing access roads in modeled, critical, and occupied habitat. Tortoises found in burrows during the less active period during O&M activities will be avoided to the extent practicable. Burrows that cannot be avoided will be excavated and the tortoise removed, blocked into an artificial or empty natural burrow within 500 m (1,600 ft) from the construction area, and monitored until O&M activities in the area are complete. Excavation, creation of artificial burrows, and handling of eggs, juveniles and adults will be conducted in accordance with the Service's *Desert Tortoise Field Manual* (December 2009) or more current Service guidance.
57. During O&M activities, all workers in the action area will be required and reminded at least annually in writing to inspect underneath parked vehicles every time before starting and driving the vehicle. The written instruction will require that if a tortoise is found beneath vehicle, the vehicle will not be moved until the animal is no longer at risk of being run over, or the Authorized Biologist will be contacted to move the animal out of harm's way.
58. Debris from tree trimming and brush clearing done in modeled, critical, or occupied habitat will be completely disposed so that it is no longer available for use for raven nest building (i.e., removal to a landfill or disposal at SCE facility).

Construction & O&M - Reporting

59. SCE will prepare an annual report by December 31 of each year of the project detailing construction and O&M activities and effects to milk-vetch, along with kangaroo rats, fringe-toed and horned lizards, and tortoises, as described in the “Terms and Conditions” section of this biological/conference opinion.

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 proposed 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 (Service and NMFS 1998). Indirect effects are those that are caused by the proposed action and are later in time but are still reasonably certain to occur (Service and NMFS 1986). 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 (Service and NMFS 1998).

The action area associated with the proposed project includes the combined 100-m (330-ft) DPV1 and DPV2 ROW and includes all components of the DPV2 project. The ROW for the DPV1 project is included in the action area because access to the DPV2 project footprint will occur from the existing DPV1 access road. The action area includes a distance of up to 500 m (1,640 ft) from the project footprint where any kangaroo rats, fringe-toed or horned lizards, or tortoises found in the project footprint will be moved to avoid injury from construction or O&M-related activities. The action area also includes the area approximately 1.6 km (1 mi) around the currently proposed location of the CRS and an additional distance of up to 500 m (1,640 ft) from the final location of the CRS and its components where any tortoises found in the project footprint will be moved to avoid injury from construction or O&M-related activities. Finally, the action area encompasses conservation areas that will be acquired or restored to offset impacts to the kangaroo rat, milk-vetch, fringe-toed and horned lizards, and tortoise resulting from construction and O&M of the proposed project. The acquisition and management of these conservation areas are expected to have only beneficial effects to the five species addressed in this consultation. For kangaroo rat, the action area includes habitat that will be acquired within the Southwestern Riverside County Multiple Species Reserve and habitat within the Lake Perris State Recreation Area portion of the San Jacinto Lake Perris Stephens’ Kangaroo rat Reserve that will be restored or enhanced. For milk-vetch, fringe-toed and horned lizards, and tortoises, the exact locations of these conservation areas have not yet been identified. However, as discussed in the “Conservation Measures” section above, we anticipate their locations will be within or adjacent to other lands with a conservation management priority in the appropriate plan areas (CVMSHCP or NECO), with the extent of acquisition proportionate with the impacts within the respective plan areas, as described above under the “Conservation Measures” section.

STATUS OF THE SPECIES/CRITICAL HABITAT

Stephens' Kangaroo Rat

The following section summarizes information about Stephens' kangaroo rat on the legal/listing status, distribution and population trends, and current threats as discussed in the Service's biological opinion on the Western Riverside County Multiple Species Habitat Conservation Plan (WRMSHCP; Service 2004a). Please refer to that document as well as the final listing rule (Service 1988) for additional detailed information about these topics and the species' description, life history, and habitat affinities.

Legal/Listing Status: The kangaroo rat was listed as threatened by the State of California in 1971 and as endangered under the Act on September 30, 1988 (Service 1988). Critical habitat rat has not been designated for the kangaroo rat because the Service found designation was not prudent (Service 1988). A draft recovery plan for the species was developed in 1997 (Service 1997), but has yet to be finalized.

Distribution and Population Trends: Stephens' kangaroo rats occur in areas characterized by low perennial and annual cover interspersed with large areas of bare ground in inland valleys of cismontane San Bernardino, Riverside, and San Diego counties of southern California. Populations of kangaroo rat fluctuate markedly from year to year, with population declines or increases up to five-fold or more, apparently driven by variability in survival and reproduction that are in turn affected by precipitation, natural and anthropogenic habitat disturbances, and successional habitat changes. Specific population estimates for Stephens' kangaroo rat (i.e., the number of kangaroo rat present within a given area) would be misleading due to naturally high fluctuations within populations. Populations have traditionally been characterized by estimating the extent of occupied habitat and providing a range of densities of kangaroo rat within occupied habitat. At the time of listing, the kangaroo rat is historically believed to have occupied about 7,162 ha (17,698 ac) in San Diego County and 15,059 ha (37,211 ac) in Riverside County (Service 2010d). Within the 22,221 ha (54,909 ac) of historical habitat, only 3,936 ha (9,725 ac) have been lost to development (Service 2010d). Within occupied habitat, the density of kangaroo rats range from less than 2.5 to greater than 50 individuals per ha (less than 1 to greater than 20 individuals per ac).

Current Threats: At the time of listing, the Service determined that the Stephens' kangaroo rat was threatened by the following factors: habitat loss resulting from widespread, rapid urbanization and agricultural development; fragmented and isolated populations; reduction of habitat suitability (from anthropogenic activities including grazing, off-highway vehicle (OHV) use, disking, plowing, introduction of nonnative vegetation, and rodent control programs); predation by domestic cats; and the lack of existing regulatory protections. Today these threats either have been removed or their imminence, intensity, or magnitude reduced to the extent that the species is no longer in danger of extinction throughout all or a significant portion of its range. Despite this significant reduction in threats, non-conserved Stephens' kangaroo rat habitat continues to be impacted by urban and agricultural development, while nonnative species,

OHVs, and the potential impacts associated with climate change continue to pose a threat to the species over the long term.

Coachella Valley Milk-vetch

The following section summarizes information about Coachella Valley milk-vetch on the legal/listing status, distribution and population trends, and current threats to the species and its habitat as discussed in the Service's biological opinion on the California Desert Conservation Area Plan Amendment for the Coachella Valley (Service 2010a). Please refer to that document as well as the final listing and critical habitat rules (Service 1998, 2005) for additional detailed information about these topics and the species' description, life history, and habitat affinities.

Legal/Listing Status: The milk-vetch was listed as federally endangered on October 6, 1998 (Service 1998). Though critical habitat for milk-vetch was proposed on December 14, 2004 (Service 2004b), the Service excluded all of the proposed lands in the final rule published on December 14, 2005 (Service 2005). A recovery plan has not been developed for this species.

Distribution and Population Trends: The Coachella Valley milk vetch is found on loose sands within the Coachella Valley of Riverside County and populations are strongly affiliated with active, stabilized, and shielded sandy substrates. The milk-vetch historically and currently has a limited distribution and is endemic to the Coachella Valley. The majority of historic and existing occurrences are found in the northern Coachella Valley, generally from just east of Cabazon to the dunes off Washington Avenue, north and west of Indio. The taxon currently is found mostly in and around Snow Creek, Whitewater River floodplain, Mission Creek, Morongo Wash, Willow Hole, the Big Dune, and the Thousand Palms Reserve.

Current Threats: The primary threat to the milk-vetch is the continuing loss of habitat to the direct and indirect effects of urban development in the Coachella Valley. Urban development, without the appropriate design considerations when in sand source/transport corridors, typically have adverse effects on the local aeolian and flooding regimes by reducing the wind movement of sands and modifying (often narrowing/concentrating) the flooding and drainage patterns. Occupied and suitable habitat areas that are downstream or downwind of these developments (habitat that depends on a periodic supply of loose unconsolidated sands for its long-term existence), are generally degraded by the alteration, blockage, and reduction in the supply of sand. The species is also threatened by habitat degradation and loss by the spread of invasive plants, OHV use, and the construction and operation of sand and gravel mines, debris dams, and percolation ponds.

Coachella Valley Fringe-toed Lizard

The following section summarizes information about Coachella Valley fringe-toed lizard on the legal/listing status, distribution and population trends, current threats, and status of critical habitat as discussed in the Service's biological opinion on the California Desert Conservation Area Plan Amendment for the Coachella Valley (Service 2010a). Please refer to that document

as well as the final listing and critical habitat rule and recovery plan (Service 1980, 1985) for additional detailed information about these topics and the species' description, life history, and habitat affinities.

Legal/Listing Status: The Coachella Valley fringe-toed lizard was listed as endangered by the State of California in 1980 and as threatened by the Service on September 25, 1980 (Service 1980). Using the 1978 regulatory definition of critical habitat, the Service proposed critical habitat for the fringe-toed lizard in late 1978. However, because of the changes to critical habitat process made with the 1978 Amendments to the Act, the Service withdrew the proposal in 1979. In keeping with the amendments, critical habitat was repropoed on May 28, 1980, and designated concurrent with the listing of the species (Service 1980). A recovery plan was developed for this species in 1985 (Service 1985).

Distribution and Population Trends: Coachella Valley fringe-toed lizards are restricted to aeolian (blow) sand deposits including sandy plains, sand hummocks, and dune systems and is endemic to the Coachella Valley of Riverside County. Little is known about Coachella Valley fringe-toed lizard populations outside the reserve system established by the Coachella Valley Fringe-toed Lizard Habitat Conservation Plan (HCP) and the CVMSHCP, other than wind-blown sand habitats suitable for the lizard continue to decline in association with conversion to agricultural and development uses. Population studies indicate that population densities of Coachella Valley fringe-toed lizards can vary widely, and densities are likely to be influenced by important habitat features, such as sand compaction and patch size, as well as depth and width blow sand available at the ground surface in a given area and time. Coachella Valley fringe-toed lizard densities have been estimated to range from 4.4 to 148 lizards per ha (1.8 to 60 lizards per acre). Despite almost 20 years of monitoring by various parties, the population trends and status of the species remain largely unknown. We do not have reliable estimates of what the population size is in any of the reserves, nor do we know how those population sizes have fluctuated (or how close various populations may have come to extirpation). A linear relationship does exist between the amount of habitat that is extant at any time and the ultimate number (and status) of lizards, and that habitat continues to be directly and permanently lost. However, most or all of the habitat loss has been in sand transport zones with ephemeral lizard populations and in areas with compromised sand transport processes that do not provide viable habitat conditions over the long term.

Current Threats: This species exists as relatively small, disconnected subpopulations in a small remaining area of the Coachella Valley. The vast majority of the blow sand habitat for the species has been lost or highly degraded by urbanization and associated development. Some of the remaining habitat (and the ecological processes that support it) is partially protected in reserves and a national wildlife refuge, but significant direct or indirect threats to all remaining habitat continue. The species' small historical range is now much reduced due to agricultural and urban development, with reports of 76 to 95 percent of its habitat having been lost. Much of the remaining habitat has been degraded and lost by stabilization of dunes by planted windbreaks, other barriers to sand transport, OHV use, and invasive species.

During drought periods fringe-toed lizard population density declines are natural, but the small and isolated habitat fragments that still remain support populations that become vulnerable to extirpation all during droughts, compared to the larger absolute population sizes in the larger and connected habitat patches that occurred historically.

Status of Critical Habitat: All of the approximately 4,771 ha (11,789 ac) of designated critical habitat occurs within the CVMSHCP area, of which approximately 953 ha (2,356 ac) is controlled by BLM, 901 ha (2,227 ac) of which is in an Area of Critical Environmental Concern (ACEC), and the remaining approximately 3,818 ha (9,433 ac) is in CVMSHCP conservation areas. Lands designated as critical habitat contain suitable habitat as well as areas important to continuing the geological processes necessary for blow sand ecosystem functioning, including the formation and maintenance of sand dunes and related blow sand habitats required by the species. The DPV2 project crosses approximately 10 km (6 mi) of Coachella Valley fringe-toed lizard critical habitat (Table 1), primarily on non-Federal lands. We are not aware of any threats or conflicts on the BLM fraction of critical habitat, in part because most the intermixed and adjoining land ownerships in the conservation areas also are in a conservation status. As such, the designation on BLM lands continues to fulfill the sand source/transport role and function for which it was intended. Within the primary sand transport corridor along the base of the Indio Hills, residential and commercial development pressures threaten to obstruct ecological processes in a several square mile area, and a proposed flood control facility to protect existing urban development threatens to reduce the amount of conservation committed to in the CVMSHCP. Though the CVMSHCP helped address the residential and commercial threats, threats from the proposed flood control project have yet to be resolved.

Flat-tailed Horned Lizard

The following section summarizes information about flat-tailed horned lizard on the legal/listing status, distribution and population trends, and current threats as discussed in the Flat-tailed Horned Lizard Rangelwide Management Strategy (Rangelwide Management Strategy; FTHL ICC 2003). Please refer to that document as well as the proposed listing rule (Service 1993) for additional detailed information about these topics and the species' description, life history, and habitat affinities.

Legal/Listing Status: The flat-tailed horned lizard is designated as a State Species of Special Concern by the CDFG and is listed as a threatened species in Mexico. The horned lizard was initially proposed as a federally threatened species in 1993 (Service 1993). Since that time, it has been withdrawn from listing consideration three times and reinstated three times, most recently in 2010 (Service 2010b). Accordingly, the species is currently proposed for listing as a threatened species.

Distribution and Population Trends: The flat-tailed horned lizard is most commonly found in sandy flats and valleys in creosote (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) plant associations. In California, the species ranges from the Coachella Valley, the northernmost extent of its range, south along both sides of the Salton Sea and Imperial Valley. In Arizona, the

flat-tailed horned lizard is found in the Yuma Desert south of the Gila River and west of the Gila and Butler Mountains. The range of the flat-tailed horned lizard extends into Mexico from the international border in the Yuha Desert in California, south to Laguna Salada in Baja California, and from the international border in the Yuma Desert in Arizona, south and east through the Pinacate Region to the sandy plains around Puerto Penasco and Bahia de San Jorge, Sonora.

Information concerning size and dynamics of flat-tailed horned lizard populations has increased greatly in recent years. From 1979 to 2001, population trends were monitored using scat counts and lizards observed along transects (Wright 2002). Different methods of transect selection, numbers and experience of observers, numbers of repetitions, and lengths and shapes of transects have been used from year to year (Wright 2002).

Methodologies that rely on scat counts to assess the relative abundance of flat-tailed horned lizards are confounded by several potential limitations (Wright 2002). Wright (2002) states that while differences in scat abundance could indicate differences in lizard abundance, the observed decline in the rate at which scat is found could also be a result of an increase in OHV activity resulting in crushed or buried scat, lower deposition rates, greater wind eradication, different observers, or additional factors. Furthermore, the use of scat counts does not account for variations in lizard activity, misidentification of scat from other species, variability in scat production due to fluctuating food resources, weather conditions that affect scat production or longevity in the field, observer differences, and small sample sizes (Muth and Fisher 1992, Rorabaugh 1994). Consequently, scat abundance may not be closely correlated with lizard abundance under varying conditions (Rorabaugh 1994, Beauchamp et al. 1998). In addition, the use of a relative index, such as scat counts, to indicate population trends are not reliable due to uncorrected bias that exists (discussed further below). Relative index techniques assume that any changes or differences in survey results are proportional to true changes or differences in the populations of interest (Thompson et al. 1998). Thus, due to the significant limitations of scat count data, we consider the use of scat count information useful primarily in determining the presence and distribution of flat-tailed horned lizards in areas where desert horned lizards do not occur.

Two measures of abundance trends (i.e., lizards detected per 10 hours and lizards per transect) used between 1979 and 2001 for the East Mesa, West Mesa, and Yuha Desert, did not include scat data (Wright 2002). No statistically significant trends were found in the rate at which lizards were detected or the number of lizards per transect on any of the areas from 1979 to 2001 (Wright 2002). The measure of lizards per transect has inherent error due to differences in transect lengths surveyed among years. More importantly, the methodologies used between 1979 and 2001 have varied and the data have not incorporated detection probabilities (Thompson et al. 1998). Because flat-tailed horned lizards are very difficult to find in the field due to their cryptic coloration and behavioral characteristics, incorporating the probability of detecting them should be included in survey results.

Detectability is a common source of bias that is ignored for relative index techniques, such as the techniques used to collect the data between 1979 and 2001. Numerous factors may affect the

detectability of animals within selected sampling plots. These include physical structure and cover, weather, individual behavior, and survey methodology. However, differences in relative abundance found using uncorrected data may result from only a difference in detectability of animals between areas or within the same area across time (Thompson et al. 1998). Uncorrected bias could seriously affect the validity and usefulness of data in indicating abundance trends (Thompson et al. 1998).

The BLM recently estimated the population size on three MAs by using capture-mark-recapture (CMR) techniques incorporating detection probabilities (see Thompson et al. 1998, Williams et al. 2002). Grant (2005) analyzed the BLM flat-tailed horned lizard mark-recapture data from four summer monitoring surveys of three Management Areas (MAs): the Yuha Desert MA in 2002, the East Mesa MA in 2003, the West Mesa MA in 2003, and the Yuha Desert MA again in 2004. The East Mesa MA was estimated to have 42,619 (95 percent CI = 19,704 to 67,639) adult lizards (over 65 mm snout-to-vent length) in 2003 and the Yuha Desert MA in 2002 was estimated to have 25,514 adult lizards (95 percent confidence interval = 12,761 to 38,970). The West Mesa MA was estimated to have 10,849 adult lizards (95 percent confidence interval = 3,213 to 23,486). The Yuha Desert MA in 2004 was estimated to have 73,017 adult lizards (95 percent confidence interval = 4,837 to 163,635). The West Mesa MA survey and the Yuha Desert MA survey of 2004 were based on sparse data, hence the large confidence intervals. No trend can be inferred from the two years of data in the Yuha Desert MA because the confidence intervals overlap.

Young et al. (2004) surveyed the Yuma Desert MA using CMR and estimated a population of 25,855 (95 percent confidence interval = 16,390 to 43,951). A concurrent survey using distance sampling with a trapping web estimated a population of 16,328 adult lizards (95 percent CI 8,378 to 31,794); however, the data were ill-conditioned. The trapping web methodology is probably unsuitable because daily movements of flat-tailed horned lizards are too large relative to practical trapping web sizes.

Hollenbeck (2004) surveyed the Ocotillo Wells Research Area in 2003. The Ocotillo Wells Research Area is the Ocotillo Wells State Vehicular Recreation Area, an area open to OHV recreation. He estimated 19,222 lizards (95 percent confidence interval 18,870 to 26,752) in 2003. A similar survey completed in 2005 (Eric Hollenbeck, pers. comm.) estimated 24,345 adult lizards (95 percent confidence interval 14,328 – 69,922) and 37,085 young-of-the-year (95 percent confidence interval 22,165 – 74,811).

The Rangewide Management Strategy was revised in 2003 and CMR methodology was adopted as the standard for abundance and trend monitoring (FTHL ICC 2003). Presence/absence surveys in the framework of occupancy estimation (Mackenzie et al. 2003) were adopted for distribution monitoring (FTHL ICC 2003). A new monitoring plan using CMR and occupancy has been circulated for comments and is meant to form the basis of future flat-tailed horned lizard monitoring.

Based on track monitoring in the Coachella Valley from 2002 to 2005 (CCB 2005), which may not be reliable due to an uncorrected bias that exists (Service 2008b), flat-tailed horned lizard numbers apparently declined for several years but mostly recovered in 2006. The abundance index for flat-tailed horned lizards is the mean number of trackways (a set of tracks made by one lizard) per transect. This index dropped each year from nearly 1 in 2002 to approximately 0.1 in 2005 (CCB 2005). Anecdotally, Dr. Cameron Barrows could find 10 flat-tailed horned lizards on the Coachella Valley Preserve in an hour in 2002 but in 2005 was lucky to find one per hour (C. Barrows, pers. comm. 2006). In 2006, the index had returned to nearly 0.7. Such wide fluctuations make it difficult to determine the status of the species. The critical time period is at the low ebb of population size, when the population could fluctuate too low to recover. It is unknown how close the Coachella Valley population came to reaching this point in 2005.

Current Threats: Potential threats to the flat-tailed horned lizard include: urban development, agricultural development, OHV activity, energy developments, military activities, introduction of nonnative plants, pesticide use, and habitat degradation due to Border Patrol and illegal drive-through traffic along the United States–Mexico border.

Desert Tortoise

The following section summarizes information about desert tortoise on the legal/listing status, distribution and population trends, current threats, and status of critical habitat as discussed in the Service's biological opinion on the California Desert Conservation Area Plan Amendment for the Coachella Valley (Service 2010a). Please refer to that document as well as the draft revised recovery plan (Service 2008a) for additional detailed information about these topics and the species' description, life history, and habitat affinities.

Legal/Listing Status: The Mojave population of the desert tortoise was emergency listed as endangered by the Service on August 4, 1989, and thereafter listed as a threatened species on April 2, 1990 (Service 1990). The tortoise is also listed as a threatened species under the California Endangered Species Act. The Service designated about 2.6 million ha (6.5 million ac) of critical habitat for the tortoise in portions of California, Nevada, Arizona, and Utah on February 8, 1994 (Service 1994b). A recovery plan was developed for this species in 1994 (Service 1994a). A draft revision to the recovery plan was developed in 2008 (Service 2008a), but has not yet been finalized.

Distribution and Population Trends: Typical habitat for the desert tortoise in the Mojave Desert has been characterized as creosote bush scrub below 2,225 m (5,500 ft) in which precipitation ranges from 5 to 20 cm (2 to 8 in), where a diversity of perennial plants is relatively high, and production of ephemerals is high. The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in California.

The best available information indicates the Mojave population of desert tortoise is declining in abundance in most areas throughout its range. Line distance sampling is being used as part of a

long-term monitoring strategy to detect population trends. This program was put into place in 2001, but detecting population trends is expected to be a gradual process and surveys conducted over short periods of time (e.g., 2001 to 2007) would only reveal catastrophic declines or significant increases. These data do, however, provide some information on variability in annual and regional densities between recovery units. In general, over the first 6 years of range-wide monitoring (2001-2005, 2007), tortoises were least abundant in the Northeast Mojave Recovery Unit, the highest reported densities occurred in the Upper Virgin River Recovery Unit, and considerable decreases in density were reported in 2003 in the Eastern Colorado and Western Mojave recovery units (Service 2008a). The proposed project occurs in the Eastern Colorado recovery unit.

Current Threats: The majority of threats to the desert tortoise and its habitat are associated with human land uses including urbanization, upper respiratory tract disease and possibly other diseases, predation by common ravens and domestic and feral dogs, unauthorized OHV activity, authorized vehicular activity, illegal collecting, mortality on paved roads, vandalism, drought, livestock grazing, feral burros, nonnative plants, changes to natural fire regimes, and environmental contaminants.

Status of Critical Habitat: The Service designated approximately 2.6 million ha (6.5 million ac) of critical habitat for the desert tortoise in portions of California, Nevada, Arizona, and Utah. The primary constituent elements of tortoise critical habitat were identified as 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.

The DPV2 project crosses approximately 105 km (65 mi) of tortoise critical habitat (Table 1), the majority of which is on BLM lands. The vast majority of critical habitat areas are relatively unaffected by human uses and continue to provide a habitat base to support viable populations into the future. However, threats from long-term climate trends, such as recurrent and prolonged drought, and biological processes, such as invasive nonnative plant infestations and consequent wildfire risk, appear to be more widespread and influential on the primary constituent elements of desert tortoise critical habitat than proposed development projects.

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 which are contemporaneous with the consultation in progress.

As discussed in the “Action Area” section above, the action area for this project includes (1) the project area {defined as the project footprint/site [the combined 100-m (330-ft)] transmission line ROW for the existing DPV1 and all components of the DPV2 project} and a distance of up to 500 m (1,640 ft) from the project footprint/site where any kangaroo rats, fringe-toed or horned lizards, or tortoise found in the project footprint will be moved to avoid injury from construction or O&M-related activities, (2) the area approximately 1.61 km (1 mi) surrounding the currently proposed location of the CRS, (3) kangaroo rat habitat that will be acquired within the Southwestern Riverside County Multiple Species Reserve and kangaroo rat habitat within the Lake Perris State Recreation Area portion of the San Jacinto Lake Perris Stephens’ Kangaroo Rat Reserve that will be restored or enhanced, and (4) conservation areas that will be acquired to offset impacts to milk-vetch, fringe-toed lizard, horned lizard, and tortoise resulting from construction and O&M of the proposed project. The environmental baseline of these components of the action area is described below.

Species Abundance in the Action Area

Project Area

The following description of the project area is primarily based on information provided in the BA for the DPV2 project (SCE 2010) and the BA for the CRS (BioResource Consultants 2008).

Devers-Valley Line

Elevations within this segment range from a low point of 329 m (1,080 ft) at the Devers Substation to a high point of approximately 843 m (2,765 ft) in the northwest foothills of the San Jacinto Mountains between Banning and Beaumont. The Valley Substation sits at an elevation of approximately 446 m (1,465 ft).

From the Devers Substation west to where the combined DPV1/DPV2 ROW crosses Interstate 10 (I-10), the vegetation communities consist of creosote bush scrub interspersed with patches of white bursage and disturbed creosote bush scrub (primarily within the wind farm areas). Just south of the I-10, the segment crosses the Whitewater River, which consists of a broad sandy and cobbled desert wash that is mostly devoid of native vegetation. The periodic high flows in the wash tend to scour the vegetation and allow for invasion of nonnative weedy species of plants. Between the Whitewater River and State Route (SR) 111, the combined DPV1/DPV2 ROW is dominated by disturbed creosote bush scrub. Between SR 111 and the foothills of the San Jacinto Mountains the combined DPV1/DPV2 ROW crosses the broad expanse of the San Gorgonio River and Snow Creek. The San Gorgonio River is a broad desert wash characterized by braided channels interspersed with patches of creosote bush scrub and coarse sand dunes.

Where the combined DPV1/DPV2 ROW crosses the foothills, the vegetation communities change to areas dominated by brittlebush (*Encelia farinose*) scrub and cheesebush (*Ambrosia salsola* var. *salsola*) on the lower slopes to semi-desert chaparral on the higher slopes. Repeated fires in 1994, 1995, 1996, and 2004 have occurred in the portions of this segment that traverse

through the San Bernardino National Forest (SBNF), and the Santa Rosa and San Jacinto Mountains National Monument.

Other plant communities crossed by this segment between the SBNF and the Valley Substation include buckwheat scrub, mixed buckwheat-chamise chaparral, saltbush scrub, and scattered patches of sage scrub. These communities are most common on the lower slopes of the hills located south of Banning and Beaumont, in the hills adjacent to SR 79, and in the Lakeview Mountains located between San Jacinto and Romoland. Nonnative grasslands are also present as just grasslands and as mixed scrub/grassland communities through the Badlands between Beaumont and the San Jacinto Valley.

Scattered desert washes occur along the portion of the combined DPV1/DPV2 ROW from Devers Substation west to the areas south of Banning. These washes are either vegetated with creosote bush scrub or small patches of desert willow woodland. In addition to the desert washes, this segment also traverses through Smith Creek, south of Banning, which is vegetated with a sparse riparian community and crosses the San Jacinto River in the San Jacinto Valley. Numerous smaller ephemeral drainages are present in the foothills of the San Jacinto Mountains, in the Badlands area, and in the Lakeview Mountains.

The combined DPV1/DPV2 ROW in this segment crosses through developed areas at the base of the foothills southwest of Cabazon, east of Old Banning Idyllwild Road, south of Banning, and north of the Valley Substation. Scattered rural development also occurs in the areas south of Banning and Beaumont and in portions of San Jacinto and Romoland. Agricultural areas are crossed in the San Jacinto Valley between Gilman Springs Road and just south of Ramona Expressway and in portions of Romoland, located north of the Valley Substation.

CRS-Devers Line

Elevations in this segment vary from a low of approximately 27 m (90 ft) at the east end of the Indio Hills to a high of approximately 666 m (2,185 ft) in the foothills of the Orocopia Mountains near Chiriaco Summit. The vegetation communities in the combined DPV1/DPV2 ROW in this segment occur as a mosaic of undisturbed habitats, agricultural lands, and developed areas. Much of the Coachella Valley, between the Devers Substation and the City of Indio, has been developed or is in the process of being developed. This development has removed native plant communities and altered the transport of blow sands across portions of the valley. Along the base of the Indio Hills, the combined DPV1/DPV2 ROW traverses patches of stabilized desert sand fields, mesquite hummocks, stabilized sand fields, stabilized desert dunes, ephemeral sand fields, and Sonoran mixed woody and succulent scrub that are interspersed with areas of creosote bush scrub. Most of the combined DPV1/DPV2 ROW between the City of Indio and Devers Substation is considered important sand source and transport areas. Plant communities within the eastern part of the segment primarily consist of creosote bush scrub habitat and desert dry washes dominated by the Sonoran desert scrub community. The spacing of the desert scrub is sparse, but the density of shrubs increases as the combined DPV1/DPV2 ROW approaches the base of the hills and mountains. This segment is also marked by numerous

desert washes that support desert scrub plant species and larger shrubs, such as honey mesquite, blue Palo Verde, and ironwood. The area of the proposed CRS is generally flat characterized by both desert scrub and locally extensive expanses of sand dunes and low sandy hummocks containing occasional woody shrubs and a variety of annual and perennial herbs.

Kangaroo rats, milk-vetch, fringe-toed and horned lizards, and tortoises in the combined DVP1/DPV2 ROW are impacted by habitat loss, fragmentation, edge effects associated with roads and urban development, invasive plant species, and/or avian predation. The majority of the combined DVP1/DPV2 ROW generally parallels I-10 and is within a utility corridor containing several existing transmission lines, including SCE's existing DPV1 transmission line. In addition to DPV1, two other transmission lines (Blythe and Desert Southwest), extending from or near the Devers Substation to the City of Blythe and traversing milk-vetch, fringe-toed lizard, horned lizard, and tortoise habitat, have been authorized for construction in the segment of the utility corridor where the CRS-Devers line would be constructed. The Blythe transmission line was recently completed but construction on the Desert Southwest line has not yet been initiated. The DPV1 line is currently the only existing transmission line in the section of the utility corridor where the Devers-Valley line would be constructed through kangaroo rat habitat. Ongoing O&M activities associated with these existing transmission lines likely affect kangaroo rat, milk-vetch, fringe-toed lizard, horned lizard, and tortoise in the combined DVP1/DPV2 ROW.

As a result of the existing transmission lines and associated O&M activities, habitat in the combined DVP1/DPV2 ROW is considered degraded and of low quality. While degraded, habitat in this area is currently occupied by the kangaroo rat, milk-vetch, and tortoise, and therefore currently provides habitat for feeding, breeding, and/or sheltering, by these species to some extent. While not detected during project surveys, habitat in the combined DVP1/DPV2 ROW likely also currently provides habitat for feeding, breeding, and/or sheltering by fringe-toed and horned lizards, or may in the future. Also, given that areas under and around the towers will likely remain accessible by these species following construction of the DPV2 project, some areas within the combined DVP1/DPV2 ROW will continue to be available for long-term movement of kangaroo rats, fringe-toed and horned lizards, and tortoises between habitat patches on either side of the combined DVP1/DPV2 ROW, which may be important for long-term recovery of these species.

Despite the presence of lower-quality habitat in the project footprint, any portion of the project footprint may be used by tortoises for dispersal from surrounding habitat. Desert tortoises are known to use lower-quality intermountain habitat as dispersal routes, providing passage between high-quality habitat areas in the surrounding mountains (Averill-Murray and Averill-Murray 2005). Historically, tortoise populations in the Sonoran Desert have exchanged individuals at a rate of one migrant per generation (Averill-Murray and Averill-Murray 2005).

Stephens' Kangaroo Rat

The Devers-Valley segment crosses approximately 0.5 km (0.3 mi) of suitable habitat for the kangaroo rat (Table 1). Six areas along this segment were trapped during focused surveys for this species in the spring of 2009 (Dudek 2009). Of these, three tower locations were determined to be within suitable habitat. One kangaroo rat was captured just north of Gilman Springs Road near proposed Tower M30-T1 (DV-110). Potentially suitable habitat was found at proposed Towers M26-T1 and M35-T3. In accordance with the Service's survey guidelines, after one individual is found, suitable habitat in the project footprint is determined to be occupied and trapping can be discontinued. Consequently, the results of the 2009 surveys likely do not reflect the abundance, or allow us to estimate the density, of kangaroo rat in the project footprint. Therefore, to estimate density of kangaroo rat in the project footprint, we applied density estimates from the nearby Potrero Creek population. The Potrero Creek area is within 16 km (10 mi) of the project site and a series of surveys were conducted before a 2007 fire burned more than 1,007 ha (2,488 ac) of suitable habitat. Habitat in the project footprint is similar to habitat in the Potrero Creek area before the 2007 fire. Using these data, we estimated that 77 percent of the occupied habitat at Potrero Creek, on average, had a density of less than four kangaroo rat per 0.4 ha (1.0 acre), and that kangaroo rat density rarely exceeded 14 to 16 individuals per acre. Applying this density, we estimate that up to 12 juvenile and adult kangaroo rat may occur in the 1.21 ha (3 ac) of kangaroo rat habitat that occurs in the project footprint. We acknowledge that the estimate of 12 kangaroo rats likely is an overestimate since it is based on densities from an area considered better quality habitat than the project site, which is somewhat degraded. However, we determined that applying the estimate of 12 kangaroo rats in the project footprint would provide a biologically conservative approach based on the best data available to establish a baseline for analysis of the potential impacts of the proposed project.

Coachella Valley Milk-vetch

Population estimates within the action area are not available because insufficient comprehensive monitoring data are available for this species endemic to the Coachella Valley. The CVMSHCP modeled 16,065 ha (36,398 ac) of milk-vetch habitat within the plan area, roughly extending from just east of Banning to the vicinity of Bermuda Dunes north of I-10. The Devers-Valley and CRS-Devers segments will cross approximately 20.12 km (12.5 mi) of modeled habitat (Table 1).

Surveys and habitat assessments were conducted for this species in areas of potential and suitable habitat in the DPV2 ROW in 1985 (Karl and Uptain 1985), 1993 (Dames and Moore 1994), 2002 (EPG 2002, Karl 2002), 2003 (EPG 2003), 2005 (Greystone 2005), 2007 (EPG 2009), and 2008 (Dudek 2008). However, surveys for milk-vetch in the Devers-Valley segment were only conducted around 17 specific tower sites (Dudek 2008) during which no milk-vetch were found.

Surveys in the CRS-Devers segment yielded the following results: a population of "several" plants in 1985 (Karl and Uptain 1985), 129 plants in 1987 (E. Linwood Smith and Associates 1987 cited in Dames and Moore 1994), 12 plants in 1994 (Dames and Moore 1994), zero plants

in 2002 (EPG 2002) and 4 plants in 2003 (EPG 2003). Greystone (2005) conducted a focused survey in the ROWs for the DPV2 and Desert Southwest Transmission project since the ROWs for these two projects are directly adjacent. A total of 38 locations containing 96 plants were found within the combined ROW (Greystone 2005), with 79 plants occurring within the DPV2 ROW at 27 locations (based on interpretation of GIS data associated with Greystone 2005). No milk-vetch were located during surveys conducted in 2007 (EPG 2009) or during surveys conducted in Devers-Valley segment in 2008 (Dudek 2008).

Based on the species' presence in the CRS-Devers segment, the annual variability of this species, and the presence of modeled habitat patches in both the CRS-Devers and Devers-Valley segments, we presume that milk-vetch will be present in modeled habitat in both the Devers-Valley and CRS-Devers segments over the life of the project.

Coachella Valley Fringe-toed Lizard

Population levels within the action area are not known because insufficient monitoring data are available to support calculation of population estimates for this species largely restricted to the Coachella Valley. The CVMSHCP modeled 10,963 ha (27,070 ac) of fringe-toed lizard habitat within the plan area, roughly extending from east of Cabazon to the vicinity of Indio north of I-10. The Devers-Valley and CRS-Devers segments will cross approximately 6 km (4 mi) of modeled habitat and 10 km (6 mi) of critical habitat (Table 1).

Surveys and habitat assessments were conducted for this species in areas of potential and suitable blow sand habitat along the Devers-Valley and CRS-Valley segments in 1985 (Karl and Uptain 1985), 1993 (Dames and Moore 1994), 2002 (EPG 2002, Karl 2002), 2003 (EPG 2003), 2005 (Greystone 2005), 2007 (EPG 2009), and 2008 (Dudek 2008). However, surveys for fringe-toed lizards in the Devers-Valley segment were only conducted around 17 specific tower sites (Dudek 2008) during which no fringe-toed lizards were found. Greystone (2005) conducted a habitat assessment to identify the extent and location of blow sand habitat within the CRS to Devers segment in eastern Coachella Valley (from near the Devers Substation to east of the City of Indio). During this assessment, four patches of blow sand were identified, two crossing the ROW and two near the ROW.

No fringe-toed lizards were observed during surveys or habitat assessments within the ROW; however, surveyors indicated the presence of suitable habitat at several proposed tower locations (see survey data sheets in Appendix B of Dudek 2008) and speculated that the species could be present where suitable habitat occurs in the DPV2 ROW (EPG 2009). While no individuals were found within the DPV2 ROW, based on the presence of modeled habitat and mapped habitat in both the ROW, the cryptic nature of this species, and the dynamic changes in habitat suitability associated with blow sand ecosystems, we presume that fringe-toed lizards will be present in modeled habitat in the Devers-Valley and CRS-Devers segments over the life of the project.

While no fringe-toed lizard density estimates are available for the action area or the project footprint, fringe-toed lizard densities throughout the species' range have been estimated to be 0.5

per ha (0.2 per ac) to 148 per ha (60 per ac) (Turner et al. 1981; A. Muth and M. Fisher, unpubl. data, 1985-2003; M. Fisher pers. comm. 2006). Using an estimated density of 0.5 per ha (0.2 per ac), we estimate that 32 adult fringe-toed lizards could be present in the project footprint⁸. We used the lower end of the density estimate because we anticipate that actual densities in the project footprint will be low due to existing habitat degradation from O&M activities associated with existing transmission lines and the relatively small size of the blow sand habitat and isolation of these patches from other occupied habitat. We acknowledge that the estimate of 32 adult fringe-toed lizards likely is an overestimate since it is not based on site-specific data, but based on densities from throughout the species range, and zero fringe-toed lizards were detected during surveys of the project footprint. However, we determined that applying the estimate of 32 adult fringe-toed lizards in the project footprint would provide a biologically conservative approach based on the best data available to establish a baseline for analysis of the potential impacts of the proposed project.

Coachella Valley Fringe-toed Lizard Critical Habitat

The CRS-Devers segment crosses approximately 10 km (6 mi) of designated fringe-toed lizard critical habitat (Table 1). This area of the ROW within critical habitat does not contain blow sand habitat as mapped by Greystone (2005) and is not occupied by fringe-toed lizards. However, this area is important for maintaining occupied fringe-toed lizard blow sand habitat in the Coachella Valley Preserve since sand from this area is transported down washes during flood events and then carried by wind across the Preserve to depositional zones inhabited by the lizard.

Flat-tailed Horned Lizard

Population levels within the action area are not known because insufficient monitoring data are available to support calculation of population estimates. The CVMSHCP modeled 15,211 ha (37,587 ac) of horned lizard habitat within the plan area, roughly extending from east of Cabazon to the vicinity of Indio north of I-10. The CRS-Devers segment will cross approximately 6 km (4 mi) of modeled habitat (Table 1).

Surveys and habitat assessments were conducted for this species in areas of potential and suitable habitat in 1985 (Karl and Uptain 1985), 1993 (Dames and Moore 1994), 2002 (EPG 2002, Karl 2002), 2003 (EPG 2003), and 2007 (EPG 2009). Karl and Uptain (1985; see Figure 9) observed two individuals in or near the ROW and concluded that suitable habitat occurs along several tower sites in the Chuckwalla and Coachella valleys. According to Dames and Moore (1994) and EPG (2009), suitable horned lizard habitat occurs along the DPV2 ROW.

Based on the species' presence in or near the ROW, the presence of modeled and mapped suitable habitat in the ROW, the cryptic nature of this species, and the dynamic changes in

⁸ We estimated the density of fringe-toed lizards in the action area as linear extent of DPV2 crossing species habitat (per Table 1) multiplied by the 40-m (130-ft) DPV2 ROW width multiplied by a fringe-toed lizard density of 0.5 per ha (0.2 per ac).

habitat suitability associated with blow sand ecosystems, we presume that horned lizards will be present in the CRS-Devers segment in modeled habitat over the life of the project.

Density estimates for the horned lizard are also not available for the action area or the project footprint. However, horned lizard densities in other parts of the species' range have been conservatively estimated to be 1.0 per ha (0.4 per ac). Using an estimated density of 1.0 per ha (0.4 per ac), we estimate that 64 horned lizards could be present in the project footprint⁹. However, we anticipate the actual densities in the project footprint will be considerably lower due to existing habitat degradation from O&M activities associated with existing transmission lines and the relatively small size of the blow sand habitat and isolation of these patches from other occupied habitat. We acknowledge that the estimate of 64 adult horned lizards likely is an overestimate since it is not based on site-specific data, but based on densities from other parts of the species range, and only two horned lizards were detected during surveys of the project footprint and adjacent areas. However, we determined that applying the estimate of 64 adult horned lizards in the project footprint would provide a biologically conservative approach based on the best data available to establish a baseline for analysis of the potential impacts of the proposed project.

Desert Tortoise

Within the planning area for the CVMSHCP, modeled 231,115 ha (571,098 ac) of tortoise habitat within the plan area ranged roughly from west of Cabazon to west of Desert Center. The Devers-Valley and CRS-Devers segments cross approximately 42 km (26 mi) of modeled habitat, 105 km (65 mi) of critical habitat, and 5 km (3 mi) of occupied habitat (Table 1).

The eastern portion of the CRS-Devers segment is within the Eastern Colorado Desert Recovery Unit as identified in the species' recovery plan (Service 1994a) and the BLM's NECO plan area. In the species' draft revised recovery plan, both the eastern portion of the Devers-Valley segment and the entire CRS-Devers segment are in the Colorado Desert Recovery Unit (Service 2008a).

Surveys and habitat assessments for tortoises were conducted in the project footprint in 1985 (Karl and Uptain 1985), 1993 (Dames and Moore 1994), 2002 (EPG 2002, Karl 2002), 2003 (EPG 2003), 2005 (Alice Karl and Associates et al. 2005), 2007 (EPG 2009), and 2008 (BioResource Consultants 2008, Dudek 2008). Surveys conducted in 2008 by BioResource Consultants (2008) and in 2009 and 2010 by AECOM (2010a, 2010b) focused primarily on the CRS area. Surveys conducted by Dames and Moore (1994), Alice Karl and Associates et al. (2005), BioResource Consultants (2008), and by AECOM (2010a, 2010b) were conducted following the Service's recommended survey protocol (Service 1992). Live tortoise and/or sign were found in the CRS-Devers segment only. However, surveys for tortoises in the Devers-

⁹ We estimated the density of horned lizards in the action area as linear extent of DPV2 crossing species habitat (per Table 1) multiplied by the 40-m (130-ft) DPV2 ROW width multiplied by a horned lizard density of 1.0 per ha (0.4 per ac).

Valley segment were only conducted around 17 specific tower sites (Dudek 2008) and not within suitable habitat along the entire Devers-Valley segment.

Surveys along the CRS-Devers ROW yielded the following results: 10 live tortoises, 5 burrows, 2 shells, and 4 scat in 1985 (Karl and Uptain 1985, Figure 9); 6 live tortoises, 29 burrows, 124 scat, 6 pellets, 10 carcasses, and 1 set of tracks in 1994 (Dames and Moore 1994; Appendix C); 7 burrows and 1 scat in 2002 (EPG 2002, Appendix 4; Karl 2002); 1 live tortoise, 5 burrows, and 1 scat in 2003 (EPG 2003); 2 live tortoises, 12 bone fragments and carcasses, 22 burrows, and 26 scat in 2005 (see Table 1B in Alice Karl and Associates et al. 2005); and 11 live tortoises, 17 carcasses, 53 burrows, 69 scat, and 1 pallet in 2007 (Smith 2009 cited in EPG 2009).

Surveys in the CRS yielded the following results: one burrow about 0.40 km (0.25 mi) south of the CRS in 2005 (Alice Karl and Associates et al. 2005); one scat near the northeast corner of the CRS and three burrows (not active), two carcasses (one intact), and six scat within approximately 3.2 km to 4.8 km (2 to 3 mi) from the CRS footprint in 2008 (BioResource Consultants 2008); two burrows (not active), one carcass, and bone fragments within the 1.6-km (1-mi) survey area adjacent to the CRS footprint in 2009 and 2010 (AECOM 2010a, 2010b). These data indicate the CRS site and surrounding habitat areas, including the 1.61-km (1-mi) area around the CRS site, is low density tortoise habitat used by relatively few tortoises for breeding, feeding, and sheltering, and dispersal to surrounding areas.

Based on the presence of live tortoises and sign in the CRS-Devers segment, and the presence of modeled habitat in the Devers-Valley and CRS-Valley segments, we presume that tortoises will be present in modeled habitat, critical habitat, and occupied habitat along the entire DPV2 ROW over the life of the project. Applying the results of the most recent protocol surveys (Alice Karl and Associates et al. 2005) indicates that at least four live tortoises likely occurred in the CRS-Devers ROW and CRS footprint during surveys conducted in 2005 but that two were undetected: one because it was underground and one because it escaped detection. This estimate is based on an 80 percent probability that a tortoise is above ground based on the previous winter rainfall and a 63 percent probability of detecting a tortoise if above ground (see Service 2010c). However, these surveys represent single points in time and onsite tortoises may have remained undetected and/or tortoises may have moved on to the site from surrounding areas after surveys were conducted. While direct comparison is not possible due to potentially varying survey methods and effort, a review of the results of all pre-project surveys conducted within the project footprint illustrates the variability in tortoise abundance among the years surveys were conducted: 10 in 1985, 6 in 1994, zero in 2002, 1 in 2003, 2 in 2005, and 11 in 2007. Varying numbers of tortoises were also found adjacent to the project footprint during these surveys. For example, an additional 19 tortoises were found during ZOI surveys of the DPV2 ROW in 2005. Therefore, the estimate of four tortoises likely underestimates the abundance of tortoises that may occur in the project footprint.

Applying the same detection probabilities to the 1994 protocol survey results (6 live tortoises) that we applied to the 2005 survey results (2 live tortoises) yields an estimate of 12 tortoises in the project footprint. Therefore, based on the estimates calculated using data from protocol

surveys conducted in 1994 and 2005, we estimate that 4 to 12 subadult and adult tortoises may occur in the project footprint. While we acknowledge that the estimate of up to 12 subadult and adult tortoises may be an overestimate, this estimate fits relatively closely within the variability of tortoise abundance found over the survey years (as discussed above). Also, we have determined that applying the estimate of 12 subadult and adult tortoises in the project footprint would provide a biologically conservative approach based on the best data available to establish a baseline for analysis of the potential impacts of the proposed project.

In addition to subadult and adult tortoises, the project footprint is likely to contain juvenile tortoises [≤ 160 mm (6.3 in)]. Estimating densities of juvenile tortoises is difficult because they are extremely difficult to detect due to their small size and cryptic nature. However, based on a 4-year study of their population ecology, Turner et al. (1987) determined that juveniles accounted for 31 to 51 percent of the overall population. Using this range and the estimated 12 subadult and adult tortoises in the project footprint, we estimate that the project footprint may support from 4 to 6 juveniles. We recognize that the survey data used for these estimates come from a limited number of studies and that population levels are constantly changing. We also recognize that since our estimate of the number of subadult and adult tortoises in the project footprint could be an overestimate (as discussed above), this estimate of juveniles in the project footprint could be an overestimate as well, but provides the best available data available to establish a baseline for analysis.

We also expect the proposed project footprint contains tortoise eggs. Estimating the number of tortoise eggs is also extremely difficult given that the eggs are buried beneath the soil surface. To estimate the number of eggs that could be present, we used the average number of eggs found in a clutch (i.e., 5.8, see Service 1994a). Assuming a 1:1 sex ratio, six of the tortoises estimated in the project footprint may be reproductive females that together could produce approximately 35 eggs per year. However, the number of females or eggs within the project footprint is difficult to estimate based on the low number of tortoises found during the pre-project surveys. Given the number of assumptions and extrapolations used to estimate the number of eggs [i.e., that 12 tortoises may occur in the project footprint and that 6 of those 12 may be female and equally reproductive as the tortoises in the Turner et al. (1984) study area], we determined that the estimate of 35 eggs in the project footprint has an unknown but high level of uncertainty, and therefore, does not provide a useful measure for analyzing the effects of the proposed project. Therefore, we cannot calculate a reliable estimate for the number of eggs that may be impacted by the proposed project.

Desert Tortoise Critical Habitat

The CRS-Devers line crosses approximately 105 km (65 mi) of the Chuckwalla Critical Habitat Unit (CHU), from near Cactus City to west to the CRS. Approximately 37 km (23 mi) of the line in the Chuckwalla CHU, starting near Cactus City and extending east, is also within the CVMSHCP area. Live tortoises and sign were found within the portion of the DPV2 ROW crossing critical habitat.

Conservation Lands

For the kangaroo rat, habitat will be acquired within the Southwestern Riverside County Multiple Species Reserve and habitat in the Lake Perris State Recreation Area portion of the San Jacinto Lake Perris Stephens' Kangaroo Rat Reserve will be enhanced. Both of these areas are occupied, contain the habitat features required by the species, are conserved, and will be managed in perpetuity for the benefit of the species.

For the milk-vetch, fringe-toed and horned lizards, and tortoise, habitat conserved to offset project impacts will be acquired in the CVMSHCP or NECO plan areas as described in the "Conservation Measures" section above. Privately-owned lands with suitable habitat for the appropriate species will be acquired and managed in perpetuity for the species they are intended to benefit. Also, since the replacement habitat is intended to benefit the populations of these species adversely affected by the project, it will be located within or adjacent to priority conservation areas in the CVMSHCP or NECO plan areas with comparable or better habitat value than the lands impacted by the proposed project. Using available data on landownership and willing sellers, the Service, BLM, and CDFG have determined that a sufficient amount of privately owned property containing habitat for the milk-vetch, fringe-toed and horned lizards, or tortoise exists that should be available for acquisition. The Service is also aware of private lands that have been identified by private organizations as available for potential acquisition to offset impacts to tortoise habitat in the NECO plan area.

The abundance of milk-vetch, fringe-toed and horned lizards, and tortoises in future conservation areas is unknown since the specific areas have not yet been identified. However, given that acquisition will focus on areas of equivalent or higher value that are important for feeding, breeding, sheltering, and/or movement of these species, we anticipate that these future conservation lands will contain suitable habitat that is currently occupied or adjacent to currently occupied areas.

Factors Affecting the Species' Environment within the Action Area

Project Area

The Service previously exempted/authorized incidental take of the kangaroo rat, milk-vetch, fringe-toed and horned lizards, and tortoise, and associated loss of habitat in the action area under several biological opinions and incidental take permits associated with several projects and/or HCPs.

In 1996, the Service issued an incidental take permit for the Stephens' Kangaroo Rat HCP in Western Riverside County, which identified seven core Stephens' kangaroo rat reserves totaling 6,070 ha (15,000 ac) of occupied habitat.

The Coachella Valley Fringe-toed Lizard HCP (CVFTL HCP) was adopted in 1986 and established a system of reserves to protect blow sand habitat for fringe-toed lizards. The

reserves, called the Coachella Valley Reserve System, were mitigation for development covered by the CVFTL HCP, and also included existing BLM lands and some lands that were already mitigation for other projects. The Preserve System included approximately 6,900 ha (17,000 ac) of land reported in 1985 to contain approximately 3,200 ha (7,800 ac) of blow sand. The CVFTL HCP estimated that 2,100 ha (5,201 ac) of “occupiable habitat” were present in the Thousand Palms Reserve and 490 ha (1,200 ac) were present in the Whitewater Floodplain Reserve in 1986. More recent assessments have shown that less than 25 percent of these acreages were likely habitat for the species in 2005 (Groom and Grant, in prep; Service GIS analysis).

The Service issued biological opinions for two transmission lines in the action area, exempting take of the fringe-toed lizard and tortoise associated with the Blythe line in 2005 and, take of tortoise associated with the Desert Southwest in 2006. The Service also recently issued biological opinions for two solar energy projects in the action area. The biological opinions for the Blythe (issued October 8, 2010) and Genesis (issued November 2, 2010) solar energy projects exempted take of tortoise associated with the construction and O&M of gen-tie lines that are proposed to interconnect to the proposed DPV2 transmission line at the Colorado River Substation.

The Service issued a biological opinion on the California Desert Conservation Area (CDCA) Plan Amendment for the Coachella Valley in December 2002. Pursuant to the record of decision for the plan amendment (BLM 2002), BLM is obligated to manage public lands consistently with the then proposed CVMSHCP. As stated in the record of decision: “To facilitate consistency with the goals and objectives of the CVMSHCP, the BLM established habitat conservation objectives for protecting sensitive species and their habitats. These habitat objectives apply to all BLM-administered public lands that fall within the conservation area boundary established through the CVMSHCP. Future activities on BLM lands within the conservation area must achieve the habitat objectives either through avoidance or application of appropriate mitigation measures to be in conformance with the Coachella Valley Plan and consistent with the CVMSHCP” (BLM 2002).

The Service amended the biological opinion on the CDCA Plan Amendment for the Coachella Valley in June 2010. Where necessary to incorporate new information available since the 2002 biological opinion, the amendment updates the status of the species/critical habitat, environmental baseline, effects of the proposed action on the species/critical habitat, cumulative effects, conclusion, incidental take statement, and conservation recommendation sections for the milk-vetch, fringe-toed lizard, and tortoise.

The Service issued a programmatic biological opinion evaluating the effects of BLM’s CDCA plan amendment for the NECO bioregional planning unit on the tortoise in 2002 and as amended in 2005 and 2007. In 2008, the Service issued a permit for the CVMSHCP, which identifies a regional reserve system within 21 conservation areas designed to conserve the species covered by the Plan, including milk-vetch, fringe-toed and horned lizards, and tortoises. The CVMSHCP addresses the overall effects of eliminating habitat for these species over the 75-year term of the

plan for those non-Federal jurisdictions that are permittees under the plan. The permit authorizes incidental take of the fringe-toed lizard after the permittees relinquish their permits under the CVFTL HCP; the relinquishment process is now taking place. Per the CVMSHCP, approximately 14,730 ha (36,398 ac) of milk-vetch habitat, 10,963 ha (27,070 ac) of fringe-toed habitat, 15,211 ha (37,587 ac) of horned lizard habitat, and 231,115 ha (571,098 ac) of tortoise habitat were modeled in the CVMSHCP area in 1996.

As discussed above, the proposed project is within an existing utility corridor established prior to the issuance of the biological opinions/permits discussed above (established prior to or at the time of construction of the DPV1 line in 1982). Since most of the actions covered in the previously issued biological opinions/permits, with the exception of the Blythe and Desert Southwest transmission lines, occur outside of the DPV2 project area, these projects have not directly impacted the habitat quality in the project area beyond what has been degraded due to ongoing O&M activities associated with DPV1. However, actions covered under these previously issued biological opinions have allowed for additional habitat degradation adjacent to the project area, likely contributing to additional habitat degradation in the project area due to factors such as introduction and spread of invasive plant species and urban predators associated with habitat fragmentation and edge effects. Also, while issuance of biological opinions for the Blythe and Desert Southwest projects allowed for additional take of the fringe-toed lizard and tortoise and additional degradation of milk-vetch, fringe-toed lizard, and tortoise habitat in the project area, these biological opinions also included offsetting measures for all or most of the adverse effects, resulting in little to no erosion of the environmental baseline of these species.

Also, since the Stephens' Kangaroo Rat HCP and CVMSHCP permits identified regional reserve systems for kangaroo rat, milk-vetch, fringe-toed and horned lizard, and/or tortoise habitat and future conservation areas acquired to offset habitat impacts associated with the proposed project will be within or adjacent to these reserve systems, the proposed project also will not contribute significantly to an erosion of the environmental baseline of these species.

Conservation Lands

To offset impacts to the kangaroo rat, habitat will be acquired in the Southwestern Riverside County Multiple Species Reserve and restored/enhanced in the Lake Perris State Recreation Area portion of the San Jacinto Lake Perris Stephens' Kangaroo Rat Reserve. While the location of the lands to be acquired to offset impacts to the milk-vetch, fringe-toed and horned lizards, and tortoise have not yet been determined, land acquisition is intended to benefit the populations of these species adversely affected by the project and acquired lands will be located within or adjacent to priority conservation areas in the CVMSHCP or NECO plan areas with comparable or better habitat value than the lands impacted by the proposed project. These future conservation lands will be conserved and managed in perpetuity for the species they are intended to benefit.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat that would be added to the environmental baseline, along with the effects of other activities that are interrelated or interdependent with that action. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur. In contrast to direct effects, indirect effects can often be more subtle, and may affect species and habitat quality over an extended period of time, long after project activities have been completed. Indirect effects are of particular concern for long-lived species such as the tortoise, because project-related effects may not become evident in individuals or populations until years later.

This biological opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR § 402.02. Instead, we have relied upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task force v. U.S. Fish and Wildlife Service* (No. 03-35279) to complete the following analysis with respect to critical habitat.

Methodology

Permanent versus Temporary Impacts

The BA (SCE 2010) discusses impacts to habitat in terms of being either permanent or temporary. Permanent impacts are described as ground disturbance associated with construction of the spur road associated with each tower and the four concrete pylons that form the base of each tower. Temporary impacts are described as ground disturbance associated with clearing of each tower pad, tower construction activities, and pulling and splicing activities. The BA considers these impacts as temporary because after construction is complete, these areas would be free to revegetate and recover naturally.

Since full recovery of vegetation in the desert can take decades or longer, we consider all ground-disturbing impacts associated with the proposed project to be permanent. Vasek et al. (1975) found that in the Mojave Desert transmission line construction and O&M activities result in a permanently devegetated maintenance road, enhanced vegetation along the road edge and between tower sites, and reduced vegetation cover under the towers, which recovered significantly but not completely in about 33 years. Based on a quantitative review of studies evaluating post-disturbance plant recovery and success in the Mojave and Sonoran Deserts, Abella (2010) found that reestablishment of perennial shrub cover (to amounts found on undisturbed areas) generally occurs within 100 years but fewer than 40 years in some situations. He also found that vegetation recovery times are likely impacted by a number of variables, including but not limited to climate, invasion by nonnative plants, and level of ongoing disturbance. Based on these factors, we consider temporary impacts to be equivalent to

permanent impacts for the purposes of our effects analysis relative to the 30-year life of the project.

Approximately 292.18 ha (722 ac) of habitat for the kangaroo rat, milk-vetch, fringe-toed and horned lizards, and tortoise would be directly impacted by construction of the proposed project (temporary and permanent impacts together; Table 1). Habitat for these species may also be impacted by Class 1, 2, and 4 O&M activities. However, while we do not precisely know at this time how much habitat would be impacted by O&M activities, given the description of these activities, we anticipate habitat impacts would be relatively small. Also, the CMs included as part of the project description would help avoid, minimize, and offset impacts to the kangaroo rat, milk-vetch, fringe-toed and horned lizard, and tortoise resulting from construction as well as O&M activities. These benefits would extend to all life stages of these species, though less so to eggs, seeds, and juveniles that are more difficult to detect, and therefore more difficult to avoid or relocate. The effects of the action vary among the five species, and are described below.

Stephens' Kangaroo Rat

As discussed in the "Environmental Baseline" section above, one kangaroo rat was detected at one tower location in the Devers-Valley segment in 2009. However, based on the available density estimates for this species, we estimate that up to 12 juvenile and adult kangaroo rats could occur in suitable habitat in the Devers-Valley segment the 30-year life of the project.

Direct Effects

Death and Injury

Project-related construction and O&M activities could result in the death or injury of juvenile and adult kangaroo rats on the surface and in their burrow systems because they are difficult to detect and may not all be found and relocated during preconstruction clearance surveys. Death or injury of kangaroo rats could result from collisions with or crushing by vehicles or heavy equipment, or crushing or burial of individuals or eggs in burrows during construction and O&M-related activities. Kangaroo rats could also be injured or killed after being trapped in construction excavations or pipes. Because of increased human presence in the area, kangaroo rats may be injured or killed due to collection or vandalism associated with increased encounters with workers' or visitors' pets. Kangaroo rats could also be injured or killed as a result of collection and relocation activities.

To minimize the potential death or injury of kangaroo rats residing in or entering the construction disturbance area, SCE would implement the general and species-specific CMs proposed as part of the project. Death or injury of kangaroo rats would be minimized by the presence of a Qualified Biologist during all construction activities in occupied habitat, installation of exclusion fencing around work areas, and relocation of kangaroo rats out of harm's way (CM 17). Any occupied kangaroo rat burrows overlooked by the initial clearance surveys may be detected during construction-related activities by routine site inspections by the

FCR or incidental observations by construction workers (CM 2). The contractual obligations and worker education and awareness program would enhance the effectiveness of detecting kangaroo rats during construction activities (CMs 4 and 14) and either avoiding them or relocating them out of harm's way. The posting and enforcement of speed limits (CM 10) would further reduce the risk to any kangaroo rats that inadvertently venture onto the roadway during construction activities. Kangaroo rats in construction areas could fall into trenches and other excavations and become trapped, injured, or killed. To reduce the likelihood of such accidents, all hazardous excavations would be covered and inspected (CM 13). Death and injury of kangaroo rats would also be minimized by conducting construction activities during daylight hours only, by using a load spreading device to reduce impacts to burrow systems, and by constructing berms in a manner that prevents kangaroo rat burrowing (CMs 18, 0, and 20).

To minimize the death or injury of kangaroo rats residing in or entering the O&M disturbance area, SCE would implement general and species-specific CMs during the O&M phase proposed as part of the project. SCE would also implement relevant construction-phase CMs during the O&M phase. Specifically, death or injury of kangaroo rats during O&M activities would be minimized by demarcation of all temporary work area boundaries (CM 49) and the presence of a Qualified Biologist during all Class 2 ground-disturbing activities in occupied habitat and relocation of kangaroo rats out of harm's way (CM 51) or trapping and holding until project work is complete. The worker education and awareness program would enhance the effectiveness of detecting kangaroo rats during Class 1 and 2 O&M activities (CM 50) and of either avoiding them or relocating them out of harm's way. The posting and enforcement of speed limits (CM 10) would further reduce the risk to any kangaroo rats that inadvertently venture onto the roadway during O&M activities. To reduce the likelihood of kangaroo rats falling into trenches and other excavations dug during O&M activities and becoming trapped, injured, or killed, all hazardous excavations would be covered and inspected (CM 13). Death and injury of kangaroo rats would also be minimized by conducting O&M activities during daylight hours only, by using a load spreading device to reduce impacts to burrow systems, and by constructing berms in a manner that prevents kangaroo rat burrowing (CMs 18, 19, and 20).

Death or injury of kangaroo rats could also result from capture and relocation activities. Little is known regarding the fate of kangaroo rats that have been moved out of harm's way or relocated. Though relocation improves the survival probability of individual animals, relocation from the project footprint into surrounding habitat occupied by resident animals has the potential to disrupt behavior and social structure. Such disruption may impair breeding, feeding, and sheltering by elevating the frequency and intensity of aggressive interactions between individuals. However, because few kangaroo rats are anticipated to be found in the project footprint and these few would be moved a relatively short distance [no more than 500 m (1,640 ft)], a considerable amount of unoccupied habitat likely exists in the project area, and many of the individuals in the project area have previously been in contact with each other, we anticipate that impacts to resident individuals would be minor since most of the animals likely would avoid territorial disputes by returning to their natal ranges or occupying vacant habitat. We also anticipate that the potential for death or injury due to capture and relocation during construction

and O&M activities would be avoided/minimized by the requirement that capture and relocation be conducted by a Service-approved Qualified Biologist (CMs 17 and 51).

We expect that death or injury of most adult kangaroo rats in the disturbance area would be avoided during construction and O&M activities through compliance with the conservation measures. Since juveniles are difficult to detect, we anticipate that a low but unknown number of juveniles occurring in the project footprint would be lost due to project construction and O&M activities. However, we do not expect loss of juveniles in the project footprint will affect the species' local population since the habitat is low quality and most likely does not support a large population, and early life stages naturally suffer higher mortality rates and are not as important to the long-term conservation of the species as reproducing adults. Also, given the small number of kangaroo rats likely occurring in the action area, we anticipate a small number may need to be moved out of harm's way during construction and O&M activities. Since these individuals would be moved a short distance [no more than 500 m (1,640 ft)] from where they are found or rereleased in the same location, we do not anticipate additional significant impacts to resident kangaroo rats adjacent to the project footprint.

Habitat Loss

The loss and degradation of perennial shrubs would result in the loss of sheltering and feeding habitat for the kangaroo rat. Burrows may be crushed and rendered unusable during construction and O&M activities. To help offset the permanent and temporary losses of suitable habitat resulting from construction activities, 1.13 ha (2.8 ac) of kangaroo rat habitat would be restored or enhanced and 0.08 ha (0.2 ac) would be acquired (CM 22). Losses of kangaroo rat habitat resulting from Class 2 and 4 O&M activities would also be offset following the process and compensation ratios identified for construction-related impacts (CM 48).

Indirect Effects

We expect that kangaroo rats in the project footprint would be indirectly impacted by the loss of perennial, native shrubs used for sheltering and feeding. Perennial shrubs could be lost due to replacement by introduced or previously naturalized nonnative, invasive plants that respond positively to ground surface disturbing activities. Crushing of perennial, native shrubs in the project footprint would be avoided to the maximum extent possible (CM 7), increasing the ability of the habitat to continue to support kangaroo rats after the construction phase. While the project footprint is already impacted by invasive Saharan mustard and other nonnative plants, the spread of nonnative, invasive plants into previously uninfested areas would be minimized during construction and O&M activities by delineating the uninfested areas and subsequent removal of nonnative, invasive species that spread into these areas over the life of the project (CM 15). Additional introduction and spread of nonnative, invasive plants in kangaroo rat habitat also would be minimized during construction and O&M activities by washing all ground-disturbing equipment before entering kangaroo rat suitable habitat for the first time (CM 15).

Effect on Recovery

Per 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. Per 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), and the implementing regulations (50 CFR § 402.02) to section 7(a)(2), and related preamble at 51 FR 19926-19957, generally require Federal agencies to further the survival and recovery of listed species in the use of their authorities. Pursuant to these mandates, our analysis below assesses (1) whether the action offsets its adverse effects to the environmental baseline of the kangaroo rat, and (2) the extent to which the action would cause “significant impairment of recovery efforts” or adversely affect the “species’ chances for survival to the point that recovery is not attainable” (51 FR 19934).

The majority of impacts to kangaroo rat habitat from the proposed project occur in unoccupied habitat isolated from conservation areas. Tower M-30-T1 (DV-110) will be constructed in occupied kangaroo rat habitat and located adjacent to land conserved through the Western Riverside County MSHCP, which is adjacent to the Potrero Conservation Unit of the San Jacinto Wildlife Area and San Jacinto Lake Perris Reserve. We do not anticipate the proposed impacts would affect the recovery potential of the species because: (1) the impacts would occur within an existing utility corridor degraded by ongoing O&M activities, (2) the project would not result in additional habitat fragmentation, (3) permanent impacts to this occupied habitat resulting from construction of the DPV2 project would total 0.08 ha (0.2 ac) and temporary impacts would be restored, (4) an equivalent number of acres would be enhanced for kangaroo rat habitat as are impacted (CM 22), and (5) any additional impacts resulting from Class 2 and Class 4 O&M activities would be similarly offset (CM 48). Also, we anticipate that (1) few juveniles or adults likely occur in the project footprint, (2) few, if any, would be lost due to implementation of the conservation measures, and (3) the small number that may be lost due to construction, O&M, and/or relocation activities would not impede the recovery potential of the species.

Coachella Valley Milk-vetch

As discussed in the “Environmental Baseline” section above, milk-vetch was found in the CRS-Devers segment in 1985, 1987, 1994, 2003, and 2005. Based on these observations and the presence of modeled habitat for milk-vetch in the Devers-Valley and CRS-Devers segments, we presume that milk-vetch would be found in modeled habitat in both segments over the 30-year life of the project.

Direct Effects

Death and Injury

Project-related construction and O&M activities could result in the death or injury of milk-vetch in a variety of ways and could uproot, bury, or crush plants and seeds because they are difficult to detect and may not all be found and salvaged during preconstruction clearance surveys. Death or injury of milk-vetch could result from crushing by vehicles or heavy equipment. Because of increased human presence in the area, milk-vetch plants may be injured or killed due to collection or vandalism.

To minimize the death and injury of milk-vetch in the construction disturbance area, SCE would implement the general and species-specific CMs proposed as part of the project. Death or injury of milk-vetch would be minimized by conducting, to the extent possible, all construction activities in milk-vetch modeled habitat outside of the germination and growing season (CM 23) and by having a Service-approved Qualified Biologist conduct preconstruction surveys and be present during construction activities in modeled habitat (CM 24). Direct loss of plants during construction activities also would be minimized by avoiding all milk-vetch locations identified during preconstruction surveys and salvage of any milk-vetch in the project footprint that cannot be avoided (CM 25). Death or injury of milk-vetch could also result from salvage activities. However, this potential impact should be avoided/minimized by the requirement that salvage be conducted by a Service-approved Qualified Biologist following Service-approved methods (CM 24 and 25).

Any milk-vetch overlooked by the initial clearance surveys may be detected during construction-related activities by routine site inspections by the FCR or incidental observations by construction workers (CM 2). The contractual obligations and worker education and awareness program would enhance the effectiveness of detecting milk-vetch during construction, operations, and maintenance activities (CM 4 and 14) and either avoiding or salvaging them.

To minimize the death or injury of milk-vetch in the O&M disturbance area, SCE would implement general and species-specific CMs during the O&M phase proposed as part of the project. SCE would also implement relevant construction-phase CMs during the O&M phase. Specifically, death or injury of milk-vetch during O&M activities would be minimized by demarcation of all temporary work area boundaries (CM 49) and the presence of a Qualified Biologist during all Class 2 ground-disturbing activities in milk-vetch modeled habitat and salvage of milk-vetch found (CM 52). Potential death or injury of milk-vetch from collection and salvage activities should be avoided/minimized by the requirement that collection and salvage be conducted by a Service-approved Qualified Biologist (CMs 24 and 25). The worker education and awareness program would enhance the effectiveness of detecting milk-vetch during Class 1 and 2 O&M activities (CM 50) and of either avoiding them or salvaging them.

We expect that death and injury of most milk-vetch would be avoided during construction and O&M activities through compliance with the conservation measures.

Habitat Loss

The loss of perennial shrubs in milk-vetch habitat could result in subsequent degradation of habitat. To help offset the permanent and temporary/long-term losses of 25.5 ha (63 ac) of modeled and occupied habitat (Table 1) resulting from construction activities, a total of 50.99 ha (126 ac) of milk-vetch habitat would be acquired and permanently conserved in or adjacent to priority conservation areas for the in the CVMSHCP (CM 26). The acquired lands would be selected to benefit the same milk-vetch population adversely affected by the proposed project, if possible, and a management endowment would be provided to ensure the capability for monitoring and managing the site in perpetuity. Permanent and temporary losses of milk-vetch modeled habitat resulting from O&M activities would also be offset following the process and compensation ratios identified for construction-related impacts (CM 48).

Indirect Effects

The proposed project crosses the sand transport corridors for the Coachella Valley Preserve and Willow Hole Reserve. The sand transport corridors are areas identified as important to supplying sand to the preserves. Because of the general unidirectional winds in the Coachella Valley, blow sand predominantly travels down the valley. Historically, blow sand was replaced by sand washed down from the mountains or hills that was then blown through the valley. Anthropogenic modification of the land has disrupted the sand transport process in some cases. Though the proposed project crosses two sand transport corridors, we do not expect that the tower footings or spur roads would inhibit sand flow.

We expect that milk-vetch plants and seeds in the project footprint may be indirectly impacted by replacement by introduced or previously naturalized nonnative, invasive plants that respond positively to ground disturbing activities. However, the potential introduction and spread of nonnative, invasive plants in milk-vetch habitat would be minimized during construction and O&M activities by washing all ground-disturbing equipment before entering modeled habitat for the first time (CM 15). While the project footprint is already impacted by invasive Saharan mustard and other nonnative plants, the additional spread of nonnative, invasive plants into previously uninfested areas also would be minimized during construction and O&M activities by delineating the uninfested areas and subsequent removal of nonnative, invasive species that spread into these areas over the life of the project (CM 15).

Effect on Recovery

Per 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. Per 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), and the implementing regulations (50 CFR § 402.02) to section 7(a)(2), and related preamble at 51 FR 19926-19957, generally require Federal agencies to further the survival and

recovery of listed species in the use of their authorities. Pursuant to these mandates, our analysis below assesses (1) whether the action offsets its adverse effects to the environmental baseline of the fringe-toed lizard, and (2) the extent to which the action would cause “significant impairment of recovery efforts” or adversely affect the “species’ chances for survival to the point that recovery is not attainable” (51 FR 19934).

The proposed project would impact modeled habitat and traverse priority conservation areas identified in the CVMSHCP for this species. However, we do not anticipate the proposed project would impede the recovery potential of the species because: (1) the impacts would occur within an existing utility corridor degraded by ongoing O&M activities, (2) the project would not result in additional habitat fragmentation, (3) 50.99 ha (126 ac) of milk-vetch habitat would be acquired and conserved in perpetuity to offset impacts associated with construction of the DPV2 project (CM 26), and (4) any additional impacts resulting from Class 2 and Class 4 O&M activities would be similarly offset (CM 48). Also, we anticipate that (1) few, if any, individuals would be lost upon implementation of the conservation measures and (2) the small number that may be lost during construction, O&M, and/or salvage activities will not impede the recovery potential of the species.

Coachella Valley Fringe-toed and Flat-tailed Horned Lizards

As discussed in the “Environmental Baseline” section above, no fringe-toed lizards were found within the Devers-Valley or CRS-Devers segments and two horned lizards were observed in or adjacent to the CRS-Devers segment. However, based on the available density estimates for both species and the presence of modeled habitat for fringe-toed lizards in both the Devers-Valley and CRS-Devers segments and modeled habitat for horned lizard in the CRS-Devers segment, we estimate that up to 32 adult fringe-toed lizards could occur in modeled habitat in both segments and that up to 64 adult horned lizards could occur in modeled habitat in the CRS-Devers segment over the 30-year life of the project. However, as also discussed in the “Environmental Baseline” section above, we anticipate the actual densities of both species in the project footprint are likely to be considerably lower due to existing habitat degradation from O&M activities associated with existing transmission lines, and the relatively small size of the blow sand habitat and isolation of these patches from other occupied habitat.

Direct Effects

Death and Injury

Project-related construction and O&M activities could result in the death or injury of fringe-toed or horned lizards in a variety of ways and could kill or injure individuals because they are difficult to detect and may not all be found and relocated during preconstruction clearance surveys. Fringe-toed and horned lizard juveniles and eggs are extremely difficult to detect and are unlikely to be found and relocated during project activities. Roads pose a mortality risk to horned lizards because they are difficult to see and avoid, and they typically freeze in place rather than run when confronted with a threat. In contrast, fringe-toed lizards typically flee from

disturbance and are therefore much less vulnerable to road-related mortality. Death or injury of fringe-toed or horned lizards could result from collisions with or crushing by vehicles or heavy equipment, or crushing or burial of individuals or eggs in burrows during construction and O&M-related activities. Fringe-toed or horned lizards could also be injured or killed after being trapped in construction excavations. Because of increased human presence in the area, fringe-toed or horned lizards may be injured or killed due to collection or vandalism associated with increased encounters with workers' or visitors' pets. Fringe-toed or horned lizards could also be injured or killed because of collection and relocation activities.

To minimize the death and injury of fringe-toed and horned lizards residing in or entering the construction disturbance area, SCE would implement general and species-specific CMs proposed as part of the project. Death or injury of fringe-toed and horned lizards would be minimized by conducting, to the extent possible, all construction activities in fringe-toed or horned lizard modeled/blow sand habitat during the species' active season (CM 27) and by the presence of a Qualified Biologist during all construction activities in fringe-toed or horned lizard habitat who would conduct preconstruction surveys in fringe-toed or horned lizard modeled/blow sand habitat (CM 28).

Any fringe-toed or horned lizards overlooked by the initial clearance surveys may be detected during construction-related activities by routine site inspections by the FCR or incidental observations by construction workers (CM 2). The contractual obligations and worker education and awareness program would enhance the effectiveness of detecting fringe-toed and horned lizards during construction, operations, and maintenance activities (CM 4 and 14) and either avoiding them or relocating them out of harm's way. The posting and enforcement of specified speed limits (CM 10) would further reduce the risk to fringe-toed and horned lizards that inadvertently venture onto the roadway network during construction, operations, and maintenance activities. Fringe-toed and horned lizards in construction areas could fall into trenches and other excavations and become trapped, injured, or killed. To reduce the likelihood of such accidents, all hazardous excavations would be covered and inspected (CM 13).

To minimize the death or injury of fringe-toed and horned lizards residing in or entering the O&M disturbance area, SCE would implement general and species-specific CMs during the O&M phase proposed as part of the project. SCE would also implement relevant construction-phase CMs during the O&M phase. Specifically, death or injury of fringe-toed or horned lizards during O&M activities would be minimized by demarcation of all temporary work area boundaries (CM 49), limiting ground-disturbing activities (Class 2) in fringe-toed or horned lizard modeled habitat to the species' active season (CM 53), and the presence of a Qualified Biologist during all Class 2 ground-disturbing activities in fringe-toed or horned lizard modeled habitat and relocation of fringe-toed and horned lizards out of harm's way (CM 54). The worker education and awareness program would enhance the effectiveness of detecting fringe-toed and horned lizards during Class 1 and 2 O&M activities (CM 50) and of either avoiding them or relocating them out of harm's way. The posting and enforcement of speed limits (CM 10) would further reduce the risk to any fringe-toed or horned lizards that inadvertently venture onto the roadway during O&M activities. To reduce the likelihood of fringe-toed or horned lizards

falling into trenches and other excavations dug during O&M activities and becoming trapped, injured, or killed, all hazardous excavations would be covered and inspected (CM 13).

Death or injury of fringe-toed and horned lizards could also result from capture and relocation activities. Little is known regarding the fate of fringe-toed or horned lizards that have been moved out of harm's way or relocated. Though relocation improves the survival probability of individual animals, relocation from the project footprint into surrounding habitat occupied by resident animals has the potential to disrupt behavior and social structure. Such disruption may impair breeding, feeding, and sheltering by elevating the frequency and intensity of aggressive interactions between individuals. However, zero fringe-toed lizards and only two horned lizards were found in or adjacent to the project footprint. Therefore, any found during construction and O&M activities would be moved a relatively short distance [no more than 500 m (1,640 ft)], any relocated individuals likely have previously been in contact with resident individuals, would find unoccupied habitat patches, or would return to their previous home ranges. Therefore, we anticipate that impacts to resident individuals would be insignificant. We also anticipate that the potential for death or injury of fringe-toed or horned lizards due to capture and relocation during construction and O&M activities would be avoided/minimized by the requirement that capture and relocation be conducted by a Service-approved Qualified Biologist (CM 28, 29, and 54).

We expect that death and injury of some adult fringe-toed and horned lizards would be avoided during construction and O&M activities through compliance with the conservation measures. Since fringe-toed and horned lizard eggs and juveniles are difficult to detect, we anticipate that a small but unknown number of eggs and juveniles occurring in the project footprint would be lost due to construction and O&M activities. Though we cannot accurately estimate the number of eggs and juveniles, we anticipate few would be present because zero fringe-toed and two horned lizards were found in or adjacent to the project footprint. In addition, we do not expect loss of eggs and juveniles in the project footprint will affect the species' local populations since early life stages naturally suffer higher mortality rates and are not as important to the long-term conservation of the species as reproducing adults. Also, given that zero fringe-toed and only two horned lizards were detected in or near the project footprint, we anticipate only a small number may need to be moved out of harm's way during construction and O&M activities, and since these individuals would be moved a short distance from where they are found [less than 500 m (1,640 ft)], we do not anticipate additional significant impacts to resident fringe-toed and horned lizards adjacent to the project footprint.

Habitat Loss

The loss and degradation of perennial shrubs in fringe-toed or horned lizard habitat would result in a subsequent loss of sheltering and feeding habitat for these species. To help offset impacts to fringe-toed lizard modeled and critical habitat and horned lizard modeled habitat (Table 1), a total of 35.61 ha (88 ac) of fringe-toed and 12.95 ha (32 ac) of horned lizard habitat would be acquired and permanently conserved in or adjacent to priority conservation areas for the in the CVMSHCP (CMs 30 **Error! Reference source not found.** and 31). Of this, at least 21.04 ha (52 ac) will be acquired and permanently conserved within fringe-toed lizard critical habitat,

assuming willing sellers are available. The acquired lands would be selected to benefit the same fringe-toed and horned lizard populations adversely affected by the proposed project, if possible, and a management endowment would be provided to ensure the capability for monitoring and managing the site in perpetuity. Permanent and temporary losses of fringe-toed and horned lizard habitat resulting from O&M activities would also be offset following the process and compensation ratios identified for construction-related impacts (CM 48).

Indirect Effects

The proposed project crosses the sand transport corridors for the Coachella Valley Preserve and Willow Hole Reserve. The sand transport corridors are areas identified as important to supplying blow sand to the preserves. Because of the general unidirectional winds in the Coachella Valley, blow sand predominantly travels down the valley. Historically blow sand was replaced by sand washed down from the mountains or hills that was then blown through the valley. Anthropogenic modification of the land has disrupted the sand transport process in some cases. Though the proposed project crosses two sand transport corridors, we do not expect that towers would inhibit sand flow.

We expect that fringe-toed and horned lizards in the project footprint would be indirectly impacted by the loss of native shrubs used for sheltering. Perennial shrubs could be lost due to replacement by introduced or previously naturalized nonnative, invasive plants that respond positively to ground disturbing activities. Crushing of perennial, native shrubs in the project footprint would be avoided to the maximum extent possible (CM 7), increasing the ability of the habitat to continue to support fringe-toed and horned lizards after the construction phase. While the project footprint is already impacted by invasive Saharan mustard and other nonnative plants, the spread of nonnative, invasive plants into previously uninfested areas would be minimized during construction and O&M activities by delineating the uninfested areas and subsequent removal of nonnative, invasive species that spread into these areas over the life of the project (CM 15). Additional introduction and spread of nonnative, invasive plants in fringe-toed and horned lizard habitat also would be minimized during construction and O&M activities by washing all ground-disturbing equipment before entering fringe-toed and horned lizards modeled habitat for the first time (CM 15).

Transmission line towers may provide perching and nesting sites for avian predators of fringe-toed and horned lizards, such as American kestrels, loggerhead shrikes, red-tailed hawks, or other raptors. However, because the towers would be constructed next to existing DPV1 towers, the population of raptors using the power lines is not likely to increase because raptors typically are territorial. Thus, any birds attempting to use the new towers likely would be chased away by birds already using the existing DPV I towers, or would displace the resident birds.

Coachella Valley Fringe-toed Lizard Critical Habitat

The proposed project footprint crosses approximately 9.6 km (6 mi) of fringe-toed lizard critical habitat and construction activities would permanently and temporarily impact an estimated 10.52

ha (26 ac) (Table 1) of the 4,921-ha (12,160-ac) of designated critical habitat. The area is important as part of a sand transport corridor, but as discussed above, the project would not impede sand flow across the area, and thus would not affect the primary function and conservation role of this portion of critical habitat. In addition, the conservation measures proposed as part of the project, including avoiding the placement of construction yards or helicopter assembly sites in fringe-toed lizard critical habitat (CM 12) and invasive plant species control (CM 15), would help maintain the role and function of critical habitat by avoiding and offsetting adverse effects to the primary constituent elements of critical habitat. In addition, since some habitat between towers will remain undisturbed by the proposed project and, over time, disturbed habitat under the towers may recover to some extent, we anticipate the role and function of critical habitat to provide feeding, breeding, sheltering, and/or movement habitat would be maintained.

Effect on Recovery

Per 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. Per 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), and the implementing regulations (50 CFR § 402.02) to section 7(a)(2), and related preamble at 51 FR 19926-19957, generally require Federal agencies to further the survival and recovery of listed species in the use of their authorities. Pursuant to these mandates, our analysis below assesses (1) whether the action offsets its adverse effects to the environmental baseline of the fringe-toed lizard, and (2) the extent to which the action would cause “significant impairment of recovery efforts” or adversely affect the “species’ chances for survival to the point that recovery is not attainable” (51 FR 19934).

The proposed project would impact fringe-toed and horned lizard modeled habitat and fringe-toed lizard critical habitat and traverse priority conservation areas identified in the CVMSHCP as important for these species. However, we do not anticipate the proposed project would impede the recovery potential of these species because: (1) the impacts are not anticipated to impede sand flow in the sand transport corridor, (2) the impacts would occur within an existing utility corridor degraded by ongoing O&M activities, (3) the project would not result in additional habitat fragmentation (4) fringe-toed and horned lizard habitat of equivalent or better quality would be acquired and conserved in perpetuity to offset impacts associated with construction of the DPV2 project (CMs **Error! Reference source not found.**30 and 31), and (5) any additional impacts resulting from Class 2 and Class 4 O&M activities would be similarly offset (CM 48). Also, we anticipate that (1) few eggs, juveniles, or adults currently occur in the project footprint, (2) few, if any, would be lost due to implementation of the conservation measures, and (3) the small number of fringe-toed or horned lizards that may be lost due to construction, O&M, and/or relocation activities would not impede the recovery potential of these species.

Desert Tortoise

As discussed in the “Environmental Baseline” section above, we estimate that up to 12 tortoises may occur in the CRS-Devers segment over the 30-year life of the project. However, as also discussed in the “Environmental Baseline” section above, we anticipate the actual density of tortoises in the project footprint may be lower due to existing habitat degradation from O&M activities associated with existing transmission lines.

Direct Effects

Death and Injury

Project-related construction and O&M activities could result in the death or injury of tortoises in a variety of ways and could kill or injure tortoise eggs, juveniles, and adults because they are difficult to detect and may not all be found and relocated during preconstruction clearance surveys or during O&M activities. Death or injury of tortoises could result from collisions with or crushing by vehicles or heavy equipment, including crushing of individuals that take shelter under parked vehicles and are killed or injured when the vehicle is moved. Desert tortoises could also be injured or killed after being trapped in construction excavations or pipes. Other direct effects could include individual tortoises or their eggs being crushed or buried in burrows during construction and O&M-related activities. Because of increased human presence in the area, tortoises may be injured or killed due to collection or vandalism associated with increased encounters with workers’ or visitors’ pets. Desert tortoises may also be attracted to the construction area by application of water to control dust, placing them at higher risk of death or injury. Tortoises could also be injured or killed because of collection and relocation activities.

To minimize the death and injury of tortoises residing in or entering the construction disturbance area, SCE would implement the general and species-specific CMs proposed as part of the project. Death or injury of tortoises would be minimized by conducting, to the extent possible, all construction activities during the species’ less active period (CM 32) and by the presence of an Authorized Biologist during all construction activities in tortoise habitat (CMs 33 and 35). The Authorized Biologist would conduct preconstruction surveys in tortoise habitat and relocate any tortoises found in the ROW out of harm’s way following Service-approved methods (CM 34, 35, and 36). Also, any tortoises found on the surface or in burrows that cannot be avoided during operations and maintenance activities would be relocated out of harm’s way by the Authorized Biologist (CM 36 and 37).

Any tortoises overlooked by the initial clearance surveys may be detected during construction activities by routine site inspections by the FCR, Authorized Biologist, or incidental observations by construction workers (CM 2). The contractual obligations and worker education and awareness program would enhance the effectiveness of detecting tortoises during construction activities (CM 4 and 14) and either avoid or relocate them out of harm’s way. The posting and enforcement of specified speed limits (CM 10) and inspections underneath parked vehicles (CM 38) would further reduce the risk to any tortoises that inadvertently venture onto the roadway

during construction activities. Tortoises in construction areas could fall into trenches and other excavations and become trapped, injured, or killed. To reduce the likelihood of such accidents, all hazardous excavations would be covered and inspected (CM 13).

To minimize the death or injury of tortoises residing in or entering the O&M disturbance area, SCE would implement general and species-specific CMs during the O&M phase proposed as part of the project. SCE would also implement relevant construction-phase CMs during the O&M phase. Specifically, death or injury of tortoises during O&M activities would be minimized by demarcation of all temporary work area boundaries (CM 49) and limiting Class 2 ground-disturbing activities in tortoise habitat to the species' active season to the extent possible (CM 32). Also, an Authorized Biologist would be present during all Class 2 ground-disturbing activities in tortoise habitat and relocate tortoises out of harm's way if impacts can't be avoided (CM 37, 55, and 56). The worker education and awareness program would enhance the effectiveness of detecting tortoise during Class 1 and 2 O&M activities (CM 50) and of either avoiding them or relocating them out of harm's way. The posting and enforcement of speed limits (CM 10) and inspections underneath parked vehicles (CM 57) would further reduce the risk to any tortoises that inadvertently venture onto the roadway during O&M activities. To reduce the likelihood of tortoises falling into trenches and other excavations dug during O&M activities and becoming trapped, injured, or killed, all hazardous excavations would be covered and inspected (CM 13).

Death or injury of tortoises could also result from capture and relocation activities. Capturing, handling, and moving tortoises for the purposes of relocating them out of the project footprint may result in accidental death or injury if these methods are performed improperly, such as during extreme temperatures, or if tortoises void their bladders and are not rehydrated. Averill-Murray (2001) determined tortoises that voided their bladders during handling had lower overall survival rates (0.81 to 0.88) than those that did not void (0.96). If multiple tortoises are handled by biologists without the use of appropriate protective measures and procedures, such as reused latex gloves, pathogens may be spread among individuals. Walde et al. (2008) found in a study of tortoises at Fort Irwin that the differences in reproduction among translocated, resident, and control desert tortoises were "not likely to be statistically significant".

Little is known regarding the fate of tortoises that have been moved short distances out of harm's way or relocated because these animals typically have not been marked and monitored post-relocation. However, tortoises translocated shorter distances [i.e., less than 500 m (1,640 ft)] are not likely to move as far following release as tortoises moved longer distances. Walde et al. (2008) found that maximum straight-line dispersal distance for male tortoises was approximately 1.5 km (0.9 mi) in the first year following translocation. The degree to which these animals expand the area they use depends on whether the animals are released into typical or atypical habitat; that is, if the area they area relocated to supports habitat that is similar to that of the source area, tortoises are likely to move less (Nussear 2004). Since tortoises found in the project footprint would be moved out of harm's way, but less than 500 m (1,640 ft) from the point of capture, we do not anticipate that relocation would result in death or injury because these individuals would be moved a relatively short distance and they would remain near or within

their home range. Also, since relocated tortoises typically remain within their home range, we do not anticipate additional significant social or competitive impacts to resident tortoises in the area. We also anticipate that the potential for death or injury of tortoises due to capture and relocation during construction and O&M activities would be avoided/minimized by the requirement that capture and relocation be conducted by a Service-approved Authorized Biologist following Service-approved methods (CM 33, 34, 55, and 56).

We expect that death and injury of most subadult and adult tortoises would be avoided during construction and O&M activities through compliance with the conservation measures. However, since tortoise eggs and juveniles are very difficult to detect, we anticipate that a low but unknown number of eggs or juveniles occurring in the project footprint would be lost due to construction and O&M activities. However, we do not expect loss of eggs and juveniles in the project footprint will affect the species' local populations because (1) the low number of adults found within the right-of-way indicates a correspondingly small number of eggs and juveniles would be present and affected, and (2) early life stages naturally suffer higher mortality rates and are not as important to the long-term conservation of the species as reproducing adults. Also, given that a relatively small number of adult tortoise were found the action area, we anticipate a small number may need to be moved out of harm's way during construction and O&M activities, and since these individuals would be moved a short distance from where they are found and within their home range [within 500 m (1,640 ft)], we do not anticipate additional significant impacts to resident tortoises adjacent to the project footprint.

Habitat Loss

The loss and degradation of perennial shrubs in tortoise habitat would result in loss of sheltering and feeding habitat. Burrows may be crushed and rendered unusable as a result of construction and O&M activities. To help offset the permanent and temporary/long-term losses of 241.19 ha (596 ac) of tortoise habitat, 670.16 ha (1,656 ac) of equivalent or better quality habitat would be acquired and permanently conserved for the tortoise (CM 43**Error! Reference source not found.**). The acquired lands would be selected to benefit the same tortoise population adversely affected by the proposed project and a management endowment would be provided to ensure the capability for monitoring and managing the site in perpetuity. Permanent and temporary losses of tortoise habitat resulting from Class 2 and Class 4 O&M activities would also be offset following the process and compensation ratios identified for construction-related impacts (CM 48).

Indirect Effects

We expect that tortoises in the project footprint would be indirectly impacted by the loss of perennial, native shrubs used for sheltering and feeding. Perennial shrubs could be lost due to replacement by introduced or previously naturalized nonnative, invasive plants that respond positively to ground disturbing activities. While the project footprint is currently impacted by invasive Saharan mustard and other nonnative plants, which may be less nutritious for tortoises, the spread of nonnative, invasive plants into previously uninfested areas would be minimized

during construction and O&M activities by delineating the uninfested areas and subsequent removal of nonnative, invasive species that spread into these areas over the life of the project (CM 15). Additional introduction and spread of nonnative, invasive plants in tortoise habitat would also be minimized during construction and O&M activities by washing all ground-disturbing equipment before entering modeled tortoise habitat for the first time (CM 15). Crushing of perennial, native shrubs in the project footprint would be avoided to the maximum extent possible (CM 7), increasing the ability of the habitat to continue to support tortoises after the construction phase.

The construction of new transmission line towers in tortoise habitat may provide additional nesting, perching, and roosting substrate for common ravens, considered a significant predator of juvenile tortoises. Periodic raven nest monitoring, and removal and management of offending ravens from DPV2 towers and substations (CM 42) would likely reduce the effect of raven predation on juvenile tortoises. While there are existing transmission towers adjacent to the proposed DPV2 project footprint (e.g., DPV1), the new towers would provide additional nesting, perching, and roosting site, and therefore, potentially increase raven densities in the area. To further minimize indirect and cumulative impacts of raven predation on tortoises associated with the proposed project, SCE would contribute to the regional Raven Management Plan developed to address raven predation on tortoises at the population level in the California desert region as a recovery action for the species (CM 42). To further minimize raven nesting, SCE would also remove all debris from tree trimming and brush clearing so that it is no longer available for raven nest building (CM 58).

Garbage and uneaten food generated during construction and O&M activities, and roadkill in the ROW also could attract ravens to the area, thereby increasing predation on juvenile tortoises in the area. To prevent generation of food waste by construction and O&M workers, all trash materials would be disposed of and removed to prevent the attraction of tortoise predators to the project footprint (CM 40) and to prevent additional food subsidies, road-killed animals would be immediately removed from the project footprint when encountered during construction activities (CM 41).

Desert Tortoise Critical Habitat

Approximately 107.24 ha (265 ac) of the 413,022 ha (1,020,600 ac), or less than 0.03 percent, of designated critical habitat in the Chuckwalla CHU/DWMA would be permanently and temporarily impacted (Table 1). The conservation measures proposed as part of the project, including avoidance of perennial, native vegetation (CM 7) and invasive plant species control (CM 15) will help maintain the role and function of critical habitat by avoiding and offsetting adverse effects to the primary constituent elements of critical habitat. In addition, the impacts to critical habitat caused by the proposed project would not affect population connectivity across the right-of-way because the transmission line would not create a barrier to tortoise movement. Therefore, since some habitat between towers will remain undisturbed by the proposed project and over time, disturbed habitat under the towers may recover to some extent, we anticipate the

role and function of critical habitat to provide feeding, breeding, sheltering, and/or movement habitat would be maintained.

Effect on Recovery

Per 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. Per 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), and the implementing regulations (50 CFR §402.02) to section 7(a)(2), and related preamble at 51 FR 19926-19957, generally require Federal agencies to further the survival and recovery of listed species in the use of their authorities. Pursuant to these mandates, our analysis below assesses (1) whether the action offsets its adverse effects to the environmental baseline of the fringe-toed lizard, and (2) the extent to which the action would cause “significant impairment of recovery efforts” or adversely affect the “species’ chances for survival to the point that recovery is not attainable” (51 FR 19934).

The proposed project would impact tortoise modeled and critical habitat, traverse priority conservation areas identified in the CVMSHCP as important for the species, is in the Chuckwalla CHU/DWMA, and is in the Eastern Colorado recovery unit. However, we do not anticipate the proposed project would impede the recovery potential of the species because: (1) the impacts would occur within an existing utility corridor degraded by ongoing O&M activities, (2) the project would not fragment habitat or adversely affect tortoise population connectivity, (3) less than 0.03 percent of the Chuckwalla CHU/DWMA would be impacted, (4) 670.16 ha (1,656 ac) of tortoise habitat of equivalent or better quality would be acquired and conserved in perpetuity to offset impacts associated with construction of the DPV2 project (CM 43Error! Reference source not found.), (5) any additional impacts resulting from Class 2 and Class 4 O&M activities would be similarly offset (CM 48), and (6) raven impacts would be monitored and managed (CM 42 and 58). Also, implementation of CM 42 would help minimize cumulative effects by contributing to a CDCA-wide program to minimize the impact of raven predation on desert tortoise on a landscape scale. As such, the proposed project would maintain the habitat base for supporting viable tortoise populations in critical habitat and prevent erosion of the environmental baseline in critical habitat, DWMA, and CVMSHCP conservation areas, which provide the primary focus for recovery efforts.

CUMULATIVE EFFECTS

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. The Service is unaware of any future State, tribal, local or private actions reasonably certain to occur in the action area for the species addressed in this opinion.

CONCLUSION

After reviewing the current status, environmental baseline for the action area, effects of the proposed action, and cumulative effects of the proposed project on the kangaroo rat, milk-vetch, fringe-toed and horned lizards, and tortoise, it is the Service's biological/conference opinion that the proposed action is not likely to jeopardize the continued existence of these species, and is not likely to destroy or adversely modify designated critical habitat for fringe-toed lizard or tortoise. We base this decision on the following reasons:

1. The direct and indirect effects of the proposed project would be effectively minimized through implementation of the proposed Conservation Measures.
2. The action area constitutes a small portion of each species' range, and permanent and temporary habitat losses would be offset by the permanent conservation of a like or greater amount of equivalent or better quality habitat.
3. Most adult kangaroo rats and tortoise, some adult fringe-toed and horned lizards, and most milk-vetch plants within the disturbance area would be captured/salvaged and relocated to suitable habitat outside of the disturbance area. Given that no fringe-toed lizards, two horned lizards, and small numbers of kangaroo rats and tortoises were detected in the project footprint, we anticipate that small numbers of these species may need to be moved out of harm's way during construction and O&M activities. In addition, since these individuals would be moved relatively short distances from where they are found, we do not anticipate additional significant impacts to other resident individuals or populations of these species in the project footprint.
4. With implementation of the Conservation Measures, the impacts of the proposed action are expected to be effectively minimized and offset, and are not likely to appreciably diminish the conservation role and function of designated critical habitat for fringe-toed lizard or tortoise in the action area or these species' ranges.

INCIDENTAL TAKE STATEMENT

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

agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below for kangaroo rats, fringe-toed lizards, and tortoises are non-discretionary and must be undertaken by the BLM so that they become binding conditions of any grant or permit issued to SCE, as appropriate, for the exemption in section 7(o)(2) to apply. The BLM has a continuing duty to regulate the activity covered by this incidental take statement. If the BLM (1) fails to assume and implement the terms and conditions or (2) fails to require SCE to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the BLM 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)].

The prohibitions against taking found in section 9 of the Act do not apply to flat-tailed horned lizard unless the species is listed. However, the Service advises the BLM to consider implementing the following reasonable and prudent measures. If the flat-tailed horned lizard is listed and this conference opinion is adopted as a biological opinion, the measures described below for the flat-tailed horned lizard, with their implementing terms and conditions, will be non-discretionary.

AMOUNT OR EXTENT OF TAKE

As stated above, section 9 of the Act does not address the incidental take of listed plant species. Because the Act does not address the take of listed plant species, this biological/conference opinion does not contain an incidental take statement, reasonable and prudent measures, or terms and conditions for the milk-vetch. BLM should be aware that the Act prohibits the removal of endangered plants from Federal lands and their reduction to possession, the malicious damaging, or destruction on such lands; by regulation, the Service extended this prohibition to threatened species. Section 9(a)(2)(B) prohibits any person from removing, cutting, digging up, or damaging or destroying individuals of an endangered listed plant species in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law.

We anticipate that the number of kangaroo rats, fringe-toed and horned lizards, and tortoises that may be taken would be low due to the small numbers of these species found within the action area, the degraded condition of the habitat, and the anticipated effectiveness of conservation measures described as part of the proposed action. However, quantifying the precise number of individuals that may be incidentally taken is not possible because these species are cryptically-colored to avoid predation, and are often in burrows or buried to avoid environmental extremes or predation, making the observation or detection of death or injury highly unlikely. Also, population numbers fluctuate in response to weather patterns and other biotic and abiotic factors, and population levels and the distribution of individual animals have changed since the species' surveys were completed and are anticipated to continue changing over the 30-year life of the

project. The number of eggs and juveniles of these species are especially difficult to detect and quantify because of small size, in addition to the factors discussed above. As a result, finding dead or injured individuals within the action area is difficult as animals may be crushed or buried underground in burrows that were not found or inspected, and otherwise hard to recognize/detect for the reasons discussed above. Because eggs and juveniles are almost never found during clearance surveys, we assume that virtually all these early life forms will be killed or injured by construction activities within the project footprint.

While we cannot provide precise numbers, we have estimated the number of adult and subadult kangaroo rats, fringe-toed and horned lizards, and tortoises that may occur in the project footprint based on the best available information, and based on these estimates have established take thresholds that, if exceeded, will trigger reinitiation of consultation.

Take of Stephens' kangaroo rats is anticipated and exempted as follows:

- The disturbance of up to 1.21 ha (3 ac) of occupied and potential kangaroo rat habitat from construction and O&M activities may result in accidental death or injury of all kangaroo rats from crushing, trampling, or burial. If the project impacts more than this acreage of kangaroo rat habitat, the take threshold will be exceeded.
- As discussed in the "Environmental Baseline" section above, we used available density estimates to determine that twelve juvenile and adult kangaroo rats could be present but we nonetheless anticipate that considerably fewer individuals likely occur in the project footprint. While we cannot quantify the precise numbers of individuals that may be killed or injured because of construction and O&M activities for the detectability reasons discussed above, we anticipate the number of kangaroo rats that may be killed or injured will be small based on the degraded quality of the habitat in the action area. Therefore, using our best professional judgment in light of best available information, and considering the different levels of activity during the various phases of the proposed project, we anticipate the incidental take of relatively few kangaroo rats, perhaps on the order of ten or fewer individuals from construction activities and five or fewer individuals per year from O&M. Accordingly, we are exempting accidental injury or death of no more than 10 individuals from construction and 5 per year from O&M activities based on the anticipation that the capture and relocation of adults would be effective and minimize the likelihood that more than this number of animals would suffer physical injury. Thus, if more than 10 kangaroo rats are found injured or dead during the construction phase, or more than 5 kangaroo rats per year are found injured or dead during the O&M phase, the take threshold will be exceeded.
- Take, in the form of capture or collection, of up to 12 kangaroo rats for the purposes of relocation from within the project construction and O&M disturbance area. However, because the capture or collection, relocation, and release will be conducted by a Service-approved Biologist, we do not expect these activities to result in direct injury or death of

any relocated kangaroo rats. Therefore, we do not want to limit the ability of the Service-approved Biologist to avoid and minimize the direct injury or death of kangaroo rats by relocating kangaroo rats found during preconstruction clearance surveys. Thus, all take in the form of trapping, capture, or collection for the purposes of relocation is exempted for any juvenile or adult kangaroo rats found during clearance surveys, monitoring activities, or other incidental observations, subject to the reasonable and prudent measures and terms and conditions below. If any kangaroo rats are directly injured or killed during relocation, the take threshold will be exceeded.

Take of Coachella Valley fringe-toed lizards is anticipated and exempted as follows:

- The disturbance of up to 17.81 ha (44 ac) of fringe-toed lizard modeled and critical habitat from construction and O&M activities may result in accidental death or injury of fringe-toed lizard eggs, juveniles, or adults from crushing, trampling, or burial. If the project impacts more than this acreage of fringe-toed lizard habitat, the take threshold will be exceeded.
- As discussed in the “Environmental Baseline” section above, we used available density estimates to determine that 32 adult fringe-toed lizards could be present in the project footprint but we nonetheless anticipate that considerably fewer individuals likely occur in the project footprint. While we cannot quantify the precise numbers of individuals that may be killed or injured as a result of construction and O&M activities for the detectability reasons discussed above, we anticipate the number of individuals that may be killed or injured will be small based on the degraded quality of the habitat in the action area and the fact that finding zero individuals during surveys indicates an apparently small population on the project site. Therefore, using our best professional judgment in light of best available information, and considering the different levels of activity during the various phases of the proposed project, we anticipate the incidental take of relatively few individuals, perhaps on the order of 10 or fewer individuals per year from construction activities and 5 or fewer individuals per year from O&M. However, based on the difficulty in detecting individual lizards, we anticipate that each report of incidental taking likely represents the actual death or injury of up to five individual lizards. As a result, we anticipate up to two fringe-toed lizards may be reported dead or injured from construction activities and one per year may be found from O&M activities. Accordingly, we are exempting accidental injury or death of no more than 10 individuals per year from construction and 5 per year from O&M activities based on the anticipation that the capture and relocation of adults would be effective and minimize the likelihood that more than this number of animals would suffer physical injury. Thus, if more than two fringe-toed lizards per year are found injured or dead during the construction phase, or more than one fringe-toed lizard per year is found injured or dead during the O&M phase, the take threshold will be exceeded.

- Take, in the form of capture or collection, of up to 10 fringe-toed lizards for the purposes of relocation from within the project construction and O&M disturbance area. However, because the capture or collection, relocation, and release will be conducted by a Service-approved Biologist, we do not expect these activities to result in direct injury or death of any relocated fringe-toed lizards. Therefore, we do not want to limit the ability of the Service-approved Biologist to avoid and minimize the direct injury or death of fringe-toed lizards by relocating individuals found during preconstruction clearance surveys. Thus, all take in the form of trapping, capture, or collection for the purposes of relocation is exempted for any eggs, juveniles, or adult fringe-toed lizards found during clearance surveys, monitoring activities, or other incidental observations, subject to the reasonable and prudent measures and terms and conditions below. If any fringe-toed lizards are directly injured or killed during relocation, the take threshold will be exceeded.

Take of flat-tailed horned lizards is anticipated and exempted as follows:

- The disturbance of up to 6.47 ha (16 ac) of horned lizard modeled habitat from construction and O&M activities may result in accidental death or injury of horned lizard eggs, juveniles, or adults from crushing, trampling, or burial. If the project impacts more than this acreage of horned lizard habitat, the take threshold will be exceeded.
- As discussed in the “Environmental Baseline” section above, we used available density estimates to determine that 64 horned lizards could be present in the project footprint but, based on the low habitat quality and the fact that 2 horned lizards were found in or near the project footprint during surveys, we anticipate that considerably fewer individuals likely occur in the project footprint. While we cannot quantify the precise numbers of horned lizards that may be killed or injured as a result of construction and O&M activities for the reasons discussed above, we anticipate the number of horned lizards that may be killed or injured due to the proposed project will be small based on the degraded quality of the habitat in the project footprint and the fact that finding two horned lizards during surveys indicates an apparently small population in the project area. Therefore, using our best professional judgment in light of best available information, and considering the different levels of activity during the various phases of the proposed project, we anticipate the incidental take of relatively few horned lizards, perhaps on the order of 10 or fewer individuals per year from construction activities and 5 or fewer individuals per year from O&M. However, based on the difficulty in detecting individual lizards, we anticipate that each report of incidental taking likely represents the actual death or injury of up to five individual lizards. As a result, we anticipate up to two horned lizards may be reported dead or injured from construction activities and one per year may be found from O&M activities. Accordingly, we are exempting accidental injury or death of no more than 10 individuals per year from construction and 5 horned lizards per year from O&M activities based on the anticipation that the capture and relocation of adults would be effective and minimize the likelihood that more than this number of animals would suffer physical injury. Thus, if more than two horned lizards

per year are found injured or dead during the construction phase, or more than one horned lizard per year is found injured or dead during the O&M phase, the take threshold will be exceeded.

- Take, in the form of capture or collection, of up to 10 horned lizards for the purposes of relocation from within the project construction and O&M disturbance area. However, because the capture or collection, relocation, and release will be conducted by a Service-approved Biologist, we do not expect these activities to result in direct injury or death of any relocated horned lizards. Therefore, we do not want to limit the ability of the Service-approved Biologist to avoid and minimize the direct injury or death of horned lizards by relocating individuals found during preconstruction clearance surveys. Thus, all take in the form of trapping, capture, or collection for the purposes of relocation is exempted for any eggs, juveniles, or adult horned lizards found during clearance surveys, monitoring activities, or other incidental observations, subject to the reasonable and prudent measures and terms and conditions below. If any horned lizards are directly injured or killed during relocation, the take threshold will be exceeded.

Take of the desert tortoise is anticipated and exempted as follows:

- The disturbance of up to 241.19 ha (596 ac) of modeled, critical, and occupied tortoise habitat from construction and O&M activities may result in accidental death or injury of tortoise eggs, juveniles, subadults, or adults from crushing, trampling, or burial. If the project impacts more than this acreage of tortoise habitat, the take threshold will be exceeded.
- As discussed in the “Environmental Baseline” section above, we used available density estimates to determine that 12 tortoises could be present in the project footprint but, based on the low habitat quality and the relatively small number of individuals found in the project footprint during surveys, we anticipate that fewer individuals likely occur in the project footprint. Therefore, using our best professional judgment in light of best available information, we anticipate that the proposed project will result in the incidental take of relatively few tortoises, perhaps on the order of six adults/subadults. Accordingly, we are exempting accidental injury or death of no more than six adult/subadult tortoises as a result of construction and no more than two per year as a result of O&M activities based on the anticipation that the capture and relocation of individuals would be effective and minimize the likelihood that more than this number of animals would suffer physical injury. Thus, if more than six subadult or adult tortoises are found injured or dead during construction and more than two subadult or adult tortoises per year are found injured or dead during O&M activities, the take threshold will be exceeded.
- Take, in the form of capture or collection, of up to 12 subadult or adult tortoises, up to 6 juveniles, and a relatively small but unquantifiable number of eggs for the purposes of

relocation from within the project construction and O&M disturbance area. However, because the capture or collection, relocation, and release will be conducted by a Service-approved Biologist, we do not expect these activities to result in direct injury or death of any relocated tortoises. Therefore, we do not want to limit the ability of the Service-approved Biologist to avoid and minimize the direct injury or death of tortoises by relocating tortoises found during preconstruction clearance surveys. Thus, all take in the form of trapping, capture, or collection for the purposes of relocation is exempted for any eggs, juveniles, or subadult or adult tortoises found during clearance surveys, monitoring activities, or other incidental observations, subject to the reasonable and prudent measures and terms and conditions below. If any tortoises are directly injured or killed during relocation, the take threshold will be exceeded.

IMPACT OF THE TAKING ON THE SPECIES

In the accompanying biological/conference opinion, the Service determined that these levels of anticipated take are not likely to result in jeopardy or adversely affect the recovery of the Stephens' kangaroo rat, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, or desert tortoise.

REASONABLE AND PRUDENT MEASURES

The BLM and SCE are implementing conservation measures as part of the proposed action to minimize the taking of the Stephens' kangaroo rat, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, or desert tortoise. The Service's evaluation in the biological/conference opinion includes consideration of the measures developed by the BLM and SCE to reduce the adverse effects of the proposed project on these species. The following reasonable and prudent measure is intended to supplement the protective measures that were proposed by BLM and SCE as part of the proposed action, and are necessary and appropriate to minimize the impact of the taking on the species. Any subsequent changes in the conservation measures proposed by BLM or SCE or in the conditions under which these activities currently occur may constitute a modification of the proposed action and may warrant re-initiation of formal consultation, as specified at 50 CFR § 402.16.

- SCE shall monitor and report the levels of incidental take of Stephens' kangaroo rat, Coachella Valley fringe-toed lizard, flat-tailed horned lizard, and desert tortoise to the CFWO throughout the life of the project and report on the effectiveness of the project minimization measures to reduce the impact of incidental take of these species.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, SCE, BLM, and all contractors/agents/employees must comply with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary and designed to minimize the impact of incidental taking on the species.

Stephens' Kangaroo Rat - To implement the reasonable and prudent measure above:

- a) A Habitat Restoration/Compensation Plan to restore temporary impacts to kangaroo rat habitat shall be prepared and submitted for review and approval by the CFWO prior to initiation of project construction.
- b) The restoration of kangaroo rat habitat shall be monitored for 5 years or until established success criteria are met. Annual monitoring reports shall be submitted to the CFWO to assess progress and identify potential problems with the restoration site. If the mitigation fails to meet the established performance criteria as outlined in the Habitat Restoration/Compensation Plan after the 5-year maintenance and monitoring period, monitoring shall extend beyond the 5-year period until the criteria are met or unless otherwise determined by the CFWO and BLM.

Stephens' Kangaroo Rat, Coachella Valley Fringe-toed Lizard, Flat-tailed Horned Lizard, and Desert Tortoise - To implement the reasonable and prudent measure above:

- a) SCE shall prepare and provide to the BLM, CFWO, and CDFG an annual report by December 31 of each year of the project. The annual report shall document but not be limited to, the following:
 - Compliance with project-specifications and all Conservation Measures outlined in this biological/conference opinion.
 - Any activities determined by the FCR to be out of compliance with project-specifications and all Conservation Measures outlined in this biological/conference opinion and the corrective measures implemented to bring the project back into compliance.
 - The total amount of kangaroo rat, fringe-toed and horned lizard, and tortoise habitat disturbed by construction and O&M activities during the reporting year in the CVMSHCP and NECO plan areas, respectively.
 - The number of eggs, juveniles, subadults, or adult kangaroo rats, fringe-toed and horned lizards, and tortoises found and relocated during preconstruction, construction, and/or O&M activities during the reporting year and a detailed description of the relocation activities. If more than 12 kangaroo rats, 10 adult fringe-toed or horned lizards, or 12 tortoises, or any eggs, juveniles or sub-adults of these species are found within the project footprint, the Qualified or Authorized Biologist shall immediately report the observation to the CFWO, prior to any relocation activities. The CFWO will review the information to determine its consistency with the effects analysis above and determine if relocation of additional individuals of these species would benefit their survival and be

consistent with our assumptions in the biological opinion, and if reinitiation of consultation is warranted.

- The number of kangaroo rats, fringe-toed and horned lizards, and tortoises killed or injured during project construction or O&M activities during the reporting year and a description of the circumstances leading to the death or injury of individuals of these species.
- Invasive plant species control activities conducted during construction or O&M activities in the project footprint during the reporting year and the status of control activities conducted the previous year.
- Activities conducted under the Raven Control Plan during the reporting year, including but not limited to, the results of raven nest monitoring and removal of offending ravens and their nests.

Disposition of Sick, Injured, or Dead Specimens

The CFWO is to be notified immediately at (760) 431-9440 if any kangaroo rats, fringe-toed or horned lizards, or tortoises are found sick, injured, or dead in the project area. Immediate notification means verbal (if possible) and written notice within 1 workday, and must include the date, time, and location of the carcass, and any other pertinent information. Care must be taken in handling sick or injured individuals to ensure effective treatment and care and in handling dead specimens to preserve biological material in the best possible state.

The CFWO should also be notified immediately at (760) 431-9440 if any endangered or threatened species not addressed in this biological/conference opinion is found dead or injured within the action area [combined DPV1/DPV2 ROW and area within 305 m (1,000 ft) of combined ROW] during the life of the project. The same reporting requirements also shall pertain to any healthy individual(s) of any threatened or endangered species found on the action area and handled to remove the animal to a more secure location.

Reporting Requirements

Please refer to the “Conservation Measures” and “Terms and Conditions” sections of this biological/conference opinion above for details on reporting procedures kangaroo rat, milk-vetch, fringe-toed lizard, horned lizard, and tortoise.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid

adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

- To minimize direct, indirect, and cumulative impacts of raven predation on desert tortoise associated with existing transmission lines and facilities, the Service recommends that SCE implement a programmatic Raven Nest Monitoring program for all of its existing transmission lines in desert tortoise habitat similar to the one that would be implemented along the DPV2 line, and that SCE contributes to the Raven Management Plan for these other facilities.

REINITIATION NOTICE

This concludes formal consultation on the proposed project for Stephens' kangaroo rat, Coachella Valley milk-vetch, Coachella Valley fringe-toed lizard, and desert tortoise. As provided in 50 CFR § 402.16, reinitiation 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.

Also, as discussed in the "Re-evaluation of Project Description" section above, SCE, the BLM, Service, and CDFG will re-evaluate the project description and effects analysis in this biological/conference opinion every 10 years starting from the date the biological/conference opinion is issued. If at the time of the re-evaluation, the BLM, Service, and CDFG agree that the O&M activities outlined in the project description of this biological/conference opinion are still relevant and that no additional impacts outside those considered in the effects analysis have or will occur as a result of ongoing O&M activities, the BLM, Service and CDFG will provide written concurrence to SCE stating so. However, if the BLM, Service, or CDFG determine that O&M activities have been implemented inconsistent with the effects analysis of this biological/conference opinion, the BLM will reinitiate formal consultation on the DPV2 project as provided in 50 CFR § 402.16. Also, if after re-evaluation, the BLM, Service, and CDFG agree that certain O&M measures are no longer relevant or impacts are less than anticipated, the conservation measures can be revised accordingly and the agencies will provide written concurrence to SCE of the revisions.

This concludes the formal conference on the proposed project for the flat-tailed horned lizard (horned lizard). You may ask the Service to confirm the conference opinion as a biological opinion issued through formal consultation if the flat-tailed horned lizard is eventually listed. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

If the flat-tailed horned lizard is listed under the Act and this conference opinion is adopted as the biological opinion, the BLM shall request reinitiation of consultation if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect the species or critical habitat in a manner or to an extent not considered in this conference opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the species or critical habitat that was not considered in this conference opinion; or (4) a new species is listed or critical habitat designated that may be affected by the proposed action.

The incidental take statement provided in this conference opinion does not become effective unless the species is listed and the conference opinion is adopted as the biological opinion issued through formal consultation. At that time, the proposed project will be reviewed to determine whether any take of the flat-tailed horned lizard has occurred. Modifications of the opinion and incidental take statement may be appropriate to reflect that take. No take of the flat-tailed horned lizard may occur between the listing of the species and the adoption of the conference opinion through formal consultation, or the completion of a subsequent formal consultation.

If you have any questions regarding this document, please contact Tannika Engelhard of the Carlsbad Fish and Wildlife Office at (760) 431-9440, extension 202.

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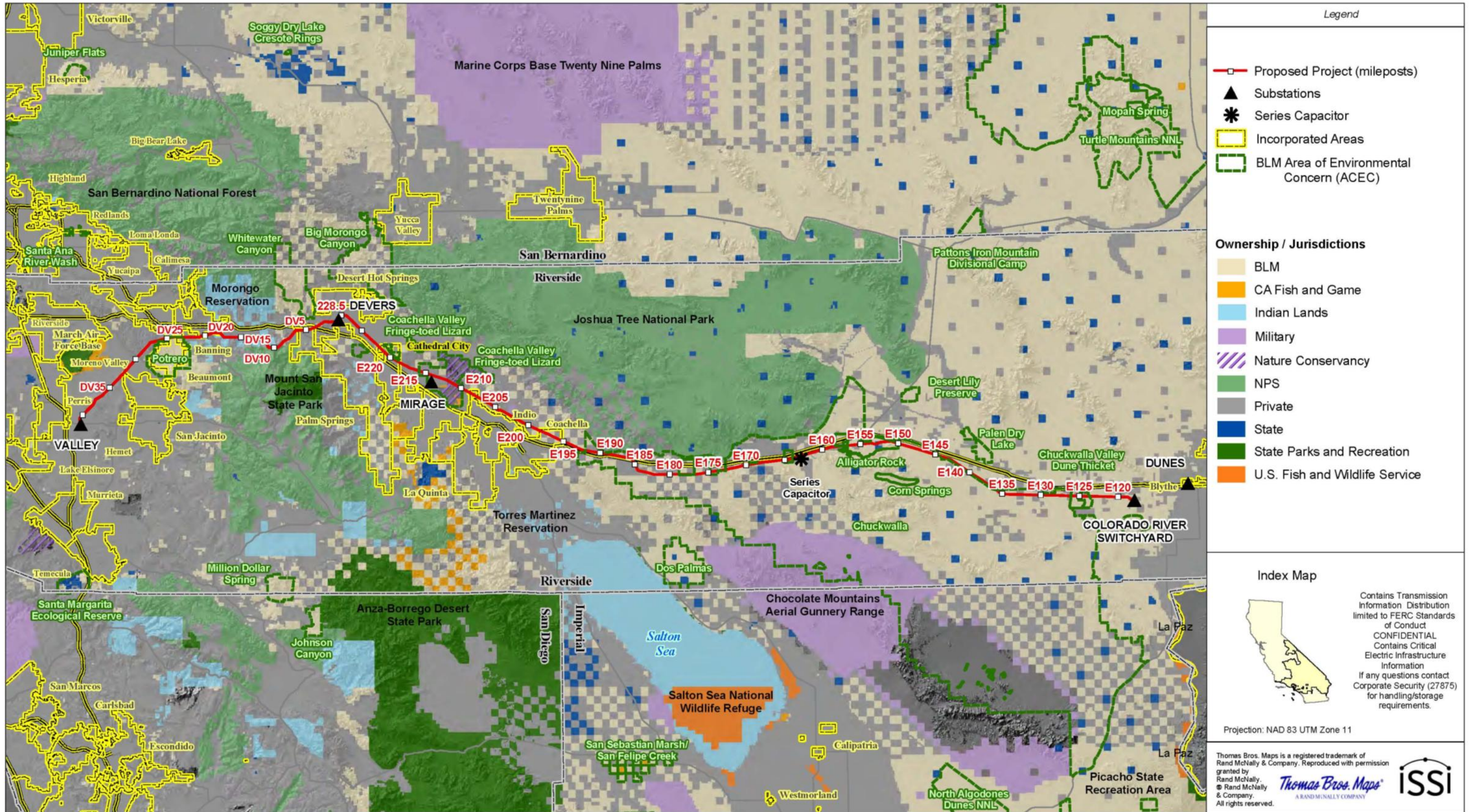
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DEVERS-PALO VERDE NO. 2 500KV TRANSMISSION LINE PROJECT

LOCATION MAP

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 If any questions contact Corporate Security (27875) for handling/storage requirements.

Projection: NAD 83 UTM Zone 11

Table 1: DPV2 Project Impacts [miles (mi) and acres (ac). Note: "CVAG Modeled Habitat" refers to areas modeled as habitat by the Coachella Valley Association of Governments for the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). For Stephens' kangaroo rat, "occupied habitat" refers to areas in which kangaroo rats were found during project-specific surveys. For desert tortoise, "occupied habitat" refers to areas outside of modeled and critical habitat in which live tortoise and/or sign was found during project-specific surveys.

PROJECT COMPONENT	Stephens' Kangaroo Rat	Coachella Valley Milk-vetch	Coachella Valley Fringe-toed Lizard		Flat-tailed Horned Lizard	Desert Tortoise				
	Occupied and Suitable Habitat	CVAG Modeled Habitat	CVAG Modeled Habitat	Critical Habitat	CVAG Modeled Habitat	CVAG Modeled Habitat: Devers-Valley	CVAG Modeled Habitat: CRS-Devers	Critical Habitat (not in CVAG Modeled Habitat)	Critical Habitat in CVAG Modeled Habitat	Occupied Habitat East of Critical Habitat
Linear extent (mi) of DPV2 crossing species habitat	0.32	12.5	3.8	6.2	4.1	11.38	14.4	42.4	23	3.3
Number of Towers in species habitat	3	45	13	21	14	47	53	134	80	11
Number of Tower Footings in species habitat (4 per tower)	12	180	52	84	56	188	212	536	320	44
Number of Combined Pulling/Splicing Stations in species habitat	0	13	4	2	1	22	7	20	12	2
Number of Independent Splicing Stations in species habitat	0	4	0	2	0	4	6	15	7	1
Number of Fiber Optic Wire Sites in species habitat	0	3	3	4	3	0	4	13	9	1
Number of Guard Structures in species habitat	0	42	4	18	11	59	35	31	21	0
Construction yards in species habitat	0	0	0	0	0	1	0	0	1	0
Helicopter assembly sites in species habitat	0	3	0	0	0	4	1	0	2	0
Total Impacts (Temporary and Permanent) (Acres)										
Access Roads	0	0	0	0	0	0	0	0	0	0
Tower Footings (4 per tower)	0.001	0.04	0.01	0.02	0.01	0.03	0.03	0.07	0.05	0.004
Tower Pads	2.73	37.9	10.92	19.11	11.83	43.15	45.35	121.9	72.8	8.87
	(3 Pads)	(45 Pads)	(12 Pads) 1 tower falls on a conductor pull site	(21 Pads)	(13 Pads) 1 tower falls on a conductor pull site	(47 Pads)	(53 Pads)	(134 Pads)	(80 Pads)	(11 Pads)
Spur Roads	0.14	3.8	1.18	1.85	1.09	8.5	4.94	3.1	3.2	0
	(3 Roads)	(40 Roads)	(13 Roads)	(21 Roads)	(14 Roads)	(38 Roads)	(45 Roads) no spur rd to Const 2251	(45 Roads)	(45 Roads)	0
Combined Pulling/Splicing Stations	0	15.2	4.5	2.06	1.38	23.53	7.41	20.3	11.8	2.06
Independent Splicing Stations	0	0.9	0	0.5	0	0.92	1.38	3.4	1.6	0.23
Fiber Optic Wire Sites	0	0.1	0.1	0.4	0.1	0.28	0.26	2	0.9	0.41
Guard Structures	0	4.6	0.54	1.67	1.28	5.64	3.21	2.8	1.8	0
Construction Yards										0
Blythe (B-1)	0	0	0	0	0	0	0	0	0	0
Chiriaco Summit (S-1)	0	0	0	0	0	0	0	0	12.1	0
Desert Center (DC-1)	0	0	0	0	0	0	0	0	0	0
Desert Center (DC-2)	0	0	0	0	0	0	0	0	0	0
Devers (D-1)	0	0	0	0	0	11.8	0	0	0	0
Perris Yard	0	0	0	0	0	0	0	0	0	0
Highland Yard	0	0	0	0	0	0	0	0	0	0
Helicopter Assembly Sites										
H1A-DV	0	1.1*	0	0	0	1.1	0	0	0	0
H-1X-DV	0	4.7*	0	0	0	4.7	0	0	0	0
H2-DV	0	5.0*	0	0	0	4.9	0	0	0	0

Table 1 (continued):

PROJECT COMPONENT	Stephens' Kangaroo Rat	Coachella Valley Milk-vetch	Coachella Valley Fringe-toed Lizard		Flat-tailed Horned Lizard	Desert Tortoise				
	Occupied and Suitable Habitat	CVAG Modeled Habitat	CVAG Modeled Habitat	Critical Habitat	CVAG Modeled Habitat	CVAG Modeled Habitat: Devers-Valley	CVAG Modeled Habitat: CRS-Devers	Critical Habitat (not in CVAG Modeled Habitat)	Critical Habitat in CVAG Modeled Habitat	Occupied Habitat East of Critical Habitat
Helicopter Assembly Sites (continued)										
H7-DV	0	0	0	0	0	0.29	0	0	0	0
H8-DV	0	0	0	0	0	0	0	0	0	0
H1-DCR	0	0	0	0	0	0	1.55	0	0	0
H4-DCR	0	0	0	0	0	0	0	0	1.4	0
H5-DCR	0	0	0	0	0	0	0	0	1.6	0
Colorado River Switchyard										
Station footprint	0	0	0	0	0	0	0	0	0	44
CRS expansion area	0	0	0	0	0	0	0	0	0	34
Storm Water Detention Basin	0	0	0	0	0	0	0	0	0	1.7
Drainage Improvements (berm)	0	0	0	0	0	0	0	0	0	7.4
Temporary work zone/perimeter buffer	0	0	0	0	0	0	0	0	0	20
Temporary staging area	0	0	0	0	0	0	0	0	0	13.4
Improved Drive Entrance to CRS (25,000ft × 17ft)	0	0	0	0	0	0	0	0	0	10.3
Permanent-driveways to CRS (2) (~500ft × 14ft)	0	0	0	0	0	0	0	0	0	1
Temporary stub road/driveway to staging area (1) (~500ft × 14ft)	0	0	0	0	0	0	0	0	0	0.3
Loop-in tower pads (6) (200ft × 200ft w/ overlaps not in permanent drive entrance)	0	0	0	0	0	0	0	0	0	5.4
Distribution/power line (~4,530ft overhead on 22 poles, ~236ft × 14ft underground)	0	0	0	0	0	0	0	0	0	0.08
Distribution/power line access road (~4,530ft × 14ft)	0	0	0	0	0	0	0	0	0	1.5
Telecomm line	0	0	0	0	0	0	0	0	0	0.06
Expansion Series Capacitor Bank	0	0	0	0	0	0	0	3	0	0
Modifications to existing Valley Substation	0	0	0	0	0	0	0	0	0	0
Modifications to existing Devers Substation	0	0	0	0	0	10	0	0	0	0
TOTALS** (ac)	3***	63	18	26	16	115	65	157	108	151

* Site also modeled as desert tortoise habitat along the Devers-Valley segment.

** Totals for milk-vetch, fringe-toed and horned lizard, and tortoise rounded up to the next nearest whole number.

*** Total includes 0.20 ac of permanent impacts and 2.80 ac of temporary impacts.