Attachment J

Post-Construction Mitigation Measures

Devers-Palo Verde No. 2 Transmission Project

Mitigation Monitoring, Compliance, and Reporting Program





California Public Utilities Commission and Bureau of Land Management U.S. Department of Interior

December 22, 2011

Attachment J Table 1. Mitigation Measures to be Implemented	Post Construction – Devers–P	alo Verde No. 2 Transmission	Line Project	
Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
BIOLOGICAL RESOURCES				
— (MM B-1a) The creation or restoration of habitat shall be monitored for five years after mitigation site construction, or until established success criteria are met, to assess progress and identify potential problems with the restoration site. Remedial activities (e.g., additional planting, weeding, or erosion control) shall be taken during the monitoring period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise noted by the CPUC/BLM.	All vegetated areas disturbed by construction activities, including temporary disturbances	BLM and CPUC/CDFG to review findings and restoration success submitted by the approved Habitat Restoration Specialist.	BLM and CPUC	Post construction
— (MM B-2b) Post-construction weed abatement on the Coachella Valley Preserve. Post-construction follow-up weed abatement will be conducted on the work areas within the Coachella Valley Preserve. Weed abatement will be conducted during the spring following construction and prior to when the weeds establish flowers or produce seeds.	All project areas within the Coachella Valley Preserve	Biological monitor to evaluate impacted areas and implement mitigation measures.	BLM and CPUC	Post construction
— MM B-7c: Purchase mitigation lands for impacts to tortoise habitat. Following construction, SCE shall acquire lands to compensate for the loss of tortoise habitat within the Category II and III management areas in California. The amount of land to be acquired will depend on the acreage of disturbance within these management areas. Acquired lands will be in a nearby area of good tortoise density and within tortoise habitat. BLM and SCE shall conduct a field inspection of the disturbed areas after completion of construction of the transmission line to determine the exact acreage required for compensation. The lands purchased will be transferred to the United States and be administered by the BLM. Land may be transferred to the BLM and/or incorporated into an existing management area.	All locations along the proposed route	BLM and SCE will assess amount of land to be acquired based on acreage of disturbance.	BLM and CPUC	Post construction
— MM B-7d: Purchase mitigation lands for impacts to fringe-toed lizard habitat. SCE shall purchase or enhance lands for all permanent loss of habitat that are within the Coachella Valley fringe-toed lizard Critical Habitat unless otherwise directed by the USFWS Biological Opinion for the Proposed Project. Mitigation Lands shall be determined in consultation with the USFWS, CDFG, and CPUC.	All locations of the proposed route within the Coachella Valley fringe-toed lizard Critical Habitat that experienced permanent loss due to construction activities	USFWS, CDFG, and CPUC will determine amount of land to be mitigated.	BLM, CDFG, USFWS, and CPUC.	Post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
 (MM B-7e) After definition of suitable habitat, the following requirements apply: Construction activities shall be restricted within coastal sage scrub habitat during the gnatcatcher breeding season (March 15 July 31); SCE shall implement the applicable Best Management practices in the WRSMSHCP; SCE shall restore, create, or enhance on site coastal sage scrub habitat; and/or SCE shall purchase land or mitigation bank credits at an appropriate ratio to offset impacts to gnatcatchers and their habitat. 	All locations of the project area that support suitable coastal sage scrub habitat (Devers-Valley No. 2 Alternative)	Biological monitor shall oversee surveys and monitoring, and if necessary, ensure compliance with mitigation measures.	BLM, CDFG, USFWS, and CPUC	During and post construction
— (MM B-7f) If these species are found, then SCE shall implement measure to avoid direct impacts, including the placement of exclusion fencing around work areas where impacts will occur, trapping of animals from inside impact areas, and placement of those animals outside of exclusion fencing until construction is completed. A qualified biological monitor shall be present during construction to ensure that animals are not harmed. Following completion of construction, SCE shall remove all exclusion fencing and recontour the soils to the pre-construction condition.	All locations of the project area that support suitable habitat for Stephen's kangaroo rat and San Bernardino kangaroo rat	Biological monitor shall oversee surveys and monitoring, and if necessary, ensure compliance with mitigation measures.	BLM, CDFG, USFWS, and CPUC	Prior to, during, and post construction, as appropriate
— (MM B-9f) A pre-construction survey for bighorn sheep shall be conducted on Forest Service lands prior to construction and maintenance of the transmission lines. If bighorn sheep are found, then SCE shall consult with the Forest Service, USFWS, and Bighorn Institute to identify appropriate avoidance measures	All locations on BLM land and Forest Service lands where bighorn sheep breeding or lambing may occur	Biological monitor shall oversee monitoring, and if necessary, ensure compliance with mitigation measure. Biological Monitor shall notify BLM, CPUC, and Forest Service of the findings of the preconstruction surveys.	BLM, USFWS, and CPUC	Prior to, during and post construction
— MM B-16a. Prepare and implement a raven control plan. SCE shall prepare a common raven control plan that identifies the purpose of conducting raven control, provides training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species, describes the seasonal limitations on disturbing nesting raptors species (excluding ravens), describes the procedure for obtaining a permit from USFWS's Division of Migratory Birds, and describes procedures for documenting the activities on an annual basis.	All locations along ROW that support desert tortoise	CPUC/BLM monitor verifies that SCE submitted raven control plan.	CPUC; BLM Palm Springs Field Office; USFWS Division of Migratory Bird	Prior to, during, and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— (MM B-16a) SCE shall gain approval of the plan from the USFWS's Division of Migratory Birds.	All locations along ROW that support desert tortoise	CPUC/BLM to verify approval.	CPUC; BLM Palm Springs Field Office; USFWS Division of Migratory Bird	Prior to, during, and post construction
(MM B-16a) SCE shall provide this raven control plan to all transmission line companies that conduct operations within the ROW.	All locations along ROW that support desert tortoise	CPUC/BLM monitor verifies all SCE and other transmission line companies operating in ROW receive proper training.	CPUC; BLM Palm Springs Field Office; USFWS Division of Migratory Bird	Prior to, during, and post construction
 APM B-19. Wildlife. Restoration – Whenever possible, spur roads and access roads and other disturbed sites created during construction should be recontoured and restored. (SCE) 	All sensitive vegetation communities disturbed by construction activities, including temporary disturbances	BLM and CPUC/CDFG to review findings and restoration success submitted by the approved Habitat Restoration Specialist.	BLM and CPUC	Prior to, during, and post construction
— APM B-20. Wildlife. Ravens – All transmission lines should be designed in a manner that would reduce the likelihood of nesting by common ravens. Each transmission line company should remove any common raven nests hat are found on its structures. Transmission line companies must obtain a permit from USFWS's Division of Migratory Birds to take common ravens or heir nests. (SCE)	Locations along ROW that support desert tortoise	Same as MM B-16a	BLM and CPUC	Prior to, during and post construction
— (APM B-34) In the Coachella Valley, compacted soils should be scarified and seeded with a mix of native plant seeds, including bugseed (<i>Dicoria canescens</i>), to promote revegetation of plant species valuable to the lizard.	Locations within Project disturbance areas that support habitat for the Coachella Valley fringe-toed lizard within the Coachella Valley.	BLM/CPUC to monitor compliance	BLM and CPUC	During and pos construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— APM B-37. Wildlife. Mitigation for the coastal California gnatcatcher should include protocol-driven pre-construction surveys. If gnatcatchers are found to be present, suitable habitat should be avoided, including relocating towers and access. If habitat cannot be avoided, SCE should either restore damaged habitat, as at the Weapons Support Facility, Fallbrook Detachment, San Diego County (Soil Ecology and Research Group, 2004), or participate in land set-aside programs such as the Natural Community Conservation Planning program (NCCP). Another potential mitigation action would be that of assisting in the provision of funding for monitoring programs that may be undertaken through the Western Riverside County Multiple Species Habitat Conservation Plan. (SCE)	Locations of the Project area that support suitable coastal sage scrub habitat for the coastal California gnatcatcher.	Biological monitor shall oversee surveys and monitoring, and if necessary, ensure compliance with mitigation measures.	BLM and CPUC	Prior to, during and post construction
VISUAL RESOURCES				
 V-3a: Reduce visual contrast of towers and conductors. The following design measures are to be applied to all new structures and conductors in order to reduce the degree of visual contrast caused by the new facilities: all new and replacement structures are to as closely as possible match the design of the existing structures with which they will be seen all new and replacement structures are to be paired as closely as possible with the existing structure(s) in the corridor in order to avoid or reduce the number of off-setting (from existing structures) tower placements all new and replacement structures are to match the heights of the existing DPV1 structures to the extent possible as dictated by variation in terrain all new and reconductored spans are to match existing conductor spans as closely as possible in order to avoid or reduce the occurrence of unnecessary visual complexity associated with asynchronous conductor spans, particularly at sensitive crossings such as I-10, Dillon Road, and SR 62 all new conductors are to be non-specular in design in order to reduce conductor visibility and visual contrast to the extent feasible no new access roads are to be constructed downhill from existing or proposed towers to reduce the potential for skylining. 	Applies to all tower locations and route segments.	SCE to submit final design plans and implementation is to be verified during and following construction.	CPUC, BLM on BLM-administered lands	Prior to construction for design plans. During and following construction for verification.
— APM V-1. Non-specular conductors will be used [to reduce glare and visual contrast]. (BLM B-6.1) [bracketed text added by SCE].	500 kV transmission lines	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— APM V-2. For the proposed alignment, tower spacing will correspond to the spacing of the existing transmission line structures. Additionally, new tower heights will be adjusted such that the top elevations of each set of towers (new and existing) are horizontal with each other. This will coordinate perceptions of towers and conductors as one element. Site-specific conditions will determine when such mitigation is feasible. Other exceptions to these two measures are where towers will be sited to avoid sensitive features and/or to allow conductors to clearly span features. (BLM B-6.2) [PEA adds: "SCE will comply with the above mitigation measure to the extent possible. However, the ISO has specified that the capacity of the line be 2700 amps under normal conditions and 3600 amps under emergency conditions. This capacity rating is an increase from the 1988 DPV2 capacity rating. This capacity rating necessitates that the heights of some of the proposed Dever-Harquahala towers be slightly taller than [adjacent towers], and in some locations tower spacing may not correspond to the adjacent DPV1 structures, to provide adequate ground clearance." (PEA, p. 6-31).	500 kV transmission line – all segments	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
— APM V-3. At all highway and recreation routes-of-travel crossings, towers will be placed at the maximum feasible distance, and when feasible, [except in locations where matching existing tower spacing is deemed appropriate]. (BLM B-6.3) [From "and where feasible," the BLM text reads "at right angles, from the crossing." SCE has replaced this phrase in the bracketed text.].	At all highway and recreation routes-of-travel crossings	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
— APM V-4. Improvements to existing access and new access will be accomplished according to Mitigation Measures 1 and 2 as identified under soils. (BLM B-6.4).	500 kV transmission line	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
— APM V-5. Standard tower spacing would be modified to correspond with spacing of existing transmission line towers where feasible and within limits of standard tower design to reduce visual contrast. (BLM B-6.8a).	500 kV transmission line	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— APM V-6. Towers would be placed so as to avoid features and/or to allow conductors to clearly span the feature (within limits of standard tower design) to minimize the amount of sensitive feature disturbed and/or reduce visual contrast (e.g., avoiding skyline situations through placement of tower to one side of a ridge or adjusting tower location to avoid highly visible locations and utilize screening of nearby landforms). (BLM B-6.8b).	500 kV transmission line	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
 APM V-7. The proposed steel lattice towers would be constructed using a dulled galvanized steel finish, which would result in visual contrast reduction. (SCE). 	500 kV transmission line route – all segments	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
— APM V-8. Non-specular conductors would be used to reduce glare and resulting visual contrast. (SCE).	500 kV transmission line route – all segments	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
— APM V-9. Towers would be located adjacent to existing structures where feasible. Exceptions are at locations where the tower heights and/or spans would be modified based on terrain features allowing for adequate conductor clearance to ground and other facilities within the right-of-way. (SCE).	500 kV transmission line route – all segments.	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
— APM V-10. At all highway and recreation routes-of-travel crossings, including the I-10 crossing. towers would be placed at the maximum feasible distance, except in locations where matching existing tower spacing is deemed appropriate, and when feasible, at 90 degree angles from the crossing. (SCE)	500 kV transmission line route – all segments	SCE shall provide project design plans. Implementation is to be verified during and following construction.	BLM and CPUC	Prior to construction for design plans. During and following construction for verification.
AGRICULTURE	·		·	
— (MM AG-1a) (2) ensure that any areas damaged or disturbed by construction are restored to a condition mutually agreed upon by the landowner and SCE.	Locations where 10 acres or more of Farmland and/or Williamson Act land are temporarily disturbed.	CPUC/BLM monitors verify that agreed upon restoration occurs.	CPUC, BLM Palm Springs field office	During and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— (MM AG-1a) SCE shall coordinate with the agricultural landowners in the affected areas where Farmland or Williamson Act land will be temporarily disturbed in order to determine when and where construction should occur in order to minimize damage to agricultural operations. This includes avoiding construction during peak planting, growing, and harvest seasons. If damage or destruction does occur, SCE shall perform restoration activities on the disturbed area in order to return the area to a pre-determined condition or the ore-construction condition, whichever option is agreed upon by the landowner and SCE. This could include activities such as soil preparation, regrading, and reseeding. This measure applies to agricultural landowners with land that is impacted by the Proposed Project. SCE shall provide proof of the continued use of Farmland and/or Williamson Act lands through the submittal of a signed agreement between an individual property owner and SCE. The signed agreements shall be submitted to the CPUC and BLM for review and approval prior to the start of construction.	Locations where 10 acres or more of Farmland and/or Williamson Act land are temporarily disturbed.	CPUC/BLM monitors verify that signed agreements between SCE and affected landowners have been submitted, and ensure that construction schedules occur during time periods agreed upon in the agreement and that agreed upon restoration occurs.	CPUC, BLM Palm Springs field office	Prior to, during and post construction.
CULTURAL & PALEONTOLOGICAL RESOURCES				
— MM C-1d: Conduct data recovery to reduce adverse effects. If National Register of Historic Places (NRHP)-eligible resources, as determined by the BLM and SHPO, cannot be protected from direct impacts of the Proposed Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP-eligibility. For sites eligible under Criterion d, significant data would be recovered through excavation and analysis. For properties eligible under Criteria a, b, or c, data recovery may include historical documentation, photography, collection of oral histories, architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation.	Within 100 feet of resources identified in HPTP that require data-recovery mitigation.	BLM and CPUC review and approve field closure report of data-recovery fieldwork.	BLM and CPUC	Prior to, during and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— (MM C-1d) Data gathered during the evaluation phase studies and the research design element of the Historic Properties Treatment Plan (HPTP) shall guide plans and data thresholds for data recovery; treatment will be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery is necessary, sampling for data-recovery excavations will follow standard statistical sampling methods, but sampling will be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HPTP consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) and implemented by the Applicant only after approval by the BLM and CPUC.	Within 100 feet of resources identified in HPTP that require data-recovery mitigation.	BLM and CPUC review and approve final report of data recovery, curation of artifacts and data, and dissemination of final report.	BLM and CPUC	Prior to, during, and post construction
— MM C-5a: Protect and monitor NRHP-eligible properties. The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts, such as erosion that result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts and project-related vehicular impacts. The plan shall also include protective measures for NRHP-eligible properties within the DPV corridor that will experience operational and access impacts as a result of the Proposed Project. The proposed measures may include restrictive fencing or gates, permanent access road closures, signage, stabilization of erosion, site capping, site patrols, and interpretive/educational programs, or other measures that will be effective for protecting NRHP-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to NRHP-eligible properties. The plan shall be submitted to the BLM and CPUC for review and approval at least 30 days prior to project operation.	All locations identified in long-term protection plan	BLM and CPUC review and approval of long-term protection plan; compliance with reporting and monitoring provisions in the approved protection plan.	BLM and CPUC	Post construction (30 days before and during project operation)

Attachment J Table 1. Mitigation Measures to be Implemented Post Construction – Devers–Palo Verde No. 2 Transmission Line Project

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— (MM C-5a) Monitoring of selected sites shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photomonitoring stations and written observations. A monitoring report shall be submitted to the BLM and CPUC within one month following the annual resource monitoring. The report shall indicate any properties that have been impacted by erosion or vehicle or maintenance impacts. For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures.	All locations identified in long- term protection plan	Details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.	BLM and CPUC	Details of the long- term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.
— (MM C-5a) After the fifth year of resource monitoring, the BLM or CPUC, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.	All locations identified in long- term protection plan	Details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.	BLM and CPUC	Details of the long- term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— (MM C-5a) If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP)—eligible properties from operation or long-term presence of the project, or if, at any time, the Applicant, BLM or CPUC become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement mitigation for adverse changes, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.	All locations identified in long- term protection plan	Details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.	BLM and CPUC	Details of the long- term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.
PUBLIC HEALTH AND SAFETY				
— MM P-4a: Prepare Spill Prevention, Countermeasure, and Control Plans. To minimize, avoid, and/or clean up unforeseen spill of hazardous materials during operation of the proposed facilities, SCE shall update or prepare, if necessary, the Spill Prevention, Countermeasure, and Control plan for each substation, series capacitors, and the switchyard. SCE shall document compliance by providing a copy of the Spill Prevention, Control, and Countermeasures plans to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of operation.	All proposed existing, and alternative substations, switching stations, and series capacitor banks.	Review and approve plans and observe construction sites and activities for compliance	BLM, CPUC, and USFWS	During construction and post construction (60 days before operation)
MM PS-1b: Document and Resolve Electronic Interference Complaints. After energizing the transmission line, SCE shall respond to and document all radio/television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.	Along the overhead route segment	Review documentation provided	CPUC	During operation
AIR QUALITY				
— APM A-4. Surfaces permanently disturbed by construction activities would be covered or treated with a dust suppressant after completion of activities at each site of disturbance. (SCE)	Entire project	CPUC/SCE to monitor compliance	CPUC	During and post construction

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Mitigation Measure	Location	Monitoring/Reporting Action	Agency	Timing
HYDROLOGY AND WATER RESOURCES				
— MM H-1a: Restore disturbed soil with re-vegetation or construction of permanent erosion-control structures. Soil disturbance at towers and access roads shall be the minimum necessary and designed to prevent long- term erosion through revegetation or construction of permanent erosion control structures according to plans to be reviewed and approved by the U.S. Forest Service. Copies of the final approved plans shall be submitted to the CPUC/BLM for their files.	Forest Service land in areas of steep terrain	Final design plans shall include re-vegetation and erosion control specifications. CPUC/BLM to verify implementation.	BLM and CPUC	Prior to, during, and post construction
— APM W-1: During the first year following construction, potential soil erosion sites will be inspected by the Holder after each major rainstorm as access permits. For the purpose of this measure, a major rainstorm is defined as any singular storm where the total precipitation exceeds the arithmetic mean for similar events in the area and results in flooding. Examples include cloudbursts (high quantity – short duration) or storms where saturated soils produce runoff (high quantity – long duration). (BLM B-4.1)	Entire project.	CPUC/BLM to ensure that SCE inspects all sites subject to potential erosion following each major rainstorm.	BLM and CPUC	During the first year following construction.
GEOLOGY, MINERAL RESOURCES & SOILS				
— APM G-11: New access roads, which are required, will be designed to minimize ground disturbance from grading. They will follow natural ground contours as closely as possible and include specific features for road drainage, including water bars on slopes over 25 percent. Other measures could include drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings are constructed, the crossings will be restored and repaired as soon as possible after completion of the discrete action associated with construction of the line in the area. (BLM B-3.2)	Entire project	SCE shall submit final design plans for review and approval by CPUC and BLM	BLM and CPUC	Prior to, during and post construction
— APM G-14: Upon completion of construction, any drainage deficiencies would be corrected to prevent future erosion.	Entire project	SCE to monitor compliance	BLM and CPUC	Post construction
— (APM G-14) Trees and brush would be cleared only when necessary to provide electrical clearance, line reliability, or suitable access for maintenance and construction. (SCE)	Entire project	SCE to monitor compliance	BLM and CPUC	During and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
BIOLOGICAL RESOURCES				
— [MM B-1a (rev)] The creation or restoration of habitat shall be monitored for five years after mitigation site construction, or until established success criteria are met, to assess progress and identify potential problems with the restoration site. The following performance standards must be met by the end of the monitoring period: (a) at least 80% of the vegetative cover observed within the restoration area shall be native species that naturally occur in desert scrub habitats; (b) absolute cover and density of native plant species within the restoration areas shall equal at least 60% of the pre-disturbance or reference vegetation cover; and (c) the site shall have gone without irrigation or remedial planting for a minimum of three years prior to completion of monitoring. Remedial activities (e.g., additional planting, weeding, or erosion control) shall be taken during the monitoring period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise noted by the CPUC/BLM.	All vegetated areas disturbed by construction activities, including temporary disturbances, at the Colorado River Substation and associated facilities	BLM and CPUC/CDFG to review findings and restoration success submitted by the approved Habitat Restoration Specialist with respect to the performance standards	BLM and CPUC	Post construction

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Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
B-7c (rev): Purchase mitigation lands for impacts to tortoise habitat. Following construction, SCE shall acquire lands to compensate for the loss of tortoise habitat within the Category II and III management areas in California. The amount of land to be acquired will depend on the acreage of disturbance within these management areas. Acquired lands will be in a nearby area of good tortoise density and within tortoise habitat. BLM and SCE shall conduct a field inspection of the disturbed areas after completion of construction of the transmission line to determine the exact acreage required for compensation. The lands purchased will be transferred to the United States and be administered by the BLM. Land may be transferred to the BLM and/or incorporated into an existing management area.	All locations along the Project that contain modeled, critical and occupied desert tortoise habitat.	BLM and SCE will assess amount of land to be acquired or funds to be deposited based on acreage of disturbance.	BLM and CPUC	Post construction
SCE may elect to fund the acquisition and initial improvement of compensation lands through the National Fish and Wildlife Foundation (NFWF) by depositing funds for that purpose into NFWF's Renewable Agency Action Team (REAT) Account. Initial deposits for this purpose must be made in the same amounts as the Security (refer to Table D.2 1) and may be provided in lieu of Security. If this option is used for the acquisition and initial improvement and the actual land cost is higher than the estimated Security amount, SCE shall make an additional deposit into the REAT Account if necessary to cover the actual acquisition costs and administrative costs and fees of the compensation land				
purchase once land is identified and the actual costs are known. If the actual costs for acquisition and administrative costs and fees are less than that estimated by CDFG, the excess money deposited in the REAT Account shall be returned to SCE. Money deposited for the initial protection and improvement of the compensation lands shall not be returned to SCE. The responsibility for acquisition of compensation lands may be delegated to a third party other than NFWF, such as a nongovernmental organization				
supportive of desert habitat conservation, by written agreement of CPUC, BLM, and CDFG. Such delegation shall be subject to approval by CPUC, in consultation with BLM and CDFG, prior to land acquisition, initial protection or maintenance and management activities.				

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing		
— [MM B-8b]	Colorado River Substation and	Special-Status Plant Impact	CPUC and BLM	Prior to, during and		
3. Specific measures to be implemented and monitored throughout substation construction and operation, including but not limited to		Avoidance and Minimization Plan will be submitted for		post construction		
 a. prevent overspray of herbicides, pesticides, soil tackifiers, or other potential toxins into suitable habitat during weed control or other site maintenance activities. 		approval and executed accordingly.				
 b. on-site management of runoff to prevent nuisance runoff from draining into suitable habitat and prevent erosion of the habitat during heavy rains. 						
 c. management and control of weeds on and adjacent to the site to prevent weed invasions into suitable adjacent special-status plant habitat; 						
 d. prevent damage to suitable special-status plant habitat that may result from collecting or disposing accumulating sand; 						
4. Schedule and format for reporting to CPUC on implementation and progress of the components listed above.						
The Plan shall be reviewed and approved by the CPUC at least 60 days prior to construction.						

BLM, CPUC and

CDFG

Post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing		
— [MM B-9j] Restoration/Enhancement of Protected Land	Mojave fringe-toed lizard habitat	Review restoration/	BLM, CPUC and	Prior to, during and		
If sufficient compensatory mitigation land is unavailable for acquisition as described above, a portion of the compensation funds may be used to implement MFTL habitat restoration/enhancement measures on land protected by a conservation easement or BLM land that will not be developed in the future (e.g., ACEC, wilderness area, DWMA). Land targeted for restoration/enhancement shall also be occupied by MFTL or adjacent to MFTL-occupied land. Compensatory mitigation land shall be determined to be unavailable if after 18 months after the beginning of project ground disturbance SCE (or NFWF if NFWF option is selected) is able to determine through due diligence that: (1) land owners are unwilling to sell sufficient acreage or (2) acquisition cost per acre exceeds fair market value.	at Colorado River Substation and associated facilities (if sufficient compensatory mitigation land is unavailable for acquisition)	associated facilities (if sufficient compensatory mitigation land is	enhancement area compensation fund usage; review and observe habitat restoration/enhancement measures	CDFG	post construction	
The amount of land on which to implement MFTL habitat restoration/ enhancement measures shall be twice the number of mitigation acres that could not be acquired. For example, if 1000 acres is required (based on the acreage of the final project footprint at a ratio of 3:1 or 0.5:1) and only 800 acres could be acquired, enhancement measures shall be implemented over a 400 -acre area ($(1000-800) \times 2 = 400$).						
MFTL habitat enhancement measures may include, but would not be limited to:						
 Long-term eradication of invasive plants, particularly Sahara mustard and Russian thistle; and/or 						
 Removal of upwind barriers to dispersal (e.g., removal of upwind tamarisk windrows, or of land uses that would tend to stop moving sand from reaching 						

accounting of the amount (detailed by habitat type) of Mojave fringe-toed lizard associated facilities habitat disturbed during Project construction. - [MM B-9j] The project owner shall provide written verification to the CPUC, Mojave fringe-toed lizard habitat Review written verification of BLM, CPUC and During or post BLM, and CDFG that the compensation lands or conservation easements at Colorado River Substation and acquisition of compensation CDFG construction have been acquired and recorded in favor of the approved recipient no later associated facilities lands than 18 months from the start of ground-disturbing activities.

Mojave fringe-toed lizard habitat

at Colorado River Substation and

Review final accounting of

MFTL habitat disturbance

protected habitat downwind).

CPUC.

The restoration/enhancement area shall be approved by CDFG, BLM, and

— [MM B-9j] Within 90 days after completion of Project construction, SCE shall provide to the CPUC, BLM, and CDFG an analysis with the final

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
CULTURAL RESOURCES				
C-5a (rev): Protect and monitor NRHP-eligible properties. The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts, such as erosion that result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts and project-related vehicular impacts. The plan shall also include protective measures for NRHP-eligible properties within the DPV corridor that will experience operational and access impacts as a result of the Proposed Project. The proposed measures may include restrictive fencing or gates, permanent access road closures, signage, stabilization of erosion, site capping, site patrols, and interpretive/educational programs, or other measures that will be effective for protecting NRHP-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for evaluating potentialaddressing inadequacies that present the possibility of allowing or failures that result in-damage to NRHP-eligible properties. The plan shall be submitted to the BLM and CPUC for review and approval at least 30 days prior to project operation.	All locations at Colorado River Substation and associated facilities identified in long-term protection plan	BLM and CPUC review and approval of long-term protection plan; compliance with reporting and monitoring provisions in the approved protection plan.	BLM and CPUC	Post construction (30 days before and during project operation)
— [MM C-5a (rev)] Monitoring of selected sites shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photomonitoring stations and written observations. A monitoring report shall be submitted to the BLM and CPUC within one month following the annual resource monitoring. The report shall indicate any properties that have any potential to be been impacted by erosion or vehicle or maintenance impacts, and measures to prevent such effects shall be implemented. Protective measures shall include erosion controls such as those defined in Mitigation Measure H-1a and APM W-3 (which require pre- and post-construction erosion controls). For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures.	All locations at Colorado River Substation and associated facilities identified in long-term protection plan	Details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.	BLM and CPUC	Post construction (details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties)

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— [MM C-5a (rev)] After the fifth year of resource monitoring, the BLM or CPUC, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.	All locations at Colorado River Substation and associated facilities identified in long-term protection plan	Details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties.	BLM and CPUC	Post construction (details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties)
— [MM C-5a (rev)] If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP)—eligible properties from operation or long-term presence of the project that could not be prevented based on annual inspection, or if, at any time, the Applicant, BLM or CPUC become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement mitigation for adverse changes, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.	All locations at Colorado River Substation and associated facilities identified in long-term protection plan	Following construction, annual site monitoring; immediate notification to BLM and CPUC of adverse changes.	BLM and CPUC	Post construction (details of the long-term monitoring of sites will be determined by the BLM and CPUC, and, per the Programmatic Agreement for DPV2, will be incorporated into the HPMP, in consultation with all interested parties).

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
PUBLIC HEALTH AND SAFETY				
P-4a(rev): Prepare Provide Proof of Approved Spill Prevention, Countermeasure, and Control Plans. In accordance with Title 40 of the CFR, Part 112, and in order tTo minimize, avoid, and/or clean up unforeseen spill of hazardous materials during operation of the proposed facilities, the Colorado River Regional Water Quality Control Board (RWQCB) will require SCE shall to update or prepare, if necessary, the and implement a Spill Prevention, Countermeasure, and Control (SPCC) Pplan for each substation, series capacitors, and the switchyard. If an existing SPCC Plan is available it may be updated for compliance with this measure. In accordance with state and federal requirements, each SPCC Plan shall include engineered and operational methods for preventing, containing, and controlling potential releases, and provisions for quick and safe cleanup. SCE shall document compliance by providing a copy of the approved Spill Prevention, Control, and Countermeasures SPCC pPlans to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of operation. For any substation, series capacitor, or switchyard that is not required by the RWQCB to possess a SPCC Plan, SCE shall submit to the CPUC or BLM or USFWS, as appropriate, at least 60 days before the start of operation, proof that a SPCC Plan is not required by the RWQCB.	Colorado River Substation and associated facilities	Review and approve plans or documentation; observe construction sites and activities for compliance	BLM, CPUC, and USFWS	Prior to, during and post construction (60 days before operation)
HYDROLOGY AND WATER QUALITY				
— [MM H-7a]The County of Riverside shall be notified prior to installation of the secondary supply well, should it be necessary. The Applicant shall submit the Groundwater Well Contingency Plan to the CPUC and the County of Riverside for review and approval thirty (30) days before the start of extraction of groundwater for construction or operation.	Colorado River Substation	Review Plan and ensure Riverside County is notified prior to installation of the secondary supply well	BLM and CPUC	Prior to, during and post construction (if secondary well installed)

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— [MM H-7b] Monitoring shall be performed during pre-construction, construction, and project operation with the intent to establish pre-construction and project-related groundwater level and water quality trends that can be quantitatively compared against observed and simulated trends near the project pumping well(s). During pre-construction monitoring, it shall be determined whether groundwater can be pumped from above the Colorado River accounting surface of 234 feet above mean sea level (amsl). If it is not possible to verify that groundwater for the Proposed Project would be exclusively pumped from above the Colorado River accounting surface, then Mitigation Measure H-7c (Water Supply Plan for Use of Colorado River Water) would be required.	Colorado River Substation Review groundwater level and water quality trends; verify whether groundwater would be exclusively pumped from above the Colorado River accounting surface	water quality trends; verify whether groundwater would be exclusively pumped from above the Colorado River accounting	BLM and CPUC	Prior to, during and post construction
The monitoring wells shall include the following: SCE's primary supply well (proposed), SCE's secondary supply well (per Mitigation Measure H-7a), State Well Number 7S/21E-5F1 (approximately 4,800 feet northeast of the new project well), and at least one off-site down-gradient well. Water quality monitoring shall include annual sampling and testing for Total Dissolved Solids (TDS), which include minerals, salts, and metals dissolved in water. Water quality samples shall be drawn from each of the aforementioned monitoring well locations.				
— [MM H-7b]The Plan shall include a schedule for submittal of both quarterly monitoring data reports during construction (one report every three months, from the onset of construction activities), and annual monitoring data reports during construction, operation, and maintenance (one report every twelve months, from the onset of construction, for a duration of at least five years, described below). Monitoring data reports shall be submitted by the Applicant to the CPUC for review and approval, as specified in the Plan. Quarterly and annual reports shall include water level monitoring data and water quality monitoring data. Annual summary reports shall include but are not limited to the following:	Colorado River Substation	Review Plan and quarterly and annual reports	BLM and CPUC	During and post construction
 Daily usage, monthly range, and monthly average of daily water usage in gallons per day; Total water used on a monthly and annual basis in acre-feet; 				
 Summary of all water level and water quality data; and Identification of trends that indicate potential for offsite wells to experience deterioration of water level or water quality. 				

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
— [MM H-7b] Based on the results of the quarterly and annual trend analyses during the first 5 years of the project from the initiation of project construction, the Applicant shall determine if the project pumping has resulted in water level decline of 5 feet or more below the baseline trend at nearby private wells. If drawdown of 5 feet or more occurs at off-site wells, the Applicant shall immediately reduce groundwater pumping until water levels stabilize or recover, sustaining drawdown of less than 5 feet. Alternatively, the Applicant shall provide compensation to the well owner, including reimbursement of increased energy costs, or deepening the well or pump setting.	Colorado River Substation	Review quarterly and annual trend analyses; observe reduction in pumping or ensure compensation to well owner, if necessary	BLM and CPUC	During and post construction
— [MM H-7b] After the first 5 years of project, the Applicant and CPUC shall jointly evaluate the effectiveness of the Groundwater Monitoring and Reporting Plan and determine if monitoring frequencies, laboratory testing program, or procedures should be revised or eliminated.	Colorado River Substation	Review effectiveness of Groundwater Monitoring and Reporting Plan	BLM and CPUC	Post construction (after 5 years)
— [MM H-7b] The Applicant shall file an annual "Notice of Extraction and Diversion of Water" with the State Water Resources Control Board in accordance with Water Code Sections 4999 et seq. The Applicant shall include a copy of the filing in the annual compliance report. The report will allow the CPUC to review submitted data monitoring reports for compliance. Following review and approval of the fifth annual summary report, the CPUC will determine whether groundwater wells surrounding the project site are affected by project activities in a way that requires additional mitigation and, if so, shall determine what measures are needed.	Colorado River Substation	Review annual summary reports	BLM, CPUC and SWRCB	During and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing				
— [MM H-7c] The activities proposed for mitigation will be outlined in a Water Supply Plan that will be provided to the CPUC for review and approval prior to the onset of groundwater pumping at the project site. The Water Supply Plan shall include the following at a minimum:	Colorado River Substation, if groundwater pumping would draw water from below the Colorado River accounting surface of 234 feet above mean sea level (amsl)	groundwater pumping would draw water from below the Colorado	groundwater pumping would draw water from below the Colorado	groundwater pumping would draw water from below the Colorado	Review Water Supply Plan; observe compliance with Plan activities in accordance with the agreed upon schedule	BLM and CPUC	Prior to, during and post construction	
 Identification of water offset activities and associated water source(s) to replace the quantity of water diverted from the Colorado River over the life of the project on an acre-foot per acre-foot basis; 								
 Demonstration of the Applicant's legal entitlement to the water or ability to conduct the activity; 								
 Include a discussion of any needed governmental approval of the identified activities, including a discussion of whether that approval that requires; 								
 Discuss whether any governmental approval of the identified activities will be needed, and, if so, whether that additional approval will require compliance with CEQA or NEPA; 								
 Demonstration of how water diverted from the Colorado River will be replaced for each identified activity; 								
 An estimated schedule of completion for each identified activity; 								
 Performance measures that would be used to evaluate the amount of water replaced by each identified activity; 								
 Monitoring and Reporting Plan outlining the steps necessary and proposed frequency of reporting to show that each identified activity is achieving the intended benefits and replacing Colorado River diversions; and 								
• If the application for allocation from the Colorado River is accepted by the USBR, the Applicant shall submit to the CPUC for their approval, a copy of a water allocation from the Colorado River issued by the appropriate agency.								
The Applicant shall implement the activities reviewed and approved in the Water Supply Plan in accordance with the agreed upon schedule in the Water Supply Plan. If agreement on identification or implementation of mitigation activities cannot be achieved, the Applicant shall immediately halt construction or operation until assurance that the agreed upon activities can be identified and implemented.								
The Applicant shall submit the Water Supply Plan to the CPUC for review and approval thirty (30) days before the start of extraction of groundwater for construction or operation.								

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
GREENHOUSE GAS				
GHG-1: Avoid sulfur hexafluoride emissions. SCE shall ensure that project equipment, specifically the circuit breakers at the Colorado River Substation, maintains a leakage rate of 0.5 percent per year or less for sulfur hexafluoride (SF ₆). To accomplish this, SCE shall include this limit as a performance specification for the gas insulated switchgear that would be installed as part of the project. Maintenance, repair, and replacement of all gas insulated switchgear shall be consistent with manufacturer's recommendations for achieving this performance specification and in compliance with CARB regulations for reducing sulfur hexafluoride emissions from gas insulated switchgear (17 CCR 95350).	Colorado River Substation	Potential for SF ₆ leaks is minimized according to a leak reduction standard that would be consistent with the CARB Climate Change Scoping Plan	BLM and CPUC	Prior to and post construction (during operation)

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
VEGETATION				
—[MM-BIO-1] After construction has been completed, the construction monitor shall provide the Applicant's Environmental Manager with a final monitoring report. The Applicant's Environmental Manager shall provide BLM with weekly status updates on the status of construction and monitoring efforts and shall provide BLM with copies of the quarterly monitoring reports and the final monitoring report. BLM shall be responsible for ensuring that construction monitoring is conducted during all construction activities.	All Areas associated with Red Bluff substation construction	Weekly status updates on the status of construction and monitoring efforts, quarterly monitoring reports and the final monitoring report shall be reviewed by the BLM and submitted to the CPUC.	BLM, CPUC	During and post construction
 MM-BIO-2 Off-site Compensation: 1. This Mitigation Measure provides further detail and specificity to the habitat compensation land requirements described in Applicant Measure AM-BIO-1. The draft Habitat Compensation Plan shall be revised to reflect acreages and habitat types as described herein, The revised habitat Compensation Plan shall be submitted for approval to BLM, USFWS, CDFG, and CPUC before its finalization and implementation. 	All habitat disturbance areas associated with Red Bluff substation construction	The draft Habitat Compensation Plan shall be revised to reflect acreages and habitat types. The revised habitat Compensation Plan shall be submitted for approval to BLM, USFWS, CDFG, and CPUC	BLM, CPUC, USFWS, CDFG	During and post construction
—[MM-BIO-2] The Applicant (Sunlight or SCE) shall acquire and protect, in perpetuity, compensation habitat to mitigate impacts to biological resources listed below. The compensation lands shall be placed under conservation management to be funded through the terms described herein. The acreages and ratios shall be based upon final calculation of impacted acreage for each resource and on ratios set forth in Applicant Measure AM-BIO-1 and in the draft Habitat Compensation Plan dated 17 Dec 2010. Acreages of anticipated compensation requirements as summarized throughout this measure are based on impacts analysis of Alternative 1 in Sections 4.3 and 4.4 and ratios described in Applicant Measure AM-BIO-1. Acreages shall be adjusted as appropriate for other alternatives. Desert dry wash woodland (101 acres at 3:1 ratio).	All habitat disturbance areas associated with Red Bluff substation construction	The Applicant (Sunlight or SCE) shall acquire and protect, in perpetuity, compensation habitat to mitigate impacts to biological resources as verified by USFWS, CDFG, BLM and CPUC.	BLM, CPUC, USFWS, CDFG	During and post construction
• Occupied desert tortoise habitat (2,757 acres at 1:1 ratio; 1,214 acres at 2:1 ratio; 191 acres at 5:1 ratio).				
 occupied or suitable habitat for breeding or wintering burrowing owls (13 acres for each occupied burrow, estimated as two burrows), 				
• state-jurisdictional streambeds (302 acres, including the desert dry wash woodland, above, at 3:1 ratio),				
• creosote bush scrub (4,072 acres at 1:1 ratio).				
• occupied foxtail cactus habitat (estimated as two acres, at 1:1 ratio),				
• undisturbed habitat for most wildlife species including desert kit fox and				

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American badger (i.e., away from sources of noise or other disturbance such as highways, wind farms, etc.) (4,173 acres, at 1:1 ratio),

- occupied chuckwalla and rosy boa habitat (Red Bluff Substation A site, 149 acres, at 1:1 ratio),
- suitable/occupied upland shrubland nesting habitat for migratory birds (4,173 acres, at 1:1 ratio).
- suitable foraging habitat for golden eagles, and within foraging range of a known nesting site (4,173 acres, at 1:1 ratio),
- suitable or occupied roosting habitat for special status bats (101 acres desert dry wash woodland at Solar Farm B and 149 acres rocky slopes at Red Bluff Substation A), and
- suitable or occupied habitat for Palm Springs round-tailed ground squirrel (estimated as 92 acres, based on Gen-Tie Line A-1 disturbance), Colorado Valley woodrat (estimated as 149 acres at Red Bluff Substation A location).

Of the resources listed above, BLM's focus is on desert dry wash woodland, occupied desert tortoise habitat, occupied or suitable habitat for breeding or wintering burrowing owls, and state-jurisdictional streambeds.

Under Alternative 1, a total of 4,176-acres would be disturbed. Total habitat compensation lands shall be no fewer than 6,707 acres, including, at minimum, 6,140-acres of occupied desert tortoise habitat and 819 acres of state-jurisdictional streambeds (including at least 288 acres of desert dry wash woodland). Further details are described in text and Table 4.3-10, below. Final compensation requirements shall be adjusted to account for any deviations in project disturbance, according to final design, as-built project footprint or, if a different Project alternative is approved, adjusted to reflect that alternative. Desert Sunlight shall be responsible for all compensation for habitat disturbance at the Solar Farm Layout and Gen-Tie Lines; SCE shall be responsible for all compensation for habitat disturbance at the Red Bluff Substation site.

Table 4.3-10. Minimum Total Compensation Acreage

Acres of Resource	Impact	Compensation Ratio	Compensation Acres
Previously disturbed (no compensation)	3	0	0

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Attachment J Table 3. Mitigation Measures to be Implemented Post Construction – Red Bluff Substation Project

Mitigation Measure				Location
Desert tortoise habitat (moderate density)¹	1,214	2:1	2,428	_
State-jurisdictional desert dry wash and desert dry wash woodland (302 ac.), less 24 acres desert dry wash woodland within DWMA/ CHU2	278	3:1	834 (to include 288 acres dry wash woodland)	_
Wildlife Management Areas Chuckwalla DWMA, Chuckwalla CH3	191	5:1	955	
Balance of total project disturbance 4,176 – (3 + 1,214 + 278 + 191) = 2,490	2,490	1:1	2,490	_
Minimum Total Habitat Compensation Requirement			6,707	

¹ Draft Habitat Compensation Plan. Table 2 (Desert Sunlight Holdings, 17 Dec 2010)

- 2. Of the total acreage to be disturbed under Alternative 1, three (3) acres have been previously disturbed and no compensation is required; 1,214 acres are moderate-density occupied desert tortoise habitat to be compensated at a ratio of 2:1; 302 acres (including 101 acres of desert dry wash woodland) are state-jurisdictional streambeds to be compensated at a ratio of 3:1; and 191 acres are within the Chuckwalla DWMA and/or Chuckwalla Critical Habitat Unit, to be compensated at a ratio of 5:1.
- 3. Compensation habitat for biological resources may be "nested." For example, compensation for the roosting habitat of bats that roost in desert dry wash woodland (Appendix H) would be fulfilled by desert dry wash woodland compensation lands, and would be counted as providing compensation for both the roosting bats and desert dry wash woodland. Similarly, compensation for the roosting habitat of bats that roost in rock crevices (Appendix H) may be fulfilled by compensation lands that also provide habitat for rosy boa and chuckwalla. Thus, compensation for impacts to bat roosting habitat may be fully nested within other compensation requirements.

² Table 4.3-5 Summary of Impacts on Jurisdictional Resources

³ Table 4.4-5

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Mitigation Measure Location Monitoring/Reporting Action Agency Timing

- 4. Where impacted habitats meet criteria as two or more compensation ratios, the highest ratio will apply. For example, the Red Bluff Substation A site would affect a total of 149 acres, all within the Chuckwalla DWMA and CHU (Table 4.4-5); impacts to the Chuckwalla DWMA and CHU would require mitigation at a 5:1 ratio. Although 29 of the 149 acres are desert dry wash woodland (Table 4.3-6) would require compensation at a lower, 3:1 ration (if they were outside the DWMA and CHU), all 149 acres of impacts to the Chuckwalla DWMA and CHU shall be compensated at the 5:1 ratio. However, compensation lands for desert dry wash woodland at the 3:1 ratio (i.e., 87 acres) may be nested within the overall 5:1 compensation,
- 5. Compensation land selection criteria. Criteria for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands for impacts to biological resources shall include all of the following:
 - a. compensation lands selected for acquisition to meet BLM, USFWS, CDFG, and CPUC requirements shall be equal to or better than the quality and function of the habitat impacted;
 - b. provide habitat acreage with capacity to regenerate naturally when disturbances are removed:
 - c. be near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation;
 - d. be contiguous and biologically connected to lands currently occupied by desert tortoise, ideally with populations that are stable, recovering, or likely to recover;
 - e. not have a history of intensive recreational use or other disturbance that might cause future erosional damage or other habitat damage, and make habitat recovery and restoration infeasible;
 - f. not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration;
 - g. not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat;
 - h. must provide wildlife movement value equal to that on the Project site;
 and

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- have water and mineral rights included as part of the acquisition, unless the BLM and CPUC, in consultation with CDFG and USFWS, agree in writing to the acceptability of land without these rights.
- j. Additional selection criteria for desert tortoise compensation lands.
 - compensation lands for impacts to desert tortoise shall be within the Eastern Colorado Desert Tortoise Recovery Unit, and
 - ii. shall have potential to contribute to desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserve lands;
- k. Additional Selection Criteria for special-status plant compensation lands. The compensation lands selected for acquisition for impacts to special-status plants shall include at least one of the following categories:
 - i. Occupied Habitat, No Habitat Threats: The compensation lands selected for acquisition shall be occupied by the target plant population and shall be characterized by site integrity and habitat quality that are required to support the target species, and shall be of equal or better habitat quality than that of the affected occurrence. The occurrence of the target special-status plant on the proposed acquisition lands should be viable, stable or increasing (in size and reproduction).
 - ii. Unoccupied but Adjacent. The Project owner may also acquire habitat for which occupancy by the target species has not been documented, if the proposed acquisition lands are adjacent to occupied habitat. The Project owner shall provide evidence that acquisitions of such unoccupied lands would improve the defensibility and long-term sustainability of the occupied habitat by providing a protective buffer around the occurrence and by enhancing connectivity with undisturbed habitat.
- I. If all or any portion of the acquired compensation lands meets the habitat occupancy or suitability requirement for more than one of the resources listed above, that portion of those compensation lands may also be used to fulfill that portion of the obligation to acquire compensation lands to mitigate impacts to those resources.
- The total amount of compensation mitigation lands required under this measure may exceed the requirements of AM BIO-1, in order to provide mitigation for all of the resources identified in this measure.

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
—[MM-BIO-2] 7. Review and Approval of Compensation Lands Prior to Acquisition. The Project owner (SCE) shall submit a formal acquisition proposal to the BLM, USFWS, CDFG, and CPUC describing the parcel(s) intended for purchase. This acquisition proposal shall discuss the suitability of the proposed parcel(s) as compensation lands in relation to the selection criteria listed above, and must be approved by the BLM and CPUC in coordination with CDFG and USFWS.	All habitat disturbance areas associated with Red Bluff substation construction	SCE shall submit a formal acquisition proposal to the BLM, USFWS, CDFG, and CPUC, and must be approved by the BLM and CPUC in coordination with CDFG and USFWS.	BLM, CPUC, USFWS, CDFG	During and post construction
—[MM-BIO-2] 8. Management Plan. The Project owner or approved third party shall prepare a management plan for the compensation lands in consultation with the entity that will be managing the lands. The goal of the management plan shall be to support and enhance the long-term viability of the biological resources. The Management Plan shall be submitted for review and approval to the BLM and CPUC, in consultation with CDFG and USFWS.	All habitat disturbance areas associated with Red Bluff substation construction	The Management Plan shall be submitted for review and approval to the BLM and CPUC, in consultation with CDFG and USFWS.	BLM, CPUC, USFWS, CDFG	During and post construction
 —[MM-BIO-2] 9. Compensation Lands Acquisition Requirements. The Project owner shall comply with the following requirements relating to acquisition of the compensation lands after the BLM, USFWS, CDFG, and CPUC have approved the proposed compensation lands: a. Preliminary Report. The Project owner, or an approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary or requested documents for the proposed compensation land to the BLM, USFWS, CDFG, and CPUC. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the BLM and CPUC. For conveyances to the State, approval may also be required from the California Department of General Services, the Fish and Game Commission and the Wildlife Conservation Board. b. Title/Conveyance. The Project owner shall acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement. as required by the BLM USFWS. 	All habitat disturbance areas associated with Red Bluff substation construction	Preliminary Report, Title/Conveyance, Initial Protection and Habitat Improvement, Property Analysis Record, Long-term Maintenance and Management Funding, agreement is with the long-term maintenance and management fund holder/manager shall be submitted to the BLM, CPUC, USFWS an CDFG.	BLM, CPUC, USFWS, CDFG	During and post construction
fee title and conservation easement, as required by the BLM USFWS, CDFG, and CPUC. Any transfer of a conservation easement or fee title must be to CDFG, to a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), or to BLM or other public agency approved by the BLM and CPUC. If an approved non-profit organization holds fee title to the				

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compensation lands, a conservation easement shall be recorded in favor of CDFG or another entity approved by the BLM and CPUC. If an entity other than CDFG holds a conservation easement over the compensation lands, the BLM and CPUC may require that CDFG or another entity approved by the BLM, USFWS, CDFG, and CPUC, in consultation with CDFG, be named a third party beneficiary of the conservation easement. The Project owner shall obtain approval of the BLM, USFWS, CDFG, and CPUC of the terms of any transfer of fee title or conservation easement to the compensation lands.

- c. Initial Protection and Habitat Improvement. The Project owner shall fund activities that the BLM and CPUC require for the initial protection and habitat improvement of the compensation lands. These activities will vary depending on the condition and location of the land acquired, but may include trash removal, construction and repair of fences, invasive plant removal, and similar measures to protect habitat and improve habitat quality on the compensation lands. The costs of these activities are estimated to be \$330 per acre of compensation land, but actual costs will vary depending on the measures that are required for the compensation lands. A non-profit organization, CDFG or another public agency may hold and expend the habitat improvement funds if it is qualified to manage the compensation lands (pursuant to California Government Code section 65965), if it meets the approval of the BLM and CPUC in consultation with USFWS and CDFG, and if it is authorized to participate in implementing the required activities on the compensation lands. If CDFG takes fee title to the compensation lands, the habitat improvement fund must be paid to CDFG or its designee.
- d. Property Analysis Record. Upon identification of the compensation lands, the Project owner shall conduct a Property Analysis Record (PAR) or PAR-like analysis to establish the appropriate amount of the long-term maintenance and management fund to pay the in-perpetuity management of the compensation lands. The PAR or PAR-like analysis must be approved by the BLM and CPUC before it can be used to establish funding levels or management activities for the compensation lands.
- e. Long-term Maintenance and Management Funding. The Project owner shall provide money to establish an account with non-wasting capital that will be used to fund the long-term maintenance and management of the compensation lands. The amount of money to be paid will be determined through an approved PAR or PAR-like analysis conducted for the compensation lands. Until an approved PAR or PAR-like analysis is

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conducted for the compensation lands, the amount of required funding is initially estimated to be \$1,450 for every acre of compensation lands. If compensation lands will not be identified and a PAR or PAR-like analysis completed within the time period specified for this payment, the Project owner shall either: (i) provide initial payment equal to the amount of \$1,450 multiplied by the number of acres the Project owner proposes to acquire for compensatory mitigation; or (ii) provide security to the BLM and CPUC under subsection (g), "Mitigation Security," below, in an amount equal to \$1.450 multiplied by the number of acres the Project owner proposes to acquire for compensatory mitigation. The amount of the required initial payment or security for this item shall be adjusted for any change in the Project Disturbance Area. If an initial payment is made based on the estimated per-acre costs, the Project owner shall deposit additional money as may be needed to provide the full amount of longterm maintenance and management funding indicated by a PAR or PARlike analysis, once the analysis is completed and approved. If the approved analysis indicates less than \$1,450 per acquired acre will be required for long-term maintenance and management, the excess paid will be returned to the Project owner. The Project owner must obtain the BLM and CPUC's approval of the entity that will receive and hold the long-term maintenance and management fund for the compensation lands. The BLM and CPUC will consult with USFWS and CDFG before deciding whether to approve an entity to hold the Project's long-term maintenance and management funds.

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

- i. Interest. Interest generated from the initial capital long-term maintenance and management fund shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action that is approved by the BLM and CPUC and is designed to protect or improve the habitat values of the compensation lands.
- ii. Withdrawal of Principal. The long-term maintenance and management fund principal shall not be drawn upon unless such withdrawal is deemed necessary by the BLM, USFWS, CDFG, and CPUC or by the

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
approved third-party long-term maintenance and management fund manager, to ensure the continued viability of the species on the compensation lands.				
iii. Pooling Long-Term Maintenance and Management Funds. An entity approved to hold long-term maintenance and management funds for the Project may pool those funds with similar non-wasting funds that it holds from other projects for long-term maintenance and management of compensation lands. However, for reporting purposes, the long-term maintenance and management funds for this Project must be tracked and reported individually to the BLM, USFWS, CDFG, and CPUC.				
f. Other Expenses. In addition to the costs listed above, the Project owner shall be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to the title and document review costs incurred from other state agency reviews, overhead related to providing compensation lands to CDFG or an approved third party, escrow fees or costs, environmental contaminants clearance, and other site cleanup measures.				
-[MM-BIO-2] h. The Project owner may elect to comply with the requirements in this condition for acquisition of compensation lands, initial protection and habitat improvement on the compensation lands, or long-term.	All habitat disturbance areas associated with Red Bluff substation construction	Verification of funding provision shall be made by BLM, CPUC, USFWS, CDFG	BLM, CPUC, USFWS, CDFG	During and pos construction

habitat improvement on the compensation lands, or long-term maintenance and management of the compensation lands by funding, or any combination of these three requirements, by providing funds to implement those measures into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF). To use this option, the Project owner must make an initial deposit to the REAT Account in an amount equal to the estimated costs (as set forth in the Security section of this condition) of implementing the requirement and additional fees, management funds, and other costs associated with the NFWF account. If the actual cost of the acquisition, initial protection and habitat improvements, or long-term funding is more than the estimated amount initially paid by the Project owner, the Project owner shall make an additional deposit into the REAT Account sufficient to cover the actual acquisition costs, the actual costs of initial protection and habitat improvement on the compensation lands, and the long-term funding requirements as established in an approved PAR or PAR-like analysis. If those actual costs or PAR projections are less than the amount initially transferred by the applicant, the remaining

			Responsible		
Mitigation Measure	Location	Monitoring/Reporting Action	Ágency	Timing	
balance shall be returned to the Project owner.					
i. The responsibility for acquisition of compensation lands may be delegated to a third party other than NFWF, such as a non-governmental organization supportive of desert habitat conservation, by written agreement of the BLM, USFWS, CDFG, and CPUC. Such delegation shall be subject to approval by the BLM and CPUC, in consultation with CDFG and USFWS, prior to land acquisition, enhancement or management activities. Agreements to delegate land acquisition to an approved third party, or to manage compensation lands, shall be executed and implemented within 18 months of the BLM and CPUC's certification of the Project.					
j. The Applicant may choose to compensate and mitigate for impacts to state-listed endangered species pursuant to §2081 of the California Endangered Species Act using one or both of the "in-lieu fee" or "advance mitigation" mechanisms set forth in SB 34. Compensation lands acquired through SB 34 may in whole or in part satisfy the compensation habitat requirements set forth in this mitigation measure, only to the					

—[MM-BIO-3] The Applicant and SCE shall be responsible for ensuring that all workers at the site, throughout the duration of construction, operation, and decommissioning activities, receives the training described in AM-BIO-4. Specific language in Mitigation Measure BIO-3 will take precedence over any discrepancy with the Applicant Measures cited herein.

extent that they do in fact provide habitat values and mitigation for significant impacts to the species and biological resources identified above, and are consistent with the selection criteria described above.

у

All areas associated with Red

Bluff substation construction

Verification of worker training.

BLM, CPUC

Prior to, during, and

post construction

—[MM-BIO-4] Post-Project seeding and planting (revegetation) will occur at the decommissioning phase of the Project as described under an approved Restoration Plan (AM-BIO-5).

All areas associated with Red Verification of restoration

BLM, CPUC

During and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
—[MM-BIO-4] Both salvage and revegetation efforts shall be monitored yearly and shall continue for a period of no less than 10 years or until the defined performance standards are achieved (whichever is sooner). The following performance standards must be met by the end of the monitoring period: (a) at least 80% of the species and vegetative cover observed within the temporarily disturbed areas shall be native species that naturally occur in desert scrub habitats; (b) absolute cover and density of native plant species within the revegetated areas shall equal at least 60% of the pre-disturbance or reference vegetation cover; and (c) the site shall have gone without irrigation or remedial planting for a minimum of three years prior to completion of monitoring. Remediation activities (e.g., whether additional planting, removal of non-native invasive species, or erosion control) shall be taken during the 10-year period if necessary to ensure the success of the revegetation effort. If the mitigation fails to meet the established performance standards after the 10-year maintenance and monitoring period, monitoring and remedial activities shall extend beyond the 10-year period until the performance standards are met, unless otherwise specified by the BLM and CPUC. As needed to achieve performance standards, the Project owner shall be responsible for replacement planting or other remedial action as agreed to by BLM and CPUC. Replacement plants shall be monitored with the same survival and growth requirements as required for original revegetation plantings.	All areas associated with Red Bluff substation construction	Verification of restoration monitoring	BLM, CPUC	Post construction
If a fire or flood damages a revegetation area within the 10-year monitoring period, the owner shall be responsible for a one-time replacement. If a second fire or flood occurs, no replanting is required, unless the event is caused by the owner's activity (as determined by BLM or other firefighting agency investigation).				
—[MM-BIO-5] At the conclusion of the three-year monitoring period for Desert Dry Wash Woodland following completion of Project construction, the Project owner, CPUC, and BLM shall jointly evaluate the effectiveness of the Desert Dry Wash Woodland Monitoring and Reporting Plan and determine if monitoring frequencies or procedures should be revised, extended to the operation and decommissioning periods, or eliminated. Should additional data be forthcoming to demonstrate that this potential impact is not verifiable or attributable to this specific project or found inconsistent with state or federal statute, it may be modified or eliminated.	All areas associated with Red Bluff substation construction	Jointly evaluate the effectiveness of the Desert Dry Wash Woodland Monitoring and Reporting Plan and determine if monitoring frequencies or procedures should be revised.	BLM,CPUC	Post construction
—[AM-BIO-2] The following measures are required in the Plan and will be implemented by the Applicant to monitor and control invasive species:	All areas associated with Red Bluff substation construction	Verify implementation of Integrated Weed Management	BLM, CPUC	Prior to, during, ar post construction

Responsible
Mitigation Measure Location Monitoring/Reporting Action Agency Timing

- Preventative Measures During Construction
- <u>Equipment Cleaning</u>: To prevent the spread of weeds into new habitats, and prior to entering the Project work areas, construction equipment will be cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Equipment will be inspected to ensure they are free of any dirt or mud that could contain weed seeds and the tracks, feet, tires, and undercarriage will be carefully washed, with special attention being paid to axles, frame, cross members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies. Other construction vehicles (e.g. pick-up trucks) that will be frequently entering and exiting the site will be inspected and washed on an as-needed basis.

All vehicles will be washed off-site when possible. Should off-site washing prove infeasible, an on-site cleaning station will be set up to clean equipment before it enters the work area. Either high-pressure water or air will be used to clean equipment and the cleaning site will be situated away from any sensitive biological resources. If possible, water used to wash vehicles and equipment will be collected and re-used.

- Site Soil Management: Soil management will consist of limiting ground disturbance to the minimum necessary for construction activities and using dust suppressants to minimize the spread of seeds. Disturbed vegetation and topsoil will be re-deposited at or near the area from which they are removed to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. BLM-approved dust suppressants (e.g. water and/or palliative) will be minimized on the site as much as possible, but will use during construction to minimize the spread of airborne weed seeds, especially during very windy days.
- Weed-free Products: Any use of hay or straw bales on the Project site will be limited to certified weed-free material. Other products such as gravel, mulch, and soil may also carry weeds and these products, too, will be certified weed-free. If needed, mulch will be made from the local, on-site native vegetation cleared from the Project area. Soil will not be imported onto the Project site from off-site sources.
- Personnel Training. Weed management will be part of mandatory site training for all construction personnel and will be included in initial Worker Environmental Awareness Program training briefings. Training will include weed identification and the threat of impacts including impacts to local agriculture, vegetation communities, wildlife, and creating fire potential. Training will also cover the importance of preventing the spread of weeds.

Plan and mitigation requirements, review results of monitoring and management efforts.

Responsible
Mitigation Measure Location Monitoring/Reporting Action Agency Timing

Containment and Control Measures

When Project monitoring (see below) indicates that invasive species are spreading, invasive species will be removed using mechanical and chemical methods. The Applicant will use mechanical weed removal methods as the preferred method, but herbicides may be used when conditions (such as wind, proximity of native vegetation) are such that the effect on native species is expected to be minimal. During suppression or eradication activities, care will be taken to have the least affect on native plant species. Herbicides used will be limited to those approved by the BLM. Herbicides will be applied before the invasive species flower and set seed.

If monitoring indicates the spread of athel, a woody invasive species, then athel will be controlled by cutting the trees and applying GarlonTM Ultra Herbicide to the stump immediately after cutting. GarlonTM is approved for use on athel by the BLM. All cut material generated during athel clearance will be removed from the site by truck. This material will be covered with a tarp or other material that will keep athel cuttings or seed from being spread by truck movement.

The Applicant and its contractors will follow the BLM's Herbicide Use Standard Operating Procedures provided in Appendix B of the Record of Decision for the *Final Vegetation Treatments Using Herbicides Programmatic Environmental Impact Statement* (BLM 2007). Personnel responsible for weed control will be trained in the proper and safe use of all equipment and chemicals used for weed control.

Monitoring

Baseline weed conditions will be assessed during the pre-construction phase of the Project, during pre-construction surveys and staking and flagging of construction areas. A stratified random sampling technique will be used to identify and count the extent of weeds on the site.

Monitoring will take place each year during construction, and annually for three years following the completion of construction. The purpose of annual monitoring will be to determine if weed populations identified during baseline surveys have increased in density or are spreading as a result of the Project. Control methods will be implemented when measurable weed increases, as well as visually verified increases, are detected during monitoring. This will include small patches of unusually high density weeds (e.g., concentrations in swales) that are growing as a result of Project activities.

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During construction, daily monitoring records will be kept by biological monitors that will include information relevant to invasive weeds. During Project operations and maintenance, the facility owner or appropriate designee will be required to continually update the potential noxious and invasive weed list and provide monitoring and management appropriate to any new species in coordination with the BLM.

After the three years of operations monitoring is complete, general management and monitoring of the Project area will be conducted by designated site personnel each year during both the germinating and early growing season (November through April) to eliminate new weed individuals prior to seed set. Throughout construction and long-term monitoring, personnel will be trained to identify weedy and native species and work with a trained vegetation monitor to determine where elimination is necessary.

Reporting

Results of monitoring and management efforts will be included in annual reports and a final monitoring report completed at the end of three years of post-construction monitoring. Copies of these reports will be kept on file at the site. Copies of each annual report as well as the final monitoring report will be sent to the BLM for review and comment. BLM will use the results of these reports to determine if any additional monitoring or control measures are necessary.

· Success Criteria

Weed control will be ongoing on the Project site for the life of the Project, but plan success will be determined by BLM after the three years of operations monitoring through the reporting and review process. Success criteria will be defined as having no more than ten percent increase in a weed species or in overall weed cover in any part of the Project.

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
AM-BIO-4 Worker Environmental Awareness Program (WEAP). The Applicant will implement a WEAP to educate on-site workers about sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel. The program will be implemented during site mobilization, ground disturbance, grading, construction, operation, and closure. The program will:	All areas associated with Red Bluff substation construction	Review training materials and verify training of all workers on the Project through review of training logs.	BLM, CPUC	Prior to, during, and post construction
 Be developed by or in consultation with a biologist and consist of an on-site or training center presentation in which supporting written material and electronic media, including photographs of protected species, is made available to all participants; 				
• Discuss the locations and types of sensitive biological resources on the Project site and adjacent areas, and explain the reasons for protecting these resources and penalties for harm or damage to these resources;				
 Include a discussion of fire prevention measures to be implemented by workers during Project activities, including a request that workers dispose of cigarettes and cigars appropriately and not leave them on the ground or buried; 				
• Describe the temporary and permanent habitat protection measures to be implemented at the Project site;				
 Identify whom to contact if there are further comments and questions about the material discussed in the program; and 				
 Include a training acknowledgement form to be signed by each worker indicating that they received training and shall abide by the guidelines. 				
The training will place special emphasis on the special status species that have been observed in the Project locations or have a high likelihood to occur, including special status plant species, desert tortoise and other special status reptile species, Palm Springs round-tailed ground squirrel, burrowing owl, golden eagle, nesting bird species and bat species, and the American badger.				
BLM will be responsible for ensuring that each construction worker at the site, throughout the duration of construction activities, receives the above training.				
AM-BIO-5 The Applicant will prepare and implement a Vegetation Resources Management Plan that contains the following components:	All areas associated with Red Bluff substation construction	Review Vegetation Resources Management Plan that contains a Vegetation Salvage Plan and A Restoration Plan. Verify implementation.	BLM, CPUC	Prior to, during, and post construction
• A Vegetation Salvage Plan which discusses the methods that will be used to transplant cacti present within the Project locations following BLM's standard	Sian Substation Conduction			

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operating procedures, as well as methods that will be used to transplant special status plant species that occur in the Project locations if feasible. The Plan will include the following:

- Criteria for determining whether an individual plant is appropriate for salvage;
- The appropriate season for salvage;
- Equipment and methods for salvage, transport, and planting;
- A requirement that plants be marked to identify the north-facing side prior to transport, and replanted in the same orientation;
- Storage and/or pre-planting requirements for each species;
- A requirement to collect seed and voucher specimens from the special status species located within the Project locations;
- The proposed location and several alternative locations for transplanting the cacti:
- A requirement for ten years of maintenance of the transplanted individuals, including removal of invasive species and irrigation (if necessary);
- A requirement for ten years of monitoring to determine the percentage of surviving plants each year and to adjust maintenance activities using an adaptive management approach.
- A Restoration Plan which discusses the methods that will be used to restore creosote bush scrub and desert dry wash woodland habitat that is temporarily disturbed by construction activities. The Plan will include the following:
- A planting plan, including the number, size, and species of container plants and/or the amount and species of seed necessary to revegetate both habitat types;
- The appropriate season for planting and/or seeding;
- The methodology for planting and/or seeding;
- A description of the method(s) for irrigation and an irrigation schedule for the restoration areas;
- Success criteria for percent cover of native plant species over a ten year period following installation of container plants and/or completion of seeding, and a requirement for replacement plantings when success criteria are not met:
- A requirement that the percent cover of invasive species in the restoration areas will be maintained no higher than 10 percent for up to 10 years following installation of container plants and/or completion of seeding;

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
A requirement for ten years of maintenance of the restored areas, including removal of invasive species and irrigation;				
 A requirement for ten years of monitoring of the restored areas to evaluate compliance with success criteria and to adjust maintenance activities using an adaptive management approach; and 				
- A requirement for annual monitoring reports which will be submitted to BLM.				
The Vegetation Salvage Plan and Restoration Plan will specify success criteria and performance standards as required per Mitigation Measure BIO-4, Salvage and Restoration Plan Performance Standards. BLM will be responsible for reviewing and approving the Plan and for ensuring that the Applicant implements the Plan including maintenance and monitoring required in the Plan.				
WILDLIFE				
MM-WIL-2 Nelson's Bighorn Sheep Protection Plan. If effects to Nelson's Bighorn Sheep cannot be avoided, the Applicant shall consult with the California Department of Fish and Game (CDFG) to determine the appropriate level of restoration and mitigation for effects to essential habitat and/or travel corridors for Nelson's bighorn sheep by implementing the following measures:	Where applicable	Compensation documentation and/or proffer shall be verifies prior to working in areas which could affect Nelson's big horned sheep.	BLM, CPUC, CDFG	Prior to, during, and post construction
(a) The project owner shall compensate or replace the permanent loss of Nelson's bighorn sheep habitat at a 1:1 ratio as approved by the CDFG. This may include monetary contributions or donations as mitigation which are tied to programs or activities designed to offset potential resource losses or for mitigation banking for habitat restoration, enhancement, and/or acquisition projects provided that an appropriate and cooperatively developed mitigation agreement has been finalized between the Applicant and CDFG.				
(b) Compensation or replacement mitigation should be oriented within or adjacent to the project area and designed to rectify the same functions, habitat types and species being impacted wherever possible. Off-site compensation should be considered when mitigation measures cannot be applied to adjacent areas or to benefit the same species that are impacted.				
(c) All final actions associated with compensation mitigation will be approved by CDFG to insure that agreements are consistent with the CDFG's Sonoran Desert Mountain Sheep Meta-Population Plan.				

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing				
—[MM-WIL-5] During construction and for one year following the beginning of the solar farm operation the biologist shall submit annual reports to BLM, CDFG, and USFWS describing the dates, durations, and results of monitoring and data collection. The annual reports shall provide a detailed description of any project-related bird or wildlife deaths or injuries detected during the monitoring study or at any other time and data collected for the study of polarized light impacts on insectivorous birds. The report shall analyze any project-related bird fatalities or injuries detected, and provides recommendations (in consultation with the County) for future monitoring and any adaptive management actions needed.	SCE feeder and distribution lines	During construction and for one year following the beginning of the solar farm operation the biologist shall submit annual reports to BLM, CDFG, and USFWS describing the dates, durations, and results of monitoring and data collection.	BLM, CDFG, USFWS, CDFG	During and post construction				
Thresholds. Thresholds will be determined by BLM in consultation with CDFG and USFWS. If BLM determines that either (1) bird mortality caused by solar facilities is substantial and is having potentially adverse impacts on special-status bird populations, or that (2) the attraction of polarized light from solar panels is causing reproductive failure of aquatic insect populations at high enough levels to adversely affect insectivorous special-status birds, the Applicant shall be required to implement some or all of the mitigation measures below.								
Implementation Measures. To minimize bird mortality caused by solar facilities, the Applicant may be required to install additional bird flight diverters alterations to project components that have been identified as key mortality features, or implement other appropriate actions approved by BLM and regulatory agencies based on the findings of the Bird Monitoring and Avoidance Plan. To minimize indirect impacts of polarized light on insectivorous birds, the Applicant may be required to install non-polarizing white borders and grids on or around solar panels, which Horvath et al. (2010) found to dramatically reduce the attractiveness of solar panels to aquatic insects, or other measures that are shown to be effective.								
If mitigation actions are required, the annual reporting shall continue until BLM, in consultation with CDFG and USFWS, determines whether more years of monitoring are needed, and whether additional mitigation and adaptive management measures are necessary. After the Bird Monitoring Study is determined by BLM to be complete, the Applicant shall prepare papers that describe the design and monitoring results of the two studies to be submitted to peer-reviewed scientific journals. Proof of submittal shall be provided to BLM, CDFG, and USFWS within one year after the monitoring studies are complete.								

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
—[MM-WIL-6] 3. Monitoring and Adaptive Management Plan: If an occupied nest (as defined by Pagel et al. 2010) is detected within 10 miles of any project component, the Project owner or SCE shall prepare and implement a Golden Eagle Monitoring and Management Plan for the duration of construction to ensure that Project construction activities do not result in injury or disturbance to golden eagles. The monitoring methods shall be consistent with those described in the Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations (Pagel et al. 2010) or more current guidance from the USFWS. The Monitoring and Management Plan shall be prepared in consultation with BLM, USFWS, CDFG, and CPUC. It shall be implemented by Desert Sunlight or SCE, according to project component; each applicant shall designate a biologist, to be approved by BLM, USFWS, CDFG, and CPUC. Triggers for adaptive management shall include any evidence of Project-related disturbance to nesting golden eagles, including but not limited to: agitation behavior (displacement, avoidance, and defense); increased vigilance behavior at nest sites; changes in foraging and feeding behavior, or nest site abandonment. The Monitoring and Management Plan shall include a description of adaptive management actions, which shall include, but not be limited to, cessation of construction activities that are deemed by the Designated Biologist to be the source of golden eagle disturbance.	All areas associated with Red Bluff substation construction	If an occupied nest is detected within 10 miles of any project component, the Project owner or SCE shall prepare a Golden Eagle Monitoring and Management Plan for review. Implementation shall be monitored.	BLM, CPUC, USFWS	Prior to, during, and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
—[AM-WIL-1] During the construction and operations and maintenance phases of the Project, the following Best Management Practices will also be implemented by the Applicant to reduce adverse effects to desert tortoise:	All areas associated with Red Bluff substation construction	Monitor compliance with BMPs.	BLM, CPUC, USFWS, CDFG	During and post construction
 Speed limits on all unpaved areas of the Project will be a maximum of 15 miles per hour; 				
No dogs or firearms will be allowed on the Project site during construction or operation and maintenance activities;				
 Construction and operation and maintenance activities will be limited to daylight hours to the extent possible; 				
 Trash will always be contained within raptor and raven-proof receptacles and removed from the site frequently, including trash collected in vehicles in the field; 				
 Water required for construction purposes will not be stored in open containers or structures and will be transported throughout the site in enclosed water trucks; and 				
6. Water sources for the Project (such as wells) will be checked periodically by biological monitors to ensure they are not creating open water sources by leaking or consistently overfilling trucks.				
All vehicles leaking fuel or other liquids will be immediately removed to the staging area and repaired – all vehicles will carry spill materials and all spills will be cleaned up promptly and disposed of correctly.				
—[AM-WIL-2] Throughout the construction and operation and maintenance phases of the Project five years post-construction, all incidental sightings of common ravens within the Project locations will be logged either by a biological monitor (during construction) or by a designated person by Sunlight and SCE (five years post-construction). In addition, for five years following construction, nest surveys for this species will be completed at least twice each spring between March 15 and June 1, and further assessments will be performed on the ground underneath raven nests during spring months to determine the presence of any desert tortoise predation.	All areas associated with Red Bluff substation construction	Annual monitoring report shall be submitted to BLM for review. If monitoring data shows a potential increase in raven roosting or nesting behavior within the SCE Project components, SCE will coordinate with BLM, USFWS, and CDFG to determine the	BLM, CPUC	During and post construction
If monitoring data shows a potential increase in raven roosting or nesting behavior within the Sunlight Project components, additional measures will be implemented by the Applicant to minimize the attractiveness of the Project site to the species, including one or more of the following:		appropriate control measures.		
 Bird spikes installed on top of potential perches designed to prevent birds from gaining a foothold on the perch because of their porcupine design; 				

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- 2. Repellant coils installed on top of potential perches to deter birds from gaining footholds because of their destabilizing coil design;
- 3. Bird control wire designed so that a line or grid of variable height posts is interconnected by a wire. This creates a confusing landing area in the same spirit as trip wires used for unsuspecting people;
- 4. Bird netting; and/or
- 5. Electric shock deterrents with low voltage pulses.

Inactive nests will be dismantled and passive deterrents will be installed. For active nests, a biological monitor will determine the number of fledglings and their status of development. Once the nest is determined to no longer be active, it will be removed and passive deterrents installed. Non-lethal deterrents will be the first course of action. However, ravens may adapt quickly to avoid passive deterrents. If problem ravens are proven to be an active threat to resident desert tortoises, then they could be subject to lethal removal in coordination with BLM, USFWS, and CDFG in compliance with the Migratory Bird Treaty Act and California Fish and Game Code.

If monitoring data shows a potential increase in raven roosting or nesting behavior within the SCE Project components, SCE will coordinate with BLM, USFWS, and CDFG to determine the appropriate control measures, including continued raven nest monitoring and/or contribution to a region-wide raven control plan.

On or before January 15th of each calendar year of monitoring, an annual report will be submitted to BLM that summarizes all monitoring activities sufficient for the BLM to provide necessary reporting to the USFWS and CDFG during their annual permitting report, due on or before February 1 of each year.

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
—[AM-WIL-3] For five years post-construction, the Applicant will record incidental sightings of raptors and bats in the Project locations. In addition, the Applicant will conduct nest surveys within the Project locations at least twice each spring between March 1 and June 1, separated by at least 30 days where all project-related infrastructure will be inspected for active and inactive raptor nests. The Applicant will submit quarterly status reports via email to BLM, USFWS, and CDFG. On or before January 15th of each calendar year, an annual report will be submitted to BLM that summarizes all monitoring activities sufficient for BLM to provide necessary reporting to the USFWS and CDFG in their annual permitting report, due on or before February 1st of each year. These reports may include recommendations for future adaptive management actions.	All areas associated with Red Bluff substation construction and 500-foot buffer	Quarterly and annual status reports shall be reviewed by BLM, CPUC, USFWS, and CDFG. Monitor implementation of the mitigation requirements.	BLM, CPUC, USFWS, CDFG	During and post construction
—[AM-PR-1] Recovered fossils will be curated with a museum or other curation facility approved by the BLM.	All areas associated with Red Bluff substation construction.	The BLM will review and approve curation museum or other facility.	BLM, CPUC	During and post construction
GEOLOGIC RESOURCES				
—[AM-GEO-3] Any disturbed areas associated with temporary construction will be returned to preconstruction conditions (to the extent feasible) after the completion of Project construction.	All areas associated with Red Bluff substation construction.	Monitor restoration of disturbed areas during and post construction.	BLM, CPUC	During and post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
HAZARDS AND HAZARDOUS MATERIALS				
—[AM-HAZ-6c] Hazardous Materials Business Plans (HMBPs). Prior to operation of new or expanded substations, SCE shall prepare or update and submit, in accordance with the Emergency Planning & Community Right to Know Act, an HMBP, as applicable. SCE shall be responsible for implementing the approved plan. The plan shall include:	All areas associated with Red Bluff substation construction.	Review Hazardous Material Business Plans and emergency response/contingency plan. Monitor implementation.	BLM, CPUC	During and post construction
 Introduction to the plan that identifies business activities; 				
Identification of owner/operator with contact information;				
 A hazardous materials inventory statement listing all hazardous materials used during construction and operation; 				
• A facility map;				
 An emergency response/contingency plan that includes an evacuation plan, emergency contacts, emergency resources, any special arrangements with emergency responders, emergency procedures, post-incident reporting/recording responsibilities; earthquake vulnerability inspection or isolation; emergency equipment; and an employee training plan that documents training areas and capabilities. 				
SOCIOECONOMICS AND SPECIAL DESIGNATIONS				
AM-SD-1 During operation and maintenance of Red Bluff Substation A, lights shall normally be off. Where needed during emergency and scheduled work during the night, lights shall be shielded, shall be directed downward, and shall be motion sensitive to minimize glare in surrounding areas.	Red Bluff substation construction.	Monitor during operation and maintenance.	BLM, CPUC	Post construction
TRAFFIC AND TRANSPORTATION				
AM-TRANS-2 Sunlight shall document road conditions at the beginning and end of Project construction and decommissioning and contribute fair share cost for pavement maintenance and other needed repairs.	All areas associated with Red Bluff substation construction.	Verify road documentation prior to construction	BLM, CPUC	Prior to, during, and post construction
VISUAL RESOURCES				
—[MM-VR-1] Within 30 days after completion of Project construction, the Applicant and SCE each shall provide to the BLM for review and approval a written report identifying which items of the revegetation plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. It shall also include a plan for revegetation monitoring.	All areas associated with Red Bluff substation construction.	Review revegetation summary report including the plan for revegetation monitoring.	BLM, CPUC	Post construction

Mitigation Measure	Location	Monitoring/Reporting Action	Responsible Agency	Timing
WATER RESOURCES				
—[MM-WAT-1] Post-Well Installation. The Project owner shall provide documentation as required under County permit conditions to the CPM that the well has been properly completed. In accordance with California's Water Code Section 13754, the driller of the well shall submit to the Department of Water Resources (DWR) a Well Completion Report for each well installed. The Project owner shall ensure the Well Completion reports are submitted. The Project owner shall ensure compliance with all County water well standards and the County requirements for the life of the wells, and shall provide the CPM with two copies each of all monitoring or other reports required for compliance with the County of Riverside water well standards and operation requirements, as well as any changes made to the operation of the well.	All groundwater well locations	Verify that Well Completion Report for each well installed has been submitted to DWR. Verify monitoring or other reports required for compliance with the County of Riverside water well standards and operation requirements have been submitted to CPM.	BLM, CPUC, County of Riverside CPM, DWR	During and post construction