

statute, it may be modified or eliminated.

Biological Resources – Wildlife

- AM-BIO-6** A **Desert Tortoise Translocation Plan** will be prepared for the project and will be implemented by the Applicant to ensure that construction monitoring will be conducted by BLM-, USFWS-, and CDFG-approved biologists during all construction activities, and that any desert tortoise found within the construction zone will be translocated to a suitable location outside of the project footprint. The Final Plan will conform to the 2010 USFWS desert tortoise relocation guidelines entitled *Translocation of Desert Tortoise (Mojave Population) From Project Sites: Plan Development Guidance* (unpublished report dated August 2010).
- AM-BIO-7** The Applicant shall contribute to the USFWS Regional Raven Management Program by making a one-time payment of \$105 per acre of project disturbance to the National Fish and Wildlife Federation Renewable Energy Action Team raven control account. An **Avian and Bat Protection Plan** will be prepared and will be implemented by the Applicant to specify necessary actions to be taken to protect nesting bird and bat species, including burrowing owls, nesting birds, and roosting bats. The Draft Plan will be reviewed and approved by BLM. The Final Plan will conform to the 2010 USFWS avian and bat guidelines entitled *Considerations for Avian and Bat Protection Plans* U.S. Fish and Wildlife Service White Paper.
- AM-BIO-8** **Construction Water Storage Pond Design.** The temporary construction water ponds shall be designed, constructed, and operated in compliance with all applicable regulatory requirements with respect to design, operation, and maintenance, protection of migratory waterfowl, and raven management.
- MM WIL-1** **Wildlife Impact Avoidance and Minimization.** The project owner shall undertake the following measures during the construction, O&M, and decommissioning phases (as applicable) of the project and related facilities in a manner to avoid or minimize impacts to biological resources. Implementation of all measures shall be subject to review and approval by the BLM, Riverside County, and the Resource Agencies (CDFG and USFWS).
- 1. Limit Disturbance Areas and Perimeter Fencing.** The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to disturbance, in consultation with the Designated Biologist. Spoils and topsoil shall be stockpiled in areas already disturbed or to be disturbed by construction, so that stockpile sites do not add to total disturbance footprint. All disturbances, project vehicles, and equipment shall be confined to the flagged areas. Parking areas, staging and disposal site locations shall similarly be located in areas without native vegetation or special-status species habitat.
 - 2. Minimize Road Impacts.** New and existing roads, road widening, or other road improvements shall not extend beyond the flagged impact area. All vehicles passing or turning around would do so within the flagged impact area or in previously disturbed areas. Where new access is required, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.
 - 3. Minimize Traffic Impacts.** Vehicular traffic shall be confined to existing designated

routes of travel to and from the project site, and cross-country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit shall not exceed 15 miles per hour within any part of the project area, maintenance roads for linear facilities, or unpaved access roads to the project site where desert tortoise clearance surveys and translocations have not been completed.

4. **Monitor During All Soil or Vegetation Disturbance.** Due to the possibility that desert tortoises, especially juveniles, may be found on the site after desert tortoise clearance surveys are completed and exclusion fencing is installed, the Designated Biologist or Biological Monitor shall be present at the site during all project activities that have potential to disturb soil, vegetation, or wildlife. The Designated Biologist or Biological Monitor shall walk immediately ahead of equipment during brushing and grading activities. Any ground-disturbing activities occurring prior to construction site mobilization (e.g., for geotechnical borings or hazardous waste evaluations) shall be monitored by a Designated Biologist or Biological Monitor. During all monitoring activities, the Designated Biologist or Biological Monitor will, to the extent practicable, actively or passively relocate wildlife out of harm's way, where consistent with all adopted mitigation measures and other project requirements.
5. **Minimize Impacts of Transmission/Pipeline Alignments, Roads, and Staging Areas.** Staging areas, materials laydown areas, and other ancillary or temporary disturbance areas shall be restricted to areas where desert tortoise clearance surveys have been completed and that have been enclosed within desert tortoise exclusion fencing. For transmission line construction or other activities outside of the fenced solar generator site, access roads, pulling sites and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources. The Designated Biologist or Biological Monitor shall evaluate potential for special-status plants or wildlife at every potential disturbance site along the lengths of the gen-tie line prior to any construction-related disturbance, including access improvements. Specifically, site selection of any area to be permanently or temporarily disturbed for gen-tie line construction shall avoid any desert wash, desert microphyll woodland species (blue palo verde or desert ironwood), and any aeolian sand habitat wherever feasible. Where these sites cannot feasibly be avoided, the Designated Biologist shall outline site-specific requirements to minimize impacts to habitat and wildlife. These requirements shall include, but will not be limited to, pre-construction clearance surveys, exclusion fencing (e.g., for desert tortoise or Mojave fringe-toed lizard), on-site monitoring, and post-construction remediation.
6. **Implement APLIC Guidelines.** Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) Suggested Practices for Avian Protection on Power Lines (APLIC 2006) and Mitigating Bird Collisions with Power Lines (APLIC 1994) to minimize the likelihood of large bird electrocutions and collisions.
7. **Avoid Use of Toxic Substances.** Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants.
8. **Minimize Lighting Impacts.** Facility lighting shall be designed, installed, and

maintained to prevent side casting of light towards surrounding wildlife habitat. To minimize risk of avian collisions with project features, only flashing or strobe lights shall be installed on features requiring safety lighting per FAA requirements.

9. **Minimize Noise Impacts.** To minimize disturbance to wildlife nesting or breeding activities in surrounding habitat, loud construction activities (e.g., pile driving) shall be avoided to the extent feasible from February 1 to August 31. Loud construction activities may be permitted from February 1 to August 31 only according to the provisions of the Nesting Bird Management Plan described in MM WIL-3.
10. **Avoid Vehicle Impacts to Wildlife.** Vehicle parking and storage shall be permitted only within the area enclosed by desert tortoise exclusion fencing to the extent feasible. No vehicles or construction equipment shall be moved prior to an inspection of the ground beneath the vehicle for the presence of desert tortoise or other wildlife. If a desert tortoise is observed, it shall be left to move on its own. If it does not move within 15 minutes, a Designated Biologist or Biological Monitor under the Designated Biologist's direct supervision may remove and relocate the animal to a safe location if temperatures are within the range described in the *Desert Tortoise Field Manual* (USFWS 2009: http://www.fws.gov/ventura/species_information/protocols_guidelines/) and in accordance with the Biological Opinion for the project. In order to minimize road strikes for all wildlife species, all access roads outside of the fenced project footprint shall be delineated with temporary desert tortoise exclusion fencing on either side of the access road, unless otherwise authorized by the BLM, Riverside County, USFWS, and CDFG. This protocol to avoid vehicle impacts to wildlife, including desert tortoises, shall be emphasized in the WEAP training (MM VEG-3).
11. **Avoid Wildlife Pitfalls:**
 - a. **Backfill Trenches.** At the end of each work day, the Designated Biologist shall ensure that all potential wildlife pitfalls (trenches, bores, temporary detention basins, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, temporary detention basins, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with desert tortoise-exclusion fencing. All potential pitfalls (trenches, bores, temporary detention basins, storage ponds, and other excavations) outside the fenced areas shall be inspected periodically, but no less than three times, throughout the day and at the end of each workday by the Designated Biologist or a Biological Monitor. Within the fenced area, potential pitfalls, including storage ponds, shall be inspected daily. Should a desert tortoise or other wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and, if applicable, relocate it as described in the Desert Tortoise Translocation Plan. Any wildlife encountered shall be allowed to leave the area unharmed.
 - b. **Avoid Entrapment of Desert Tortoise.** Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches aboveground for one or more nights, shall be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may

- be capped before being stored outside the fenced area, or placed on pipe racks.
- c. **Avoid Entrapment of Nesting or Migratory Birds.** All pipes or other construction materials or supplies will be covered or capped in storage or laydown areas and at the end of each work day in the solar field or gen-tie line during construction, O&M, and decommissioning phases. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches will be left open either temporarily or permanently.
12. **Minimize Standing Water.** Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement shall use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. A Biological Monitor shall patrol these areas to ensure water does not puddle. Appropriate actions to minimize standing water shall be implemented by the project owner or by the Biological Monitor in coordination with BLM.
 13. **Injured Wildlife.** Any injured or dead wildlife encountered during project-related activities (construction, O&M, and decommissioning) shall be reported to the Designated Biologist or Biological Monitor(s) immediately. The Designated Biologist or Biological Monitor will contact CDFG or a CDFG-approved veterinary facility immediately to report the observation and determine the best course of action. For special-status species, the Designated Biologist shall notify the BLM, USFWS, and/or CDFG, as appropriate, within 24 hours of the discovery.
 14. **Dispose of Road-Killed Animals.** Road-killed animals or other carcasses detected on roads near the project area shall be picked up immediately and delivered to the Designated Biologist or Biological Monitor. For all road-killed animals, the Designated Biologist shall retain the carcass in a freezer on site and contact CDFG within 30 working days for guidance on disposal, storage, or curation. For any road-killed special-status species, the Biological Monitor shall contact CDFG and USFWS (for golden eagle or federally-listed species, including desert tortoise) within one working day of receipt of the carcass for guidance on disposal, storage, or curation of the carcass. The Biological Monitor shall report the special-status species observations as described in MM VEG-1.
 15. **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Designated Biologist shall be informed of any hazardous spills immediately as directed in the project Hazardous Materials Management Plan. Hazardous spills shall be immediately cleaned up and the contaminated soil properly disposed of at a licensed facility. Fueling and servicing of construction equipment shall take place only at a designated area approved by the Designated Biologist. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills.
 16. **Worker Guidelines.** All trash and food-related waste shall be placed in self-closing raven-proof containers and removed regularly from the site to prevent overflow.

Workers shall not feed wildlife or bring pets to the project site, including the logistics, parking, and other ancillary areas. Except for law enforcement personnel, no workers or visitors to the site **shall bring firearms or weapons**. Vehicular traffic shall be confined to existing routes of travel to and from the project site, and cross-country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit when traveling on dirt access routes within desert tortoise habitat shall not exceed 15 miles per hour.

17. **Implement Erosion Control Measures.** Standard erosion control measures shall be implemented for all phases of construction and O&M to prevent any sediment runoff from exposed slopes from entering state-jurisdictional streambeds within or outside the project site or work areas along the gen-tie line. Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into the stream. All disturbed soils and roads within the project site shall be stabilized to reduce erosion potential, both during and following construction, except that soil stabilizer use may be limited in portions of roads crossing washes or stream channels consistent with applicable water quality requirements.
18. **Remove Unused Material and Equipment.** All unused material and equipment, including soil and rock piles, will be removed upon completion of any activities located outside the permanently fenced area.
19. **Control and Regulate Fugitive Dust.** To reduce the potential for the transmission of fugitive dust, the project owner shall implement dust control measures as described in mitigation measures defined in the Air Quality section. In addition, reverse osmosis brine or sediment shall be promptly removed at regular intervals and disposed at an approved waste facility. A log documenting all brine or sediment removal shall be kept at the Operations & Maintenance facility at all times.
20. **Cover Evaporation Ponds.** Prior to any discharge in the evaporation ponds, the project owner shall cover the ponds with netting designed to exclude birds and other wildlife from drinking or landing on the pond surfaces. Mesh shall be 2 cm square or smaller, shall be installed to prevent sagging, and shall be a minimum of 5 feet above the surface of the water. Netting with another mesh size or a smaller distance above the water may be installed if approved by the BLM in consultation with CDFG and USFWS. The netted ponds shall be monitored regularly to verify that the netting is intact; fulfilling its function in excluding birds and other wildlife; and does not pose an entanglement threat to wildlife. Visual deterrents (e.g., flagging, reflecting tape, or hawk-shaped kites) shall also be used in addition to netting. As appropriate, these measures shall also be applied to construction water ponds.

MM WIL-2

Desert Tortoise Clearance Surveys, Exclusion Fencing, and Translocation. The project owner shall avoid and minimize impacts to desert tortoises on the project site, by (1) fencing the project site to prevent tortoises from entering it during construction, O&M, or decommissioning; (2) removing all tortoises from the site prior to initiating construction; and (3) relocating or translocating tortoises to an appropriate off-site

location, to be identified in a Translocation Plan. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial burrow construction, egg handling, and other procedures shall be consistent with those described in the USFWS (2009) *Desert Tortoise Field Manual* (http://www.fws.gov/ventura/species_information/protocols_guidelines) or more current guidance provided by CDFG and USFWS. The project owner shall also implement all terms and conditions described in the Biological Opinion for the project, to be prepared by USFWS and all terms and conditions in an Incidental Take Permit from CDFG. Applicable conditions and requirements include, but are not limited to, the following:

1. **Desert Tortoise Translocation Plan.** The project owner shall contract a qualified biologist to prepare and implement a Desert Tortoise Translocation Plan in conformance with standards and guidelines described in Translocation of Desert Tortoises (Mojave Population) From Project Sites: Plan Development Guidance (USFWS 2010b) or more current guidance or recommendations as available from CDFG and/or USFWS, and meets the approval of the BLM, Riverside County, USFWS, and CDFG. The Plan will be provided to the Joshua Tree National Park (JTNP) for review and comment. The goal of the Plan shall be to safely exclude desert tortoises from within the project area, translocate them to appropriate locations off site, and minimize stress and potential for disease transmission. For tortoises that may be found along the gen-tie line, the Plan's goal will be to avoid impacts through construction monitoring, allowing the tortoise to leave the work area, moving it out of harm's way if required and as permitted by the Biological Opinion, and avoiding disturbance to tortoise burrows through re-siting work sites and structures. The Plan shall include all protocols for handling desert tortoises, evaluating tortoise health, translocation locations and procedures, monitoring methods for trans-located tortoises, reporting, and contingency planning (e.g., handling an injured or diseased tortoise). In addition, as an alternative to translocation, the Plan will identify a strategy to remove desert tortoises on the project site from the wild and place them permanently in facilities approved by USFWS and CDFG, to be fully funded by the project owner. Suitable care or holding facilities for desert tortoises, and their capacity to accommodate desert tortoises, shall be identified. The BLM and Riverside County will not accept the plan as "final" until it has been reviewed and approved by the USFWS and CDFG. Any modifications to the approved final Plan shall be made only with written approval by the BLM, Riverside County, USFWS, and CDFG. A copy of the approved plan will be provided to JTNP.
2. **Handling of Desert Tortoises.** Any desert tortoise located during any phase of the project shall be handled only by the Designated Biologist or Authorized Biological Monitor in accordance with the USFWS (2009) *Desert Tortoise Field Manual* and the project's Desert Tortoise Translocation Plan, and any other applicable conditions made by the USFWS or CDFG. Any time a tortoise is handled, the Designated Biologist shall record and report pertinent data, in accordance with the final Desert Tortoise Translocation Plan. Monitoring of translocated desert shall be in accordance with the Desert Tortoise Translocation Plan and USFWS (2010b) guidance.
3. **Desert Tortoise Exclusion Fence Installation.** Permanent desert tortoise exclusion fencing shall be installed around the project site. The alignments for all desert tortoise exclusion fencing shall be flagged and surveyed for desert tortoise by the Designated Biologist and Biological Monitors no more than 24 hours prior to the

initiation of fence construction. The fence alignment surveys shall be conducted using techniques approved by the USFWS and CDFG and may be conducted in any season with USFWS and CDFG approval. The fence alignment clearance surveys shall provide 100 percent coverage of all areas to be disturbed and an additional buffer 90 feet wide centered on the fence alignment (i.e., 45 feet along each side of the fence line). Survey transects shall be no greater than 15 feet apart. All potential desert tortoise burrows shall be examined to assess occupancy by desert tortoises. Security fencing will be installed as near as is feasible to permanent desert tortoise exclusion fencing in order to prevent animals from being trapped between the two fences.

- a. **Timing of Fence Installation.** The exclusion fencing shall be installed prior to the pre-construction clearance surveys. No ground-disturbing activity will be permitted within the fenced area until completion of the pre-construction clearance surveys.
- b. **Fence Material and Installation.** The exclusion fencing shall be constructed in accordance with the USFWS (2009) *Desert Tortoise Field Manual* (Chapter 8 – Desert Tortoise Exclusion Fence).
- c. **Security Gates.** Security gates shall be designed with minimal ground clearance to prevent entry by tortoises. The gates should be electronically activated to open and close immediately after the vehicle(s) have entered or exited to prevent the gates from being kept open for long periods of time. Cattle grating designed to safely exclude desert tortoise may be installed at the gated entries to discourage tortoises from gaining entry (to be determined by the BLM in consultation with CDFG and USFWS).
- d. **Fence Inspections.** The exclusion fencing shall be regularly inspected during project construction and operation. If tortoises were moved out of harm's way during fence construction, fencing in that area shall be inspected at least twice daily for a minimum of 7 days after moving the animal to ensure that the recently moved tortoise has not been trapped in the fence. Thereafter, permanent fencing shall be inspected monthly and within 24 hours following all major rains. Major rains are defined as a storm(s) for which surface flow is detectable within the fenced drainages. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises from entering the site, and permanently repaired within 48 hours of observing damage. Monthly and post-rainfall inspections of permanent site fencing shall continue throughout the construction, O&M, and decommissioning of the project. Temporary fencing shall be inspected weekly and, where drainages intersect the fencing, during and within 24 hours following major rains. All temporary fencing shall be repaired immediately upon discovery of damage, and the Designated Biologist or Authorized Biological Monitor shall inspect the area to determine whether the damage may have permitted tortoise entry.
- e. **Temporary Exclusion Fencing.** Any project activities during construction, O&M, or decommissioning that take place outside of the permanently fenced site within desert tortoise habitat, and have the potential to disturb native soils or vegetation, shall be subject to fencing and pre-construction clearing survey requirements, or shall take place only while a Biological Monitor is on-site. Temporary tortoise exclusion fencing may be placed on access roads or other

work sites, including gen-tie line construction sites, in accordance with direction from BLM, Riverside County, USFWS, and CDFG. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present.

4. **Desert Tortoise Clearance Surveys.** Following construction of the tortoise exclusion fencing, the fenced area (including permanent and temporarily fenced areas) shall be cleared of tortoises by the Designated Biologist and Biological Monitors. Clearance surveys shall be conducted in accordance with the USFWS 2009 *Desert Tortoise Field Manual* (Chapter 6 – Clearance Survey Protocol for the Desert Tortoise – Mojave Population) and shall consist of at least two surveys covering 100 percent of the enclosed area by walking transects no more than 15 feet apart. Surveys shall be repeated until two consecutive 100%-coverage surveys are completed without finding live tortoises. Any tortoise located during clearance surveys shall be relocated and monitored in accordance with the Desert Tortoise Translocation Plan. The fence perimeter shall also be inspected for any tortoises pacing outside the fence.
5. **Monitoring Following Clearing.** Following the desert tortoise clearance surveys, the Designated Biologist and Biological Monitors shall monitor initial clearing and grading activities to find and translocate any tortoises which may have been missed during the clearance survey. Should a tortoise be discovered, it shall be translocated as described in the Desert Tortoise Translocation Plan to an area approved by the Designated Biologist. Any time over the life of the project that a desert tortoise is found within the exclusion fencing, the Designated Biologist shall immediately contact the BLM, Riverside County, CDFG, and USFWS; monitor the tortoise's location and activities; and implement translocation of the animal in accordance with and the approved Desert Tortoise Translocation Plan and in consultation with the BLM, Riverside County, USFWS, and CDFG.
6. **Relocation of Other Special-Status Species.** Wherever feasible and safe, any special-status mammal or reptile incidentally encountered during desert tortoise clearance surveys or monitoring shall be actively or passively relocated outside the exclusion fencing.
7. **Reporting.** Methods and results of all activities described in this mitigation measure shall be reported by the Designated Biologist in the Monthly Compliance Reports. Within 30 days after completion of desert tortoise clearance surveys and translocation, the Designated Biologist shall submit a Desert Tortoise Clearance Survey, Exclusion Fencing, and Translocation Report to the BLM, Riverside County, USFWS, CDFG, and JTNP describing methods and results of the fencing, clearance surveys, and translocation (if any). The report will also document any other animals relocated during the clearance surveys.

MM WIL-3

Nesting Bird Management Plan, Pre-Construction Nest Surveys, and Impact Avoidance Measures for Migratory and Nesting Birds. The project owner will prepare a draft Nesting Bird Management Plan, describing measures to detect native birds that may nest on and adjacent to the project site or facilities and to avoid impacts to or take of those birds or their nests during all project phases. The draft Nesting Bird Management Plan will be submitted to the BLM for review and approval and the CDFG, USFWS, JTNP, and Riverside County for review and comment, and will be finalized by the project owner prior to issuance of BLM's Notification to Proceed. The Nesting Bird Management

Plan will describe avoidance measures, such as buffer distances from active nests, based on the specific nature of project activities, noise or other disturbance of those activities, the bird species and conservation status, and other pertinent factors. The Plan will specify 330 feet as a standard buffer distance, and 500 feet for raptor species. The Plan will also identify bird species (or groups of species) that are relatively tolerant or intolerant of human activities and specify smaller or larger buffer distances as appropriate for those species. Additionally, the Plan will list all project construction activities and rank them in terms of noise and other potential disturbance to nesting birds, and specify any modifications to buffer areas as appropriate to each activity. The Plan will also identify specific measures (if any) to prevent or reduce bird nesting activity on project facilities. The Plan will include specific monitoring measures to track any active bird nest within or adjacent to the project site, bird nesting activity, project-related disturbance, and fate of each nest. The Nesting Bird Management Plan may be incorporated into the Bird and Bat Conservation Strategy (MM WIL-6) as a separate chapter. Pre-construction nest surveys for nesting birds shall be conducted prior to any construction activities that will occur during the breeding period (from February 1 through August 31). The project owner shall take measures to avoid impacts to any active bird nest within or adjacent to a work area. The Designated Biologist or Biological Monitors conducting the surveys shall be experienced bird surveyors and familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines. Nothing in this measure requires the project owner to conduct nesting bird surveys by entering private lands adjacent to the project site when the project owner has made reasonable attempts to obtain permission to enter the property for survey work but was unable to obtain such permission. In this situation only, the project owner may substitute binocular surveys for protocol field surveys. Burrowing owl surveys are addressed in MM WIL-4; this measure applies to other birds.

1. Surveys shall cover all potential nesting habitat within the project site or other work areas and within a 500-foot buffer of these areas;
2. At least two pre-construction surveys shall be conducted, separated by a minimum 10-day interval. The second pre-construction survey shall be conducted no more than 2-3 days prior to the start of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed one week in any given area (an interval during which birds may establish a nesting territory and initiate egg laying and incubation);
3. If active nests are detected during the survey, the project owner will implement avoidance measures identified in the Nesting Bird Management Plan, and the Designated Biologist will be responsible for monitoring the implementation, conformance, and efficacy of those measures, according to the monitoring requirements of the Nesting Bird Management Plan.
4. A monitoring plan shall be prepared and implemented as part of the Nesting Bird Management Plan to ensure no disturbance to active nests present within or adjacent to the work area takes place; the plan shall be reviewed and approved by BLM, Riverside County, USFWS, and CDFG prior to the initiation of ground-disturbing activities;
5. Prior to the start of any project-related ground disturbance activities, the Desig-

Full Text of Mitigation Measures and Applicant Measures

Air Resources

- AM AQ-1** **Dust Control Plan.** Applicant will develop and implement a dust control plan that includes the use of dust palliatives to ensure compliance with SCAQMD Rule 403. The dust control plan is expected to focus on reducing fugitive dust from construction activities.
- AM AQ-2** **Phased construction activity.** Construction activity will be phased across the Solar Project site in a manner that would minimize the area disturbed on any single day.
- AM AQ-3** **Minimize emissions from grading.** Cut and fill quantities will be balanced across the Solar Project site to minimize emissions from grading and to avoid the need to import fill materials or to remove excess soil.
- AM AQ-4** **Transportation Plan.** Applicant would require bidders for the construction contract to submit a transportation plan describing how workers would travel to the project site and how to encourage carpooling and alternative forms of transportation.
- MM AIR-1** **Fugitive Dust Control Plan.** The project owner shall develop a Fugitive Dust Control Plan in compliance with SCAQMD Rule 403 to reduce PM10 and PM2.5 emissions during construction. The Fugitive Dust Control Plan shall include:
- Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan;
 - Description and location of construction activities; and
 - Listing of all fugitive dust emissions sources included in the construction activities.
 - The following dust control measures shall be implemented:
- The road leading to the operations and maintenance facility shall be paved as early as practical during construction.
- All other onsite unpaved roads shall be effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board approved soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation.
- All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. The excavated soil piles are watered hourly for the duration of construction or covered with temporary coverings.
- Construction activities that occur on unpaved surfaces will be discontinued during windy conditions when winds exceed 25 miles per hour and when those activities cause visible dust plumes. All grading activities shall be suspended when wind speeds are greater than 30 miles per hour.

Track-out shall not extend 25 feet or more from an active operation and track-out shall be removed at the conclusion of each workday.

A wheel-washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the project property.

All hauling materials should be moist while being loaded into dump trucks. All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

Soil loads should be kept below 18 inches or the freeboard of the truck.

Drop heights should be minimized when loaders dump soil into trucks.

Gate seals should be tight on dump trucks.

Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

Other fugitive dust control measures as necessary to comply with South Coast Air Pollution Control District Rules and Regulations.

Disturbed areas should be minimized.

Disturbed areas should be revegetated as soon as possible after disturbance.

- For JTNP, the project shall not result in an increase in ambient dust conditions within the Park boundaries during construction. During construction, the project owner shall contribute fair-share funding for operation of existing dust monitoring stations associated with the Desert Sunlight Solar Farm project. Fair-share funding shall be negotiated with the Desert Sunlight Solar Farm project and approved by JTNP. The project owner shall provide access to real-time dust monitoring data to Park staff to the extent feasible, and shall immediately address non-compliance with Park dust standards with Park staff. The burden of proof of infeasibility of real-time monitoring shall rest with the project owner.
- The project owner shall provide an on-site dust monitor on weekend days (Saturday and Sunday) and holidays during the construction period (i.e., during non-working daytime hours) to ensure that fugitive dust conditions from destabilized soils are immediately detected. The on-site dust monitor shall immediately respond to fugitive dust conditions at the project site by mobilizing project personnel to apply water or other approved dust palliatives to destabilized soils in authorized work zones. The monitor shall document all dust palliative compliance events in a log to be submitted to the National Park Service and the BLM within one week after the occurrence of each non-compliance event. Both the duration of the event and a description of the response shall be documented in the log.

MM AIR-2

Control On-Site Emissions. The project owner shall control emissions from the on-site off-road construction equipment by implementing the following:

- All off-road construction diesel engines not registered under California Air Resources Board's Statewide Portable Equipment Registration Program, which have a rating of 50 horsepower to 750 horsepower, shall meet, at a minimum, the Tier 3

California Emission Standards for Off-road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 3 or Tier 4 engine is not available for any off-road engine larger than 100 horsepower and smaller than 750 horsepower, that engine shall be equipped with retrofit controls that would provide nitrogen oxides and particulate matter emissions that are equivalent to Tier 3 engine. Off-road equipment with diesel engines larger than 750 horsepower shall meet Tier 2 or Tier 3 California Emission Standards.

- All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized.
- All equipment engines shall be maintained in good operating condition and in proposed tune per manufacturers' specification.
- Where appropriate, use alternatively fueled construction equipment, and utilize grid-based electricity and/or onsite renewable electricity generation rather than diesel and/or gasoline powered generators.
- Construction contracts shall incorporate the following controls to ensure effective implementation of the emission reductions: employ periodic unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained and tuned; prohibit any tampering with engines; identify where implementation of mitigation measures is rejected based on economic infeasibility.

MM AIR-3

Control Operational Fugitive Dust. The project owner shall control fugitive dust from the unpaved roads on the site during operation using the following methods:

- The main access road for employees and deliveries to the maintenance complex shall be paved as early during construction as practical.
- The other unpaved roads at the site shall be stabilized using water or soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.
- Traffic speeds on unpaved roads shall be limited to no more than 15 miles per hour. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the central maintenance complex.
- For JTNP, the project shall not result in an increase in ambient dust conditions within the Park boundaries during operation. Over the operational life of the project, the project owner shall contribute fair-share funding for operation of existing dust monitoring stations associated with the Desert Sunlight Solar Farm project. Fair-share funding shall be negotiated with the Desert Sunlight Solar Farm project and approved by JTNP. The project owner shall provide access to real-time dust monitoring data to Park staff to the extent feasible, and shall immediately address non-compliance with Park dust standards with Park staff. The burden of proof of infeasibility of real-time monitoring shall rest with the project owner.

MM AIR-4

Control Equipment Emissions. The project owner shall control emissions from the on-site dedicated equipment (i.e., equipment that would remain on site each day) by implementing the following:

- All on-site on-road vehicles for operation/maintenance shall be new equipment that meets the recent California Air Resources Board engine emission standards or alternatively fueled construction equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate.
- All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized.

Biological Resources – Vegetation

- AM BIO-1** **Habitat Compensation Plan.** A Habitat Compensation Plan is being prepared and will be implemented by the Applicant to compensate for the loss of creosote desert scrub, desert dry wash woodland, and jurisdictional resources. Compensation will be accomplished by acquisition of mitigation land or conservation easements or by providing funding for specific land acquisition, endowment, restoration, and management actions under one of several programs, such as the recently approved mitigation program created by AB 13. The Habitat Compensation Plan will be reviewed and approved by BLM, United States Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). The precise details of the mitigation, including mitigation ratios, will be established in the BLM Right-of-Way (ROW) grant, USFWS Biological Opinion, and any CDFG 2081 Incidental Take Permit or CDFG 2080.1 Consistency Determination.
- AM BIO-2** **Integrated Weed Management Plan.** A Draft Integrated Weed Management Plan (IWMP) will be prepared pursuant to BLM’s Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (BLM 2007) and the National Invasive Species Management Plan (NISC 2008), and will be implemented by the Applicant to reduce the potential for the introduction of invasive species during construction, operation and maintenance, and decommissioning of the project. The draft plan will be reviewed and approved by the BLM.
- AM BIO-3** **Pre-construction Surveys for Special-Status Plant Species and Cacti.** Before construction, the Applicant will stake and flag the construction area boundaries, including the construction areas for the solar farm site and gen-tie line; construction laydown, parking, and work areas; and the boundaries of all temporary and permanent access roads. A BLM-approved biologist will then survey all areas of proposed ground disturbance for special-status plant species and cacti during the appropriate blooming period for those species having the potential to occur in the construction areas. All special-status plant species and cacti observed will be flagged for transplantation. All cacti observed will be flagged for transplantation and special-status plant species observed will be flagged for salvage.
- 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 WEAP 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. 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

Vegetation Resources Management Plan. The Applicant will prepare and implement a Vegetation Resources Management Plan that contains the following components:

- A *Vegetation Salvage Plan* which discusses the methods that will be used to transplant cacti present within the project locations following BLM's standard operating procedures, as well as methods that will be used to transplant special-status plant species that occur in the project locations if feasible.
- 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 *Vegetation Salvage Plan* and *Restoration Plan* will specify success criteria and 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.

MM VEG-1

Assign a Designated Biologist and Biological Monitors. Prior to ground-disturbing activities, an individual will be designated by the project owner and approved by the BLM, Riverside County, and the Resource Agencies (USFWS and CDFG) as a Designated Biologist (i.e., field contact representative). The project owner will appoint a Designated Biologist throughout the construction, O&M, and post-project decommissioning phases, and any subsequent monitoring/reporting period. For the construction and decommissioning phases of the project, and subsequent monitoring and reporting, the Designated Biologist's qualifications will be as listed below. These requirements may be adjusted over the life of the project depending on specific agency policies and status of special-status species in the vicinity, and the nature of project operational activities by agreement among the BLM, Riverside County, and Resource Agencies. Minimum qualifications shall be as follows:

- Bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;
- At least three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;
- At least one year of direct field experience with biological resources found in or near the project area, including desert tortoise;
- Meet the current USFWS Authorized Biologist qualifications criteria (http://.fws.gov/ventura/species_information/protocols_guidelines/index.html), demonstrate familiarity with protocols and guidelines for the desert tortoise, and be approved by the USFWS (note that biologists who meet earlier USFWS criteria may not meet current criteria due to requirements to assess health and draw blood; biologists must obtain training such as that offered through the Desert Tortoise Conservation Center in Las Vegas); and
- Possess a California Endangered Species Act Memorandum of Understanding pursuant to Section 2081(a) for desert tortoise.

The Designated Biologist duties will vary during the construction, O&M, and decommissioning phases. In general, the duties will include, but will not be limited to those listed below:

- Notify the BLM's Authorized Officer, Riverside County, and the Resource Agencies at least 14 calendar days before initiation of ground-disturbing activities.
- Immediately notify the project owner, BLM's Authorized Officer, Riverside County, and the Resource Agencies (as applicable) in writing of any non-compliance with any of the biological mitigation measures or permit conditions.
- Conduct continuous compliance inspections throughout the initial site preparation activities, including the construction of tortoise-exclusion fencing; pre-construction clearance surveys; and initial clearing, grubbing, and grading. Provide weekly verbal or written updates to BLM, Riverside County, and, for any information pertinent to state or federal permits, to the Resource Agencies.
- After the initial clearance and construction activities are complete, conduct monthly compliance inspections throughout the construction and decommissioning phases of the project, and provide weekly verbal or written updates to BLM, Riverside County, CDFG, and USFWS. The Biological Monitor will conduct inspections daily or weekly as necessary during construction and decommissioning to provide these weekly updates. Prepare and submit monthly compliance reports as required in MM VEG-2, and other reports as required under all applicable mitigation measures. A copy of the monthly compliance reports will also be provided to Joshua Tree National Park (JTNP).
- During the operations phase of the project, conduct quarterly compliance inspections; conduct weed monitoring and control (as required in MM VEG-9); prepare and submit quarterly compliance reports and other reports as required under all adopted mitigation measures.
- Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resources compliance requirements, particularly in areas requiring avoidance or containing sensitive biological resources, such as special-status species or their habitat; and to appoint a Biological Monitor as temporary contact at any time the Designated Biologist will be unavailable.
- Respond directly to inquiries of the BLM, Riverside County, the Resource Agencies, NPS, or any other agencies regarding biological resource issues.
- Train and supervise the Biological Monitors as appropriate, and ensure their familiarity with the Worker Environmental Awareness Program (WEAP) training, mitigation measures, conditions required by biological permits and agreements, and current USFWS guidelines on desert tortoise surveys and handling procedures.
- Maintain the ability to be in regular, direct communication with representatives of the BLM, Riverside County, the Resource Agencies, and JTNP, including notifying these agencies of dead or injured special-status species.

The project owner and Designated Biologist will appoint Biological Monitors as needed

for the construction, O&M, and decommissioning phases of the project. During the operations phase, a Biological Monitor may assume most of the on-site duties, so long as a qualified Designated Biologist is available as needed. The Designated Biologist will submit the resume, at least three (3) references, and contact information of each of the proposed Biological Monitors to the BLM's Authorized Officer, Riverside County, and the Resource Agencies. The resume will demonstrate, to the satisfaction of the BLM's Authorized Officer and Riverside County, the appropriate education and experience to accomplish the assigned biological resources tasks. The responsibilities, qualifications, and authority of each Biological Monitor will be the equivalent of the USFWS designated Desert Tortoise Monitor (http://www.fws.gov/ventura/species_information/protocols_guidelines/).

The Designated Biologist and Biological Monitors will conduct clearance surveys and monitoring duties as defined in all adopted mitigation measures. In addition, they will:

- Clearly mark sensitive biological resource areas, as appropriate, during construction, O&M, and decommissioning, and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions.
- Inspect active construction or O&M activity areas where animals may have become trapped prior to construction commencing each day. At the end of each work day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way and relocate them if necessary.
- Present WEAP training to all project employees, contractors, and on-site personnel and provide documentation to the BLM, Riverside County, and Resource Agencies (as applicable), as defined in MM VEG-3.

MM VEG-2

Conduct Biological Monitoring and Reporting during Project Construction, Operations, and Decommissioning. The Designated Biologist and Biological Monitors will conduct surveys and monitoring of mobilization activities, construction-related ground disturbance, grading, boring, or trenching during all phases of the project. The Designated Biologist and Biological Monitors will ensure that construction activities are contained within the staked and flagged construction areas at all times. The Designated Biologist or a Biological Monitor will be present during all ground-disturbing activities and, to the extent practicable, will actively or passively (i.e., without handling the animals) relocate wildlife out of harm's way. Relocated animals will be moved to a suitable location on BLM lands outside of the project footprint. This location will be within 500 meters of the animal's original location, if feasible. Desert tortoises will only be handled in accordance with the project Biological Opinion and Incidental Take Permit issued by USFWS and CDFG, respectively. Provisions for handling desert tortoises will be specified in the Desert Tortoise Translocation Plan (see MM WIL-2).

The Designated Biologist will have the authority and responsibility to immediately halt any project activities that are not in compliance with mitigation measures incorporated into the BLM Record of Decision or Riverside County's Conditional Use Permit or any Conditions of Approval, any requirements of the USFWS Biological Opinion, the CDFG 2081 Incidental Take Permit or 2080.1 Consistency Determination, the CDFG 1600 Streambed Alteration Agreement, or any other applicable permit or agreement for the

project involving biological resources.

The Designated Biologist and the Biological Monitors will also have the authority to order any reasonable measure to avoid take of a listed species. If required by the Designated Biologist or Biological Monitor(s), the project owner's construction/operation manager will halt any site mobilization, ground disturbance, grading, boring, trenching, or operation activities in areas specified by the Designated Biologist. The Designated Biologist will:

1. Require a halt to any activities in any area if it is determined that the activity, if continued, would cause an unauthorized adverse impact to biological resources;
2. Inform the project owner and the construction/operation manager when activities may resume;
3. Notify the BLM, Riverside County, and Resource Agencies (as applicable) no later than the following morning (or Monday morning in the case of a weekend) of a halt of any activities, and any corrective actions already taken or to be taken as a result of the work stoppage;
4. If the Designated Biologist is unavailable for direct consultation, an appointed Biological Monitor will act on behalf of the Designated Biologist; and
5. Report all special-status species observations to the CNDDDB and include copies of these reports in monthly or quarterly monitoring reports, and immediately report any dead or injured listed threatened or endangered species to the Resource Agencies.

Any translocation of desert tortoises will be done in accordance with the project Biological Opinion issued by the USFWS, and any biologists who handle tortoises will be authorized to do so in advance by USFWS.

Throughout the construction and decommissioning phases of the project, the Designated Biologist will submit a monthly compliance report to the project owner, BLM's Authorized Officer, Riverside County, and the Resource Agencies. Copies of the monthly compliance reports will also be provided to the NPS. After construction has been completed, and again when decommissioning is complete, the Designated Biologist will provide the project owner, Bureau of Land Management (BLM), Riverside County, and JTNP with final construction-phase and decommissioning-phase monitoring reports. The Biological Monitor will also provide BLM with brief weekly updates on the status of construction and monitoring efforts throughout the construction and decommissioning phases. During the O&M phase, the reporting schedule will be quarterly rather than monthly. The project owner will be responsible for ensuring that construction monitoring is conducted during all project phases.

MM VEG-3

Prepare and Implement a Worker Environmental Awareness Program (WEAP). This mitigation measure provides further detail and specificity to the WEAP requirements described in AM BIO-4. The project owner will prepare and implement a project-specific WEAP that will be available in English and Spanish. The project owner will secure

approval for the WEAP from the *BLM and Riverside County* in consultation with the USFWS and CDFG. The WEAP will be provided to the JTNP for review and comment. The project owner will be responsible for ensuring that all workers at the site receive this training prior to beginning work on the project and throughout the construction, operations, and decommissioning phases. The WEAP will be administered to all on-site personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel. The WEAP will be implemented during site pre-construction, construction, operation, and closure/decommissioning. The WEAP will:

1. Be developed by or in consultation with the Designated 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;
2. Provide an explanation of the function of flagging that designates authorized work areas;
3. Discuss general safety protocols such as hazardous substance spill prevention and containment measures and fire prevention and protection measures;
4. Provide a review of mitigation and biological permit requirements;
5. Provide an explanation of the sensitivity of the vegetation and habitat within and adjacent to work areas, and proper identification of these resources;
6. Provide a discussion of the federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act and the consequences of non-compliance with these acts;
7. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas, and explain the reasons for protecting these resources;
8. Inform participants that no snakes, other reptiles, birds, bats, or any other wildlife will be harmed or harassed;
9. Place special emphasis on species known or likely to occur on the project site and/or gen-tie alignment, including special-status plants, desert tortoise, Mojave fringe-toed lizard, burrowing owl, golden eagle, nesting birds, desert kit fox, Palm Springs round-tailed ground squirrel, American badger, and Nelson's bighorn sheep, including information on physical characteristics, distribution, behavior, ecology, sensitivity to human activities, legal protection, penalties for violations, reporting requirements, and protection measures;
10. Describe the temporary and permanent habitat protection measures to be implemented at the project site;
11. Discuss the importance of avoiding the introduction of invasive weeds onto the

project site and surrounding areas, describe the Integrated Weed Management Plan (MM VEG-9) and applicable compliance requirements for workers on the site;

12. Provide contact information for the Designated Biologist and Biological Monitors to handle late comments and questions about the material discussed in the program, as well as notification of any dead or injured wildlife species encountered during project-related activities;
13. Include printed training materials, including photographs and brief descriptions of Emory's crucifixion thorn and other special-status plants that may be encountered, desert tortoises, Mojave fringe-toed lizards, burrowing owls, golden eagles, nesting birds covered under the Migratory Bird Treaty Act, desert kit fox, roosting bats, Palm Springs round-tailed ground squirrels, Nelson's bighorn sheep, and American badger, including behavior, ecology, sensitivity to human activities, legal protection, penalties for violations, reporting requirements, and protection measures;
14. Prominently display posters and descriptions in offices, conference rooms, employee break rooms, and other areas where employees may congregate, of Emory's crucifixion thorn and other special-status plants that may be encountered, desert tortoises, Mojave fringe-toed lizards, burrowing owls, golden eagles, nesting birds, desert kit fox, roosting bats, Palm Springs round-tailed ground squirrels, Nelson's bighorn sheep, and American badger, including behavior, ecology, sensitivity to human activities, legal protection, penalties for violations, reporting requirements, and protection measures;
15. Direct all WEAP trainees to report all observations of listed species and their sign to the Designated Biologist for inclusion in the monthly compliance report; and
16. Include a training acknowledgment form to be signed by each worker indicating that they received training and will abide by the guidelines.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist. The project owner will be responsible for ensuring that each construction worker at the site and gen-tie, throughout the duration of construction and decommissioning activities, receives the above training.

MM VEG-4

Minimize Construction-Related Impacts. Final engineering of the project will reduce the extent of the temporary construction work areas to the extent feasible and minimize the impacts to native vegetation and habitat. Prior to the start of construction, work areas (including, but not limited to, staging areas, access roads, and sites for temporary placement of construction materials and spoils) will be delineated with orange construction fencing or staking to clearly identify the limits of work and will be verified by the Designated Biologist or the Biological Monitor (MM VEG-1) prior to ground-disturbing activities. Fencing/staking will remain in place for the duration of construction. Spoils will be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor. To the extent possible, disturbance of shrubs and surface soils due to stockpiling will be minimized. All disturbances, vehicles, and equipment will be confined to the fenced/flagged areas.

Spoils and topsoil will be stockpiled in areas already disturbed or to be disturbed by construction, so that stockpile sites do not add to total disturbance footprint.

When feasible, construction activities will implement drive and crush rather than grading. Construction equipment would drive over and crush native plants to minimize impacts to the roots of desert shrubs. Drive and crush is expected to reduce the recovery time of desert shrubs within the temporary construction areas.

Site grading within the project site shall be localized in nature and limited to major access roads, inverter pad locations, lay down areas, tracker locations and ancillary facilities (including parking area, material storage, operations and maintenance building and switchyard).

With regard to CDFW jurisdictional streams, localized grading will be required to allow vehicle access when the slope is greater than 1 percent at the boundaries of delineated CDFW jurisdictional streambeds and the streambed is deeper than 12 inches (i.e., too steep for vehicles to traverse unassisted). Additionally, localized grading will be used where foundations or roads must be sited within streambeds. In all other instances, grading within CDFW jurisdictional streambeds shall be only occur when no other equally-sound method of engineering will allow development of the project at an equal or lesser cost than grading.

Excavation shall be limited to trenches for electrical conductors that connect the PV modules and the inverters to the switchyard. The PV modules would be electrically connected by wire harnesses and combiner boxes that would collect power from several rows of modules and feed the project's power conversion stations via direct current (DC) cables placed in underground covered trenches of an estimated 3 feet deep and from 1.5 to 2.5 feet wide.

Temporarily disturbed areas shall be revegetated.

MM VEG-5

Prepare and Implement a Vegetation Resources Management Plan. This mitigation measure provides further detail and specificity to the Pre-construction Surveys for Special-Status Plant Species and Cacti provided in AM BIO-3, and the Vegetation Resources Management Plan described in AM BIO-5. The project owner will contract a qualified botanist to prepare and implement a Vegetation Resources Management Plan, to be reviewed and approved by BLM, Riverside County, and the Resource Agencies. The Resources Management Plan will be provided to the JTNP for review and comment. The Vegetation Resources Management Plan must be approved in writing prior to the initiation of any vegetation-disturbing activities. The Plan's goal will be to prevent further degradation of disturbed sites, but not necessarily to restore pre-disturbance habitat values, due to off-site compensation requirements (MM VEG-6). The Vegetation Resources Management Plan will detail the methods for revegetation of temporarily impacted sites; salvage of cacti and special-status plants from the project footprint; and long-term management of vegetation within the solar facility during its operations. The Vegetation Resources Management Plan will be supplemented prior to decommissioning to provide a framework for vegetation management and post-decommissioning restoration/reclamation. The Vegetation Resources Management Plan will include the following components:

1. **Reclamation, revegetation, or restoration of temporarily impacted sites.** Temporary project disturbances to soils and vegetation (e.g., staging areas, materials and equipment, lay-down areas, temporary work areas and access routes along the gen-tie line) are analyzed as long-term disturbance, and habitat compensation lands are required to mitigate those long-term impacts (MM VEG-6). In order to avoid further degradation of these sites, the project owner will prepare and implement a plan to revegetate or restore the sites. The objectives will be to prevent or minimize further site degradation; stabilize soils; maximize the likelihood of vegetation recovery over time; and minimize soil erosion, dust generation, and weed invasions. The nature of site reclamation, revegetation, or restoration at each site will differ according to its pre-disturbance condition and the nature of the construction disturbance (e.g., drive and crush, vs. blading).
2. **Implementation:** The Plan will include at minimum: (a) soil preparation measures, including locations of recontouring, decompacting, imprinting, or other treatments; (b) details for topsoil storage, as applicable; (c) plant material collection and acquisition guidelines, including guidelines for salvaging, storing, and handling plants from the project site, as well as obtaining replacement plants from outside the project area; (d) a plan view drawing or schematic depicting the temporary disturbance areas (drawing of “typical” gen-tie structure sites will be appropriate); (e) time of year that the planting or seeding will occur and the methodology of the planting; (f) a description of the irrigation, if used; (g) a statement that the Integrated Weed Management Plan (MM VEG-9) will be implemented, or alternate measures to control invasive weeds undertaken, as appropriate to site conditions; (h) quantitative success criteria; and (i) a detailed monitoring program to measure the success criteria, commensurate with the Plan goals. This Plan will also contain contingency measures for failed revegetation or restoration efforts (efforts not meeting success criteria).
3. **Seed and Nursery Stock.** Only seed or potted nursery stock of locally occurring native species from a local source will be used for revegetation. Seeding and planting will be conducted as described in Chapter 5 of *Rehabilitation of Disturbed Lands in California* (Newton and Claassen 2003). The list of plants observed during botanical surveys of the project area will be used as a guide to site-specific plant selection for revegetation.
4. **Monitoring Requirement and Success Criteria.** The Plan will include objective, quantifiable success criteria, commensurate with the goals of the Plan. Monitoring of the reclamation, revegetation, or restoration sites will continue annually for 3 years or until the defined success criteria are achieved, whichever is later. The project owner will be responsible for implementing remediation measures as needed. Following remediation work, the site will be subject to the success criteria and monitoring period as required for the initial reclamation, revegetation, or restoration.
5. **Cactus Salvage.** In conformance with BLM policy, the project owner will include salvaged or nursery stock yuccas (all species), and cacti (excluding cholla species,

genus *Cylindropuntia*), in revegetation plans and implementation affecting BLM lands. The Plan will include methods to salvage and replant cacti, yucca, or other native species found on the site, prior to disturbance. It will include descriptions of pre-project field surveys to locate and identify specimens suitable for salvage; season for salvaging the plants; methods for salvage, storage, and re-planting them; locations for re-planting; and appropriate monitoring and success criteria for the salvage work.

6. **Operations Phase On-Site Vegetation Management:** The Plan will include methods and scheduling for on-site vegetation management throughout the operations phase, describing mowing or other vegetation treatments to be implemented, disposal of mown material, and incorporating all applicable components of the Integrated Weed Management Plan, including any proposed herbicide usage.
7. **Decommissioning Phase Plan Supplement.** Prior to closing and decommissioning the project, the project owner will contract a qualified botanist to prepare a supplement to the Vegetation Resources Management Plan, to describe all proposed vegetation management activities, and to be consistent with the site's proposed reuse. The supplement will describe any proposed reclamation, revegetation, or restoration of the site, to be consistent with Section 1 of this measure, above, as well as weed management and post-decommissioning monitoring requirements and success criteria.
8. **Reporting.** Within 90 days after completion of each year of project construction, the project owner will provide to the BLM and Riverside County verification of the total vegetation acreage subject to temporary and permanent disturbance and a written report identifying which items of the Vegetation Resources Management Plan have been completed, a summary of all modifications to mitigation measures made during the project's construction and decommissioning phases, and which items are still outstanding. The annual reports will also include a summary of the reclamation, revegetation, or restoration activities for the year, a discussion of whether performance standards for the year were met, any remedial actions conducted and recommendations for remedial action, if warranted, that are planned for the upcoming year.

MM VEG-6

Provide Off-Site Compensation for Impacts to Vegetation and Habitat. This mitigation measure provides further detail and specificity to the habitat compensation requirements described in AM BIO-1. In addition to compensating for impacts to vegetation resources, this measure also compensates for wildlife habitat resources. The Habitat Compensation Plan will compensate for acreages and habitat types as defined herein. The Plan will be submitted for approval to the BLM, Riverside County, and Resource Agencies prior to the commencement of construction. The Habitat Compensation Plan will be provided to the JTNP for review and comment.

The project owner will acquire and protect, in perpetuity, compensation habitat to mitigate impacts to biological resources as detailed below. The compensation lands will be placed under conservation management to be funded through the terms described

herein. The acreages and ratios will be based upon final calculation of impacted acreage for each resource and on ratios set forth in this measure, or in the USFWS Biological Opinion, the CDFG Streambed Alteration Agreement, the CDFG Incidental Take Permit, or the Consistency Determination, whichever presents a higher ratio. Acreages of anticipated compensation requirements as summarized throughout this measure are based on impacts analysis of Alternatives 4 and B (proposed project) in Sections 4.3 and 4.4 and ratios described below. Acreages will be adjusted as appropriate for other alternatives or future modifications during implementation.

Compensation will be provided for impacts to the following resources, at the specified ratios (acres acquired and preserved to acres impacted):

- Blue Palo Verde–Ironwood Woodland (Desert Dry Wash Woodland) (3:1)
- Dune and partially stabilized sandfield habitat (applicable only to Alternative E, all within the Palen-Ford WHMA; 5:1)
- Creosote Bush Scrub (Sonoran Desert Scrub) (1:1)
- State-jurisdictional streambeds (3:1)
- Occupied habitat for special-status plants (1:1; see MM VEG-7)
- Occupied or suitable desert tortoise habitat and habitat linkages (minimum 1:1)
- Occupied and suitable Mojave fringe-toed lizard habitat (only applicable to Alternative E, all within the Palen-Ford WHMA; 5:1)
- Occupied or suitable habitat for breeding or wintering burrowing owls (13 acres for each single burrowing owl or breeding pair if owls occur on compensation lands; 19.5 acres per single burrowing owl or breeding pair if there is no evidence that the compensation lands are currently occupied by burrowing owls). Note that compensation will be required if owls are observed during preconstruction or clearance surveys, or during other incidental observations.
- Golden eagle foraging habitat (1:1)
- Nelson’s bighorn sheep movement habitat (1:1)
- General wildlife movement corridors/habitat linkages (1:1)
- Habitat for other special-status wildlife species and nesting birds (1:1)
- Chuckwalla Desert Wildlife Management Area (DWMA) (5:1)

- Chuckwalla Desert Tortoise Critical Habitat Unit (CHU) (5:1)
- Palen-Ford Wildlife Habitat Management Area (WHMA) (2:1)

Under the proposed project, a total of 1,300 acres would be impacted (1,208 acres at the project site, and 92 acres along gen-tie Alternative B). Based on the proposed project, total habitat compensation lands would be no fewer than 2,083.5 acres, including, at minimum, 1,300 acres of desert tortoise habitat and 928.5 acres of state-jurisdictional streambeds (including at least 693 acres of Blue Palo Verde-Ironwood Woodland, or Desert Dry Wash Woodland). Final compensatory habitat acreages will be based on the final alternative selected and final project design. Table 4.3-3 details the minimum acres of habitat compensation lands for the proposed project, assuming maximum nesting of compensation lands (see discussion of “nesting” in Item 1 below Table 4.3-3). Final compensation requirements will be adjusted to account for any deviations in project disturbance, according to the final alternative selected, final design, and as-built project footprint. If the project shares gen-tie infrastructure with DSSF as proposed under Alternative B, the DHSP project owner will be responsible only for its proportion of compensation acreage to be acquired as mitigation for impacts of the shared facilities (i.e., 50 percent of compensation land requirements for construction-related impacts for shared infrastructure). The total amount of compensation mitigation lands required under this measure may exceed the acreages identified in Table 4.3-3, in order to provide mitigation for all of the resources identified in this measure.

1. **Nesting Compensation Lands.** Compensation lands for biological resources may be “nested.” For example, compensation for impacts to burrowing owls could be entirely or partially fulfilled by the acquisition of Creosote Bush Scrub (Sonoran Desert Scrub) compensation lands, provided those lands also contain suitable or occupied burrowing owl habitat and the acreage of compensation lands for burrowing owls is met. Thus, compensation for burrowing owls or other resources (desert tortoise, rare plants, golden eagle, etc.) may be fully nested within other compensation requirements.
2. **Compensation Ratios.** Where impacted habitats meet criteria as two (2) or more compensation ratios, the highest ratio will apply. For example, impacts to occupied desert tortoise habitat in Creosote Bush Scrub (Sonoran Desert Scrub) within the Chuckwalla DWMA would require mitigation at a 5:1 ratio.
3. **Compensation Land Selection Criteria.** Criteria for the acquisition, initial protection and habitat improvement, and long-term maintenance and management of compensation lands for impacts to biological resources will include all of the following:
 - a. Compensation lands selected for acquisition to meet BLM, USFWS, CDFG, and Riverside County requirements will provide habitat value that is equal to or better than the quality and function of the habitat impacted, to be determined by BLM, CDFG, and USFWS biologist, taking into consideration soils, vegetation, topography, human-related disturbance, wildlife movement opportunity, proximity to other protected lands, management feasibility, and other habitat values;

- b. To the extent that proposed compensation habitat may have been degraded by previous uses or activities, the site quality and nature of degradation must support the expectation that it will regenerate naturally when disturbances are removed;
- 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. Not have a history of intensive recreational use or other disturbance that might cause future erosion or other habitat damage, and make habitat recovery and restoration infeasible;
- e. 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;
- f. Not contain hazardous wastes that cannot be removed to the extent that the site could not provide suitable habitat;
- g. Must provide wildlife movement value equal to that on the project site, to be determined by BLM, CDFG, and USFWS, based on topography, presence and nature of movement barriers or crossing points, location in relationship to other habitat areas, management feasibility, and other habitat values; and
- h. Have water and mineral rights included as part of the acquisition, unless the BLM and Riverside County, in consultation with CDFG and USFWS, agree in writing to the acceptability of land without these rights.
- i. Additional selection criteria for desert tortoise compensation lands:
 - i. Compensation lands for impacts to desert tortoise will be within the Colorado Desert Tortoise Recovery Unit;
 - ii. Will be contiguous and biologically connected to lands currently occupied by desert tortoise, ideally with populations that are stable, recovering, or likely to recover (for lands proposed as desert tortoise habitat compensation; and
 - iii. Will contribute to wildlife movement and desert tortoise population connectivity value at least equal to that on the project site, by contributing to linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and other lands allocated for conservation. The primary focus area for acquiring parcels to maintain/improve connectivity will be along the I-10 corridor between Desert Center and Cactus City with a priority on parcels that connect conserved lands on either side of the I-10 through large culverts or bridges; the habitat compensation ratio for mitigation lands along the I-10 corridor will be 1:1 for each acre of total long-term and permanent disturbance. If acquisition of sufficient acreage within the I-10 corridor is not feasible, then the project owner will coordinate with Resource Agencies to identify other suitable lands to compensate for the project's impacts to desert tortoise habitat connectivity. The applicant shall use best efforts to acquire and restore lands within the Chuckwalla Valley to help maintain a connectivity corridor that is accessible to wildlife, and will support desert tortoise movement and occupancy.

- iv. Located within the I-10 connectivity corridor (as identified in the Biological Opinion for the project) that constitute either (i) 1,800 acres, or (ii) if BLM approves a Project that requires less than 1,800 acres of compensatory mitigation lands, 100 percent of what is required under the Biological Opinion as adjusted for the smaller project. If the Project requires more than 1,800 total acres of mitigation land, the applicant agrees to use best efforts to acquire lands within Priority 1 or 2 desert tortoise connectivity lands within the NECO planning area, as identified in the Solar Energy Development PEIS, provided USFWS and CDFW confirm such lands satisfy the compensatory mitigation standards set forth in the Biological Opinion.
 - j. Additional selection criteria for special-status plant compensation lands. The compensation lands selected for acquisition for impacts to special-status plants will include at least one of the following categories:
 - i. Occupied Habitat, No Habitat Threats. The compensation lands selected for acquisition will be occupied by the target plant population and will be characterized by site integrity and habitat quality that are required to support the target species, and will 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 will provide evidence that acquisition 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.
 - k. 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.
4. **Review and Approval of Compensation Lands Prior to Acquisition.** The project owner will submit a formal acquisition proposal to the BLM, USFWS, CDFG, and Riverside County describing the parcel(s) intended for purchase. This acquisition proposal will 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, CDFG, USFWS, and Riverside County in. The project owner will submit the formal acquisition proposal to the JTNP for review and comment.
 5. **Management Plan.** The project owner or approved third party will prepare a management plan for the compensation lands in consultation with the entity that will be managing the lands. The goal of the management plan will be to support and enhance the long-term viability of the biological resources. The Management Plan will be submitted for review and approval to the BLM, CDFG, USFWS, and Riverside

County, in consultation with the JTNP. A copy of the final Management Plan will be provided to the JTNP.

6. **Compensation Lands Acquisition Requirements.** The project owner will comply with the following requirements relating to acquisition of the compensation lands after the BLM, USFWS, CDFG, and Riverside County have approved the proposed compensation lands:
 - a. **Preliminary Report.** The project owner, or an approved third party, will 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 Riverside County. All documents conveying or conserving compensation lands and all conditions of title are subject to review and approval by the BLM and Riverside County. 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 will acquire and transfer fee title to the compensation lands, a conservation easement over the lands, or both fee title and conservation easement, as required by the BLM, USFWS, CDFG, and Riverside County. 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 Riverside County. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement will be recorded in favor of CDFG or another entity approved by the BLM and Riverside County. If an entity other than CDFG holds a conservation easement over the compensation lands, the BLM and Riverside County may require that CDFG or another entity approved by the BLM, USFWS, and Riverside County, in consultation with CDFG, be named a third party beneficiary of the conservation easement. The project owner will obtain approval of the BLM, USFWS, CDFG, and Riverside County 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 will fund activities that the BLM and Riverside County 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 Riverside County 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 will conduct a Property Analysis Record (PAR; Center for Natural Lands Management 2012) 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, Riverside County, USFWS, and CDFG 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 will 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 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 will 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 Riverside County 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 will 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 will deposit additional money as may be needed to provide the full amount of long-term maintenance and management funding indicated by a PAR or PAR-like 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 Riverside County's approval of the entity that will receive and hold the long-term maintenance and management fund for the compensation lands. The BLM and Riverside County 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 will ensure that an agreement is in place with the long-term maintenance and management fund holder/manager to ensure the following requirements are met:

- i. **Interest.** Interest generated from the initial capital long-term maintenance and management fund will be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law

- enforcement measures, and any other action that is approved by the BLM and Riverside County 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 will not be drawn upon unless such withdrawal is deemed necessary by the BLM, USFWS, CDFG, and Riverside County or by the approved third-party long-term maintenance and management fund manager, to ensure the continued viability of the species on the compensation lands.
 - 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 Riverside County.
- f. **Other Expenses.** In addition to the costs listed above, the project owner will be responsible for all other costs related to acquisition of compensation lands and conservation easements, including but not limited to the title and document review costs incurred from other state agency reviews, overhead related to providing compensation lands to CDFG or an approved third party, escrow fees or costs, environmental contaminants clearance, and other site cleanup measures.
- g. **Mitigation Security.** No fewer than 30 days prior to ground disturbance, the project owner will provide financial assurances to the BLM and Riverside County to guarantee that an adequate level of funding is available to implement any of the mitigation measures required by this condition that are not completed prior to the start of ground-disturbing project activities. Financial assurances will be provided to the BLM, USFWS, CDFG, and Riverside County in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") approved by the BLM, USFWS, CDFG, and Riverside County. The actual costs to comply with this condition will vary depending on the actual costs of acquiring compensation habitat, the costs of initially improving the habitat, and the actual costs of long-term management as determined by a PAR report. Prior to submitting the Security to the BLM, USFWS, CDFG, and Riverside County, the project owner will obtain the BLM, USFWS, CDFG, and Riverside County's approval of the form of the Security. The BLM, USFWS, CDFG, and Riverside County may draw on the Security if the BLM, USFWS, CDFG, and Riverside County determine the project owner has failed to comply with the requirements specified in this condition. The BLM, USFWS, CDFG, and Riverside County may use money from the Security solely for implementation of the requirements of this condition. The BLM, USFWS, CDFG, and Riverside County's use of the Security to implement measures in this condition may not fully satisfy the project owner's obligations under this condition, and the project owner remains responsible for satisfying the obligations under this condition if the

Security is insufficient. The unused Security will be returned to the project owner in whole or in part upon successful completion of the associated requirements in this condition.

Security for the requirements of this condition will be calculated as shown in Table 4.3-4. However, regardless of the amount of the security or actual cost of implementation, the project owner will be responsible for implementing all aspects of this condition, including acquisition and protection of additional habitat acreage if necessary to compensate for all impacts listed in this mitigation measure.

- 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 maintenance and management of the compensation lands, 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 will 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 balance will 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 Riverside County. Such delegation will be subject to approval by the BLM and Riverside County, 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, will be executed and implemented within 18 months of the BLM and Riverside County's certification of the project.
- j. The project owner 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 AB 13. Compensation lands acquired through AB 13 may in whole or in part satisfy the compensation habitat requirements set forth in this mitigation measure, only to the 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.

MM VEG-7

Mitigate Direct Impacts to Special-Status Plants. This mitigation measure provides further detail and specificity to the Pre-construction Surveys for Special-Status Plant Species and Cacti provided in AM BIO-3. The project owner will mitigate impacts to Emory's crucifixion thorn (CRPR 2) on the solar generator site and direct impacts to any other CRPR 1 or 2 ranked plants that may be impacted by gen-tie line construction, including impacts to Harwood's woollystar (CRPR 1) on gen-tie Alternative E, through one or a combination of the following strategies.

1. **Avoidance.** Project design will avoid at minimum 75 percent of the Emory's crucifixion thorn, Harwood's woollystar, and other CRPR 1 or 2 ranked plants occurrences within the project boundaries or other work areas, including the gen-tie line, and will provide a minimum 100-foot buffer area surrounding each avoided occurrence, where no project activities will take place.
2. **Off-site compensation.** The project owner will provide compensation lands consisting of occupied Emory's crucifixion thorn, Harwood's woollystar or other CRPR 1 or 2 ranked plants, habitat at a 1:1 ratio for any occupied habitat affected by the project, according to the terms described in MM VEG-6. Occupied habitat will be calculate on the project site and on the compensation lands as including each special status plant occurrence and a surrounding 100-foot buffer area. Off-site compensation will be incorporated into the project's Habitat Compensation Plan, for review and approval by the BLM, Riverside County, and the Resource Agencies.
3. **Salvage.** It is not known whether salvage is a feasible mitigation strategy for Emory's crucifixion thorn or most other special-status plants. For Emory's crucifixion thorn, the project owner will consult with Rancho Santa Ana Botanic Garden (RSABG) regarding the success of salvage efforts for this species at the Desert Sunlight Solar Farm Project site. If the strategy has been shown to be feasible, then the project owner will prepare and implement an Emory's Crucifixion Thorn Salvage and Relocation Plan, to be reviewed and approved by the BLM, Riverside County EPD, and the Resource Agencies, prior to disturbance of any occupied Emory's crucifixion thorn habitat. Emory's crucifixion thorn on private lands may also be subject to the provisions of the California Desert Native Plants Act. The project owner will contract with RSABG or another entity with comparable experience and qualifications, to salvage at minimum 75 percent of Emory's crucifixion thorn individuals from the proposed project site and transfer them to a suitable off-site location approved by BLM. If special-status plants are salvaged from non-BLM land, then all salvage planning and activities will be subject to review and approval by Riverside County EPD. For other special-status plants (i.e., on gen-tie Alternative E, if they occur), the project owner will consult with the BLM botanist and/or Riverside County (as applicable), along with RSABG or another qualified entity, to develop an appropriate experimental salvage and relocation strategy, based on the life history of the species affected. The Plan will include at minimum: (a) collection/salvage measures for plants or seed banks, to retain intact soil conditions and maximize success likelihood; (b) details regarding storage of plants or seed banks; (c) location of the proposed recipient site, and detailed site preparation and plant introduction

techniques details for top soil storage, as applicable; (d) time of year that the salvage and replanting or seeding will occur and the methodology of the replanting; (e) a description of the irrigation, if used; (f) success criteria; and (g) a detailed monitoring program, commensurate with the Plan's goals.

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

MM VEG-8

Implement Best Management Practices to Minimize Impacts to Jurisdictional Areas.

The project owner will implement all mitigation measures and conditions contained within the Streambed Alteration Agreement obtained from the California Department of Fish and Game for impacts to jurisdictional areas, as well as any requirements of the Regional Water Quality Control Board or the U.S. Army Corps of Engineers, upon determination of jurisdiction and permit issuance by all three agencies (see MM WAT1). In addition, the following Best Management Practices will be implemented during all construction activity in or near ephemeral drainages:

1. Vehicles and equipment will not operate in ponded or flowing water except as described in the Streambed Alteration Agreement.
2. The project Proponent will minimize road building, construction activities, and vegetation clearing within ephemeral drainages to the extent feasible.
3. The project Proponent shall prevent water containing mud, silt, or other pollutants from grading or other activities to enter ephemeral drainages or be placed in locations that may be subjected to high storm flows.
4. Spoil sites will not be located within 30 feet from the boundaries of drainages or in locations that may be subjected to high storm flows, where spoils might be washed back into drainages.
5. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources, resulting from project-related activities, will not contaminate the soil and/or entering ephemeral drainages. The project owner shall ensure that safety precautions specified by this measure, as well as all other safety requirements of other measures and permit conditions are followed during all phases of the project.
6. When operations are completed, any excess materials or debris will be removed from the work area. No rubbish will be deposited within 150 feet of the high water mark of any drainage during construction, operation, and decommissioning the project.

7. No equipment maintenance will occur within 150 feet of any category 3, 4, or 5 streambed or any streambed greater than 10 feet wide and no petroleum products or other pollutants from the equipment will be allowed to enter these areas or enter any off-site state-jurisdictional waters under any flow.
8. With the exception of the drainage control system installed for the project, the installation of bridges, culverts, or other structures will be such that water flow (velocity and low flow channel width) is not impaired. Bottoms of temporary culverts will be placed at or below stream channel grade.
9. No broken concrete, debris, soil, silt, sand, bark, slash, sawdust, rubbish, or other organic or earthen material from any construction or associated activity of whatever nature will be allowed to enter into, or placed where it may be washed by rainfall or runoff into, off-site state-jurisdictional waters.
10. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to a drainage, will be positioned over drip pans. Stationary heavy equipment will have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as brooms, absorbent pads, and skimmers will be on site prior to the start of construction.
11. The cleanup of all spills will begin immediately. The BLM, the State of California Department of Toxic Substances Control, and Riverside County will be notified immediately by the project owner of any spills and will be consulted regarding clean-up procedures.
12. Non-Native Vegetation Removal. The project owner will remove any non-native vegetation (consistent with the Integrated Weed Management Plan, MM VEG-9) from any drainage on the project site that requires the placement of a bridge, culvert, or other structure. Removal will be done at least twice annually (spring/summer) throughout the life of the project.

MM VEG-9

Prepare and Implement an Integrated Weed Management Plan. This mitigation measure provides further detail and specificity to the Integrated Weed Management Plan described in AM BIO-2. The project owner will contract a qualified biologist to prepare and implement a Weed Management Plan that meets the approval of the BLM and Riverside County EPD, in consultation with the JTNP, CDFG, and USFWS. The Weed Management Plan will be approved prior to initial ground disturbance. At minimum, the Weed Management Plan will include the following:

1. An assessment of nonnative and invasive weeds occurring onsite prior to construction activities;
2. An assessment of nonnative and invasive weeds that could be introduced into the project area;
3. A description of methods to be used to survey for the presence of introduced weeds during construction and operation;
4. Monitoring and weed control methods to be employed during operation, consistent with BLM's Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (BLM 2007) and the National Invasive Species Management Plan (NISC 2008);

5. Specific and detailed guidelines for herbicide use to prevent overspray onto surrounding areas where it would adversely affect wildlife or native plants; and
6. Reporting requirements.

The final plan will only include weed control measures with a demonstrated record of success for target weeds, based on the best available information from sources such as: The Nature Conservancy's The Global Invasive Species Team, Cooperative Extension, California Invasive Plant Council: http://www.cal-ipc.org/plant_profiles/index.php, and the California Department of Food & Agriculture Encyclopedia: <http://www.cdffa.ca.gov/phpps/ipc/> hp. The methods will meet the following criteria:

1. **Manual.** Well-timed removal of plants or seed heads with hand tools; seed heads and plants must be disposed of in accordance with guidelines from the Riverside County Agricultural Commissioner.
2. **Chemical.** Herbicides known to have residual toxicity, such as pre-emergents and pelts, will not be used in natural areas or within channels (engineered or not) where they could run off into downstream areas. Only the following application methods may be used: wick (wiping onto leaves); inner bark injection; cut stump; frill or hack & squirt (into cuts in the trunk); basal bark girdling; foliar spot spraying with backpack sprayers or pump sprayers at low pressure or with a shield attachment to control drift, and only on windless days, or with a squeeze bottle for small infestations

In addition to describing weed eradication and control methods, and a reporting plan for weed management during and after construction, the final Weed Management Plan will include at minimum the following Best Management Practices to prevent the spread and propagation of weeds:

- a. Limit the extent of any vegetation and/or ground disturbance to the absolute minimum needed, and limit ingress and egress to defined routes.
- b. Install and maintain vehicle wash and inspection stations and closely monitor the types of materials brought onto the site.
- c. Reestablish soil stability and vegetation on temporarily disturbed sites (measures and performance standards to be consistent with the Vegetation Resources Management Plan, described in MM VEG-5).
- d. Monitoring and timely implementation of control measures to ensure early detection and eradication for weed invasions. Weed infestations must be controlled or eradicated as soon as possible upon discovery, and before they go to seed, to prevent further expansion.
- e. Use only certified weed-free straw or hay bales used for sediment barrier installations, and certified weed-free seed.
- f. Reclamation, revegetation, or restoration will occur on all temporarily disturbed areas, including, but not limited to, temporary access roads, construction work temporary lay-down areas, and staging areas (consistent with MM VEG-5).
- g. Control weeds in areas where dust control, irrigation, and solar panel washing take place.
- h. Prohibit on-site storage or disposal of mulch or green waste from weed material to

prevent inadvertent introduction and spread of invasive plants beyond the immediate vicinity of the project area and possibly into rare plant populations off-site. Mulch or green waste will be removed from the site in a covered vehicle to prevent seed dispersal, and transported to a licensed landfill or composting facility.

- i. Indicate where herbicides may be used, which herbicides, and specify techniques to be used to avoid chemical drift or residual toxicity to special-status plants, consistent with consistent with BLM's Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (BLM 2007) and guidelines provided by the Nature Conservancy's The Global Invasive Species Team: <http://www.invasive.org/gist/products.html>.
- j. Avoid herbicide use or other control methods in or around any environmentally sensitive areas identified within or adjacent to the project site.

Nonnative and invasive weed infestations will be flagged by the Designated Biologist or Biological Monitor and controlled, using either mechanical (hand pulling, mowing) or chemical methods as approved by the BLM and, as appropriate, Riverside County. Only state and BLM-approved herbicides will be used, and all herbicide applicators will possess a qualified herbicide applicator license from the state. All herbicide applications will follow U.S. Environmental Protection Agency label instructions and be performed in accordance with federal, state, and local laws and regulations.

From the time construction begins and throughout the life of the project, surveying for new invasive weed populations and the monitoring of identified and treated populations will be required within the project area. Surveying and monitoring for weed infestations will occur at least two times per year (timed to occur early and late in the growing season). Treatment of all identified weed populations will occur at a minimum of once annually. When no new seedlings or re-sprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.

MM VEG-10

Prepare and Implement a Desert Dry Wash Woodland Monitoring and Reporting Plan.

The project owner will contract a qualified biologist to prepare and submit a Desert Dry Wash Woodland Monitoring and Reporting Plan to BLM, Riverside County, and the Resource Agencies for review and approval and to the JTNP for review and comment prior to commencing project-related pumping activities. Upon approval, the project owner will finalize and implement the Plan. The Desert Dry Wash Woodland Monitoring and Reporting Plan will outline the following information and actions:

1. Prior to project operations, the baseline health and vigor of groundwater-dependent plant species (principally desert ironwood and blue palo verde but also other species such as smoke tree and crucifixion thorn would be included) will be recorded within four zones: immediately off-site at the project boundary, and at ¼-mile, ½-mile and 1-mile distances from proposed project groundwater supply well locations. At least one "control" site, at least 2 miles from the project site, will also be sampled. The number of individuals for each of the target species to be sampled at each site will be large enough to provide valid comparison of data among sites.
2. A qualified botanist or plant physiologist will develop or adapt a sampling protocol to be carried out in desert dry wash woodland at each sampling zone (above) and

the control site to monitor stress and mortality of target plants once operations begin. The protocol will include a measure of pre-dawn water potential or other appropriate indicator of water stress, as measured by standard plant physiology techniques.

3. The Desert Dry Wash Woodland Monitoring and Reporting Plan will identify what constitutes a significant difference in plant stress or mortality under this mitigation measure. If a significant difference in plant stress or mortality is shown at one or more sample locations in comparison to the control site, the project owner will coordinate with BLM, Riverside County, and CDFG to interpret the results. The sample site and control site data will be evaluated in terms of the project's groundwater usage, climate factors, and groundwater monitoring data collected under MM WAT-3. If plant stress or mortality is determined to be related to project activities, then the project owner will either refrain from pumping, reduce groundwater pumping to allow for recovery of the groundwater table, or provide additional habitat compensation as described below.

Monthly Desert Dry Wash Woodland Monitoring summary memos will be submitted to BLM, CDFG, and Riverside County during the construction period of the project. In addition, annual Desert Dry Wash Woodland Monitoring reports will be submitted for at least the first 3 years following completion of construction of the project or until the defined success criteria are achieved, whichever is later. The summary memos will contain the monitoring data required as part of the monitoring program requirements under MM WAT-3. In addition, each Desert Dry Wash Woodland Monitoring Report will provide maps and text discussion of each study site, changes in plant health and vigor, changes in groundwater levels in the production wells, and the year's monitoring data.

If results of the groundwater monitoring program under MM WAT-3 indicate that the project pumping has resulted in water level decline of 1 foot or more below the baseline trend, and vegetation monitoring for plant stress, mortality, and water potential have documented one or more of the sampling sites for the two groundwater-dependent plant species as reaching the threshold (above), the project owner will reduce groundwater pumping until water levels stabilize or recover, provide for temporary supplemental watering, or compensate for additional impacts to desert dry wash woodland (Blue Palo Verde–Ironwood Woodland) at the ratio of 3:1, consistent with MM VEG-6. Estimated acreage of additional dry wash woodland impacts will be submitted to BLM, Riverside County, and the Resource Agencies for approval. Upon approval, the project owner will initiate compensation according to the requirements and conditions for habitat compensation as described in MM VEG-6.

At the conclusion of the three-year monitoring period or until the defined success criteria are achieved, whichever is later, for Desert Dry Wash Woodland following completion of project construction, the project owner, Riverside County, and BLM will 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 verifi-

able or attributable to this specific project or found inconsistent with state or federal statute, it may be modified or eliminated.

Biological Resources – Wildlife

- AM-BIO-6** A **Desert Tortoise Translocation Plan** will be prepared for the project and will be implemented by the Applicant to ensure that construction monitoring will be conducted by BLM-, USFWS-, and CDFG-approved biologists during all construction activities, and that any desert tortoise found within the construction zone will be translocated to a suitable location outside of the project footprint. The Final Plan will conform to the 2010 USFWS desert tortoise relocation guidelines entitled *Translocation of Desert Tortoise (Mojave Population) From Project Sites: Plan Development Guidance* (unpublished report dated August 2010).
- AM-BIO-7** The Applicant shall contribute to the USFWS Regional Raven Management Program by making a one-time payment of \$105 per acre of project disturbance to the National Fish and Wildlife Federation Renewable Energy Action Team raven control account. An **Avian and Bat Protection Plan** will be prepared and will be implemented by the Applicant to specify necessary actions to be taken to protect nesting bird and bat species, including burrowing owls, nesting birds, and roosting bats. The Draft Plan will be reviewed and approved by BLM. The Final Plan will conform to the 2010 USFWS avian and bat guidelines entitled *Considerations for Avian and Bat Protection Plans* U.S. Fish and Wildlife Service White Paper.
- AM-BIO-8** **Construction Water Storage Pond Design.** The temporary construction water ponds shall be designed, constructed, and operated in compliance with all applicable regulatory requirements with respect to design, operation, and maintenance, protection of migratory waterfowl, and raven management.
- MM WIL-1** **Wildlife Impact Avoidance and Minimization.** The project owner shall undertake the following measures during the construction, O&M, and decommissioning phases (as applicable) of the project and related facilities in a manner to avoid or minimize impacts to biological resources. Implementation of all measures shall be subject to review and approval by the BLM, Riverside County, and the Resource Agencies (CDFG and USFWS).
- 1. Limit Disturbance Areas and Perimeter Fencing.** The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to disturbance, in consultation with the Designated Biologist. Spoils and topsoil shall be stockpiled in areas already disturbed or to be disturbed by construction, so that stockpile sites do not add to total disturbance footprint. All disturbances, project vehicles, and equipment shall be confined to the flagged areas. Parking areas, staging and disposal site locations shall similarly be located in areas without native vegetation or special-status species habitat.
 - 2. Minimize Road Impacts.** New and existing roads, road widening, or other road improvements shall not extend beyond the flagged impact area. All vehicles passing or turning around would do so within the flagged impact area or in previously disturbed areas. Where new access is required, the route shall be clearly marked

(i.e., flagged and/or staked) prior to the onset of construction.

3. **Minimize Traffic Impacts.** Vehicular traffic shall be confined to existing designated routes of travel to and from the project site, and cross-country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit shall not exceed 15 miles per hour within any part of the project area, maintenance roads for linear facilities, or unpaved access roads to the project site where desert tortoise clearance surveys and translocations have not been completed.
4. **Monitor During All Soil or Vegetation Disturbance.** Due to the possibility that desert tortoises, especially juveniles, may be found on the site after desert tortoise clearance surveys are completed and exclusion fencing is installed, the Designated Biologist or Biological Monitor shall be present at the site during all project activities that have potential to disturb soil, vegetation, or wildlife. The Designated Biologist or Biological Monitor shall walk immediately ahead of equipment during brushing and grading activities. Any ground-disturbing activities occurring prior to construction site mobilization (e.g., for geotechnical borings or hazardous waste evaluations) shall be monitored by a Designated Biologist or Biological Monitor. During all monitoring activities, the Designated Biologist or Biological Monitor will, to the extent practicable, actively or passively relocate wildlife out of harm's way, where consistent with all adopted mitigation measures and other project requirements.
5. **Minimize Impacts of Transmission/Pipeline Alignments, Roads, and Staging Areas.** Staging areas, materials laydown areas, and other ancillary or temporary disturbance areas shall be restricted to areas where desert tortoise clearance surveys have been completed and that have been enclosed within desert tortoise exclusion fencing. For transmission line construction or other activities outside of the fenced solar generator site, access roads, pulling sites and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources. The Designated Biologist or Biological Monitor shall evaluate potential for special-status plants or wildlife at every potential disturbance site along the lengths of the gen-tie line prior to any construction-related disturbance, including access improvements. Specifically, site selection of any area to be permanently or temporarily disturbed for gen-tie line construction shall avoid any desert wash, desert microphyll woodland species (blue palo verde or desert ironwood), and any aeolian sand habitat wherever feasible. Where these sites cannot feasibly be avoided, the Designated Biologist shall outline site-specific requirements to minimize impacts to habitat and wildlife. These requirements shall include, but will not be limited to, pre-construction clearance surveys, exclusion fencing (e.g., for desert tortoise or Mojave fringe-toed lizard), on-site monitoring, and post-construction remediation.
6. **Implement APLIC Guidelines.** Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) Suggested Practices for Avian Protection on Power Lines (APLIC 2006) and Mitigating Bird Collisions with Power Lines (APLIC 1994) to minimize the likelihood of large bird electrocutions and collisions.

7. **Avoid Use of Toxic Substances.** Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants.
8. **Minimize Lighting Impacts.** Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards surrounding wildlife habitat. To minimize risk of avian collisions with project features, only flashing or strobe lights shall be installed on features requiring safety lighting per FAA requirements.
9. **Minimize Noise Impacts.** To minimize disturbance to wildlife nesting or breeding activities in surrounding habitat, loud construction activities (e.g., pile driving) shall be avoided to the extent feasible from February 1 to August 31. Loud construction activities may be permitted from February 1 to August 31 only according to the provisions of the Nesting Bird Management Plan described in MM WIL-3.
10. **Avoid Vehicle Impacts to Wildlife.** Vehicle parking and storage shall be permitted only within the area enclosed by desert tortoise exclusion fencing to the extent feasible. No vehicles or construction equipment shall be moved prior to an inspection of the ground beneath the vehicle for the presence of desert tortoise or other wildlife. If a desert tortoise is observed, it shall be left to move on its own. If it does not move within 15 minutes, a Designated Biologist or Biological Monitor under the Designated Biologist's direct supervision may remove and relocate the animal to a safe location if temperatures are within the range described in the *Desert Tortoise Field Manual* (USFWS 2009: http://www.fws.gov/ventura/species/information/protocols_guidelines/) and in accordance with the Biological Opinion for the project. In order to minimize road strikes for all wildlife species, all access roads outside of the fenced project footprint shall be delineated with temporary desert tortoise exclusion fencing on either side of the access road, unless otherwise authorized by the BLM, Riverside County, USFWS, and CDFG. This protocol to avoid vehicle impacts to wildlife, including desert tortoises, shall be emphasized in the WEAP training (MM VEG-3).
11. **Avoid Wildlife Pitfalls:**
 - a. **Backfill Trenches.** At the end of each work day, the Designated Biologist shall ensure that all potential wildlife pitfalls (trenches, bores, temporary detention basins, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, temporary detention basins, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with desert tortoise-exclusion fencing. All potential pitfalls (trenches, bores, temporary detention basins, storage ponds, and other excavations) outside the fenced areas shall be inspected periodically, but no less than three times, throughout the day and at the end of each workday by the Designated Biologist or a Biological Monitor. Within the fenced area, potential pitfalls, including storage ponds, shall be inspected daily. Should a desert tortoise or other wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and, if applicable, relocate it as described in the Desert Tortoise Translocation

Plan. Any wildlife encountered shall be allowed to leave the area unharmed.

- b. **Avoid Entrapment of Desert Tortoise.** Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches aboveground for one or more nights, shall be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored outside the fenced area, or placed on pipe racks.
- c. **Avoid Entrapment of Nesting or Migratory Birds.** All pipes or other construction materials or supplies will be covered or capped in storage or laydown areas and at the end of each work day in the solar field or gen-tie line during construction, O&M, and decommissioning phases. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches will be left open either temporarily or permanently.

12. **Minimize Standing Water.** Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement shall use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. A Biological Monitor shall patrol these areas to ensure water does not puddle. Appropriate actions to minimize standing water shall be implemented by the project owner or by the Biological Monitor in coordination with BLM.

13. **Injured Wildlife.** Any injured or dead wildlife encountered during project-related activities (construction, O&M, and decommissioning) shall be reported to the Designated Biologist or Biological Monitor(s) immediately. The Designated Biologist or Biological Monitor will contact CDFG or a CDFG-approved veterinary facility immediately to report the observation and determine the best course of action. For special-status species, the Designated Biologist shall notify the BLM, USFWS, and/or CDFG, as appropriate, within 24 hours of the discovery.

14. **Dispose of Road-Killed Animals.** Road-killed animals or other carcasses detected on roads near the project area shall be picked up immediately and delivered to the Designated Biologist or Biological Monitor. For all road-killed animals, the Designated Biologist shall retain the carcass in a freezer on site and contact CDFG within 30 working days for guidance on disposal, storage, or curation. For any road-killed special-status species, the Biological Monitor shall contact CDFG and USFWS (for golden eagle or federally-listed species, including desert tortoise) within one working day of receipt of the carcass for guidance on disposal, storage, or curation of the carcass. The Biological Monitor shall report the special-status species observations as described in MM VEG-1.

15. **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Designated Biologist shall be informed of any hazardous spills immediately as directed in the project Hazardous Materials Management Plan.

Hazardous spills shall be immediately cleaned up and the contaminated soil properly disposed of at a licensed facility. Fueling and servicing of construction equipment shall take place only at a designated area approved by the Designated Biologist. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills.

16. **Worker Guidelines.** All trash and food-related waste shall be placed in self-closing raven-proof containers and removed regularly from the site to prevent overflow. Workers shall not feed wildlife or bring pets to the project site, including the logistics, parking, and other ancillary areas. Except for law enforcement personnel, no workers or visitors to the site **shall bring firearms or weapons.** Vehicular traffic shall be confined to existing routes of travel to and from the project site, and cross-country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit when traveling on dirt access routes within desert tortoise habitat shall not exceed 15 miles per hour.
17. **Implement Erosion Control Measures.** Standard erosion control measures shall be implemented for all phases of construction and O&M to prevent any sediment runoff from exposed slopes from entering state-jurisdictional streambeds within or outside the project site or work areas along the gen-tie line. Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into the stream. All disturbed soils and roads within the project site shall be stabilized to reduce erosion potential, both during and following construction, except that soil stabilizer use may be limited in portions of roads crossing washes or stream channels consistent with applicable water quality requirements.
18. **Remove Unused Material and Equipment.** All unused material and equipment, including soil and rock piles, will be removed upon completion of any activities located outside the permanently fenced area.
19. **Control and Regulate Fugitive Dust.** To reduce the potential for the transmission of fugitive dust, the project owner shall implement dust control measures as described in mitigation measures defined in the Air Quality section. In addition, reverse osmosis brine or sediment shall be promptly removed at regular intervals and disposed at an approved waste facility. A log documenting all brine or sediment removal shall be kept at the Operations & Maintenance facility at all times.
20. **Cover Evaporation Ponds.** Prior to any discharge in the evaporation ponds, the project owner shall cover the ponds with netting designed to exclude birds and other wildlife from drinking or landing on the pond surfaces. Mesh shall be 2 cm square or smaller, shall be installed to prevent sagging, and shall be a minimum of 5 feet above the surface of the water. Netting with another mesh size or a smaller distance above the water may be installed if approved by the BLM in consultation with CDFG and USFWS. The netted ponds shall be monitored regularly to verify that the netting is intact; fulfilling its function in excluding birds and other wildlife;

and does not pose an entanglement threat to wildlife. Visual deterrents (e.g., flagging, reflecting tape, or hawk-shaped kites) shall also be used in addition to netting. As appropriate, these measures shall also be applied to construction water ponds.

MM WIL-2 Desert Tortoise Clearance Surveys, Exclusion Fencing, and Translocation. The project owner shall avoid and minimize impacts to desert tortoises on the project site, by (1) fencing the project site to prevent tortoises from entering it during construction, O&M, or decommissioning; (2) removing all tortoises from the site prior to initiating construction; and (3) relocating or translocating tortoises to an appropriate off-site location, to be identified in a Translocation Plan. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial burrow construction, egg handling, and other procedures shall be consistent with those described in the USFWS (2009) *Desert Tortoise Field Manual* (http://www.fws.gov/ventura/species_information/protocols_guidelines) or more current guidance provided by CDFG and USFWS. The project owner shall also implement all terms and conditions described in the Biological Opinion for the project, to be prepared by USFWS and all terms and conditions in an Incidental Take Permit from CDFG. Applicable conditions and requirements include, but are not limited to, the following:

1. **Desert Tortoise Translocation Plan.** The project owner shall contract a qualified biologist to prepare and implement a Desert Tortoise Translocation Plan in conformance with standards and guidelines described in Translocation of Desert Tortoises (Mojave Population) From Project Sites: Plan Development Guidance (USFWS 2010b) or more current guidance or recommendations as available from CDFG and/or USFWS, and meets the approval of the BLM, Riverside County, USFWS, and CDFG. The Plan will be provided to the Joshua Tree National Park (JTNP) for review and comment. The goal of the Plan shall be to safely exclude desert tortoises from within the project area, translocate them to appropriate locations off site, and minimize stress and potential for disease transmission. For tortoises that may be found along the gen-tie line, the Plan's goal will be to avoid impacts through construction monitoring, allowing the tortoise to leave the work area, moving it out of harm's way if required and as permitted by the Biological Opinion, and avoiding disturbance to tortoise burrows through re-siting work sites and structures. The Plan shall include all protocols for handling desert tortoises, evaluating tortoise health, translocation locations and procedures, monitoring methods for trans-located tortoises, reporting, and contingency planning (e.g., handling an injured or diseased tortoise). In addition, as an alternative to translocation, the Plan will identify a strategy to remove desert tortoises on the project site from the wild and place them permanently in facilities approved by USFWS and CDFG, to be fully funded by the project owner. Suitable care or holding facilities for desert tortoises, and their capacity to accommodate desert tortoises, shall be identified. The BLM and Riverside County will not accepted the plan as "final" until it has been reviewed and approved by the USFWS and CDFG. Any modifications to the approved final Plan shall be made only with written approval by the BLM, Riverside County, USFWS, and CDFG. A copy of the approved plan will be provided to JTNP.
2. **Handling of Desert Tortoises.** Any desert tortoise located during any phase of the

project shall be handled only by the Designated Biologist or Authorized Biological Monitor in accordance with the USFWS (2009) *Desert Tortoise Field Manual* and the project's Desert Tortoise Translocation Plan, and any other applicable conditions made by the USFWS or CDFG. Any time a tortoise is handled, the Designated Biologist shall record and report pertinent data, in accordance with the final Desert Tortoise Translocation Plan. Monitoring of translocated desert shall be in accordance with the Desert Tortoise Translocation Plan and USFWS (2010b) guidance.

3. **Desert Tortoise Exclusion Fence Installation.** Permanent desert tortoise exclusion fencing shall be installed around the project site. The alignments for all desert tortoise exclusion fencing shall be flagged and surveyed for desert tortoise by the Designated Biologist and Biological Monitors no more than 24 hours prior to the initiation of fence construction. The fence alignment surveys shall be conducted using techniques approved by the USFWS and CDFG and may be conducted in any season with USFWS and CDFG approval. The fence alignment clearance surveys shall provide 100 percent coverage of all areas to be disturbed and an additional buffer 90 feet wide centered on the fence alignment (i.e., 45 feet along each side of the fence line). Survey transects shall be no greater than 15 feet apart. All potential desert tortoise burrows shall be examined to assess occupancy by desert tortoises. Security fencing will be installed as near as is feasible to permanent desert tortoise exclusion fencing in order to prevent animals from being trapped between the two fences.
 - a. **Timing of Fence Installation.** The exclusion fencing shall be installed prior to the pre-construction clearance surveys. No ground-disturbing activity will be permitted within the fenced area until completion of the pre-construction clearance surveys.
 - b. **Fence Material and Installation.** The exclusion fencing shall be constructed in accordance with the USFWS (2009) *Desert Tortoise Field Manual* (Chapter 8 – Desert Tortoise Exclusion Fence).
 - c. **Security Gates.** Security gates shall be designed with minimal ground clearance to prevent entry by tortoises. The gates should be electronically activated to open and close immediately after the vehicle(s) have entered or exited to prevent the gates from being kept open for long periods of time. Cattle grating designed to safely exclude desert tortoise may be installed at the gated entries to discourage tortoises from gaining entry (to be determined by the BLM in consultation with CDFG and USFWS).
 - d. **Fence Inspections.** The exclusion fencing shall be regularly inspected during project construction and operation. If tortoises were moved out of harm's way during fence construction, fencing in that area shall be inspected at least twice daily for a minimum of 7 days after moving the animal to ensure that the recently moved tortoise has not been trapped in the fence. Thereafter, permanent fencing shall be inspected monthly and within 24 hours following all major rains. Major rains are defined as a storm(s) for which surface flow is detectable within the fenced drainages. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises from entering the site, and permanently repaired within 48 hours of observing damage. Monthly and

post-rainfall inspections of permanent site fencing shall continue throughout the construction, O&M, and decommissioning of the project. Temporary fencing shall be inspected weekly and, where drainages intersect the fencing, during and within 24 hours following major rains. All temporary fencing shall be repaired immediately upon discovery of damage, and the Designated Biologist or Authorized Biological Monitor shall inspect the area to determine whether the damage may have permitted tortoise entry.

- e. **Temporary Exclusion Fencing.** Any project activities during construction, O&M, or decommissioning that take place outside of the permanently fenced site within desert tortoise habitat, and have the potential to disturb native soils or vegetation, shall be subject to fencing and pre-construction clearing survey requirements, or shall take place only while a Biological Monitor is on-site. Temporary tortoise exclusion fencing may be placed on access roads or other work sites, including gen-tie line construction sites, in accordance with direction from BLM, Riverside County, USFWS, and CDFG. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present.
4. **Desert Tortoise Clearance Surveys.** Following construction of the tortoise exclusion fencing, the fenced area (including permanent and temporarily fenced areas) shall be cleared of tortoises by the Designated Biologist and Biological Monitors. Clearance surveys shall be conducted in accordance with the USFWS 2009 *Desert Tortoise Field Manual* (Chapter 6 – Clearance Survey Protocol for the Desert Tortoise – Mojave Population) and shall consist of at least two surveys covering 100 percent of the enclosed area by walking transects no more than 15 feet apart. Surveys shall be repeated until two consecutive 100%-coverage surveys are completed without finding live tortoises. Any tortoise located during clearance surveys shall be relocated and monitored in accordance with the Desert Tortoise Translocation Plan. The fence perimeter shall also be inspected for any tortoises pacing outside the fence.
5. **Monitoring Following Clearing.** Following the desert tortoise clearance surveys, the Designated Biologist and Biological Monitors shall monitor initial clearing and grading activities to find and translocate any tortoises which may have been missed during the clearance survey. Should a tortoise be discovered, it shall be translocated as described in the Desert Tortoise Translocation Plan to an area approved by the Designated Biologist. Any time over the life of the project that a desert tortoise is found within the exclusion fencing, the Designated Biologist shall immediately contact the BLM, Riverside County, CDFG, and USFWS; monitor the tortoise's location and activities; and implement translocation of the animal in accordance with and the approved Desert Tortoise Translocation Plan and in consultation with the BLM, Riverside County, USFWS, and CDFG.
6. **Relocation of Other Special-Status Species.** Wherever feasible and safe, any special-status mammal or reptile incidentally encountered during desert tortoise clearance surveys or monitoring shall be actively or passively relocated outside the exclusion fencing.
7. **Reporting.** Methods and results of all activities described in this mitigation measure shall be reported by the Designated Biologist in the Monthly Compliance Reports.

Within 30 days after completion of desert tortoise clearance surveys and translocation, the Designated Biologist shall submit a Desert Tortoise Clearance Survey, Exclusion Fencing, and Translocation Report to the BLM, Riverside County, USFWS, CDFG, and JTNP describing methods and results of the fencing, clearance surveys, and translocation (if any). The report will also document any other animals relocated during the clearance surveys.

MM WIL-3

Nesting Bird Management Plan, Pre-Construction Nest Surveys, and Impact Avoidance Measures for Migratory and Nesting Birds. The project owner will prepare a draft Nesting Bird Management Plan, describing measures to detect native birds that may nest on and adjacent to the project site or facilities and to avoid impacts to or take of those birds or their nests during all project phases. The draft Nesting Bird Management Plan will be submitted to the BLM for review and approval and the CDFG, USFWS, JTNP, and Riverside County for review and comment, and will be finalized by the project owner prior to issuance of BLM's Notification to Proceed. The Nesting Bird Management Plan will describe avoidance measures, such as buffer distances from active nests, based on the specific nature of project activities, noise or other disturbance of those activities, the bird species and conservation status, and other pertinent factors. The Plan will specify 330 feet as a standard buffer distance, and 500 feet for raptor species. The Plan will also identify bird species (or groups of species) that are relatively tolerant or intolerant of human activities and specify smaller or larger buffer distances as appropriate for those species. Additionally, the Plan will list all project construction activities and rank them in terms of noise and other potential disturbance to nesting birds, and specify any modifications to buffer areas as appropriate to each activity. The Plan will also identify specific measures (if any) to prevent or reduce bird nesting activity on project facilities. The Plan will include specific monitoring measures to track any active bird nest within or adjacent to the project site, bird nesting activity, project-related disturbance, and fate of each nest. The Nesting Bird Management Plan may be incorporated into the Bird and Bat Conservation Strategy (MM WIL-6) as a separate chapter. Pre-construction nest surveys for nesting birds shall be conducted prior to any construction activities that will occur during the breeding period (from February 1 through August 31). The project owner shall take measures to avoid impacts to any active bird nest within or adjacent to a work area. The Designated Biologist or Biological Monitors conducting the surveys shall be experienced bird surveyors and familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines. Nothing in this measure requires the project owner to conduct nesting bird surveys by entering private lands adjacent to the project site when the project owner has made reasonable attempts to obtain permission to enter the property for survey work but was unable to obtain such permission. In this situation only, the project owner may substitute binocular surveys for protocol field surveys. Burrowing owl surveys are addressed in MM WIL-4; this measure applies to other birds.

1. Surveys shall cover all potential nesting habitat within the project site or other work areas and within a 500-foot buffer of these areas;
2. At least two pre-construction surveys shall be conducted, separated by a minimum

- 10-day interval. The second pre-construction survey shall be conducted no more than 2-3 days prior to the start of construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed one week in any given area (an interval during which birds may establish a nesting territory and initiate egg laying and incubation);
3. If active nests are detected during the survey, the project owner will implement avoidance measures identified in the Nesting Bird Management Plan, and the Designated Biologist will be responsible for monitoring the implementation, conformance, and efficacy of those measures, according to the monitoring requirements of the Nesting Bird Management Plan.
 4. A monitoring plan shall be prepared and implemented as part of the Nesting Bird Management Plan to ensure no disturbance to active nests present within or adjacent to the work area takes place; the plan shall be reviewed and approved by BLM, Riverside County, USFWS, and CDFG prior to the initiation of ground-disturbing activities;
 5. Prior to the start of any project-related ground disturbance activities, the Designated Biologist shall provide the BLM, Riverside County, CDFG, USFWS, and JTNP a report or memorandum describing the findings of the pre-construction nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed. If active nests are detected during the surveys, the report shall include descriptions of avoidance zones and methods used to determine avoidance zones and maps or aerial photos identifying nest locations and the boundaries of no-disturbance buffer zones;
 6. The Designated Biologist or Biological Monitor shall monitor the nest until nestlings have fledged and dispersed. Activities that might, in the opinion of the Designated Biologist, disturb nesting activities shall be prohibited within the buffer zone until such a determination is made;
 7. The Designated Biologist or Biological Monitor shall monitor work areas, including active work areas, throughout the breeding season each year, throughout the construction, O&M, and decommissioning phases of the project; and
 8. Throughout the construction, O&M, and decommissioning phases of the project, nest locations, project activities in the vicinity of nests, and any adjustments to buffer areas shall be described and reported in regular monitoring and compliance reports described in MM VEG-2.

MM WIL-4

Burrowing Owl Impact Avoidance, Minimization, and Compensation Measures.

Pre-construction surveys for burrowing owls shall be conducted prior to any construction activities, at any time of year. The project owner shall take measures to avoid impacts to any active burrowing owl burrow within or adjacent to a work area. Nothing in this condition requires the project owner to conduct burrowing owl surveys by entering private lands adjacent to the project site when the project owner has made reasonable attempts to obtain permission to enter the property for survey work but was unable to obtain such permission. In this situation only, the project owner may substitute binocular surveys for protocol field surveys.

1. **Pre-Construction Surveys.** The Designated Biologist shall conduct pre-construction surveys for burrowing owls, no more than 30 days prior to the start of ground-disturbing activities in any part of the project area. Surveys shall be conducted within the project site and along all linear facilities in accordance with the most current CDFG guidelines (CDFG 2012 or updated guidelines as they become available). Phase 2 surveys consistent with those guidelines may be conducted concurrently with desert tortoise clearance surveys. Burrowing owl surveys shall also be completed within all suitable habitat within 500 feet of all project disturbance areas.
2. **Avoidance Measures.** If an active burrowing owl burrow is detected within any project disturbance area, or within a 500-foot buffer of the disturbance area(s), the following avoidance and minimization measures shall be implemented:
 - a. A 330-foot radius buffer zone surrounding the burrow shall be flagged, and no impacts to soils or vegetation or noise levels above 65 dBA will be permitted while the burrow remains active or occupied. Disturbance-free buffers may be modified based on site-specific conditions in consultation with the California Department of Fish and Game.
 - b. Monitoring and reporting the burrowing owl burrow and surrounding activities shall be as described for active bird nests (MM WIL-3).
3. **Document Activity.** Burrowing owl burrows may only be destroyed after the Designated Biologist has determined that the burrows are no longer occupied or active.
4. **Habitat Compensation.** If known burrowing owl burrows are destroyed during the course of the project, then the project owner shall mitigate this impact by acquisition and protection of compensatory mitigation lands for burrowing owls, according to the requirements described in Mitigation Measure VEG-6 (Provide Off-Site Compensation for Impacts to Vegetation and Habitat). The project owner shall provide for the management and protection, in perpetuity, of 19.5 acres of land for each single burrowing owl or breeding pair of burrowing owls that is displaced by construction of the project. This compensation acreage of 19.5 acres per single bird or pair of nesting owls assumes that there is no evidence that the compensation lands are occupied by burrowing owls. If burrowing owls are observed to occupy the compensation lands, then the replacement ratio will be 13.0 acres per pair or single bird. This off-site burrowing owl habitat may be "nested" within habitat acreage designated as compensation for other biological resources, so long as it provides sufficient acreage of suitable burrowing owl habitat (see MM VEG-6).
5. **Passive Relocation.** If active burrowing owl burrows are located within the project site or any work area, the project owner may contract a qualified biologist to passively relocate the owls, outside the nesting season only, by preparing and implementing a Burrowing Owl Passive Relocation Plan, as described below. No relocation of burrowing owls will be permitted during breeding season, unless the Designated Biologist determines that an occupied burrow is not occupied by a mated pair. The Plan shall include, but not be limited to, the following elements:
 - a. **Assessment of Suitable Burrow Availability.** The Plan shall include an inventory

the availability of existing, suitable, and unoccupied burrow sites within 100 meters (330 feet) of the project area or work site. Suitable burrows will include inactive desert kit fox, ground squirrel, or desert tortoise burrows that are deep enough to provide suitable burrowing owl nesting sites (as determined by the Designated Biologist or other biologist authorized by the Resource Agencies and BLM). If two or more suitable and unoccupied burrows are present in the area for each burrowing owl that will be passively relocated, then no replacement burrows will need to be built.

b. **Replacement Burrows.** For each burrowing owl that will be passively relocated, if fewer than two suitable unoccupied burrows are available in the area, then the project owner shall construct at least two replacement burrows within or near the project area. Burrow replacement sites shall be in areas of suitable habitat for burrowing owl nesting, and be characterized by minimal human disturbance and access. Relative cover of non-native plants within the proposed relocation sites shall not exceed the relative cover of non-native plants in the adjacent habitats; and the Plan shall describe measures to ensure that burrow installation or improvements would not affect sensitive species habitat or any burrowing owls already present in the relocation area. The Plan shall provide guidelines for creation or enhancement of at least two natural or artificial burrows for each active burrow within the project disturbance area, including a discussion of timing of burrow improvements, specific location of burrow installation, and burrow design. Design of the artificial burrows shall be consistent with CDFG guidelines (CDFG 2012 or more current guidance as it becomes available) and shall be approved by the BLM, Riverside County, CDFG, and USFWS.

c. **Methods.** Provide detailed methods and guidance for passive relocation of burrowing owls, outside the breeding season. Occupied burrows may not be disturbed during the nesting season (February 1 to August 31) to avoid "take" under the MBTA and Fish and Game codes, unless the Designated Biologist determines it is not occupied by a mated pair.

d. **Monitoring and Reporting.** Describe monitoring and management of the replacement burrow site(s), and provide a reporting plan. The objective shall be to manage the relocation area for the benefit of burrowing owls, with the specific goal of maintaining the functionality of the burrows for a minimum of two years.

MM WIL-5 Golden Eagle Pre-construction and Construction Phase Surveys. The project owner shall implement the following measures to document golden eagle occurrence in the project area and surrounding mountains. Survey schedule and requirements will be as identified below unless otherwise authorized by the BLM in consultation with the USFWS and CDFG.

1. **Annual Winter and Nesting Season Surveys.** Beginning in winter 2011-12, and continuing throughout the construction phase of the project, the project owner shall contract with a qualified ornithologist to conduct winter season and nesting season surveys of golden eagle habitat use in Chuckwalla Valley and surrounding mountains within a 10-mile radius of the project site and gen-tie alignment. Nesting season surveys will determine occupancy, productivity, and chronology of known or

newly discovered nesting territories within the 10-mile radius. Survey methods for the inventory shall be either ground-based or helicopter-based, as described in the *Golden Eagle Technical Guidance* (Pagel et al. 2010) or more current guidance from the USFWS. Winter surveys will evaluate golden eagle occurrence and habitat use within the 10-mile radius during winter.

2. **Winter Season Survey Data.** Data collected during winter season surveys shall include dates, times, locations, observation minutes, nest status, and weather conditions during field surveys; panoramic photographs from the survey locations, indicating areas viewed; and compilations of all golden eagle and other raptor observations for each survey date.
3. **Nesting Season Inventory Data.** Data collected during the nesting season surveys shall include at least the following: territory status (unknown, vacant, occupied, breeding successful, breeding unsuccessful); nest location, nest elevation; age class of golden eagles observed; nesting chronology; number of young at each visit; photographs; and substrate upon which nest is placed.
4. **Determination of Unoccupied Territory Status.** A nesting territory or inventoried habitat shall be considered unoccupied by golden eagles only after completing at least two full surveys in a single breeding season.
5. **Monitoring and Adaptive Management Plan.** If an occupied nest (as defined by Pagel et al. 2010) is detected within 10 miles of the project site or gen-tie line alignment, the project owner shall contract a qualified biologist to 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 *Golden Eagle Technical Guidance* (Pagel et al. 2010) or more current guidance from the USFWS. The Monitoring and Management Plan shall be implemented upon its approval by BLM, in consultation with USFWS, Riverside County, and CDFG. A copy shall be provided to JTNP for review and comment. 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, to 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.
6. **Reporting.** Golden eagle survey data and, if applicable, nest activity monitoring results and any adaptive management actions taken, will be provided to BLM, Riverside County, CDFG, USFWS, and JTNP in monthly monitoring reports, as seasonal data becomes available and if specific nest monitoring or any adaptive management actions are taken, and summarized in annual project monitoring reports.

MM WIL-6 Bird and Bat Conservation Strategy. The project owner shall contract a qualified biologist to prepare and implement a Bird and Bat Conservation Strategy (formerly titled Avian

and Bat Protection Plan) in consultation with the USFWS. The objective of the Bird and Bat Conservation Strategy will be to avoid, minimize, and if necessary, offset, death, injury, or other adverse effects to birds or bats, including potential for take of golden eagles, from project disturbance or from collisions with facility features, including power plant structures, gen-tie lines or towers, evaporation ponds, and other facilities.

General Requirements.

The BBCS will be subject to approval by the USFWS, in consultation with BLM, Riverside County, CDFW, and JTNP. The BBCS shall prevent substantial adverse effects to special status species through implementation of the approach for conserving species of concern outlined in the USFWS Land-Based Wind Energy Guidelines (or more current guidelines, if available), as appropriate for solar PV, in conjunction with any measures required after consultation with USFWS and/or CDFW under the ESA, CESA, or BGEPA, if applicable. The BBCS shall be structured around the following core requirements:

1. The Project owner will survey and monitor on site avian and bat behavior to document avian and bat reactions to the project and to infer causal factors, if any, to project impacts. The Project owner shall submit all data gathered onsite to the USFWS as specified herein, or as requested by the USFWS, and also shall make consulting biologists available to answer USFWS inquiries.
2. Monitoring shall occur pursuant to a scientifically defensible avian and bat mortality and injury monitoring program designed to accurately estimate the rates of collision-caused fatalities and injuries and to enable comparisons of project impacts through time and to other projects that are also monitored for collision-caused fatalities.
3. The Project owner shall implement an adaptive management and decision-making framework for reviewing, characterizing, and responding to monitoring results. The program shall describe all design and operational features incorporated to minimize potential effects, and identify additional adaptive management measures to be implemented as needed.
4. The Project owner shall identify specific conservation measures and/or programs to avoid, minimize, rectify, reduce, or offset project-caused avian injury or mortality over time and will evaluate the effectiveness of those measures (e.g., visual screening on the perimeter fence to minimize bird and bat access into the facility; modifications such as netting or shielding to exclude nesting birds from facilities; seasonal modifications to panel washing, maintenance or inspection schedules to prevent damage to bird nests, or deterrents to prevent birds or bats from accessing facilities).
5. The Project owner shall prepare a reporting schedule for all actions taken during project construction, operation and maintenance, and decommissioning.

The BBCS shall also provide:

1. A summary of Avian Point Count data (and raw data sheets from bird surveys).
2. All available biological information about golden eagles that breed, feed, shelter and/or migrate in a 10-mile buffer of the project site.
3. A detailed description of ongoing and future golden eagle surveying, nest activity monitoring, and monitoring plan (see MM WIL-5).
4. A cumulative effects analysis of regional impacts to golden eagle foraging habitat.

Avian and Bat Mortality and Injury Monitoring Program.

The BBCS shall include an Avian and Bat Mortality and Injury Monitoring Program to be approved by USFWS in consultation with CDFW. The program shall be initiated pre-construction and continue for at least one year following commercial operation (and potentially up to three years if determined necessary and appropriate by USFWS) and shall include, at a minimum, the following provisions:

1. A description and summary of the baseline survey methods, raw data, and results.
2. Full survey methodology and field documentation, identification of appropriate survey locations, control sites, and seasonal considerations.
3. Avian and bat mortality and injury monitoring that includes:
 - a. Onsite monitoring that will periodically survey representative locations within the facility, and, in combination with an integrated carcass detection trial, will produce accurate project-wide impact estimates.
 - b. Low-visibility and high-wind weather event monitoring to document potential weather-related collision risks, including foggy, highly overcast, or rainy night-time weather typically associated with an advancing frontal system, and high wind events (40 miles per hour winds) that are sustained for longer than 4 hours. The monitoring report shall specify a study design (including integrated detection trials), search frequency, search locations and field methods.
 - c. Statistical methods used to generate facility estimates of potential avian and bat impacts based on the observed number of detections during standardized searches and adjusted by integrated detection trials.
 - d. Field detection and mortality or injury identification, cause attribution, handling and reporting requirements.
 - e. Detailed specifications on data and carcass collection protocols and a rationale justifying the proposed schedule of carcass searches.
4. All post-construction monitoring studies included in the program shall be conducted by a third party contractor for one year and up to three years following commercial operation and approval of program by the USFWS. All surveys and monitoring studies included in the program shall be conducted during construction and commercial operation. At the end of the one year period, the USFWS shall determine whether the survey program shall be continued.

5. Monitor the death and injury of birds and bats from collisions with facility features. The monitoring data shall be used to inform an adaptive management program that would avoid, minimize and off-set Project related avian and bat impacts.

Adaptive Management Program.

The BBCS shall include an adaptive management program to identify and implement reasonable and feasible measures to reduce levels of avian or bat mortality or injury attributable to the Project. The adaptive management program shall include (i) reasonable measures for characterizing the extent and importance of detected mortality and injuries clearly attributable to the Project; and (ii) potential measures that the Project owner could implement to adaptively respond to detected mortality and injuries attributable to the Project. Adaptive actions undertaken will be discussed and evaluated in survey reports.

Any impact reduction measures must be commensurate (in terms of factors that include geographic scope, costs, and scale of effort) with the level of avian or bat mortality or injury that is specifically and clearly attributable to the Project facilities, consistent with the proportionality requirements of California statutory and constitutional law and of U.S. constitutional law.

Performance Standards.

Appropriate performance standards for mitigation of impacts to any species regulated by BGEPA, ESA, and CESA exist through required consultation with USFWS and CDFW under their respective regulatory and permitting frameworks, as specified in Tier 1 Measures, below. For impacts to all other special status avian and bat species, mitigation measures must reduce or offset mortalities caused by the Project to a level that avoids a substantial, long-term reduction in the demographic viability of the local population of the species in question, as estimated through implementation of a USFWS-approved BBCS and monitoring program that employs the structured approach of the Land-Based Wind Energy Guidelines, as defined in this mitigation measure.

Impact Reduction Measures.

Tier 1 Measures.

In addition to the monitoring requirements described herein, the following measures shall be implemented to achieve the above performance standards:

1. The applicant shall initiate consultation with USFWS and CDFW if there is project-attributed injury or mortality to any species regulated by BGEPA, ESA or CESA.

2. MM VEG-1 Assign a Designated Biologist and Biological Monitors.
3. MM VEG-2 Conduct Biological Monitoring and Reporting During Project Construction, Operations, and Decommissioning.
4. MM VEG-3 Prepare and Implement a Worker Environmental Awareness Program.
5. MM VEG-4 Minimize Construction-Related Impacts.
6. MM VEG-5 Prepare and Implement a Vegetation Resources Management Plan.
7. MM VEG-6 Provide Off-Site Compensation for Impacts to Vegetation and Habitat.
8. MM VEG-9 Prepare and Implement an Integrated Weed Management Plan.
9. MM WIL-1 Wildlife Impact Avoidance and Mitigation (e.g., 6. Implement APLIC guidelines; 8. Minimize Lighting Impacts; 9. Minimize Noise Impacts; 11(c) Avoid Entrapment of Nesting or Migratory Birds; 12. Minimize Standing Water; 13. Injured Wildlife Reporting; 16. Worker Guidelines (e.g., trash management, no pets); 20. Cover Evaporation Ponds (revised to require ≤ 2 cm mesh netting (or alternate cover systems) and visual deterrents for both evaporation and construction ponds.).
10. MM WIL-3 Nesting Bird Management Plan, Pre-Construction Nest Surveys, and Impact Avoidance Measures for Migratory and Nesting Birds.
11. MM WIL-4 Burrowing Owl Impact Avoidance, Minimization, and Compensation Measures.
12. MM WIL-5 Golden Eagle Pre-Construction and Construction Phase Surveys.
13. MM WIL-8 Raven Monitoring, Management and Control Plan.
14. If the O&M facility is developed off-site, a monopole structure will be used to support telecommunications equipment in order to deter bird nesting and use by ravens.

Tier 2 Measures.

If Tier 1 measures do not achieve the performance standards described above, the monitoring results of the Project, as well as those of other PV projects and the results of their respective impact reduction efforts, will be analyzed to formulate additional impact reduction measures to achieve the performance standards. Such measures may include, but not be limited to:

1. Use of floating, high-density plastic balls to cover construction and evaporation ponds, as recommended by the Federal Avian Administration's "Wildlife Hazard Management at Airports" manual.
2. Temporarily store reverse osmosis reject brine in an on-site tank for periodic trucking off site instead of storing brine in an evaporation pond. The tank shall be undergrounded in the same location as the proposed evaporation pond.
3. Passive avian diverter installations along the perimeter or at other locations within the Project to reduce or minimize bird use of the site.
4. The use of sound, light or other means to discourage site use consistent with applicable legal requirements.
5. Onsite habitat management or prey control measures consistent with applicable legal requirements.
6. Modifications to support structures or other facilities to exclude nesting birds (e.g., netting or shielding around framework; capping open pipes or tubing).

7. Incorporation of visual cues to panels, such as UV-reflective or solid contrasting bands if proven to be effective and economically and technically feasible.
8. Such other reasonable, feasible measures required by USFWS or CDFW under their respective regulatory regimes applicable to special status avian and bat species.

Tier 3 Measures.

In the event Tier 1 and Tier 2 avoidance and minimization measures do not meet the above performance standards, or upon election of the Project owner, the Project owner shall implement compensatory mitigation on terms and at ratios deemed appropriate by USFWS and/or CDFW to meet the performance standard applicable to the species in question. Such measures shall be approved by USFWS and/or CDFW and may include, but not be limited to:

1. Restoration of degraded off-site habitat with native vegetation.
2. Restoration of off-site agricultural fields to bird habitat.
3. Management of off-site agricultural fields to enhance bird populations.
4. Retrofitting of structures to minimize collisions.
5. Support for avian and bat research and/or management efforts conducted by entities approved by the USFWS and CDFW within the Project's mitigation lands or other approved locations.
6. Funding efforts to address avian diseases or depredation due to the expansion of predators in response to anthropomorphic subsidies that may adversely affect birds that use the mitigation lands or other approved locations.
7. Contributions to the Migratory Bird Conservation Fund managed by the Migratory Bird Conservation Commission.

~~Bird and Bat Conservation Plan. The project owner shall contract a qualified biologist to prepare and implement a Bird and Bat Conservation Plan (formerly titled Avian and Bat Protection Plan) in consultation with the USFWS. The objective of the Bird and Bat Conservation Plan will be to minimize death, injury, or other adverse effects to birds or bats, including potential for take of golden eagles, from project disturbance or from collisions with facility features including power plant structures, gen-tie lines or towers, evaporation ponds, and other facilities. The Plan will provide:~~

- ~~• A summary of Avian Point Count data (and raw data sheets from bird surveys);~~
- ~~• All available biological information about golden eagles that breed, feed, shelter and/or migrate in a 10-mile buffer of the project site;~~
- ~~• A detailed description of ongoing and future golden eagle surveying, nest activity monitoring, and monitoring plan (see MM-WIL-5);~~
- ~~• A cumulative effects analysis of regional impacts to golden eagle foraging habitat;~~
- ~~• An assessment of the project's potential risks to birds and bats.~~

~~The Bird and Bat Conservation Plan shall conform to the recommendations of the USFWS (2010c) or more current guidelines if available. It shall describe all project~~

facilities that have the potential to affect birds or bats (including collisions or effects of polarized light from the solar panels); describe all design and operational features incorporated to minimize potential effects, and identify additional adaptive management measures to be implemented as needed (e.g., visual screening on the perimeter fence to minimize bird and bat access into the facility; modifications such as netting or shielding to exclude nesting birds from facilities; seasonal modifications to panel washing, maintenance or inspection schedules to prevent damage to bird nests, or deterrents to prevent birds or bats from accessing facilities). In addition, if the O&M facility is developed off-site, a monopole structure will be used to support telecommunications equipment in order to deter bird nesting and use by ravens. The Plan also shall provide a reporting schedule for all actions taken during project construction, O&M, and decommissioning. The Plan will be subject to approval by the USFWS, in consultation with BLM, Riverside County, CDFG, and JTNP.

MM WIL-7 Desert Kit Fox and American Badger Impact Avoidance. The project owner shall contract a qualified biologist to conduct a baseline kit fox census and population health survey and prepare and implement a Desert Kit Fox Management Plan.

1. **Baseline Kit Fox Census and Population Health Survey:** A qualified biologist with demonstrated mammal experience shall complete a baseline study of desert kit fox populations on the project site and the anticipated dispersal areas for passive relocation at least 60 days prior to initiation of construction activities. The anticipated dispersal areas shall be defined as all suitable desert kit fox habitat within 500 meters of the western, southern, and eastern project boundaries. The study shall characterize the demographics (e.g., size, structure, and distribution) of the kit foxes on the site and anticipated dispersal areas. The baseline study shall include the following components:
 - a. An inventory and mapped locations of desert kit fox burrows on the project site and in the anticipated dispersal areas, and an evaluation whether each burrow is occupied, and reproductive status of kit foxes (single animal, mated pair, or family group with young). See Pre-Construction Surveys below.
 - b. Health screening of each animal to determine exposure to canine distemper virus or other conditions, as recommended by federal or State wildlife health officials [e.g., the CDFW [formerly CDFG] Wildlife Investigations Lab (WIL)]. All capturing or handling of desert kit foxes shall be under the immediate supervision of WIL staff. The Applicant will coordinate with WIL and fund the health studies to establish baseline health conditions.
 - c. Reporting: The Applicant shall provide a draft Summary Report of the Baseline Kit Fox Census and Population Health Survey to BLM for review in consultation with CDFW and USFWS. The Applicant shall not implement the Desert Kit Fox Management Plan (below) until receiving BLM's written approval of the Summary Report.
2. **Prepare Desert Kit Fox Management Plan:** At least 45 days prior to construction, the Applicant shall submit a draft Desert Kit Fox Management Plan to BLM for

review and approval in consultation with CDFW and USFWS. The Desert Kit Fox Management Plan shall 1) incorporate baseline desert kit fox census and health survey findings into a cohesive management strategy that minimizes disease risk to kit foxes; 2) specify a cost and funding mechanism (e.g., NFWF Account) to fund CDFW for tagging, radio-tracking and monitoring of a subset of displaced kit foxes during the entire project construction phase to understand how displacement affects regional kit fox populations; 3) specifically identify preconstruction survey methods for kit foxes and large carnivores (e.g., badgers) in the project area; 4) describe a specific protocol for evaluating occupancy or activity of desert kit fox or American badger at each burrow or den; 5) describe preconstruction and construction-phase passive relocation methods from the site; 6) specify the coordination of survey findings prior to and during construction to meet the information needs of wildlife health officials in monitoring the health of kit foxes on the site and in surrounding anticipated dispersal areas; 7) specify communications and reporting protocols for plan implementation, all observations of injured, ill, or dead kit foxes or badgers, and handling protocols for kit fox or badger carcasses; and 8) identify reporting procedures, including specification of dates and contents of all implementation reports, who they will be submitted to, and any required review/approval process. The Plan shall include contingency measures to be performed if canine distemper is documented in the project area or anticipated dispersal areas adjacent to the project site, and measures to address potential kit fox re-occupancy of the site (such as was documented at the Genesis site). The contents and requirements of the Plan shall be subject to review and approval by the BLM and CDFW. The Applicant shall not implement the Desert Kit Fox Management Plan (below) until receiving BLM's written approval of the Summary Report.

3. ***Implement Desert Kit Fox Management Plan:*** If canine distemper is not identified in the project area or relocation areas during baseline surveys, the mitigation strategy may utilize passive means to relocate kit foxes from the site, with appropriate CDFW authorization. The approach below assumes that canine distemper is not detected during baseline surveys. If canine distemper is detected among desert kit foxes on the site or surrounding areas, then the Applicant will coordinate with BLM and CDFW to identify appropriate actions prior to continuing with Plan implementation.
 - a. ***Pre-Construction Surveys:*** Biological Monitors shall conduct pre-construction surveys for desert kit fox and American badger no more than 30 days prior to initiation of construction activities. Surveys shall identify and record the locations of all potential dens throughout the project site (or phase or component, as applicable) and within 100 feet of the project boundary (including utility corridors and access roads) and shall be performed for each phase of construction. If dens are detected, each den shall then be further classified as inactive non-natal, inactive natal, potentially active, definitely active non-natal, or active natal den.

- b. Inactive non-natal and inactive natal dens. Inactive dens are burrows that are mostly or completely silted in and the end of the burrow is clearly visible. Inactive non-natal and inactive natal dens that would be directly impacted by construction activities shall be excavated by hand and backfilled to prevent reuse by badgers or kit fox.
- c. Potentially active and definitely active non-natal dens. Potentially and definitely active non-natal dens that would be directly impacted by construction activities shall be monitored by the Biological Monitor for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand. If tracks are observed, the den shall be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage the badger or kit fox from continued use. After verification that the den is unoccupied it shall then be excavated and backfilled by hand to ensure that no badgers or kit fox are trapped in the den. BLM approval may be required prior to release of badgers on public lands.
- d. Active natal dens. Active natal or pupping dens (any den with pups) will not be excavated or passively relocated. The pupping season is generally from January 15 through July 31. A 500-foot no-disturbance buffer shall be maintained around all active dens. Discovery of an active natal den that could be impacted by the project shall be reported to the BLM and CDFW within 24 hours of the discovery. A detailed description outlining the types and methods of monitoring must be included in the plan. The den location shall be mapped and submitted along with a report stating the survey results to the BLM and CDFW. The Designated Biologist shall monitor the natal den until he or she determines that the pups have dispersed. No disturbance will be allowed for any animal associated with a natal den and any activities that might disturb denning activities shall be prohibited within the buffer zone. Once the pups have dispersed, various passive hazing methods may be used to discourage den reuse. A detailed description of the types of passive hazing to be used must be included in the plan; however, approval must be granted by the BLM, in consultation with CDFW prior to implementation. After verification that the den is unoccupied, it shall then be excavated by hand and backfilled to ensure that, no badgers or kit fox are trapped in the den.
- e. Exception for American badger. In the event that passive relocation techniques fail for badgers, the project owner will contact the BLM and CDFW to explore other relocation options.
- f. The following measures shall be taken to reduce the likelihood of distemper transmission:
 - i. No pets shall be allowed on the site prior to or during construction,

operation, and decommissioning, with the possible exception of vaccinated kit fox scat detection dogs during preconstruction surveys, and then only with prior CDFW approval;

- ii. Any hazing activities that include the use of chemical or other repellents (e.g. ultrasonic noise makers, or non-animal-based chemical repellents) must be cleared through CDFW prior to use. The use of animal tissue or excretion based repellents (e.g. coyote urine, anal gland products) is not permitted.
- iii. Any sick or diseased kit fox, or documented kit fox mortality shall be reported to CDFW and the BLM AO within 8 hours of identification. If a dead kit fox is observed, it shall be collected and stored according to established protocols distributed by CDFW WIL, and the WIL shall be contacted to determine carcass suitability for necropsy.

MM WIL-8

Raven Monitoring, Management, and Control Plan. The project owner shall contract a qualified biologist to prepare and implement a Raven Monitoring, Management, and Control Plan (Raven Plan) that shall be consistent with current USFWS raven management guidelines and that meets the approval of the BLM, Riverside County, USFWS, and CDFG. The purpose of the Raven Plan shall be to minimize project-related predator subsidies and prevent any increases in raven numbers or activity during construction, O&M, and decommissioning. The Plan shall address all project components and their potential effects on raven numbers and activity. The threshold for implementation of raven control measures shall be any increases in raven numbers from baseline conditions, as detected by monitoring to be implemented pursuant to the Plan. Regardless of raven monitoring results, the project owner shall be responsible for all other aspects of raven management described in the Plan, including avoidance and minimization of project-related trash, water sources, or perch/roost/nest sites that could contribute to increased raven numbers, throughout the life of the project, including construction, O&M, and decommissioning. In addition, to offset the cumulative contributions of the project to desert tortoise from increased raven numbers, the project owner shall contribute to the USFWS Regional Raven Management Program. The project owner shall do all of the following:

1. **Prepare and Implement a Raven Management Plan** that shall include, but shall not be limited to the following components. The Plan shall be finalized and approved by BLM, Riverside County, USFWS, and CDFG and provided to the JTNP for review and comment prior to the start of construction activities.
 - a. Identify all potential project activities, structures, components, and other effects that could provide predator subsidies or attractants, including potential sources of food and water, as well as nest or perch sites. These will include but will not be limited to waste food material, road killed animals, water storage (including evaporation ponds and construction phase storage ponds), potential pooling from leaks, dust control, or waste water, and perch or roost sites on project facilities and infrastructure;
 - b. Describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities;

- c. Specify a program to monitor raven presence in the project vicinity and detect any increase in numbers or activity;
 - d. Specify raven activity thresholds for implementation of control measures;
 - e. Describe control practices for ravens to be implemented as needed based on the monitoring results;
 - f. Address monitoring and nest removal during construction and for the life of the project; and
 - g. Describe reporting schedules and requirements. For the first year of reporting, the project owner shall provide quarterly reports describing implementation of the Plan, thereafter the reports shall be submitted annually for the life of the project.
2. **Contribute to the USFWS Regional Raven Management Program.** No later than 30 days prior to the start of construction, the project owner shall submit payment to the project sub-account of the REAT Account held by the National Fish and Wildlife Foundation (NFWF) to support the USFWS Regional Raven Management Program. The amount shall be a one-time payment of \$105 per acre of long-term or permanent disturbance (totaling \$136,500 for a disturbance area of 1,300 acres, to be adjusted according to final project footprint).

Cultural Resources

AM CULT-1 Monitoring and Mitigation Plan. A cultural resources monitoring and mitigation plan will be prepared for the project. The plan will include a description of areas to be monitored during construction, a discovery plan that will address unanticipated cultural resources, and provisions for the education of construction workers. Responsible parties for mitigation measures will be identified.

MM CUL-1 Memorandum of Agreement.

The BLM shall prepare a Memorandum of Agreement (MOA) in consultation with the SHPO, Indian tribes, and other interested parties. The MOA will govern the resolution of any adverse effects on historic properties (listed on or eligible for the NRHP) that may result from the proposed or alternative actions. It shall also govern MM CUL-2 through CUL-9, below. The MOA shall be executed prior to BLM's approval of the Record of Decision.

MM CUL-2 Project Cultural Resources Staff.

Project Cultural Resources Specialist. Prior to the issuance of a Notice to Proceed by BLM, a cultural resources specialist whose training and background conforms to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61) shall be retained by the project owner and approved by the BLM to supervise monitoring of construction excavations and to produce a Monitoring and Treatment Plan for the approved project. Their qualifications shall be appropriate to the needs of the project and shall include a background in anthropology, archaeology, history, architectural history, or a related

field. The Monitoring and Treatment Plan will be prepared and implemented under the direction of the cultural resources specialist and will address and incorporate MM CUL-1 through MM CUL-9.

Additional Cultural Resources Staff

The Project Cultural Resources Specialist may obtain the services of Cultural Resources Monitors and Field Crew if needed, to assist in mitigation, monitoring, and curation activities. These individuals must meet BLM qualifications and their resumes must be reviewed and approved by BLM prior to beginning work.

MM CUL-3

Monitoring and Treatment Plan. Prior to the issuance of a Notice to Proceed by BLM, the Project Cultural Resources Specialist shall submit a Monitoring and Treatment Plan for the project to the BLM for review and approval. The Monitoring and Treatment Plan shall be prepared and implemented under the direction of the Project Cultural Resources Specialist and shall address and incorporate MM CUL-1 through MM CUL-9. The Monitoring and Treatment Plan shall be prepared at the sole expense of the of the project proponent, and shall meet all BLM and Riverside County regulatory requirements. A monitoring plan indicates the avoidance or treatments recommended for the area of the proposed disturbance and must minimally address the following:

1. The duties of the Project Cultural Resources Specialist shall be fully discussed, including oversight/management duties with respect to site evaluation, data collection, monitoring, and reporting at both known prehistoric and historic-period archaeological sites and any NRHP and CRHR-eligible prehistoric and historic-period archaeological sites discovered during construction;
2. A general research design shall be developed that:
 - a. Charts a timeline of all research activities;
 - b. Recapitulates any existing paleoenvironmental, prehistoric, ethnohistoric, ethnographic, and historic contexts to create a comprehensive historic context for the project vicinity;
 - c. Poses archaeological research questions and testable hypotheses specifically applicable to the archaeological resource types known for the project vicinity; and
 - d. Clearly articulates why it is in the public interest to address the research questions that it poses.
3. Artifact collection, retention/disposal, and curation policies shall be discussed, as related to the research questions formulated in the research design. These policies shall apply to cultural resources materials and documentation resulting from evaluation and data recovery at both known prehistoric and historic-period archaeological sites and any NRHP or CRHR-eligible prehistoric and historic-period archaeological sites discovered during construction.
4. The implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground-disturbance and post-ground-disturbance analysis phases of the project shall be specified.

5. Person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team shall be identified.
6. The manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their roles and responsibilities shall be described.
7. All impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation shall be described. Any areas where these measures are to be implemented shall be identified. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related impacts.
8. The commitment to record on Department of Parks and Recreation (DPR) 523 forms, to map, and to photograph all encountered cultural resources over 50 years of age shall be stated. In addition, the commitment to curate all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery), in accordance with the BLM requirements and the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections, into a retrievable storage collection in a public repository or museum shall be stated.
9. The commitment of the project owner to pay all curation fees for artifacts recovered and for related documentation produced during cultural resources investigations conducted for the project shall be stated. The project owner shall identify a curation facility that could accept cultural resources materials resulting from DHSP cultural resources investigations.
10. The contents, format, and review and approval process of the final Cultural Resource Report (CRR) shall be described and shall meet BLM and Riverside County guidelines.

MM CUL-4 Authority to Halt Construction. The project owner shall grant authority to halt construction-related ground disturbance to the Project Cultural Resources Specialist and cultural resources monitors in the event of a discovery. Redirection of construction-related ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the cultural resources specialist. The details of this agreement shall be stipulated in the Monitoring and Treatment Plan Mitigation Measure CUL-3.

MM CUL-5 Cultural Resources Worker Environmental Awareness Program (WEAP). Prior to issuing a BLM Notice to Proceed, the project proponent shall submit evidence of that WEAP training has been provided to construction supervisors and crew to ensure their awareness of requirements regarding the protection of historic properties and procedures to be implemented in the event that archaeological sites are encountered by ground-disturbing activities. This training will be prepared by the Project Cultural

Resources Specialist (MM CUL-2), reviewed and approved by the BLM, and presented by a qualified cultural resources specialist. All construction supervisors and crewmembers shall be required to undergo archaeological WEAP training prior to commencement of ground-disturbing activities or prior to beginning work on the project site. WEAP training shall also be required for decommissioning personnel.

MM CUL-6 **Monitoring for Cultural Resources.** Ground-disturbing activities related to construction, operation, maintenance, and decommissioning shall be monitored by a cultural resources monitor. The personnel involved in monitoring, the qualifications of those personnel, and the monitoring intensity shall be stipulated in the Monitoring and Treatment Plan Mitigation Measure CUL-3. However, at a minimum monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the approved project area, and under direct supervision of a principal archaeologist. All cultural resources personnel will be approved by the BLM through the agency's Cultural Resource Use Permitting process. A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Indian Tribes. The Monitoring and Treatment Plan (MM CUL-3) shall indicate the types of locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. The project owner shall retain and schedule any required Native American monitors. If cultural resources are encountered during construction or decommissioning, treatment shall occur per Mitigation Measure CUL-3 (Monitoring and Treatment Plan. At a minimum, this treatment will include stop work orders in the vicinity of the find, recordation and evaluation of the find by a qualified cultural resources specialist, notification of the find to BLM and the appropriate state regulatory agency, and appropriate treatment measures, possibly including data recovery or avoidance.

MM CUL-7 **Cultural Resources Reporting.** The project Cultural Resources Specialist shall document interim results of the construction monitoring program with daily, weekly, or monthly progress reports as necessary to the project owner, state regulatory agency and the BLM. The contents of these reports shall be stipulated in the Monitoring and Treatment Plan per Mitigation Measure CUL-3.

The final cultural resources report shall be written by or under the direction of the project cultural resources specialist and shall be provided in the State of California Archaeological Resource Management Report and appropriate BLM report format. The final document shall report on all field activities including dates, times and locations, results, samplings, and analyses. All survey reports, Department of Parks and Recreation (DPR) 523 forms, data recovery reports, and any additional research reports not previously submitted to the California Historical Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as appendices. Additional reporting requirements may be specified in the Monitoring and Treatment Plan per Mitigation Measure CUL-3.

MM CUL-8 **Curation of Cultural Resources Collections.** All archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with BLM requirements and the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, into a

retrievable storage collection in a public repository or museum. Additional curation requirements may be specified in the Monitoring and Treatment Plan per Mitigation Measure CUL-3.

- MM CUL-9 Pre-construction Geoarchaeological Subsurface Excavation.** Prior to issuing a BLM Notice to Proceed, the Project Cultural Resources Specialist with the assistance of a qualified geoarchaeologist, shall submit a Pre-construction Geoarchaeological Subsurface Excavation Plan for the project to the BLM for review and approval. The Plan shall be prepared and implemented by a qualified geoarchaeologist under the direction of the Project Cultural Resources Specialist. Implementation of the Plan shall be complete prior to the completion of the Monitoring and Treatment Plan (CUL-3) so that the resulting information can guide the project mitigation and monitoring strategy. The Plan shall be prepared and implemented at the sole expense of the project proponent, and meet all BLM and Riverside County regulatory requirements. The geoarchaeological plan is intended guide the investigation of landforms in the project area to develop an understanding of their age and origin, relative to the physical contexts of surface and subsurface archaeological deposits on the proposed project area. Subsurface excavation shall take place in a minimum of 10 locations within the project area, one each in each proposed solar fields, and the remainder placed along the chosen gen-tie line alternative at the discretion of a qualified geoarchaeologist. Trench walls shall be examined and documented by a qualified geoarchaeologist. Small samples from each trench shall be screened through mesh fine enough to collect micro-vertebrate fossils. A minimum of 10 charcoal or soil humate samples, as appropriate, shall be collected and shall be subjected to AMS radiocarbon dating. Upon completion of all field work and laboratory analysis, a letter report describing the results of the geoarchaeological study must be submitted to the BLM and the County of Riverside Planning Department for review and approval. The results shall be incorporated into the Monitoring and Treatment Plan.
- MM CUL-10 Radio Program.** A continuous loop radio program or interpretive program focused on motorists on I-10, an appropriate broadcasting location, and associated signage in Desert Center and on I-10 near Desert Center shall be developed, broadcast and installed per the project's MOA. The radio program shall provide information about the North Chuckwalla Petroglyph District (CA-RIV-1383, NRHP-listed), the Coco-Maricopa trail segments (CA-RIV-0053T, determined eligible), and Native American values associated with these sites. Content shall be developed in consultation with all interested tribes. In addition, the program shall provide information about the DTC/C-AMA in general, archaeological site P-33-18392 in particular, and other details about Desert Training Center activities in the Desert Center vicinity. The broadcast or interpretive program shall be maintained for the life of the project, and updated with relevant new information every five years.
- MM CUL-11 Avoid Known Resources.** Known historical resources (eligible for CRHR) and unevaluated cultural resources (potentially eligible for the CRHR) shall be flagged and avoided. In addition, at any known historical resource within 165 feet (50 meters) of the project area, the limits of the project area near the resource shall be marked with visible flagging tape prior to construction. The construction crews shall be instructed that no vehicle access, travel, equipment staging, storage, or other construction-related work shall occur outside the flagged areas to ensure that known historic resources are not

inadvertently damaged during implementation of the project. Within the boundaries of the Desert Center Town Dump (CA-Riv-9385) the limits of the project area shall be marked as described above, ensuring that no construction-related work shall occur within site boundaries other than strictly within the marked project area.

Paleontology

MM PAL-1 Project Paleontological Staff.

Project Paleontologist – Prior to the issuance of a Notice to Proceed by BLM, a qualified paleontologist approved by the BLM to serve as Project Paleontologist shall be retained by the project owner. This individual shall retain a BLM paleontological resource use permit for the project and a paleontological permit from the County of Riverside. To do so this individual shall have the following qualifications as stipulated in BLM Manual 8270-1:

- a. Professional instruction in a field of paleontology relevant to the work proposed (vertebrate, invertebrate, trace, paleobotany, etc.), obtained through:
 - 1) Formal education resulting in a graduate degree from an accredited institution in paleontology, or in geology, biology, botany, zoology or anthropology if the major emphasis is in paleontology; OR
 - 2) Equivalent paleontological training and experience including at least 24 months under the guidance of a professional paleontologist who meets qualification above that provided increased responsibility leading to professional duties similar to those in qualification above; and
- b. Demonstrated experience in collecting, analyzing, and reporting paleontological data, similar to the type and scope of work proposed in the application;
- c. Demonstrated experience in planning, equipping, staffing, organizing, and supervising crews performing the work proposed in the application;
- d. Demonstrated experience in carrying paleontological projects to completion as evidenced by timely completion and/or publication of theses, research reports, scientific papers and similar documents.

The resume of the proposed Project Paleontologist will be submitted to BLM, in consultation with the BLM regional paleontologist, for review and approval.

As described in BLM IM 2009-011, the Project Paleontologist will serve as the Principal Investigator (PI) under the BLM permit and is responsible for all actions under the permit, for meeting all permit terms and conditions, and for the performance of all other personnel. This person is also the contact person for the project proponent and the BLM.

Additional Paleontological Staff – The Project Paleontologist may obtain the services of Paleontological Field Agents, Field Monitors, and Field Assistants, if needed, to assist in mitigation, monitoring, and curation activities. These individuals must meet the qualifications described in BLM IM 2009-011, and their resumes must be reviewed and approved by BLM prior to beginning work.

MM PAL-2 Paleontological Mitigation and Monitoring Plan (PMMP). Prior to the issuance of a

Notice to Proceed by BLM, the Project Paleontologist shall submit a Paleontological Mitigation and Monitoring Plan (PMMP) for the project to the BLM for review and approval. The appropriate Paleontology Lead or Regional Paleontologist shall review the plan for sufficiency prior to acceptance. The PMMP shall be prepared and implemented under the direction of the Project Paleontologist and shall address and incorporate MM PAL-1 through MM PAL-8. The PMMP shall be prepared at the sole expense of the project proponent, and be based on Society of Vertebrate Paleontology (SVP) assessment and mitigation guidelines and meet all BLM and Riverside County regulatory requirements. A monitoring plan indicates the avoidance or treatments recommended for the area of the proposed disturbance and must minimally address the following:

1. Identification and mapping of impact areas of high sensitivity that will be monitored during construction;
2. A coordination strategy to ensure that a qualified paleontologist (MM PAL-1) will conduct monitoring at the appropriate locations at the appropriate intensity;
3. The significance criteria to be used to determine which resources will be avoided or recovered for their data potential;
4. Procedures for the discovery, recovery, preparation, and analysis of paleontological resources encountered during construction, in accordance with standards for recovery established by the SVP and the BLM;
5. Provisions for verification that the project proponent has an agreement with a recognized museum repository, for the disposition of recovered fossils and that the fossils shall be prepared prior to submittal to the repository as required by the repository (e.g., prepared, analyzed at a laboratory, curated, or cataloged);
6. Specifications that all paleontological work undertaken by the project proponent on public land shall be carried out by qualified paleontologists with appropriate current permits (MM PAL-1), including but not limited to a Paleontological Resources Use Permit (for work on public lands administered by BLM) and a Riverside County permit (for work on lands administered by the County of Riverside);
7. Description of monitoring reports that will be prepared which shall include daily logs, monthly reports, and a final monitoring report with an itemized list of specimens found to be submitted to the BLM, the Riverside County Planning Department, the project proponent and the designated repository within 90 days of the completion of monitoring;
8. The implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground-disturbance and post-ground-disturbance analysis phases of the project shall be specified; and
9. Person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team shall be identified.
10. All impact-avoidance measures (such as flagging or fencing) to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation shall be described. Any areas where these measures are to be implemented shall be identified. The description shall

address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related impacts.

- MM PAL-3 Authority to Halt Ground Disturbance.** As specified in BLM IM 2009-011, if significant fossil material is discovered during construction activities, the Project Paleontologist, Field Agents, and Field Monitors have the authority to temporarily halt surface disturbing actions until an assessment of the find is completed and appropriate protection measures taken. The length of time ground disturbance will be halted, the size of the area where work is halted, and the details of the assessments and treatments are described in detail in the PMMP (MM PAL-2). Work may not resume until approval is granted from both the Project Paleontologist and the BLM Authorized Officer.
- MM PAL-4 Paleontological Worker Environmental Awareness Program (WEAP).** Prior to issuing a BLM Notice to Proceed, the project proponent shall submit evidence of that WEAP training has been provided to construction supervisors and crew to ensure their awareness of requirements regarding the protection of paleontological resources and procedures to be implemented in the event fossil remains are encountered by ground-disturbing activities. This training will be prepared by the Project Paleontologist (MM PAL-1), reviewed and approved by the BLM, and presented by a qualified paleontologist. All construction supervisors and crewmembers shall be required to undergo paleontological WEAP training prior to commencement of ground-disturbing activities or prior to beginning work on the project site. WEAP training shall also be required for decommissioning personnel.
- MM PAL-5 Construction Monitoring for Paleontological Resources.** The project proponent shall continuously comply with the following during all ground disturbing activities during project construction and operations:
1. If project ground-disturbing activities will affect previously undisturbed strata in rock units of high potential (Class 4 or higher), specifically Quaternary Alluvium, Quaternary Sand, Quaternary Nonmarine Sediments, Quaternary Lake Deposits, and Quaternary-Tertiary Lake Deposits, full time monitoring by the Project Paleontologist or other qualified paleontologist will be required.
 2. Construction activities shall be diverted when data recovery of significant fossils is warranted, as determined by the Project Paleontologist. Monitoring shall be conducted as follows:
 - a. Monitoring of ground disturbance shall consist of the surface collection of visible vertebrate and significant invertebrate fossils within the project site. Upon discovery of paleontological resources by paleontologists or construction personnel, work in the immediate area of the find shall be halted and diverted and the Project Paleontologist shall be notified. Once the find has been inspected and a preliminary assessment has been made, the Project Paleontologist will notify the BLM and the County of Riverside Planning Department of the discovery within 24 hours. If recovery of a large or unusually productive fossil occurrence is warranted, earthmoving activities shall be diverted temporarily around the fossil locality, and a recovery crew shall be

mobilized to remove the material as quickly as possible. The monitor shall be permitted to photograph and/or draw stratigraphic profiles of cut surfaces and take samples for analysis of microfossils, dating, or other specified purposes in accordance with the PMMP (MM PAL-2).

- b. Recovered specimens shall be prepared to a point of identification, including washing of sediments to recover smaller fossil remains. Once excavation has reached specified depths, salvage of fossil material from the side walls of the cut shall resume. Specimens shall be identified and curated into a repository with retrievable storage (MM PAL-7).
- c. All significant fossil specimens recovered from the project site as a result of the paleontological monitoring and mitigation program shall be treated (prepared, identified, curated, and cataloged) in accordance with the designated repository requirements. Samples shall be submitted to a laboratory, acceptable to the designated repository, for identification, dating, and microfossil and pollen analysis.

Construction monitoring or spot checking as appropriate, shall also be required for the decommissioning period.

MM PAL-6

Paleontological Reporting. The Project Paleontologist shall document the results of the construction monitoring program with daily monitoring reports, monthly progress reports and a final report submitted to BLM, the state regulatory agency, the designated repository and the project proponent as outlined in the PMMP (MM PAL-2). All reports shall be prepared in accordance with BLM, Society of Vertebrate Paleontology guidelines, and state regulatory agency requirements. Reporting shall also be required for the decommissioning period if any new fossils are identified during monitoring of decommissioning activities.

Daily and monthly reporting will include at a minimum a completed BLM locality form 8270-3 or equivalent for each new locality using 1:24000 scale maps with new localities plotted.

Upon completion of all field work, a final report of the monitoring and mitigation conducted must be submitted to the BLM and the County of Riverside Planning Department for review and approval. At a minimum the final report must include the following details as specified by BLM IM 2009-011:

1. Name, affiliation, address, date of report, and permit number (if consultant) of the paleontologist doing the survey.
2. Project name and number (if used), name of proponent, and general location of project.
3. Date(s) of the survey and names of any personnel assisting with the survey.
4. Brief description of project and expected impacts to paleontological resources.
5. A summary of mitigation performed.
6. A summary of findings, including important discoveries.
7. A description of potentially fossiliferous areas to allow for future assessment of sites, even if no fossils were located during the project monitoring.

8. A completed BLM locality form 8270-3 or equivalent for each new locality using Universal Transverse Mercator (UTM) NAD 83 coordinates, and 1:24000 scale maps with new localities plotted using points or polygons as appropriate. Locality forms, maps, and any other information containing specific fossil locations should be bound separately or assembled as a separate section to allow for preservation of confidential locality data.
9. List of specimen field numbers and field identifications of collected material, cross-referenced to the locality field number.

MM PAL-7 **Curation of Paleontological Materials.** Prior to issuing a BLM Notice to Proceed, as specified by BLM Manual 8270-1 the project proponent shall submit written certification from a repository willing to accept the collections and other materials resulting from work done for the project. The project owner shall curate the fossil collections, provide appropriate field and laboratory documentation, and complete the final Paleontological Resource Recovery Report within 90 days from the completion of monitoring. Curation and documentation shall also be required for the decommissioning period if any new fossils are identified during monitoring of decommissioning activities.

MM PAL-8 **Pre-construction Paleontological Subsurface Excavation.** Prior to issuing a BLM Notice to Proceed, the Project Paleontologist shall submit a Pre-construction Subsurface Excavation Plan, prepared consistent with SVP guidelines, for the project to the BLM for review and approval. The Plan shall be prepared and implemented under the direction of the Project Paleontologist. Implementation of the Plan shall be complete prior to the completion of the PMMP so that the resulting information can guide the project mitigation and monitoring strategy. The Plan shall be prepared and implemented at the sole expense of the project proponent, and be consistent with SVP guidelines and meet all BLM and Riverside County regulatory requirements. The subsurface excavation plan is intended to be consistent with SVP guidance for project areas with high paleontological sensitivity and the potential for presence of soil units likely to contain micro-vertebrate fossils (paleosols). Subsurface excavation shall take place in a minimum of 10 locations within the project area, with at least one excavation in each proposed solar field (as applicable), with the remainder placed along the chosen gen-tie line alternative at the discretion of the Project Paleontologist. Trench walls shall be examined and documented by a qualified paleontologist. Small samples from each trench shall be screened through mesh fine enough to collect micro-vertebrate fossils. A minimum of 10 fossils or soil humate samples, as appropriate, shall be collected and shall be subjected to AMS radiocarbon dating. Upon completion of all field work and laboratory analysis, a letter report describing the results of the subsurface excavation must be submitted to the BLM and the County of Riverside Planning Department for review and approval. The results shall be incorporated into the PMMP.

Fire and Fuels Management

AM HAZ-7 **Fire protection measures shall be implemented.** Project facilities will be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health and safety requirements. In compliance with County of Riverside requirements, a project-specific fire prevention plan for both construction and

operation of the Solar Farm and Gen-Tie Line will be completed prior to initiation of construction. The fire protection plan will be approved by the BLM and provided to Riverside County for review and comment.

AM HAZ-8 **Fire Prevention Plan.** A project-specific fire prevention plan will be in place during construction, operation and decommissioning of the project. This plan will comply with applicable County of Riverside regulations and would be coordinated with the BLM Fire Management Officer and the local Fire Department in the Chuckwalla Valley at Tamarisk Park.

AM HAZ-9 **Emergency Response Plan.** An emergency response plan and site security plan will be completed for the project facilities by qualified professionals. These plans will be developed in accordance with the BLM requirements.

MM FIRE 1 **A project-specific Fire Prevention Plan shall be developed and implemented.** This Plan shall comply with applicable County of Riverside regulations and would be coordinated with the BLM Fire Management Officer and the local Fire Department in the Chuckwalla Valley at Tamarisk Park. The Plan shall be developed for construction, operations/maintenance, and decommissioning activities.

The following steps shall be taken to identify and control fires and similar emergencies.

1. **Wildfire traffic control and site access.** The project owner shall develop a wildfire traffic control plan. The plan shall provide mechanisms for keeping roads passable for emergency service providers in a wildfire or other emergency situation. The traffic control plan shall identify strategic locations for adequate construction and maintenance vehicle parking, as necessary, in consultation with BLM. Alternative routes for large equipment and vehicle evacuation shall be identified to the extent possible. The plan shall provide specifications, including GIS data, for a network of access roads to be constructed for adequate fire control and emergency vehicle access to the site. Local fire agencies shall have 24-hour access to the solar farm site. Fire access roads and gates shall be a minimum of 12 feet to allow fire bulldozer access. Firefighting roads shall be maintained to permit access to 2-wheel drive fire equipment. Approved roads shall be named or designated with road signs that shall be maintained in good condition. Project fences shall not limit access to fire roads, fire hydrants, or fire protection systems. The project owner shall provide and maintain a Knox Box or similar system to allow fire and law enforcement, including U.S. Border Patrol, access. Below surface pipelines, electrical and communications lines shall be signed at an interval appropriate to alert firefighting bulldozer and off road fire engine operations to advise firefighters of depth and location.
2. **Minimize fire risk by removing vegetation.** Electrical equipment that is part of the project would only be energized after the necessary inspections and approval to ensure minimal risk of any electrical fire during construction. Measures to minimize fire risk shall include removal of dry vegetation and/or other combustible materials within 30 feet of any hazardous material storage, compressed gas storage, or equipment/vehicle that has the potential to spark a fire. Cleared dead and decaying vegetation shall be removed.
3. **Use of non-flammable coolant for transformers.** Transformers located on site shall

be equipped with non-toxic mineral-oil based coolant that is non-flammable, biodegradable and contains no polychlorinated biphenyls or other toxic compounds.

4. **Halt construction during “severe fire weather.”** Construction activities shall be halted during “severe fire weather” as defined by the local CAL FIRE office and BLM Fire Management. Work may be resumed during severe fire weather only with approval of the local CAL FIRE office and BLM Fire Management.
5. **Blasting plan must be approved before any project-related blasting.** No blasting shall occur without submission and approval of a blasting plan. Plan shall be approved by BLM, CAL FIRE, and local fire agency before the start of ground disturbance.
6. **Prevent conflicts with aerial fire-fighting.** All new overhead structures introduced by gen-tie lines shall be mapped and maps and GIS data shall be provided to fire agencies to prevent conflicts with aerial fire-fighting. Construction contractor and project operator shall also coordinate with fire agencies to reduce potential conflicts.
7. **Crew members shall monitor for fire risks and immediately report fires and fire risks.** All construction/maintenance/decommissioning crews and inspectors shall be provided with radio and cellular telephone access that is operational throughout the entire approved solar farm site and gen-tie line route to allow for immediate reporting of fires. Communications equipment shall be tested and confirmed as operational each day prior to initiating construction or maintenance activities. All fires shall be reported to fire agencies, both CAL FIRE and BLM, immediately. Each crew member shall carry at all times a laminated card listed pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts, including appropriate fire suppression measures. Project staff shall monitor fire risks during construction and operation to ensure that prompt measures are taken to mitigate identified risks. The project owner’s staff vehicles shall be equipped with fire extinguishers.

In addition to the elements listed above, the Plan shall include the following, at a minimum:

8. The project owner shall provide a dedicated 10,000-gallon water tank, labeled for fire suppression, and maintained for firefighter use. The plumbing connection must be such that the tank can be opened or closed, the plumbing must be permanent, of metal material, and no less than 4 inches. The firefighting connection must be of metal construction and 4-inch National Hose Thread with a separate coupling, that shall be removable, shall be of metal construction from 4-inch National Hose thread to 2 1/2-inch National Hose Thread. A protective cap must be in place to protect the hose threads.
9. No combustible materials, patio furniture, wood picnic tables, sun shades, patio roof shall be stored, placed or constructed around buildings. Such items must be fire resistant.
10. Campfires, barbeques, and stoves must be placed in cleared areas.
11. A notification list shall be provided in the Plan with current contact information for all relevant parties. The notification list shall be updated as changes occur, and

available on scene at the Knox Box location.

12. Addresses shall be visible from road, signed with lettering at least 6 inches in height, reflective, and of color contrast to its background.
13. The project owner shall provide a training program for emergency fire responders so that they can safely fight fires without damaging equipment to the extent possible. To this end, the project owner shall provide a single training prop (small panel system) to the Riverside County Fire Department to enhance the training experience.

Soils and Geology

AM GEO-1 **Design Plan.** Project structures shall be built in accordance with the design-basis recommendations in the project-specific geotechnical investigation report. Structure designs must meet the requirements of all applicable federal, state, and county permits and building codes.

AM GEO-2 **Design Features.** The Applicant will implement the following design features to reduce effects from wind and water erosion to soils:

- Obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) Water Quality Order 2009-0009 DWQ;
- Use nonhazardous dust suppressants approved by the BLM and water on an as-needed basis to suppress wind-blown dust generated at the site during construction. Dust palliatives also would be applied between rows of solar panels for dust suppression during operation;
- Implement erosion control measures during construction; and
- Use silt fences for erosion control in the event of a storm event along neighboring properties and along the main drainage adjacent to the solar facility site.

Lands and Realty

AM LU-1 **Notification.** Property owners within 300 feet of the project shall be notified of all major project construction milestones, such as start of project construction. Said property owners shall be provided with a detailed construction schedule at least 30 days before construction so that they are informed as to the time and location of disturbance. Updates shall be provided as necessary.

The following mitigation measures would be implemented to reduce effects to ROW holders to the maximum extent feasible.

MM LR -1 **Prior ROW Coordination.** The project owner shall coordinate with any prior ROW holders, document the effect the new use would have on existing holders, and resolve any incompatibilities to the existing holders at the project owner's expense. The project owner shall bear all costs for relocating, modifying, or flagging any facilities such as power poles, conductors, or pipelines that might be necessary to accommodate the new use.

MM LR-2 **FERC Withdrawal Compatibility.** The project owner shall construct, operate, and maintain all facilities located within the Federal Energy Regulatory Commission (FERC) withdrawal area so as not to interfere with or preclude use of the withdrawn public lands for the EMPSP (Power Project P-13123). The DHSP project owner shall be responsible for any costs necessary to maintain or modify any DHSP facilities to accommodate use of public land under Power Project P-13123. If Power Project P-13123 is licensed by FERC, the project owner shall also be responsible for reimbursing the licensee for all reasonable costs incurred by the licensee as a result of the project owner's use of withdrawn public land. "Project components" include fencing, solar modules, overhead or underground transmission lines, gravel or paved access roads, or other project facilities that have the potential to interfere with the licensed use on the withdrawn land.

The following mitigation measures would be implemented to reduce effects to ROW holders to the maximum extent feasible.

MM LR-3 **Eliminate DSSF Panel Shading.** If a higher panel alternative is adopted, the project owner shall ensure that the project layout does not result in shading of neighboring solar panels in the Desert Sunlight Solar Farm (DSSF), the existing ROW holder immediately north of the proposed solar facility site. The burden of proof shall rest with the project owner (of the Desert Harvest Solar Project [DHSP]) to demonstrate that no shading would occur on DSSF panels through commissioning of an engineering study carried out by a qualified professional. The study shall be submitted to DSSF and BLM for review prior to BLM's issuance of a notice to proceed for the DHSP. DSSF shall be given 30 days to respond, and BLM has the final authority to approve or reject the findings of the study. If BLM determines that adjacent shading would occur, a notice to proceed for the DHSP will be withheld until a redesign of the DHSP shows no shading of adjacent DSSF panels, or until a suitable financial agreement is reached between the DSSF and the DHSP.

Noise and Vibration

AM N-1 **Construction Schedule.** Most construction activity will be limited to daytime hours consistent with Riverside County noise ordinance limitations. Certain electrical connection activities at the solar project site would occur at night for safety reasons, but would not require any heavy equipment operations.

MM NOI-1 **Limit Construction Hours When Occurring Near Occupied Residences.** The project owner or its construction contractor shall limit construction activity within a quarter mile of an inhabited dwelling (as identified at the time of construction) to 6:00 a.m. to 6:00 p.m. during June through September and 7:00 a.m. to 6:00 p.m. during October through May to maintain consistency with Riverside County Noise Ordinance No. 847. Certain electrical connection activities at the solar facility site may occur at night for safety reasons; however, no heavy equipment operations would be required for these activities.

MM NOI-2 **No Net Increase in Ambient Noise within JTNP.** The project owner shall ensure that on-site project construction activities do not result in noise levels above 35 dBA Leq (1-hour) within the boundary of JTNP. The project owner shall ensure regular monitoring of

noise levels at the Park boundary closest to on-site project construction activities. If noise levels as a result of on-site project construction exceed 35 dBA Leq (1-hour) within the Park boundary, a noise attenuation barrier shall be erected around the project construction activities to dampen the noise to less than 35 dBA Leq (1-hour) within the Park.

Public Health and Safety

- AM HAZ-1 Spill containment and clean-up kits. Spill containment and clean-up kits shall be kept on site. Appropriate spill containment and clean-up kits shall be kept on site during construction and maintained during the operation of the Solar Farm and Gen-Tie Line.
- AM HAZ-2 Hazardous Materials Management Plan. In accordance with the Emergency Planning & Community Right to Know Act, the Applicant shall supply the local emergency response agencies with a Hazardous Materials Management Plan and an associated emergency response plan and inventory specific to the site. The Applicant shall prepare the plan for approval by the BLM and review and comment by the County of Riverside. The Applicant shall be responsible for implementing the approved plan.
- AM HAZ-3 Best Management Practices (BMPs) for hazardous materials. During construction of the solar facility and gen-tie line, BMPs for handling, storing, and disposing of hazardous materials and waste shall be followed.
- AM HAZ-4 Spill Prevention Control and Countermeasures (SPCC) Plan. A SPCC Plan will be developed and implemented that would identify primary and secondary containment for oil products stored on site as well as training in spill management in the event of an unexpected release. The Applicant shall prepare the plan for approval by the BLM. The Applicant shall be responsible for implementing the approved plan.
- AM HAZ-5 Environmental Health and Safety Plan. The Applicant shall develop an Environmental Health and Safety Plan for the construction and operation of the project to ensure it includes all activities and compliance with all local, state and federal regulatory requirements. Illness and Injury Prevention Programs will be developed for construction and operation. The Applicant shall prepare the plan for approval by the BLM. The Applicant shall be responsible for implementing the approved plan.
- AM HAZ-6 Emergency Response and Inventory Plan. The Applicant shall provide the County of Riverside with a project-specific Emergency Response and Inventory Plan before construction begins. The Applicant shall prepare the plan for approval by the BLM and review and comment by the County of Riverside. The Applicant shall be responsible for implementing the approved plan.
- AM HAZ-7 Fire Protection and other requirements. Project facilities will be designed, constructed, and operated in accordance with applicable fire protection and other environmental, health and safety requirements. In compliance with County of Riverside requirements, a project-specific fire prevention plan for both construction and operation of the solar facility and gen-tie line will be completed prior to initiation of construction. The fire protection plan will be approved by the BLM and provided to Riverside County for review and comment.

- AM HAZ-8 Fire Prevention Plan. A project-specific fire prevention plan will be in place during construction, operation and decommissioning of the project. This plan will comply with applicable County of Riverside regulations and would be coordinated with the BLM Fire Management Officer and the local Fire Department in the Chuckwalla Valley at Tamarisk Park.
- AM HAZ-9 Emergency Response Plan. An emergency response plan and site security plan will be completed for the project facilities by qualified professionals. These plans will be developed in accordance with the BLM requirements
- AM HAZ-10 Decommissioning Plan. When permanent closure is appropriate, a decommissioning plan would be developed and submitted to the BLM for review and approval. The following strategy would be taken:
- Analyze alternatives other than full restoration of the site (for instance, removal of old facilities and upgrading to newer solar technology)
 - Use industry standard demolition means and methods to decrease personnel and environmental safety exposures by minimizing time and keeping personnel from close proximity to actual demolition activities to the extent practical
 - Plan components of decommissioning to ensure personnel and environmental safety are maintained while efficiently completing the work
 - Provide for recycling the components of the plant: metal, panels, concrete; and proper disposal of all other materials
 - Remove all residual materials and chemicals from the site prior to demolition for reuse at other facilities or disposal at licensed facilities
 - Demolition of below-ground facilities to a depth required for restoration of the native habitat
 - Soils clean-up, if needed, particularly at locations where hazardous materials were used or stored to ensure that clean closure is achieved
- Restore the lines and grades in the disturbed area to match the natural gradients of the site and re-establish native vegetation in the disturbed areas
- MM PHS-1 A Hazardous Materials Management Plan shall be prepared. In accordance with the Emergency Planning & Community Right to Know Act, the project owner shall supply the local emergency response agencies with a Hazardous Materials Management Plan and an associated emergency response plan and inventory specific to the site. The project owner shall prepare the plan for approval by the BLM and review and comment by the County of Riverside. The project owner shall be responsible for implementing the approved plan.
- The plan shall include:
1. Introduction to the plan that identifies business activities;
 2. Identification of owner/operator with contact information;
 3. A hazardous materials inventory statement listing all hazardous materials used during construction and operation;

4. A facility map; and
5. 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.

MM PHS-2 Best Management Practices (BMPs) for hazardous materials shall be implemented. During construction of the solar project and gen-tie line, BMPs for handling, storing, and disposing of hazardous materials and waste shall be followed.

BMPs shall include:

1. Keeping materials in their original containers with the original manufacturer's label and resealed when possible;
2. Avoiding excessive on-site inventories of chemicals; procure and store only the amounts needed for the job;
3. Following manufacturer's recommendation for proper handling and disposal;
4. Conducting routine inspections to ensure that all chemicals on site are being stored, used, and disposed of appropriately;
5. Performing timely maintenance on vehicles/equipment that are leaking oil or other fluids, and placing drip pans under the leak when the vehicle/equipment is parked prior to the maintenance event;
6. Performing fueling of vehicles and equipment in locations that are protected from spillage onto exposed ground surface
7. Ensuring that all personnel dealing with hazardous materials are properly trained in the use and disposal of these materials in accordance with local, state and federal regulations; and
8. Maintaining Material Safety Data Sheets (MSDS) available on the site for use during project construction and operation.

MM PHS-3 A Spill Prevention Control and Countermeasures (SPCC) Plan shall be prepared. An SPCC shall be developed and implemented identifies primary and secondary containment for oil products and other hazardous materials stored on site as well as training in spill management in the event of an unexpected release. The project owner shall be responsible for implementing the approved plan. Prior to construction permit issuance, the project owner shall submit to BLM for review and approval a site-specific spill response plan with the following elements:

1. General information:
 - a. Name and location of facility
 - b. Description of facility operations
 - c. General manager and emergency coordinator names and phone numbers (home, work, pager, and mobile contact information)

- d. Description of what is stored at the facility (contents and volume)
 - e. Site diagram showing:
 - i. Hazardous materials storage areas
 - ii. Drains (storm and sanitary)
 - iii. Surface waters
 - iv. Buildings
 - v. Surrounding neighborhood
2. Prevention: A description of prevention measures to be taken at the project site, such as secondary containment, employee training, and proper storage. Products shall be kept in their original containers with the original manufacturer's label and resealed when possible, and the manufacturer's recommendation for proper disposal shall be followed. The site superintendent shall perform routine inspections to ensure that all materials onsite are being stored and disposed of in an appropriate fashion.
3. Preparedness: A description of the planned onsite equipment for spill response and its location. Spill clean-up materials and equipment appropriate to the type and quantity of hazardous materials shall be located onsite and personnel made aware of their location. Key employees shall be trained in spill response procedures in accordance with local, State, and federal regulations. Material safety data sheets (MSDSs) shall be kept onsite during construction and operation of the solar farm. Spill response materials including brooms, dust pans, mops, rags, gloves, absorbent pads/ pillows/socks, sand/absorbent litter, sawdust, and plastic and metal containers will be kept onsite. The spill response plan shall also specify:
- a. The project owner's health and safety training plan, Department of Transportation-required training, and spill response training
 - b. Local, State, and federal regulatory agency reporting procedures and phone numbers, as well as emergency response contractor contact information and local hospital contact information
4. Response Procedures: An outline of emergency response procedures, including physical spill clean-up procedures, reporting requirements, and stabilization techniques. Spill guidelines shall include the following:
- a. All spills shall be immediately cleaned up upon discovery. Spills will be reported to the BLM in writing within 24 hours, and by phone immediately.
 - b. The spill area shall be kept well ventilated and personnel shall wear the appropriate protective clothing to prevent injury when cleaning up a spill
 - c. Spills of hazardous materials shall be reported to the appropriate local, State, and federal authorities and/or regulatory agencies as required by law
 - d. All vehicles leaking oil or fluids shall be scheduled for maintenance, and drip pans shall be placed under the leak when parked prior to the maintenance event
 - e. All spill and clean up material will be removed from site as soon as can be arranged and taken to a legal disposal facility. This paperwork will be submitted to the BLM.

5. A description of spill prevention and response measures for transportation of substation transformer oil to and from the project site. Spill guidelines shall include the following:
 - a. The transformer oil transportation route shall be mapped with all navigable or potentially navigable waters adjacent to or perpendicular to the route
 - b. A list of contact information for the appropriate local, State, and federal authorities shall be located in the transportation vehicle(s) at all times
 - c. Transformer oil spills during transportation shall be immediately reported to the appropriate local, State, and federal authorities

The spill response plan shall be implemented during construction, operation, and decommissioning. In addition, during the life of project operation, the project shall not use any hazardous materials not specified in the plan or in greater quantities than specified, unless approved in advance by BLM.

MM PHS-4 An Environmental Health and Safety Plan shall be prepared. The project owner shall develop an Environmental Health and Safety Plan for the construction and operation of the project to ensure it includes all activities and compliance with all local, state and federal regulatory requirements. Illness and Injury Prevention Programs will be developed for construction and operation. The project owner shall prepare the plan for approval by the BLM. The project owner shall be responsible for implementing the approved plan.

The plan shall include the following:

1. An organizational structure;
2. A description of site characteristics and a job hazard analysis;
3. A description of site controls that includes a site map; identification of site access restrictions, site security, site work zones, any required exclusion zones, any contaminant reduction zones, relevant support zones, and site communications;
4. Training requirements and documentation of training;
5. Medical surveillance;
6. Personal protective equipment;
7. Exposure monitoring;
8. Heat stress;
9. Spill containment;
10. Decontamination;
11. Emergency response;
12. Relevant standard operating procedures; and
13. Confined space (if relevant).

14. The Emergency Response and Inventory Plan shall include the following provisions regarding Valley Fever (Coccidioidomycosis):

- **Training will include educational handouts developed in consultation with the Riverside County Health Department and the BLM that would include such information as what are the potential sources/causes of Valley Fever, what are the common symptoms, what are the options or remedies available should someone be experiencing these symptoms, and identify where testing for exposure is available. Trainings would also include items such as how to recognize the symptoms of Valley Fever and recommendations to promptly report suspected symptoms of Valley Fever. Personal protective equipment would include items recommended by the CDPH for Valley Fever such as:**
- **Enclosed, air-conditioned cabs on heavy equipment and confirmation that the workers keep the windows closed. Heavy equipment cabs should be equipped with high efficiency particulate air (HEPA) filters. Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment.**
- **Communication methods, such as two-way radios, for use in enclosed cabs.**
- **National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers.**
- **Half-face respirators equipped with N 100 or P 100 filters to be used during digging. Require employees to wear respirators when working near earth-moving machinery.**

MM PHS-5

A project-specific Emergency Response and Inventory Plan shall be prepared. The project owner shall provide the County of Riverside with a project-specific Emergency Response and Inventory Plan before construction begins. The project owner shall prepare the plan for approval by the BLM and review and comment by the County of Riverside. The project owner shall be responsible for implementing the approved plan.

The plan shall include the following:

1. An evacuation plan;
2. A list of emergency contacts;
3. A list of emergency resources;
4. Any special arrangements with emergency responders;
5. Relevant emergency procedures;
6. Post-incident reporting/recording responsibilities;
7. Identification of site components that may be vulnerable to earthquakes with procedures for inspection or isolation after a seismic event;

8. A list of on-site emergency equipment; and
9. An employee training plan that documents training areas and capabilities.

MM PHS-6 Ensure proper disposal or recycling of photovoltaic panels and other infrastructure. In order to ensure that disposing of project structures does not pose a risk to human health or the environment, the project owner shall develop a recycling and disposal plan for photovoltaic panels and other infrastructure, including support structures, treated wood poles, transformers, and inverters. This plan shall apply to components that are damaged or otherwise require replacement during project construction and operation and shall also apply to project decommissioning. The recycling plan shall specify means by which these project components will be disposed of in a manner that will not pose a risk to human health or the environment. Any sale or transfer of photovoltaic panels and support structures shall be required to transfer the recycling and disposal plan and obligations along with project infrastructure. The recycling plan shall apply to all project infrastructure. The project owner shall implement the recycling plan at the end of the project's useful lifetime.

Special circumstances for cadmium-containing infrastructure: For any cadmium-containing photovoltaic panels that are not already subject to a pre-funded take back and recycling program, the project owner must further:

1. Pre-identify a recycler of CdTe photovoltaic panels that is either in the United States, and therefore subject to regulations governing hazardous materials and health and safety regulations, or is ISO 14001 certified.
2. Provide a unique identification number for each CdTe module that is permanently affixed to the module and made of a material that will not fade or rust;
3. Register the location of each CdTe module with the County Department of Planning and Building; and
4. Label each CdTe module with the contact information for the County Department of Planning and Building.

MM PHS-7 Develop and implement fire services agreement with Riverside County Fire Department and BLM. The project owner shall enter into an agreement with Riverside County Fire Department/CAL FIRE and BLM. To address project impacts, the project owner, based on consultation with CAL FIRE, shall ensure that either (a) a sufficient number of permanent project employees are trained as volunteer fire fighters or (b) the project owner will provide fire protection training to its permanent employees. This will allow the project's on-site work force to combat and be first responders to any potential fires occurring on-site or within the vicinity of the project site prior to back up by CAL FIRE staff.

MM PHS-8 Develop and implement plan to address munitions and explosives of concern (MEC). The plan shall include the following;

1. Historical Research. The project owner shall take steps to gather detailed informa-

tion on the history of military activities within the proposed project footprint. This shall include further research regarding prior MEC removals that may have been issued in the past for certain areas by military or other investigating entities and archival research with the cooperation of the Department of Defense.

2. Department of Defense Consultation. The project owner shall consult with the Department of Defense on the likely occurrence of, and safe treatment of, MECs in the project area. As a result of the historical occurrence of military training activities throughout the Desert Training Center/California-Arizona Maneuver Area, potentially including the project area, this MEC consultation and archival research shall address the entire project footprint.
3. Further Assessment as Appropriate. After initial research and consultation with Department of Defense personnel, the project owner shall undertake, as necessary, further appropriate above and below-ground assessments, under the direction of an expert consultant team (as determined by BLM), to delineate areas for further investigation and possible MEC removal. The project owner, under direction from the BLM, shall determine which site-specific in-field investigative techniques and methodologies will be utilized to investigate and resolve potential MEC issues prior to project construction.
4. MEC Safety Training. All construction personnel shall receive appropriate MEC health and safety awareness training to ensure that they know what actions to take if unanticipated MEC or other suspicious articles are encountered during construction.
5. The site shall be surveyed and cleared of all munitions and explosives of concern by a qualified expert prior to the issuance of a notice to proceed.

MM PHS-9

Use Licensed Herbicide Applicator. During the construction and operational phases of the project, the contractor or personnel applying herbicides shall have all the appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use, including the BLM's 2007 *Vegetation Treatments Using Herbicide Programmatic Final Environmental Impact Statement*. Herbicides shall be mixed and applied in conformance with the product manufacturer's directions. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets (MSDSs) for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and waterbodies, herbicides shall not be applied directly to wildlife, products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed, and herbicides shall not be applied within 50 feet of any surface waterbody when water is present. Herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water. Herbicides shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

Prior to any herbicide application, the herbicide applicator shall contact the Environmental Monitor to show where work will be done and to receive information/training about potentially sensitive biological resources that may be within the area to be sprayed and methods to apply to minimize those impacts. A Worker's Training Manual shall be prepared and include a provision on herbicide application. Once facility operation commences, this Manual shall be given to any herbicide applicator to be reviewed prior to spraying.

Recreation

Social and Economic

AM S-1 Notification. The public shall be notified of project activities and scheduling to inform the public of projected effects on the surrounding area. This notification will provide the public with the opportunity to plan their personal and business activities appropriately.

AM S-2 Minimize Visual Impacts of Gen-Tie. Project Applicant will align gen-tie lines along existing linear features (such as Kaiser Road) to minimize the social effects of potential visual effects.

Special Designations

MM SD-1 The NPS reviews and comments on pre-construction plans. The NPS shall be afforded the opportunity to review and comment on the following pre-construction plans required for the project prior to approval of the plans by the BLM: the Vegetation Resources Management Plan, the Fugitive Dust Control Plan, the Integrated Weed Management Plan, Night Lighting Management Plan, and the Construction Traffic Control Plan. Review and comment by the NPS must be within time frames specified by the BLM.

MM SD-2 Project owner enters into a funding agreement. The project owner shall enter into a funding agreement or other financial mechanism, as may be specified in the Record of Decision or Right-of-Way Grant, to reimburse the NPS for reasonable costs incurred in the monitoring of the following measures (whether project owner-proposed or BLM-required) to address temporary indirect impacts on the Joshua Tree National Park:

- Fugitive dust: MM AIR-1, and MMVR-1, concerning the development and implementation of a dust control plan that includes the use of dust palliatives to ensure compliance with SCAQMD Rule 403; MM AIR-3, requiring control of fugitive dust on unpaved roads on the DHSP site; and AM-GEO-2, as it relates to the suppression of fugitive dust during construction and operation.
- Noise: MM NOI-1, limiting construction activity to daytime hours near occupied residences.
- Nighttime lighting: MM VR-6, requiring the design and installation of a night lighting management plan concerning temporary and permanent exterior lighting.

MM SD-3 The project owner develops a Signage and Guidance Plan. A Signage and Guidance Plan shall be developed for Joshua Tree National Park by the project owner and reviewed

and approved by both the NPS and the BLM prior to the start of construction of the project. The intent of this plan is to address the potential indirect effects on NPS land as a result of the influx of workers associated with the mobilization, construction, and demobilization of the project. The plan shall include the following elements:

- Design and installation of directional and informational signage that identify areas of Joshua Tree National Park available for day, overnight, and long-term stays; off-limit areas; and pertinent park rules and regulations;
- Design and installation of strategically placed gates, bollards, or the like, inside the boundary of Joshua Tree National Park, where deemed necessary, for the purpose of vehicular control on NPS parkland located nearest the project boundary;
- Educational instruction for project construction workers on park rules and regulations pertinent to Joshua Tree National Park and Joshua Tree Wilderness Area. This instruction shall be integrated into the Worker Environmental Awareness Program;
- Requirements for the retention and/or removal of any items installed as part of the plan following completion of construction of the project; and,
- Funding mechanism for implementing the plan.

Items installed as part of the plan shall have a nexus to the NPS's need to address the likely impacts associated with above normal numbers of users of Joshua Tree National Park facilities during the mobilization, construction, and demobilization period of the project.

Transportation and Public Access

- AM TR-1 Construction Traffic Control Plan.** The project Applicant will prepare a Construction Traffic Control Plan in conjunction with Riverside County or Caltrans in accordance with Caltrans Manual on Uniform Traffic Control Devices and the California Joint Utility Traffic Control Manual (2010).
- AM TR-2 Document road conditions.** The project Applicant will 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.
- AM TR-3 Share project information with airport owners.** The project Applicant will share project information with the airport owners if a transmission line alternative that runs near the former Desert Center Airport's runway is selected to assure that no special precautions are needed.
- AM TR-4 Coordinate with DoD.** The BLM will coordinate with the Department of Defense R 2508 Complex Sustainability Office, Region IX, based in San Diego, California, and with local regional military installations regarding low-level flight operations relative to the project to assure that no special precautions are needed.
- MM TRAN-1 Limit Water Truck Deliveries.** All water truck deliveries are prohibited from arriving or departing the project during the AM Peak Period (6:00 AM to 9:00 AM) and PM Peak Period (4:00 PM to 6:00 PM).

- MM TRAN-2 Restore Local Roads.** The project owner shall document road conditions of Kaiser Road and any other local construction access roads prior to and at the end of project construction and decommissioning, and restore the roads to pre-construction (and pre-decommissioning) conditions in consultation with Riverside County and BLM. Should the project owner wish to engage in a cost sharing arrangement with other local project developers for restoring local roads, the burden of proof shall rest with the project owner to demonstrate that the roads will be restored to pre-construction (and pre-decommissioning) conditions, and any cost sharing arrangement requires Riverside County and BLM approval.

Visual Resources

- MM VR-1 Reduce Construction Related Impacts.** The project owner shall minimize construction related impacts as described below.

- Minimize Vegetation Removal. Only the minimum amount of vegetation necessary for the construction of structures and facilities shall be removed. Topsoil located in areas containing sensitive habitat, to the extent such areas are not already avoided, shall be conserved during excavation and reused as cover on disturbed areas to facilitate re-growth of vegetation.
- Reduce Land Scarring and Vegetation Clearance associated with gen-tie Construction. Vegetation within the gen-tie ROW and ground clearing at the foot of each tower and between towers shall be limited to the clearing necessary to comply with electrical safety and fire clearance requirements.
- Reduce Color Contrast of Land Scars and Graveled Surfaces. Where construction would unavoidably create land scars visible from sensitive public viewing locations, disturbed soils shall be treated with an appropriate material (Eonite, Permeon, or similar). The material shall be approved by the BLM and the intent shall be to reduce the visual contrast created by the lighter-colored disturbed soils with the darker vegetated surroundings. The project owner shall consult with the BLM and/or their authorized representative on a site-by-site basis and obtain written approval prior to the use of any colorants.
- Reduce In-Line Views of Land Scars that would result from construction of gen-tie access roads. Access or spur roads shall be constructed at appropriate angles from the originating, primary travel facilities to minimize extended, in-line views of newly graded terrain. All proposed new access roads shall be evaluated for their visibility from sensitive viewing locations prior to final design. Prior to final design, the project owner shall consult with the BLM and a Designated Biologist to identify the following.
 - The access roads or portions of roads that would be highly visible from sensitive viewing areas.
 - Approximate location and length of alternative access road routes that would replace proposed roads. Define habitat affected and steepness of terrain for consideration of habitat and erosion impacts. The biologist and visual resources specialist shall evaluate whether the overall impacts of the alternate access road

are less than that of the original access road design.

- Areas where “drive and crush” access is a feasible measure to avoid access road scars (i.e., no grading or vegetation removal is required). If this means of access is to be used, the project owner shall define frequency of driving and vehicle types such that a biologist confirms that vegetation would be likely to recover.
- The project owner shall submit a map and/or table to the BLM for review and approval at least 60 days before the start of construction to document the roads, or portions of roads, that have been evaluated for reduction of in-line views or scars and the proposed resolution for each access road. Resolution options include retaining proposed roads due to greater impacts from alternative routes, use “drive and crush” access, or develop alternate access road routes.
- Prohibit Construction Marking of Natural Features. No paint or permanent discoloring agents shall be applied to rocks or vegetation to indicate survey or construction activity limits.
- Fugitive Dust, Waste, and Trash Control. To minimize fugitive dust on the proposed project site, a dust control plan shall be developed which will place limits on the speed of travel for construction vehicles and will apply dust palliatives to the site, as described in AM-AIR-1 and AM-AIR-6 and in compliance with SCAQMD Rule 403. Furthermore, during construction, all trash and food-related waste shall be placed in self-closing containers and removed weekly as needed from the site

MM VR-2

Revegetation. The project owner shall minimize the amount of ground surface to be disturbed and shall revegetate disturbed soil areas as described below.

- Limit Disturbance Areas. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging before construction in consultation with the Designated Biologist and BLM’s visual specialist. Parking areas and staging and disposal site locations shall be similarly located in areas approved by the Designated Biologist and BLM’s visual specialist. All disturbances by project vehicles and equipment shall be confined to the staked and flagged areas.
- Minimize Road Impacts. New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the staked and flagged limits as described above. All vehicles passing or turning around shall do so within the limits or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., staked and flagged) before the start of construction in consultation with the Designated Biologist and the BLM’s visual specialist.
- Revegetation of Temporarily Disturbed Areas. The project owner shall prepare and implement a Revegetation Plan (as required in Mitigation Measure VEG-5) to restore all areas subject to temporary disturbance to pre-project grade and conditions. Temporarily disturbed areas within the project area include, but may not be limited to, all proposed locations for linear facilities, temporary access roads, construction work temporary lay-down areas, and construction equipment staging

areas. Revegetation shall minimize visual effects by re-establishing the pre-existing colors, textures, and forms of the landscape and shall visually integrate the adjacent edges by removing the lines of demarcation. Plantings as part of revegetation along roadways and the boundaries of other disturbed areas shall be irregularly placed with scalloped edges to reduce the hard line visual impact, especially as seen from Kaiser Road and SR-177.

No more than 30 days following the publication of the BLM's Record of Decision/ROW Issuance, whichever comes first, the project owner shall submit to the BLM a final agency-approved Revegetation Plan that has been reviewed and approved by the BLM.

MM VR-3

Project Design to Reduce Visual Contrast. The project owner shall use proper design fundamentals to reduce the visual contrast to the characteristic landscape. These include proper siting and location; reduction of visibility; repetition of form, line, color (see Mitigation Measure MM VR-4) and texture of the landscape; and reduction of unnecessary disturbance. The project owner shall provide to the BLM for review and approval, a draft Project Design Plan describing the siting, placement and other design considerations to be employed to minimize project contrast. The draft plan must explain how the design will minimize visual intrusion and contrast by blending the earthwork, vegetation manipulation and facilities with the landscape. The draft plan shall be submitted to BLM for approval at least 30 days prior to (a) ordering the first structures that are to be color-treated during manufacture, or prior to construction of any of the facility components, whichever comes first. If the BLM notifies the project owner that revisions to the plan are needed before the plan can be approved, within 30 days of receiving that notification, the project owner shall prepare and submit for review and approval a revised plan. Design strategies to address these fundamentals shall be based on the following factors.

- Earthwork. Select locations and alignments that fit into the landforms to minimize the sizes of cuts and fills.
- Vegetation Manipulation. Use existing vegetation to screen the development from public viewing. Feather and thin the edges of cleared areas and retain a representative mix of plant species and sizes.
- Gen-tie Structures. Minimize the number of gen-tie structures and combine different activities in one structure where possible. Use natural, self-weathering materials and chemical treatments on surfaces to reduce color contrast. Bury all or part of the structure. Use natural appearing forms to complement the characteristic landscape. Screen the structure from view by using natural landforms and vegetation. Reduce the line contrast created by straight edges. Use road aggregate and concrete colors that match the color of the characteristic landscape surface. Co-locate facilities within the same disturbed corridor.
- Reclamation and Restoration. Blend the disturbed areas into the characteristic landscape including gen-tie access roads and disturbed areas created during solar facility perimeter fence installation. Replace soil, brush, rocks, and natural debris over these disturbed areas. Newly introduced plant species shall be of a form, color, and texture that blend with the landscape.

MM VR-4

Surface Treatment of Project Structures/Buildings. The project owner shall treat the surfaces of all project structures and buildings visible to the public such that: a) their colors minimize visual contrast by blending with the characteristic landscape colors; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. The PV structure frame and connection pins must be properly treated during the manufacturing process to avoid any reflective properties. The transmission structures and conductors shall be non-specular and nonreflective, and the insulators shall be nonreflective and nonrefractive. The project owner shall consider the use of special galvanizing treatments or post manufacture application of chemical treatments (such as Natina Steel) to ensure that transmission structures are sufficiently dulled and non-reflective and of the appropriate color to blend effectively with the surrounding landscape. The project owner shall comply with BLM requirements regarding appropriate surface treatments for project elements.

The project owner shall provide to the BLM for review and approval, a draft Surface Treatment Plan describing the application of colors and textures to all new facility structures, buildings, walls, fences, and components comprising all facilities to be constructed. The draft Surface Treatment Plan must explain how the design will reduce glare and minimize visual intrusion and contrast by blending the facilities with the landscape. The draft plan shall be submitted to BLM for approval at least 30 days prior to (a) ordering the first structures that are to be color-treated during manufacture, or prior to construction of any of the facility components, whichever comes first. If the BLM notifies the project owner that revisions to the plan are needed before the plan can be approved, within 30 days of receiving that notification, the project owner shall prepare and submit for review and approval a revised plan. The draft Surface Treatment Plan shall include the following.

- Specification, and 11" x 17" color simulations at life-size scale, of the treatment proposed for use on project structures, including structures treated during manufacture.
- A list of each major structure, building, tower and/or pole, and fencing specifying the color(s) and finish(es) proposed for each (colors must be identified by name and by vendor brand or a universal designation).
- Two sets of brochures and/or color chips for each proposed color.
- A detailed schedule for completion of the treatment.
- A procedure to ensure proper treatment maintenance for the life of the project.

Until the project owner receives notification of approval of the Surface Treatment Plan by the BLM, the project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture or perform the final treatment on any buildings or structures treated on site. Additionally, construction activities shall not start until the BLM's approval of the plan has been received.

Within 14 days following the completion of treatment on any facility component, the project owner shall notify the BLM that the component (array, structure, or building) is ready for inspection.

MM VR-5 Screening Vegetation Buffer. The project owner shall maintain a minimum 200-foot wide undisturbed, naturally vegetated buffer along Kaiser Road where the solar array would be adjacent to the road. The purpose of the buffer is to provide adequate vegetative screening of the low-profile panel arrays and partial screening of the high-profile arrays. The minimum 200-foot width of the buffer is necessary given the relatively low density of natural vegetation in this landscape. Although the buffer may not completely screen the proposed project site from view, the intent is to provide sufficient screening to enable only intermittent views of the arrays, thus reducing the prominence of structural contrast.

No fewer than 30 days prior to the start of construction, the project owner shall provide to the BLM for review a draft Screening Plan that illustrates the undisturbed area.

Following the BLM's review and comment period, and no fewer than 15 days prior to the start of construction, the project owner shall provide the final Screening Plan to the BLM.

MM VR-6 Night Lighting Control. Due to the project's location within a nationally significant Dark Sky resource area, night lighting is to be avoided where possible and minimized under all circumstances. To accomplish this, the project owner shall prepare a Night Lighting Management Plan that incorporates the following general principles and specifications.

- Always-on security lighting is to be limited to one low-wattage, fully shielded, full cutoff light fixture at the main entrance to the facility. All other security lighting is to be motion activated only through the use of passive infrared sensors and controlled as specific zones such that only targeted areas are illuminated. No other lighting is to be utilized on a nightly basis when the facility is not occupied.
- Lighted nighttime maintenance is to be minimized or avoided as a routine practice and should only occur during emergencies. In particular, night-lighted maintenance activities shall be avoided during primary Dark Sky hours, meaning no maintenance lighting shall be used later than two hours after sunset and no earlier than two hours before sunrise.
- If a nighttime maintenance activity is anticipated to be necessary, the scheduling of that activity must be coordinated with the Joshua Tree National Park Night Sky Program Manager to ensure that the nighttime maintenance activity does not occur during a scheduled Night Sky Program.
- Under all circumstances, the use of night lighting is to be absolutely minimized.

Consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting and all temporary construction lighting such that: a) lamps and reflectors are not visible from beyond the solar farm site including any off-site security buffer areas; b) lighting shall not cause excessive reflected glare; c) direct lighting shall not illuminate the nighttime sky, except for required FAA aircraft safety lighting (which shall be an on-demand, audio-visual warning system that is triggered by radar technology if technically and economically feasible, and if allowed by the FAA); d) illumination of the Proposed project and its immediate vicinity shall be minimized; e) skyglow caused by Project lighting will be avoided; and f) the Night Lighting Management Plan (see below) shall comply with local policies and ordinances.

All permanent light sources shall be below 3,500 Kelvin color temperature (warm white) and shall be full cutoff fixtures.

No fewer than 30 days prior to the start of construction, the project owner shall submit to the BLM and National Park Service (NPS) Joshua Tree National Park for review and approval a draft Night Lighting Management Plan. Following the BLM's and NPS' review of the draft Night Lighting Management Plan, and not fewer than 15 days prior to the start of construction, the project owner shall submit to the BLM and NPS for review and approval, a final Night Lighting Management Plan. Construction activities shall not start until BLM's and NPS's approvals of the plan have been received. The Night Lighting Management Plan shall include the following.

- Specification that LPS or amber LED lighting will be emphasized, and that white lighting (metal halide) would: a) only be used when necessitated by specific work tasks; b) would not be used for dusk-to-dawn lighting; and c) would be less than 3500 Kelvin color temperature.
- Specifications and maps of all lamp locations, orientations, and intensities including security, roadway, and task lighting.
- Specifications of each light fixture and each light shield.
- Total estimated outdoor lighting footprint expressed as lumens or lumens per acre.
- Detailed list of anticipated circumstances and activities that would require night lighting including the expected frequency of the activity, the duration of the activity, and the expected amount of lighting that would be necessary for that activity.
- Definition of the threshold for substantial contribution to light pollution in Joshua Tree National Park, in coordination with the Night Sky Program Manager (see below).
- Specifications on the use of portable truck-mounted lighting.
- Lighting design shall consider setbacks of proposed project features from the proposed project boundary to help satisfy the lighting mitigation requirements.
- Light fixtures that could be visible from beyond the proposed project boundary shall have cutoff angles sufficient to prevent lamps and reflectors from being visible beyond the proposed project boundary, including security lighting.
- Specification of motion sensors and other controls to be used, especially for security lighting such that lights operate only when the area is occupied.
- Surface treatment specification that will be employed to minimize glare and skyglow.
- Results of a Lumen Analysis (based on final lighting plans), in consultation with the NPS Night Sky Program Manager (Chad Moore – [970] 491-3700), in order to determine the extent of night lighting exposures on the surrounding NPS lands. If the lighting exposure on NPS lands exceeds the allowable threshold (which is to be determined in consultation with the NPS Night Sky Program Manager), additional control measures shall be instituted to reduce the lighting exposures to levels below

the action threshold.

- Documentation that the necessary coordination with the NPS Night Sky Program Manager has occurred.

Water Resources

AM WR-1

Manage Hazardous Materials and Use SPCC Plan. The Applicant or its agents will:

- Train construction staff in the management of hazardous materials and use of spill control and cleanup equipment;
- Have a clear chain of command within the organizational structure with responsibility for implementing, monitoring, and correcting BMPs;
- Cover and contain hazardous materials so that they are not in contact with precipitation or runoff;
- Store hazardous materials in one or more central areas, and institute rules requiring all hazardous materials to be secured at the end of the day;
- Maintain good inventory records; store hazardous liquids and dispensing equipment in secondary containment;
- Maintain adequate quantities of spill containment and response equipment at readily accessible points throughout the site;
- Identify the worst case and most likely spill scenarios, and provide spill response equipment adequate to respond to these scenarios;
- Use chemicals presenting the least environmental hazard wherever possible;
- Store the smallest quantities of hazardous materials possible on the site;
- Maintain site security to reduce vandalism;
- Require all contractors to abide by the program BMPs and to identify any hazardous materials and specific BMPs pertaining to their trade or activity.
- The SPCC Plan for the site would address storage of mineral oil contained in transformers. A SPCC Plan is required when 10,000 gallons or more of mineral oil in electrical equipment is contained on site, or when 1,320 gallons of petroleum is stored on the site, although an SPCC Plan can be voluntarily implemented for lesser quantities. The SPCC Plan would address methods and procedures for managing these products, lighting, security, containment requirements, training requirements, staff responsibilities for inspecting storage and dispensing equipment; and equipment and procedures for responding to a spill or release of stored petroleum products.
- Riprap increases surface roughness and slows runoff velocities, decreasing sediment transport, and increasing flow depth. Riprap would be used in conjunction with decompaction of soil, as riprap would not mitigate flow or volume.
- Check whether dams can be constructed to address specific post-development

hydraulic characteristics, if needed.

MM WAT-1 Demonstrate compliance with water quality permits. Prior to construction, the project owner shall submit satisfactory evidence to the BLM and the Riverside County Department of Planning and Building, as applicable, that all agencies with jurisdiction over the project have been contacted and whether or not each agency requires a permit associated with water resources for the project. Such agencies and associated permits include but are not limited to those listed below.

- California Department of Fish and Game (Streambed Alteration Agreement)
- U.S. Army Corps of Engineers (Clean Water Act Section 404)
- State Water Resources Control Board / Colorado River Basin Regional Water Quality Control Board (Clean Water Act Section 402/401 permits; Waste Discharge Requirements)

Where a permit is required, the project owner shall provide a copy of all the conditions required by that agency to BLM, for actions on BLM lands, and to the Riverside County Department of Planning and Building, for actions on County lands. The BLM and the County, as applicable, shall review these conditions for consistency with proposed plans. During construction, the Environmental Monitor shall be aware of these other agency conditions and if non-compliance is observed, shall contact the affected agency. For post-construction measures, the Environmental Monitor shall notify the affected agency should non-compliance be observed. The project owner shall maintain and make available on site at all times an approved copy of all required permits.

MM WAT-2 Alternative Water Source and Groundwater Offsets. For any year during which it is projected that the Chuckwalla Valley Groundwater Basin (CVGB) would be affected by overdraft conditions, the project owner shall either offset or avoid using CVGB water to meet water supply requirements associated with construction, operation and maintenance, or decommissioning of the Desert Harvest Solar Project (DHSP). The purpose of this measure is to avoid contributions of the project to overdraft conditions in the CVGB, regardless of the magnitude of the project's incremental contribution to such conditions.

This measure shall be implemented based on projections of overdraft conditions provided in Table 4.20-5 (Estimated Cumulative Budget for the Chuckwalla Valley Groundwater Basin (afy)) of this EIS and in the Water Supply Assessment (WSA) included as Appendix E, or based on revised projections of overdraft conditions provided by the project owner (or a representative of the project owner) to the BLM Hydrologist in the form of a revised WSA prepared in accordance with Senate Bill 610, and approved of by the BLM Hydrologist. The project owner may choose to revise projections of overdraft conditions if the cumulative projects scenario upon which existing overdraft projections are based changes such that certain water-consuming projects in the cumulative scenario would not occur and associated overdraft conditions also would not occur, or would be less substantial than currently projected. It is reasonable and appropriate to use projections of overdraft as the trigger for this mitigation measure, as opposed to

using actual data obtained through groundwater monitoring, because the presence of overdraft requires long-term monitoring efforts in order to identify; although the BLM is presently (at the time of publication of this Final EIS) implementing a groundwater monitoring program throughout the CVGB, monitoring results that would be useful towards characterizing overdraft in the basin will not be available for several years, at least, and therefore would not be usable for the proposed project or the purposes of this mitigation measure.

The WSA included as Appendix E to the EIS projects that overdraft conditions in the CVGB may occur during each year of project operations, through 2043, to varying degrees of severity and decreasing over time. In order to ensure that the DHSP does not contribute to overdraft conditions during these projected years of overdraft, or revised projections of overdraft years provided by the project owner and approved of by the BLM, the project owner may either offset groundwater water by recharging the CVGW with an out-of-basin source, or the project owner may implement in-basin water conservation measures to replace any water consumed from the CVGB on an acre-foot by acre-foot bases. Each of these options is described below. The project owner shall verify implementation of these actions in an annual report to the BLM.

- **Out-of Basin Water Source.** To offset groundwater pumped on site (or very nearby the site if offsite wells are used), the project owner may purchase water from a source outside of the CVGB and use this water to recharge the CVGB via recharge ponds within the CVGB, such as the planned Upper Chuckwalla Groundwater Basin recharge pond under the management of Metropolitan Water District. Out-of-basin water may not be trucked to the project site from outside of the basin. Water shall be replaced on a 1:1 basis. Out-of-basin water sources may include water obtained through the Hayfield Lake / Chuckwalla Valley Groundwater Conjunctive Use Project administered by the Metropolitan Water District (MWD) of Southern California. All water used to offset on-site pumping shall originate from outside the CVGB and shall recharge only the CVGB (and not any other basin, including hydrologically connected basins). On-site pumping may not occur until the associated recharge has begun.
- **In-Basin Water Conservation.** CVGB water may be consumed towards project purposes only if all CVGB water consumed is “replaced” on an acre-foot by acre-foot basis through implementation and/or participation by the project owner in a Forbearance and Following Program within the CVGB, as described below.

Implement a Forbearance and Following Program. The project owner may enter into a contractual agreement with willing land owner(s) and/or lessee(s) to fallow fields which are currently irrigated. The contract shall specify the duration of fallowing, during which time no water may be applied to the contracted field. Each field which is fallowed under this program must be located within the CVGB and must receive its water supply from the CVGB. The land owner(s) and/or lessee(s) cannot be simultaneously contracting with another entity to

follow the same fields, unless agreed upon by all parties.

Participate in a Forbearance and Following Program. The project owner may participate in a program implemented within the CVGB by another entity, where such a program meets the requirements described in the preceding bullet, and each field followed through this collaborative effort is located within the CVGB and receives its water supply from the CVGB.

The out-of-basin water source and in-basin water conservation measures described above may be implemented individually or in congruence with each other, as is most effective to ensure that no net consumption of CVGB water occurs during years of projected overdraft conditions. The project owner shall submit an annual report to the BLM which verifies that one or more of the actions described above are implemented to ensure that no net consumption of CVGB water occurs during any year in which the CVGB is projected to be in overdraft conditions, regardless of the DHSP's incremental contributions to such conditions, and based upon either the overdraft projections identified in the WSA included as Appendix E to this EIS, or based upon revised overdraft projections produced by the project owner and approved of by the BLM Hydrologist.

The applicability of MM WAT-3 and MM WAT-7 are contingent upon how this MM WAT-2 is implemented, as described below.

- If groundwater pumped from the CVGB is used in conjunction with an out-of-basin water source and in-basin water conservation measures, the DHSP Environmental Monitor(s) shall verify that all groundwater monitoring and reporting requirements identified in MM WAT-3 (Groundwater Drawdown Monitoring and Reporting Plan) and MM WAT-7 (Colorado River Water Supply Plan) are implemented.

The Right-of-Way Grant holder, its successors, heirs and assigns may not assert any claim to or interest in any water right to surface or groundwater associated with the project site, project construction, or operations, provided, however, that the applicant may use groundwater consistent with the terms and conditions of the project's Right-of-Way Grant(s).

MM WAT-3 **Groundwater Drawdown Monitoring and Reporting Plan.** If groundwater is to be pumped for consumptive use in this project from either an onsite well or an offsite well that extracts water from the CVGB, the project owner shall develop and implement a Groundwater Monitoring and Reporting Plan prior to the onset of construction of the project. In the preparation and implementation of this plan, the project owner shall coordinate with the BLM and with the Colorado River Basin RWQCB. The Groundwater Monitoring and Reporting Plan shall be prepared by a qualified hydrogeologist and submitted by the project owner to the BLM for approval, and to the RWQCB for review and comment.

The Groundwater Monitoring and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels, water quality, and flow. Monitoring shall be performed during pre-construction, construction, and operation of the project, 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 wells and near potentially impacted existing private wells. The monitoring wells shall include locations up-gradient, lateral, and down-gradient of all project supply wells and a minimum of three off-site down-gradient wells. 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 project supply wells, one up-gradient well, and a minimum of two down-gradient offsite wells.

The Groundwater Monitoring and Reporting Plan shall include a schedule for submittal of quarterly data reports by the project owner to the BLM, for the duration of the construction period. These quarterly data reports shall be prepared and submitted to the BLM for review and approval, and shall include water level monitoring data (trend analyses) from all monitoring wells, including the up-gradient, lateral, and down-gradient wells described above.

Based on the results of the quarterly reports, the project owner and the BLM shall determine if the project's pumping activities have resulted in water level decline of five feet or more below the baseline trend at any of the monitoring wells, including nearby private wells. If drawdown of five feet or more occurs at off-site wells, the project owner shall immediately reduce groundwater pumping until water levels stabilize or recover, sustaining drawdown of less than five feet. Alternatively, the project owner shall provide compensation to the well owner, including reimbursement of increased energy costs, or deepening the well or pump setting. To be eligible for such compensation, a well owner must provide documentation of the well location and construction, including pump intake depth, and that the well was constructed and usable before project pumping was initiated. Compensation by the project owner to private well owner(s) for adverse effects to private wells shall be determined in coordination with the BLM as described below.

- a) If groundwater monitoring data indicate that project pumping has lowered water levels below the top of the well screen, and the well yield is shown to have decreased by 10 percent or more of the pre-project average seasonal yield, compensation shall be provided by the project owner for the diagnosis and maintenance to treat and remove encrustation from the well screen. Reimbursement shall be provided at an amount equal to the customary local cost of performing the necessary diagnosis and maintenance for well screen encrustation. If with treatment the well yield is incapable of meeting 110 percent of the well owner's maximum daily demand, dry season demand, or annual demand, the well owner shall be compensated by reimbursement or well replacement.
- b) If project pumping has lowered water levels to substantially affect well yield so that it can no longer meet its intended purpose, causes the well to go dry, or causes casing collapse, payment or reimbursement of an amount equal to the cost of deepening or replacing the well shall be provided to accommodate such effects. Payment or reimbursement shall be at an amount equal to the customary local cost of deepening the existing well or constructing a new well of comparable design and yield (only deeper). The demand for water, which determines the required well yield, shall be determined on a per-well basis using well owner interviews and field

verification of property conditions and water requirements compiled as part of pre-project well reconnaissance. Well yield shall be considered to be adversely affected if the well is incapable of meeting 110 percent of the well owner's maximum daily demand, dry-season demand, or annual demand, assuming the pre-project well yield documented by pre-project well reconnaissance met or exceeded these yield levels.

- c) In the event that groundwater is lowered as a result of project pumping to an extent where pumps are exposed but well screens remain submerged, the pumps shall be lowered to maintain production in the well. The project shall reimburse the impacted well owner for the costs associated with lowering pumps.
- d) If project-related pumping results in the lowering of groundwater levels such that well screens or pump intakes are exposed, and pump lowering is not an option, affected wells shall be deepened or new wells installed. The project owner shall reimburse the affected well owner(s) for all costs associated with deepening existing wells or constructing new wells.

The Groundwater Monitoring and Reporting Plan shall also include a schedule for submittal of annual data reports by the project owner to the BLM, for the first five years of the project (including the construction period). These annual data reports shall be prepared and submitted to the BLM for review and approval, and shall include at a minimum the following information:

- 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 data; and
- Identification of trends that indicate potential for off-site wells to experience deterioration of water level.

The BLM shall determine whether groundwater wells surrounding the project site and project supply well(s) are affected by project activities in a way that requires additional mitigation and, if so, shall determine what measures are needed. After the first five years of the project, the project owner and the BLM shall jointly evaluate the effectiveness of the Groundwater Monitoring and Reporting Plan and determine if monitoring frequencies or procedures should be revised or eliminated.

The siting, construction, operation, maintenance, and remediation of any groundwater well associated with the project shall conform to specifications contained in the California Department of Water Resources Bulletins #74-81 and #74-90.

MM WAT-4

Surface Water Protection Plan and Drainage Design Specifications. A Surface Water Protection Plan (SWPP) shall be developed for the project and shall include BMPs to ensure that drainage design at the project site would minimize potential adverse effects associated with groundwater recharge, drainage pattern alterations, and water quality. The SWPP shall achieve the same objectives as a Stormwater Pollution Prevention Plan (SWPPP) under the Clean Water Act (CWA), and the SWPP may substitute for a SWPPP if the project is not subject to Section 402 of the CWA. The SWPP shall be adhered to

during construction and operation of the project, as applicable. BMPs required by the SWPP shall include, at a minimum, the following:

- Erosion minimizing efforts such as straw wattles, water bars, covers, silt fences, and sensitive area access restrictions (for example, flagging) shall be installed before clearing and grading begins;
- Mulching, seeding, or other suitable stabilization measures shall be used to protect exposed areas during construction activities;
- Groundcover for the new substation shall be comprised of a pervious or high-roughness material (for example, gravel) to the maximum extent feasible;
- Downstream drainage discharge points shall be provided with erosion protection and designed such that flow hydraulics exiting the site mimic the natural condition as much as possible;
- Drainage from impervious surfaces such as roads, driveways, and buildings shall be directed into channel(s), drainage basin(s), or depression(s), as applicable to perpetuate the natural drainage patterns as much as possible;
- Mass grading and contouring shall be done in a way to direct surface runoff towards the above-referenced basin(s) and/or depression(s);
- Straw wattles (or comparably effective devices [as determined by the on-site Civil Engineer, in consultation with the Environmental Monitor]) shall be placed on the downslope sides of the proposed work which would direct flows into the above-referenced basin(s) and/or depression(s);
- All erosion control materials shall be biodegradable and natural fiber;
- During construction/ground disturbing activities and operation, all vehicles and equipment, including all hydraulic hoses, shall be maintained in good working order so that they are free of any and all leaks that could escape the vehicle or contact the ground, and to ensure that any leaks or spills during maintenance or storage can be easily and properly removed;
- Prior to and during construction, an environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures to all field personnel; and
- Storage of fuels and hazardous materials shall be prohibited within 200 feet of surface water features and private groundwater supply wells, and within 400 feet of community or municipal groundwater supply wells (if it is determined that such wells exist on or in close proximity to the project site).

Notice of Intent (NOI) packages shall be filed by the project owner with the State Water Resources Control Board (SWRCB) and the Colorado River Basin Regional Water Quality Control Board (RWQCB), and a Waste Discharge Identification Number (WDID) for the project shall be obtained prior to the issuance of construction permits. The SWPP shall be stored at the construction site for reference by construction personnel and for inspection review. All BMPs required by the SWPP shall be checked and maintained

regularly and after all larger storm events. All remedial work shall be done immediately after discovery to ensure that erosion/sedimentation control devices remain in good working order. Proper implementation shall be verified by the Environmental Monitor.

MM WAT-5 Construction Site Dewatering Management. If groundwater is unexpectedly encountered during construction, operation, or decommissioning of the project, dewatering activities shall be performed in compliance with the California Stormwater Quality Association (CASQA) Handbook for Construction or other similar guidelines, as approved by the BLM. The project owner shall notify the BLM and the Colorado River Basin RWQCB at the onset of dewatering activities, and shall submit written descriptions of all executed dewatering activities, including steps taken to return encountered groundwater to the subsurface, upon the completion of dewatering activities. The Environmental Monitor shall regularly inspect grading activities for groundwater exposure. Should groundwater be encountered, compliance with dewatering efforts shall be verified by the Environmental Monitor.

MM WAT-6 Drought Water Management and Water Conservation Education Programs. Prior to the onset of construction of the project, a Drought Water Management Program shall be prepared by the project owner and submitted to the BLM for approval. The Drought Water Management Program shall provide guidelines on how all future water use will be managed during "severe" drought year(s). If a "severe" drought condition occurs during construction or operation of the project, restricted water usage measures shall be implemented per the Drought Water Management Program until it is shown satisfactorily to the BLM that the "severe" drought condition no longer exists. The Drought Water Management Program shall include at a minimum the following measures:

- The definition of a "severe" drought year (as defined by the National Oceanic and Atmospheric Administration's (NOAA) Palmer Drought Severity method or other similarly recognized methodology);
- Identification of general measures available to reduce water usage for future development (to be refined as needed for each use approved);
- Identification of specific measures to be applied for landscape watering; and
- Determination of appropriate early triggers to determine when "severe" drought conditions exist and process for initiating additional water conservation measures.

In addition to the Drought Water Management Program and prior to the onset of construction of the project, the project owner shall also develop a Water Conservation Education Program and submit this program to the BLM for review and approval. The Water Conservation Education Program shall be developed by an appropriate expert in water conservation, and shall include guidance for all future operators and employees of the project on how to adjust water usage during drought periods. The Water Conservation Education Program shall specify the means by which this guidance will be disseminated to any future operators and employees of the project.

For any year that a "severe drought" state has been recognized, the project owner shall submit a letter to the BLM by November 1 of that year identifying what measures were implemented to conserve water and to provide water conservation education, as well as

the effectiveness of such measures. The Drought Water Management Program and Water Conservation Education Program shall be implemented throughout the construction, operation, and decommissioning phases of the project.

MM WAT-7

Colorado River Water Supply Plan. Prior to the onset of water-consuming construction activities, the project owner shall prepare a Colorado River Water Supply Plan (Plan) and submit this Plan to the BLM and the Colorado River Basin Regional Water Quality Control Board (RWQCB) for review and approval, and to the Metropolitan Water District of Southern California (MWD) for review and comment. The Plan shall identify measures that will be taken to replace water on an acre-foot to acre-foot basis, if the project results in consumption of any water from below the Colorado River Accounting Surface, towards the purpose of ensuring that no allocated water from the Colorado River is consumed without entitlement to that water.

The Plan shall describe that groundwater monitoring activities and quarterly data reports required in compliance with MM WAT-3 (Groundwater Drawdown Monitoring and Reporting Plan) will be closely reviewed for depth to groundwater information, and proximity of the depth of project-related groundwater pumping to the Colorado River Accounting Surface of 234 feet amsl. The Plan shall further describe that if project-related groundwater pumping draws water from below 234 feet amsl, the following shall occur:

- 1) All groundwater pumping shall immediately cease,
- 2) Based on groundwater monitoring data, the quantity of groundwater pumped from below 234 feet amsl shall be recorded, and
- 3) The project owner shall implement water conservation/offset activities to replace Colorado River water on an acre-foot by acre-foot basis.

In order to effectively implement item (3) above, the Plan shall include the following information:

- Identification of water conservation / offset activities to “replace” the quantity of water diverted from the Colorado River;
- Identification of any required permits or approvals and compliance of conservation / offset activities with CEQA and NEPA;
- 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; and
- Monitoring and reporting protocol to ensure that water conservation / offset activities are effectively implemented and achieve the intended purpose of replacing Colorado River water diversions.

The project owner shall collaborate with the BLM, the Colorado River RWQCB, and/or the MWD, as appropriate, in order to identify acceptable water conservation / offset activities for the purposes of the Plan, with “acceptable” activities being those that are considered environmentally, physically, and economically feasible, while also effectively resulting in the replacement of Colorado River water. A number of water conservation /

offset activities that have been considered and determined to not be viable and therefore may not be identified in the Plan include the following:

- Irrigation improvements in the Palo Verde Irrigation District (water unused by the PVID becomes available to MWD per the 2003 Colorado River Water Delivery Agreement executed by MWD, the Secretary of the Interior, Imperial Irrigation District, Coachella Valley Water District, and San Diego County Water Authority);
- Purchase of water allotments allocated by the Department of the Interior (all Colorado River water available to California in shortage, normal, or Intentionally Created Surplus conditions is already allocated and its use is limited to each entity's service area under executed water delivery contracts);
- Implementation of conservation programs in floodplain communities (all water unused by holders of higher priorities becomes available to MWD per the water delivery contracts which have been executed by the Department of the Interior); and
- Participation in the BLM's Tamarisk Removal Program (use of Colorado River water by phreatophytes such as tamarisk is not charged as a use of water for U.S. Supreme Court Decree accounting purposes by the U.S. Bureau of Reclamation).

If the project owner has filed an application to the U.S. Bureau of Reclamation (USBR) to obtain an allocation of water from the Colorado River and such allocation is granted, it may be used to satisfy some or all of the water conservation offsets on an acre-foot per acre-foot basis. However, the filing of an application for allocation of Colorado River water does not guarantee that such an allocation will be issued. In addition, all of California's apportionment to use of Colorado River water during shortage, normal, and Intentionally Created Surplus conditions has already been allocated by the Department of the Interior. Therefore, unless the project owner currently holds entitlement to the use of Colorado River water, it shall not be assumed that an allocation will be granted.

If the project does not result in diversion of Colorado River water (via pumping from near (within +/-0.84 feet at the 95-percent confidence level), equal to, or below 234 feet amsl) it will not be necessary to implement the water conservation/offset activities identified in the Colorado River Water Supply Plan. However, the Plan must be approved by the BLM prior to project-related groundwater pumping is initiated so that if at any time during the project it is determined that groundwater is being produced from below the Colorado River Accounting Surface of 234 feet amsl, the requirements described in this measure shall be immediately implemented, starting with the cessation of groundwater pumping.

The Colorado River Water Supply Plan is separate from the Groundwater Drawdown Monitoring and Reporting Plan required per MM WAT-3 and the Drought Water Management and Water Conservation Education Programs required per MM WAT-6. Therefore, this Plan must be developed, reviewed, approved of, and implemented as a separate, stand-alone document. Compliance with this measure shall be verified by the Environmental Monitor.

MM WAT-8 Flood and Erosion Structure Damage Protection. Aboveground project features shall be located outside of known watercourses, and shall be designed and maintained to

withstand flooding and erosion hazards. Although some project features may need to be placed within 100-year floodplain boundaries, or Flood Hazard Areas identified by the Federal Emergency Management Agency, they shall be designed per applicable floodplain development guidelines, including measures such as specially designed footings to withstand flooding associated with a 100-year flood event. Channel design for flood control along the project perimeter shall be sized and designed to minimize scour and disruption to upstream and downstream hydrology, including measures to prevent headcutting, migration of channels, erosion, and downstream sedimentation, under conditions equivalent to a 100-year flood. Riprap shall be placed and maintained at the base of project infrastructure and foundations to slow the velocity of stormwater runoff. Compliance will be verified by the Environmental Monitor.

MM WAT-9 Accidental Spill Control and Environmental Training. Prior to the onset of construction of the project, the following specifications must be provided by the project owner to the BLM: define areas where hazardous materials would be stored, where trash would be placed, where rolling equipment would be parked, fueled and serviced, and where construction materials such as reinforcing bars and structural steel members would be stored. The project owner shall also prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and shall include an emergency response program to ensure quick and safe cleanup of accidental spills. These specifications may be included in the Surface Water Protection Plan (SWPP) described in MM WAT-4, or may be included as a separate plan. Compliance will be verified by the Environmental Monitor at the time of construction.

ATTACHMENT 3