Appendix 2A Applicant Proposed Measures and BLM Required Best Management Practices

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2A.1 AIR QUALITY AND CLIMATE CHANGE

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM (Also addresses BLM Regional Mitigation Strategy for AZ SEZs MMs)	AQ-01: Fugitive Dust	The following control measures would be implemented, as applicable, to reduce PM10 and PM2.5 emissions during construction, in conjunction with an Erosion, Dust Control, and Air Quality Plan and Fugitive Dust Control Plan for the Project. *Basic control measures* The following measures would be implemented as applicable at all construction sites: • Water active construction areas sufficiently to minimize fugitive dust. • Dust control would include the use of one or more water trucks that would water access roads daily as needed to control dust throughout the construction period • Cover trucks hauling soil, sand, and other loose materials and require all trucks to maintain at least 6 inches of freeboard. • Pave, apply water, or apply nontoxic soil stabilizers as applicable on for all unpaved access roads, parking areas, and staging areas at construction sites to minimize fugitive dust. *Enhanced control measures* In addition to the "basic" control measures listed above, the following control measures may be implemented at all construction sites greater than 4 acres:	X	X		X	LUPA-AIR-01, 02, 03, and 05; LUPA-BIO-13		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		• Water, hydroseed, or apply nontoxic soil stabilizers to inactive construction areas to minimize fugitive dust. • Enclose, cover, water, or apply nontoxic soil binders to exposed stockpiles. • Limit traffic speeds on unpaved roads. • Install sandbags or other erosion-control measures to prevent silt runoff to public roadways. • Replant vegetation in disturbed areas as quickly as possible, consistent with seasonal survival considerations. *Optional control measures* Depending on the extent of dust generation, implementation of the following optional control measures may occur at larger construction sites, near sensitive receptors (residences or other occupied buildings, parks, or trails within 1,000 feet of earthmoving operations that are substantial; for example, more than excavation for tower foundations), or in situations which for any other reason may warrant additional emissions reductions: • Install wheel washers for all existing trucks, or wash off the tires or tracks of all trucks and equipment leaving the site. • Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour (mph). Limit the area subject to excavation, grading, and other construction activity at any one time.							

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	AQ-01 Dust Pallatives	Dust palliatives would be applied, in lieu of water, to inactive construction areas (disturbed lands or soil stockpiles that are unused for 14 consecutive days). Dust palliatives would be chosen by the Dust Control Site Coordinator and or construction contractor. Dust palliatives would be environmentally safe; comply with Federal, state, and local regulations; and would not produce a noxious odor or contaminate surface water or groundwater and, therefore, would not pose runoff concerns during rain events. Application rates for dust palliatives would follow the manufacturer's recommendations. Material Safety Data Sheets (MSDS/SDS) for any palliatives would be available on site and provided to the BLM 14 days prior to use.	X	X		X	LUPA-BIO-6, LUPA-BIO-13		
APM	AQ-02: Exhaust Emissions	The following measures would be implemented during construction to further minimize greenhouse gas emissions (carbon dioxide, methane, and nitrous oxide) per California AB 32 and criteria air pollutants from vehicle and machinery and in conjunction with the Construction Emissions Mitigation Plan for the Project: • Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time depends on the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles,		X			LUPA-AIR-3	X	

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		such as large diesel-powered vehicles, have extended warm-up times that limit their availability for use following startup. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The Project would apply a "common sense" approach to vehicle use, such that idling is reduced as far as possible below the maximum of 5 consecutive minutes required under Title 13 of California Code of Regulations (CCR) Section 2485 (13 CCR 2485). If a vehicle is not required for use immediately or continuously for construction activities or other safety-related reasons, its engine would be shut off. • Encourage use of natural gas- or electric-powered vehicles for light-duty trucks where feasible and available.							
APM	AQ-03: Minimize Potential Naturally Occurring Asbestos Emissions	The following measures would be implemented prior to and during construction to minimize the potential for naturally occurring asbestos emissions, in conjunction with an Asbestos Dust Mitigation Plan if asbestos, serpentinite, or ultramafic rock is determined to be present: • Prior to construction, representative samples in the general construction area would be analyzed for the presence of asbestos, serpentinite, or ultramafic rock. Analyses could be conducted as part of the geotechnical investigation.	X	X					

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		• In California, if asbestos, serpentinite, or ultramafic rock is determined to be present, all applicable provisions of the Airborne Toxic Control Measure (ATCM) for construction, grading, quarrying, and surface mining operations (17 CCR 93105) would be implemented, including the following: For disturbed areas of 1 acre or less: o Construction vehicle speed at the work site would be limited to 15 mph or less. o Prior to any ground disturbance, sufficient water would be applied to the area to be disturbed to prevent visible emissions from crossing the property line if asbestos, serpentinite, or ultramafic rock is determined to be present. o Areas to be graded or excavated would be kept adequately wet to prevent visible emissions from crossing the property line. o Storage piles would be kept adequately wetted, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile. o Equipment would be washed down before moving from the property onto a paved public road.							

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		○ Visible track-out on the paved public road would be cleaned using wet sweeping or a high-efficiency particulate air-filter-equipped vacuum device within 24 hours. For disturbed areas of greater than 1 acre: ○ Prepare an Asbestos Dust Mitigation Plan and obtain approval prior to construction. Implement and maintain the provisions of the approved Asbestos Dust Mitigation Plan from the beginning of construction through the duration of the construction activity.							
APM	AQ-04: Minimize Potential Emissions of Naturally Occurring *Coccidioides immitis* Fungal Spores	In addition to the AQ-1 measures to control general fugitive dust emissions, the following measures would be implemented prior to and during construction to create awareness of the risks and inhalation prevention procedures with respect to *Coccidioides immitis* fungal spores, which are naturally present in soils in the desert southwest, and inhalation of which can cause Valley Fever: • Prior to construction, and for each phase of construction, implement an Environmental Awareness Program for workers to ensure they are informed of the risks of contracting Valley Fever and the protective measures needed to minimize personal exposure to fugitive dust, as well as to minimize possible dust exposure of nearby residents and the general public.	X	X					X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		• Inform workers of the possible symptoms of Valley Fever and encourage them to seek medical treatment if these symptoms manifest.							
BMP	AQ-05: Air Quality Regulation and Standard Conformance	All activities would meet the requirements of the Clean Air Act (Sections 110, 118, 160, and 176[c]) and the applicable local Air Quality Management jurisdiction(s). Fugitive dust cannot exceed local standards and requirements.	X	X	X	X	LUPA-AIR-01, LUPA-AIR-02	X	

*See Appendix 2C

2A.2 GEOLOGY, MINERALS, AND SOIL RESOURCES

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	GEO-01: Erosion and Sedimentation	DCRT would implement a SWPPP for the Project. A monitoring program would be established to ensure that the prescribed BMPs are followed throughout transmission line construction. Examples of these BMPs include the following: • Preparation, training, and maintenance for clear work-site practices, tracking controls, and materials management to minimize the direct work impacts on soil and erosion. • Installation of temporary silt fences and other containment features (including gravel bags and fiber rolls) surrounding work areas to prevent the loss of soil during rain events and other disturbances. • Utilization of storm drain inlet protection, including sediment filters and ponding barriers, to retain sediments on site and prevent excess discharge into storm drains. • Implementation of soil erosion controls, including preservation of existing vegetation, temporary soil stabilization through hydroseeding, mulching, and other techniques. • Stockpiling soils at least 100 feet from drainages to the extent possible. If soil stockpiles are within 100 feet from a drainage proper measures would be		X	X		LUPA-SW-8		X[1]

[1] APS would prepare and submit a separate SWPPP for the 12kV distribution line.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		implemented such as soil tackifiers, straw wattles around the pile, and/or covering the stockpile.							
BMP	SOIL-01	During reclamation and revegetation efforts, a BLM soil scientist and/or botanist review plans and approve, as appropriate, to determine type and location of any scarification.		X				X	
BMP	SOIL-02	During reclamation and revegetation efforts, the BLM would review plans and approve, as appropriate, to determine where soil compaction would be appropriate, to avoid potential adverse conditions created by compaction.		X				X	
BMP	SOIL-03	Covers for topsoil stockpiles would be of materials resistant to damage and/or degradation from exposure to ultraviolet light and other elements and would be replaced (as needed) if they deteriorate, become worn, or damaged.		X	X	X			
BMP	SOIL-04	The disruption of desert pavement and desert varnish shall be minimized to the extent feasible. Grading for new access roads or work areas in areas covered by desert pavement and/or desert varnish shall be avoided if possible.		X		X	LUPA-SW-9		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	SOIL-05	Desert pavement and desert varnish in activity areas in California shall be assessed by qualified geological or biological monitors prior to construction. If disturbance from an activity is likely to exceed 10% of the desert pavement and/or desert varnish identified within the activity boundary, the BLM would determine whether the erosional and ecologic impacts of exceeding the 10% cap by the proposed amount would be insignificant and/or whether the activity should be redesigned to minimize desert pavement and/or desert varnish disturbance.	X	X		X	LUPA-SW-9	X	
BMP	SOIL-06	Side-casting of soil during road construction shall be avoided.		X			LUPA-SW-11	X	
BMP	SOIL-07	To the extent possible, avoid disturbance of desert biologically intact soil crusts, and soils highly susceptible to wind and water erosion.	X	X	X	X	LUPA-SW-10	X	

*See Appendix 2C

2A.3 PALEONTOLOGICAL RESOURCES

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	PALEO-01: Paleontological Resources Treatment Plan	DCRT would prepare a Paleontological Resources Treatment Plan that would describe procedures to be followed in the event of the discovery of paleontological resources during implementation of the Project. Upon approval of the draft plan, DCRT would follow the procedures set forth in that Plan during implementation of the Project.	X	X			LUPA-PALEO-3		X
BMP	PALEO-02: Paleontological Resources Monitor	A qualified paleontologist or geologist qualified in paleontological evaluations would provide monitoring for paleontological resources during construction in areas of high or unknown fossil potential.	X	X			LUPA-PALEO-4		X

*See Appendix 2C

2A.4 BIOLOGICAL RESOURCES (VEGETATION, INCLUDING SPECIAL STATUS SPECIES, AND WILDLIFE, INCLUDING SPECIAL STATUS SPECIES AND MIGRATORY BIRDS

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-01: Worker Environmental Awareness Program	Before starting any work, including mowing, staging, installing stormwater control structures, implementing other BMPs, removing trees, construction, and restoration, all employees and contractors performing activities and new construction would receive training on environmental requirements that apply to their job duties and work. If additional crewmembers arrive later in the job, they would be required to complete the training before beginning work. Training would include a discussion of the avoidance and minimization measures being implemented and would include information on the Federal and state Endangered Species Acts and the consequences of not complying with these Acts. An educational brochure would be provided to construction crews working on the Project. This brochure would include color photographs of special-status species as well as a discussion of avoidance and minimization measures.	X	X	X	X	LUPA-BIO-5		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-01: Worker Environmental Awareness Program	The worker education program would provide interpretation for non-English speaking workers.	X	X	X	X	LUPA BIO-5		X
APM	BIO-02: Biological Monitoring and Preconstruction Survey	A qualified biological monitor would be present on the Project site during all work activities within habitat of special-status animal species. The qualified biologist would conduct a preconstruction survey of those areas immediately before work activities begin and would locate and fence off any present individuals of special status plant species.	X	X		X	LUPA-BIO-2, LUPA-BIO-DUNE-5, LUPA-BIO-IFS-6, LUPA-BIO-IFS-7, LUPA-BIO-IFS-12, DFA-BIO-IFS-1, DFA-BIO-IFS-2, LUPA-BIO-RIPWET-3		X
BMP	BIO-02: Biological Monitoring and Preconstruction Survey	Multiple biological monitors would be provided so any work site within habitat of special status species is monitored concurrently if needed.	X	X		X	LUPA-BIO-2, LUPA-BIO-DUNE-5		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-03: Approved Work Areas	To the extent practicable, stockpiling of material would be allowed only within the established work area. Vehicles and equipment would be parked on pavement, existing roads, and previously disturbed areas within identified work areas or access roads.	X	X		X	LUPA-BIO-13		X
BMP	BIO-03: Approved Work Areas	The BLM would approve areas to be used for stockpiling, vehicle parking, or other construction support activity that would occur outside established work areas.	X	X			LUPA-BIO-13		X
APM	BIO-04: Environmental-ly Sensitive Areas and Fencing	Environmentally sensitive areas, such as the riparian areas, xeroriparian washes, and other habitat of special status species, would be identified in the field. Barrier fences or stakes would be installed at the edge of the easement or around the sensitive area to minimize the possibility of inadvertently encroaching into sensitive habitat.	X	X			LUPA-BIO-3, LUPA-BIO-13		X
APM	BIO-05: Additional Prohibitions	Trash dumping, firearms, open fires, and pets would be prohibited at all work locations and access roads. Smoking would be prohibited along the Project alignment.	X	X	X	X	LUPA-BIO-6, LUPA-BIO-14		X
APM	BIO-06: Trash Handling	All food scraps, wrappers, food containers, cans, bottles, and other trash from the work area would be disposed of in closed trash containers.	X	X	X	X	LUPA-BIO-6, LUPA-BIO-14		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-07: Monofilament Plastic	No monofilament plastic would be used for erosion control (for example, matting, fiber roll, wattles, silt fencing backing). Appropriate materials include burlap, coconut fiber, or other materials as identified in the general and site-specific SWPPP.		X			LUPA-BIO-9		X
APM	BIO-08: Refueling	Vehicular and equipment refueling should not occur within 100 feet of a wetland or drainage unless secondary containment is constructed, for example, a berm and lined refueling area. Proper spill prevention and cleanup equipment would be maintained in all refueling areas in accordance with the Spill Prevention, Control, and Countermeasures Plan (SPCC) for the Project.	X	X			LUPA-BIO-9		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-09: Escape Ramps	All excavated steep-walled holes or trenches more than 1-foot-deep would be covered at the end of each working day with plywood or similar material or would be provided with one or more escape ramps constructed of earth fill or wooden planks. Each trench or hole would be inspected for wildlife at the beginning of each work day and before such holes or trenches are filled. Wildlife found trapped in trenches or holes would be relocated to suitable habitat outside the work area. If possible, pipes and culverts greater than 3 inches in diameter would be stored on dunnage to prevent wildlife from taking refuge in them, to the extent feasible.	X	X			LUPA-BIO-14		
APM	BIO-10: Erosion and Dust Control	The BMPs included in the SWPPP would be implemented during construction to minimize impacts associated with erosion. Watering for dust control during construction would also be used as described previously (AQ-01). Watering shall not result in prolonged ponding of surface water that could attract wildlife to the work area. Minimal or no vegetation clearing and/or soil disturbance would be conducted for site access and construction in areas with suitable topography (i.e., overland driving/overland access).		X			LUPA-BIO-9		X[2]

[2] APS would prepare, submit, and adhere to the BMPs in a separate SWPPP for the 12kV distribution line.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-11: Vegetation Management Plan	The Vegetation Management Plan (Appendix 2B) would be approved by the BLM and implemented. That Plan describes the surveys, permitting, fee payments, and plant protection to be conducted in areas where Project design would not eliminate the need for vegetation control for the Project to be in compliance with NERC requirements. Vegetation would be trimmed or otherwise controlled for safe operation of the transmission line and would be designed to minimize impacts on special status species to the extent practicable. At a minimum, vegetation treatments shall incorporate the measures identified in the June 2016 Memorandum of Understanding regarding vegetation management along ROW for electrical transmission and distribution facilities (USDA 2016). The Plan also would describe how vegetation would be salvaged, as needed, in order to comply with the applicable Arizona Native Plant Law and California regulations.		X	X		LUPA-BIO-3, LUPA-BIO-7, LUPA-BIO-8, LUPA-BIO-13, LUPA-BIO-RIPWET-1, LUPA-BIO-SVF-1, DFA-VPL-BIO-FIRE-1		X[3]

[3] APS is currently compiling vegetation maintenance activities into a Vegetation Management Plan specific to the 12kV distribution line per BLM IM-2018-070.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-11: Vegetation Management Plan	In addition to the description of the Vegetation Management Plan in the corresponding APM BIO-11, the plan would also: • Meet BLM guidelines for mapping and surveying of cacti, yuccas, and succulents. • Include a wire zone/border zone/effective border zone approach to vegetation maintenance as described in Ballard, et al. 2007. • Identify tall vegetation species by geographic reach and growth rates, from relevant scientific literature (such as Drezner 2003), to be used to determine maximum allowable vegetation heights in the context of wire zone/border zone/effective border zone concepts, to accommodate identified growth periods (e.g., ten years) based on the specific vegetation community. Species examples include, but are not limited to, saguaro cactus, ironwood, palo verde, cottonwood, Gooding willow.	X	X	X		LUPA-BIO-1 LUPA-BIO-7, LUPA-BIO-8, LUPA-BIO-13 LUPA-BIO-RIPWET-1, LUPA-BIO-SVF-1, DFA-VPL-BIO-FIRE-1		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-12: Noxious and Invasive Species Control	A Noxious Weed Control Plan (Appendix 2B) would be developed, approved by the BLM, and implemented prior to initiation of ground disturbing activities. That Plan would identify noxious and invasive species to be addressed in the Project Area, describe measures to conduct preconstruction weed surveys, reduce the potential introduction or spread of noxious weeds and invasive species during construction, and monitor and control weeds during operation of the transmission line. It would be designed to minimize impacts on special status species to the extent practicable. Coordination with resource agencies regarding invasive plant species would be conducted before construction. BMPs would include use of weed-free straw, fill, and other materials; requirements for washing vehicles and equipment arriving on site; proper maintenance of vehicle inspection and wash stations; requirements for managing infested soils and materials; requirements and practices for the application of herbicides; and other requirements in applicable BLM Weed Management Plans.	X	X	X	X	LUPA-BIO-6, LUPA-BIO-10, LUPA-BIO-11		X[4]

[4] APS would comply with their existing noxious weed protocol in its existing vegetation management plan on file with the BLM.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-13: Riparian Habitat Avoidance	Riparian areas and xeroriparian drainages that occur within the ROW would be denoted as environmentally sensitive areas and would be avoided during construction to the extent practicable. Existing topography would be restored to pre-Project conditions to the extent possible.	X	X			LUPA-BIO-1, LUPA-BIO-13		
APM	BIO-14: Minimizing Vegetation Clearing	In areas with suitable topography, minimal or no vegetation clearing and soil disturbance would be conducted for site access and construction (i.e. overland driving/overland access). Overland driving/overland access would be used in areas that support the necessary construction equipment. Upgrading of existing access roads and construction of new access roads would be implemented as necessary for the safe construction activities.		X			LUPA-BIO-14		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-15: Reclamation and Restoration	A Habitat Restoration and Monitoring Plan would be developed, approved by BLM, and implemented for construction and operation of the Project. Revegetate all sites disturbed during construction that would not be required for operation of the transmission line, and restore disturbed areas to the extent practicable, given the arid desert environment. The Plan would describe in detail methods for surveying and characterizing vegetation in disturbed areas before construction; topsoil salvage and management, erosion control, post-construction recontouring and site preparation, seeding and planting, and post-construction watering, monitoring, and remediation. It would be designed to reduce impacts on special status species to the extent practicable.	X	X	X	X	LUPA-BIO-7, LUPA-BIO-8, LUPA-BIO-10		
BMP	BIO-15: Reclamation and Restoration	As a part of the Habitat Restoration and Monitoring Plan, the soil horizons would be stored separately for the areas where the success of restoration could be crucial for rare plant species.	X	X	X	X	LUPA-BIO-7, LUPA-BIO-8	X	

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO 16: Treatment of Saguaro Cactus	Measures would be implemented to minimize the number of saguaro cacti that must be relocated for the safe construction and operation of the transmission line and associated SCS distribution line. In accordance with the Vegetation Management Plan (Appendix 2B), a survey of saguaros within the ROWs would be conducted before construction and where possible, the transmission line and distribution line would be designed to minimize the number of saguaros affected by adjusting tower or pole locations and conductor height. The Plan would address plant salvaging, storing, and replanting requirements and methods, only those saguaros that are within 50-feet of the outermost conductors and could be tall enough to pose a hazard would be removed if they cannot be avoided through Project design. When possible, saguaro that must be removed would be relocated as directed by the BLM and state agency protocols. Monitoring and management of saguaros during operations would occur as described in the Vegetation Management Plan.		X	X		LUPA-BIO-SVF-1		X[5]
APM	BIO-17: Limit Off-road Vehicle Travel	Vehicular travel would be limited to established roads to the maximum extent practicable.	X	X	X	X	LUPA-BIO-13		X

[5] Management of saguaro cactus for the alternative 12kV distribution line would be completed per APS' Arizona BLM lands Vegetation Management Plan.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-18: Copper Bottom Pass (Arizona Only)	Control of construction activities and use of construction-related vehicles in the Copper Bottom Pass area would be maintained to ensure that only planned construction traffic is allowed in the area and that minimal trips are planned to minimize disturbance to bighorn sheep. This APM does not apply to non-construction related public use of the Copper Bottom Pass area.	X	X	X	X			
BMP	BIO-19: Colorado River	In the vicinity of the Colorado River, existing structure spacing and conductor heights would be matched to the greatest extent practical to reduce the potential for bird collisions with the power line. The transmission line would span the Colorado River and the minimum number of structures possible would be located within the undeveloped floodplain. The term, "vicinity of the Colorado River" is defined to mean the river crossing, floodplain, and associated agricultural lands. In these areas, conductor bundles would be in a horizontal, parallel configuration, and match existing structure spacing and conductor heights to the greatest extent practical to reduce the potential for bird collisions with the power line. No guyed structures would be used at these locations.		X			LUPA-SW-16, LUPA-BIO-17, LUPA-BIO-RIPWET-1, LUPA-SW-13, LUPA-SW-16, LUPA-TRANS-BIO-1		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	BIO-20: Migratory Bird Protection During Construction	If construction is scheduled during the nesting bird season (generally February 1 through August 31), the work area would be surveyed for birds protected under the Migratory Bird Treaty Act and applicable Arizona and California codes. Active nests identified during preconstruction surveys would require protective buffers or visual barriers to ensure compliance with those regulations. If the qualified biologist determines that construction activities would cause distress to nearby nesting birds, larger buffers or construction delays might be necessary to allow the birds to successfully fledge from the nest.	X	X		X	LUPA-BIO-4, LUPA-BIO-17, LUPA-BIO-RIPWET-1, LUPA-BIO-RIPWET-3, LUPA-BIO-IFS-11, DFA-BIO-IFS-1		X
APM	BIO-21: Reduction of Avian Collision	Current guidelines and methodologies appropriate to infrastructure size (APLIC 2006, 2012) would be used in the design of the proposed transmission and SCS distribution facilities to minimize the potential for raptors and other birds to collide with the lines during operations and be electrocuted. For example, aerial marker balls or other visibility markers would be placed at and near the crossing of the Colorado River to increase the visibility of the transmission line to birds using that movement corridor. Further, placement of lines significantly above existing		X	X		LUPA-BIO-16, LUPA-BIO-17, LUPA-BIO-COMP-2, LUPA-TRANS-BIO-2, LUPA TRANS-BIO-3		X[6]

[6] Practices to reduce avian collision associated with the alternative 12kV distribution line would be implemented under APS' corporate Avian Protection Plan.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		transmission lines, topographic features, or tree lines would be avoided. These measures would be implemented, where practicable, in conjunction with an Avian Protection Plan for the Project (APP).							
BMP	BIO-21: Reduction of Avian Collision and Electrocution	Aerial marker balls or other visibility markers would be placed on overhead ground wires (not conductors) at crossing of the Colorado River and floodplain to increase visibility to birds using that movement corridor and marking any other static wires to improve visibility and reduce collisions. Deterrents would be added to reduce nesting and perching by ravens and other predatory birds. The APP would include requirements for monitoring the effectiveness of anti-electrocution design.		X	X		LUPA-BIO-16, LUPA-BIO-17, LUPA-BIO-COMP-2, LUPA-TRANS-1, LUPA TRANS-BIO-3		
APM	BIO-22: Sonoran Desert Tortoise Protection (Arizona)	A qualified biologist would be present during all ground-disturbing and other construction activities in non-cultivated areas in Arizona, in order to survey areas before they are disturbed, monitor construction sites for the presence of desert tortoises, and move tortoises from harm's way, in accordance with the 'Candidate Conservation Agreements for Sonoran Desert Tortoise in Arizona', dated May 27, 2016. Burrows near construction sites would be clearly delineated. Road, footing, and work area alignments would be		X					X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		modified to the extent possible to avoid adversely affecting any tortoise burrows. Where burrows would be unavoidably destroyed, they would be excavated carefully using hand tools under the supervision of a field biologist with demonstrated prior experience with this species.							
APM	BIO-23: Mojave Desert Tortoise Protection (California)	A qualified-biologist would be present during all ground-disturbing and other construction activities in non-cultivated areas in California, in order to survey areas before they are disturbed, monitor construction sites for the presence of desert tortoises, and move tortoises from harm's way in accordance with USFWS protocols. Burrows near construction sites would be clearly delineated. Road, footing, and work area alignments would be modified to the extent possible to avoid adversely affecting any tortoise burrows. Where burrows would be unavoidably destroyed, they would be excavated carefully using hand tools under the supervision of a field biologist with demonstrated prior experience with this species. Other measures, as required by the USFWS in any applicable Biological Opinion, would also be implemented.	X	X			LUPA-BIO-1, LUPA-BIO-13, LUPA-BIO-IFS-5, LUPA-BIO-IFS-6 LUPA-BIO-IFS-7, LUPA-BIO-IFS-8, DFA-BIO-IFS-1	X	

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-23: Mojave Desert Tortoise Protection (California)	A designated biologist would inspect construction pipes, culverts, or similar structures: (a) with a diameter greater than 3 inches, (b) stored for one or more nights, (c) less than 8 inches aboveground and (d) within desert tortoise habitat (such as, outside the long-term fenced area), before the materials are moved, buried, or capped. As an alternative, such materials shall be capped before storing outside the fenced area or placing on pipe racks. Pipes stored within the long-term fenced area after completing desert tortoise clearance surveys would not require inspection.	X	X			LUPA-BIO-1, LUPA-BIO-IFS-5, DFA-BIO-IFS-1	X	
BMP	BIO-24: Sensitive Plant Surveys	On BLM lands and on other lands where access is secured by the owner, a survey would be conducted during the appropriate time of year of the selected route to identify special-status plant species and imperiled or sensitive vegetation alliances. Where possible, and as required by the BLM, special-status species and vegetation alliances would be avoided during construction. This survey would be restricted to non-cultivated land.	X	X			LUPA-BIO-1, LUPA-BIO-PLANT-1, LUPA-BIO-SVF-1		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-25: Sensitive Animal Surveys	A survey would be conducted of the selected route prior to construction of all work areas to identify special-status animal species, including Mojave desert tortoises, burrowing owls, and Mojave fringe-toed lizards. Where possible, and as required by the BLM, special-status species and vegetation alliances would be avoided during construction.	X	X			LUPA-BIO-1, LUPA-BIO-RIPWET-3, LUPA-BIO-DUNE-4, LUPA-BIO-DUNE-5, LUPA-BIO-IFS-6, LUPA-BIO-IFS-12		X
APM	BIO-26: Arizona Protected Plant Inventory	An inventory of plants protected under the Arizona Native Plant Law would be conducted on state trust lands as required by the Arizona State Land Department. Similar surveys would be conducted on lands managed by BLM, as directed by that agency.	X	X					X[7]
APM	BIO-27: Bighorn Sheep Lambing Areas	Construction activities would be limited from January 1 to March 31 in active bighorn sheep lambing areas identified by BLM and AGFD.	X	X	X	X			

[7] Construction of the 12kV distribution line would comply with the Arizona Native Plant Law.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-28: Raven Management Plan	The Raven Management Plan would be implemented for all activities to address food and water subsidies and roosting and nesting sites specific to the Common Raven. These include identification of monitoring reporting procedures and requirements; strategies for refuse management; as well as design strategies and passive repellant methods to avoid providing perches, nesting sites, and roosting sites for Common Ravens. As consistent with BLM policy and resource management plans, compensatory mitigation would be provided that contributes to LUPA-wide raven management associated with lands in the DRECP.		X	X		LUPA-BIO-6, LUPA-TRANS-BIO-1	X	
BMP	BIO-29: Bird and Bat Conservation Strategy	The Bird and Bat Conservation Strategy would provide guidance on conservation measures applicable to bird and bat species present in the Project Area, including a nesting bird management plan and a nest management plan.	X	X	X	X	LUPA-BIO-4, LUPA-BIO-16, LUPA-BIO-17, LUPA- BIO-RIPWET-1, LUPA-BIO-DUNE-5, LUPA-BIO-IFS-11, DFA-BIO-IFS-2		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-30: Burrowing Owl Nesting Management Plan	Plan would include management direction consistent with LUPA-BIO-IFS-12, LUPA-BIO-IFS-13, and LUPA-BIO-IFS-14.	X	X		X	LUPA-BIO-1, LUPA-BIO-16, LUPA-BIO-IFS-12, LUPA-BIO-IFS-13, LUPA-BIO-IFS-14, DFA-BIO-IFS-1, DFA-BIO-IFS-2	X	
BMP	BIO-31: Treatment of Harwood's eriastrum	1. Pre-construction surveys would be required for non-agricultural areas in California. 2. Avoid Harwood's eriastrum individuals through micro-siting facilities to the maximum extent practical. 3. Within suitable habitat for Harwood's eriastrum, use overland travel (drive and crush) in lieu of road construction to pad sites to the maximum extent practical. 4. On non-agricultural Public Lands in California, an authorized botanist would be on site for all construction activities involving surface disturbance or overland travel. 5. Within suitable habitat for Harwood's eriastrum, keep equipment to the minimum necessary to accomplish the necessary work. 6. On public lands in California, avoid establishing features that would interfere with the movement of sand to the maximum extent practical.	X	X	X	X	LUPA-BIO-1, LUPA-BIO-3, LUPA-BIO-4, LUPA-BIO-6, LUPA-BIO-13, LUPA-BIO-DUNE-2, LUPA-BIO-PLANT-2, LUPA-BIO-PLANT-3	X	

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		7. Laydown and temporary use sites would not be located within suitable habitat for Harwood's eriastrum. 8. On public lands in California, use existing roads or routes to the maximum extent practical. 9. Develop and implement an Invasive Species Management Plan (specific to the rare plant habitat) that California State Director would approve prior to a notice to proceed for work on public lands in California. 10. No surface disturbance or overland travel would occur within occupied habitat for Harwood's eriastrum from 15 February through the 31 July. This stipulation does not apply to verified, unoccupied habitat. 11. No take of Harwood's eriastrum individuals would be allowed without California BLM State Director approval. 12. Prepare a Harwood's eriastrum Linear ROW Protection Plan. 13. Project impacts to suitable habitat combined with current impacts shall be limited (capped) to a maximum of 1 percent of Harwood's eriastrum habitat across all BLM lands included within the DRECP.							

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-32: Seasonal Restriction Dates	Species-specific seasonal restriction dates per AGFD and CDFW and in applicable RMPs would be observed.		X		X	LUPA-BIO-4 LUPA-BIO-DUNE-5		X
BMP	BIO-33: Construction Lighting	All long-term nighttime lighting would be directed away from riparian and wetland vegetation, occupied habitat, and suitable habitat areas for sensitive species. Long-term nighttime lighting, if required, would be directed and shielded downward to avoid interference with the navigation of night-migrating birds and to minimize the attraction of insects as well as insectivorous birds and bats to Project infrastructure. Long-term nighttime lighting would avoid the use of constant-burn lighting.		X	X	X	LUPA-BIO-13, LUPA-BIO-16, LUPA-BIO-DUNE-5		
BMP	BIO-34: Prevention of Puddles During Dust Abatement	The application of water and/or other palliatives for dust abatement in construction areas and during Project operations and maintenance would be done with the minimum amount of water necessary to meet safety and air quality standards and in a manner that prevents the formation of puddles, which could attract wildlife and wildlife predators.		X		X	LUPA-BIO-6		
BMP	BIO-35: Presence of Wildlife in Construction	All construction materials and equipment would be visually checked for the presence of wildlife prior to their movement or use. Any wildlife encountered during the course		X	X	X	LUPA-BIO-14		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
	Materials or Equipment	of these inspections would be allowed to leave the construction area unharmed.							
BMP	BIO-36: Feeding or Harassment of Wildlife	The intentional feeding or harassment of wildlife on site is prohibited.		X	X	X	LUPA-BIO-14		X
BMP	BIO-37: Native Plant Collection	The collection of native plants on site is prohibited without required permits and tags.		X	X	X	LUPA-BIO-14		X
BMP	BIO-38: Use of State of the Art and Commercially-available Technology	Use state-of-the-art, commercially available construction and installation techniques, as approved by BLM, appropriate for the specific activity/project and site, that minimize new site disturbance, soil erosion and deposition, soil compaction, disturbance to topography, and removal of vegetation.	X	X			LUPA-BIO-9, LUPA-BIO-15		
BMP	BIO-39: Bird- and Bat-Friendly Fencing	When fencing is necessary, use bird and bat compatible design standards.		X	X		LUPA-BIO-16, LUPA-BIO-DUNE-5		
BMP	BIO-40: Project Activity Siting Near Bat Maternity Roosts	Activities would not be sited within 500 feet of any occupied maternity roost or presumed occupied maternity roost for BLM Focus and Special Status Bat Species.		X	X	X	LUPA-BIO-16, LUPA-BIO-DUNE-5, LUPA-BIO-BAT-1	X	

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-41: Succulent Management	Management of cactus, yucca, and other succulents would adhere to current up-to-date BLM policy. All activities would follow applicable BLM state and national regulations and policies for salvage and transplant of cactus, yucca, and other succulents. Preconstruction surveys of disturbance zones would include preparation of maps delineating special vegetation features. BLM may consider disposal of succulents through public sale, as per current up-to-date state and national policy.	X	X	X	X	LUPA-BIO-7, LUPA-BIO-SVF-1, LUPA-BIO-VEG-1, LUPA-BIO-VEG-5, LUPA-BIO-VEG-6		X[8]
BMP	BIO-42: Dead and Downed Wood	Promote appropriate levels of dead and downed wood on the ground, outside of campground areas, to provide wildlife habitat, seed beds for vegetation establishment, and reduce soil erosion, as determined appropriate on an activity-specific basis.	X	X	X	X	LUPA-BIO-VEG-2		X[8]
BMP	BIO-43: Collection of Plant Material	Allow for the collection of plant material consistent with the maintenance of natural ecosystem processes.	X	X	X	X	LUPA-BIO-VEG-3		X[8]
BMP	BIO-44: Mojave Desert Tortoise Protection	• All culverts for access roads or other barriers would be designed to allow unrestricted access by desert tortoises and would be large enough that desert tortoises are unlikely to use them as shelter sites (e.g., 36 inches in	X	X	X	X	LUPA-BIO-IFS-3, LUPA-BIO-IFS-5,	X	

[8] The management of succulents, dead and downed wood, and the collection of plant material for the alternative 12kV distribution line would be completed per APS' Arizona BLM lands Vegetation Management Plan.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		diameter or larger). Desert tortoise exclusion fencing may be utilized to direct tortoise use of culverts and other passages. • Biological monitoring would occur with any geotechnical boring or geotechnical boring vehicle movement to ensure no desert tortoises are killed or burrows are crushed. • A designated biologist would accompany any geotechnical testing equipment to ensure no tortoises are killed and no burrows are crushed. • The ground would be inspected under vehicles for the presence of desert tortoise any time a vehicle or construction equipment is parked in desert tortoise habitat. If a desert tortoise is seen, it may move on its own. If it does not move within 15 minutes, a designated biologist may remove and relocate the animal to a safe location. • Vehicular traffic would not exceed 15 miles per hour within the areas not cleared by protocol level surveys where desert tortoise may be impacted.					LUPA-BIO-IFS-6, LUPA-BIO-IFS-7, LUPA-BIO-IFS-8, LUPA-BIO-IFS-9		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-45: Protection from Loss and Harassment of Golden Eagles	Provide protection from loss and harassment of active golden eagle nests through activities identified LUPA-BIO-IFS-24 through -31.	X	X	X	X	LUPA-BIO-16, LUPA-BIO-IFS-24, LUPA-BIO-IFS-25, LUPA-BIO-IFS-26, LUPA-BIO-IFS-27	X	X
BMP	BIO-46: Compensation for Loss of Desert Riparian Woodland	The loss of desert riparian woodland would be compensated at a ratio of 5:1 Compensation acreage requirements may be fulfilled through non-acquisition (i.e., restoration and enhancement), land acquisition (i.e., preserve), or a combination of these options, depending on the activity specifics and BLM approval/authorization.		X	X		LUPA-BIO-17, LUPA-BIO-COMP-1	X	
BMP	BIO-47: Riparian Functioning Condition	BLM would manage all riparian areas on BLM land to be maintained at, or brought to, proper functioning condition.		X	X	X	LUPA-BIO-17, LUPA-BIO-RIPWET-1, LUPA-SW-13		X
BMP	BIO-48: Flight Diverters	Bird flight diverters would be installed on the Colorado River and associated floodplain crossings and other areas of high bird use as recommended by BLM in consultation with USFWS, AGFD, and CDFW.		X	X		LUPA-TRANS-BIO-2		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-49: Fringe-toed Lizard Linear ROW Protection Plan	A Fringe-toed Lizard Linear ROW Protection Plan would be prepared that identifies specific conservation measures to minimize Project-related impacts to sand dunes and sand transport areas, to map suitable habitat within construction zones, and methods to achieve clearance surveys within suitable habitat so animals are not killed by construction activities.	X	X	X	X	LUPA-BIO-1, LUPA-BIO-DUNE-2, LUPA-BIO-DUNE-4, LUPA-BIO-DUNE-5	X	
BMP	BIO-50 Engineering Controls	Appropriate engineering controls would be used to minimize impacts on dry wash, dry wash woodland, and chenopod scrub, including downstream occurrences, resulting from surface water runoff, erosion, sedimentation, altered hydrology, accidental spills, or fugitive dust deposition to these habitats. Appropriate buffers and engineering controls would be determined through agency consultation.		X			LUPA-BIO-3, LUPA-BIO-13, LUPA-BIO-17, LUPA-BIO-RIPWET-1, LUPA-BIO-SVF-6		
BMP	BIO-51: Conductor Clearance	To minimize vegetation trimming, micro-siting and design considerations (including tower height) would be applied so the catenary formed by the conductors (the bottom of the sag) avoids saguaros and is not directly over wash vegetation (microphyll woodlands), to the extent practicable.	X	X			LUPA-BIO-17, LUPA-BIO-RIPWET-1, LUPA-BIO-SVF-6		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-52: California Riparian Habitat and Rare Plant Alliance Avoidance	In California, as part of micrositing towers, a 200-foot setback from the outer perimeter of Coloradan semi-desert wash woodland/scrub vegetation community (microphyll woodlands) would be applied. Preconstruction surveys of disturbance zones would include preparation of maps delineating special vegetation features. Minor incursions would be allowed to balance minimizing vegetation trimming (see BMP BIO-51) while maintaining an appropriate setback, as determined based on site-specific conditions. No structure would be placed within, and no new access roads would pass through, these washes to the extent practicable.	X	X	X	X	LUPA-BIO-3, LUPA-BIO-13, LUPA-BIO-17, LUPA-BIO-RIPWET-1, LUPA-BIO-SVF-1, LUPA-BIO-SVF-6	X	
BMP	BIO-53: Protection of Dune Vegetation	Project facilities would be sited to avoid dune vegetation. Unavoidable impacts to dune vegetation would be limited and Project facilities would be sited to minimize unavoidable impacts. Access roads will be designed and constructed to be at grade with the ground surface to avoid inhibiting sand transportation.	X	X	X		LUPA-BIO-1, LUPA-BIO-13, LUPA-BIO-DUNE-2, LUPA-BIO-DUNE-4, LUPA-TRANS-BIO-4, DFA-VPL-BIO-DUNE-1	X	

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	BIO-54: Protection of Sand Transport	Within Aeolian corridors that transport sand to dune formations and vegetation types downwind all activities would be designed and operated to facilitate the flow of sand across activity sites, and avoid the trapping or diverting of sand from the Aeolian corridor. Structures would take into account the direction of sand flow and, to the extent feasible, build and align structures to allow sand to flow through the site unimpeded. Fences would be designed to allow sand to flow through and not be trapped.	X	X	X	X	LUPA-BIO-1, LUPA-BIO-DUNE-1, LUPA-BIO-DUNE-2, LUPA-BIO-DUNE-4, LUPA-TRANS-BIO-4, DFA-VPL-BIO-DUNE-2	X	
BMP	BIO-55: Access within Focus and BLM special Status Species Suitable Habitat	Construction of new roads and/or routes would be avoided to the extent practicable within Focus and BLM Special Status Species suitable habitat within identified linkages for those Focus and BLM Special Status Species, unless the new road and/or route is beneficial to minimize net impacts to natural or ecological resources of concern.	X	X	X	X	LUPA-BIO-13, LUPA-BIO-DUNE-4	X	X
BMP	BIO-56: Sonoran Pronghorn	Measures, as required by the USFWS in any applicable Biological Opinion, would be implemented.	X	X	X	X			X

*See Appendix 2C

2A.5 VEGETATION

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	VEG-01: Removal of Vegetation	Any removal of vegetation resources would be conducted in accordance with BLM IB 2012-097	X	X	X	X	LUPA-BIO-15, LUPA-BIO-SVF-1		X[9]
BMP	VEG-02: Avoid Vegetation Removal	Minimize natural vegetation removal through implementation of crush and drive or cut or mow vegetation rather than removing entirely. Locations for drive and crush travel or cut/mow would be determined in conjunction with the Access Road Plan (Appendix 2B).		X	X	X	LUPA-BIO-14		X

*See Appendix 2C

[9] APS is currently compiling vegetation maintenance activities into a Vegetation Management Plan specific to the 12kV distribution line per BLM IM-2018-070.

2A.6 CULTURAL RESOURCES

APM OR BLM REQUIRED BMP OR EPM	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	CULT-01: Inventory and HPTP	A cultural inventory would be conducted that would document cultural resources within the area of potential effects for the Project. Based on results of this inventory, a Historic Properties Treatment Plan would be developed to specifically address direct and indirect impacts that may result from Project construction.	X	X			LUPA-CUL-4; LUPA-TRANS-CUL-1		X
APM	CULT-02: Monitoring and Discovery Plan	DCRT's contractor would prepare a Monitoring and Discovery Plan that would describe procedures to be followed in the event of the discovery of cultural resources or human remains during implementation of the Project. The Draft Monitoring and Discovery Plan would be reviewed by BLM and consulting state and federal agencies, the California and Arizona SHPOs, and local tribes. Upon approval of the Monitoring and Discovery Plan, DCRT would follow the procedures set forth in that plan during implementation of the Project.	X	X			LUPA-CUL-4; LUPA-TRANS-CUL-1		X
BMP	CULT-03: Cultural Resources Avoidance and Stipulations	DCRT would follow the avoidance procedures and other stipulations outlined in the Programmatic Agreement (PA) and in the appropriate State Historic Properties Treatment Plan for each historic property identified in the HPTP.	X	X	X	X	LUPA-CUL-4		X

APM OR BLM REQUIRED BMP OR EPM	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	CULT-04: Worker Cultural Resources Awareness Program	Before starting any work, including mowing, staging, sediment and erosion control installation, tree removal, construction, and restoration, all employees and contractors performing activities and construction would receive training on the National Historic Preservation Act, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act and the consequences of noncompliance with these acts. Training would also include cultural sensitivity to Native American concerns, since tribal monitors would be present during construction.	X	X					X
BMP	CULT-05: Cultural Resources Compensatory Fee	A compensatory mitigation fee for cumulative and indirect effects to historic properties as a result of construction is identified in the Project PA. The fee structure of the compensatory mitigation fee would be calculated in a manner that is commensurate to the size and regional impacts of the Project and would include a management fee determined and finalized in the Project PA.	X	X			LUPA-TRANS-CUL-2; LUPA-TRANS-CUL-3; DFA-VPL-CUL-1; DFA-VPL-CUL-2; DFA-VPL-CUL-3	X	
BMP	CULT-06: Sensitivity Model	BLM would develop a sensitivity model for cultural resources using the DRECP geodatabase for the purpose of selecting Project footprints to minimize impacts to recorded historic properties and areas that are culturally sensitive to Tribes.	X				LUPA-TRANS-CUL-4; DFA-VPL-CUL-4	X	

APM OR BLM REQUIRED BMP OR EPM	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	CULT-07: Sample Survey	The BLM shall ensure that a statistically significant cultural resources sample survey is conducted for consideration in Project planning in locations within the CDCA boundary.	X				LUPA-TRANS-CUL-5; DFA-VPL-CUL-5	X	
BMP	CULT-08: Project Planning	DCRT would consider the results of the BLM's cultural resources sensitivity model in Project planning and provide justification if it is not considered to be feasible.	X				LUPA-TRANS-CUL-6; DFA-VPL-CUL-6	X	

*See Appendix 2C

2A.7 RECREATION

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	REC-01: Alternative Access and Parking Signs	Signs directing vehicles to alternative existing access and parking would be posted in the event construction temporarily obstructs parking areas near trailheads.		X			DFA-REC-1, DFA-REC-2, DFA, REC-4, DFA-REC-5, DFA-REC-7		
BMP	REC-02: Recreation Users Signs	Signs advising recreation users of construction activities and directing them to alternative trails or bikeways would be posted on both sides of all trail intersections or as determined through DCRT coordination, with the respective jurisdictional agencies. A schedule of construction activities would be posted near entrances to recreational areas as well as on the Project website. Signs would be installed near access roads notifying the public of construction activities in the area and the presence of permanent transmission facilities.		X					X
BMP	REC-03: Guy Wire Marking	Plastic mesh or paint would be used to mark guy wires in areas used for recreation. Permanent high visibility guy markers would be installed during construction.		X	X				

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	REC-04: Alternate Route Signage	Identify alternative routes (on existing roads and trails) of equal or greater standard and access to specially designated areas if roads, primitive roads, or trails used for recreation are temporarily closed or otherwise significantly affected. The alternate route(s) would be clearly identified on signage.		X					X

*See Appendix 2C

2A.8 NOISE

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	NO-01: Noise Minimization with Portable Barriers	Compressors and other small stationary equipment used during construction would be shielded with portable barriers if located within 200 feet of a residence.		X			LUPA-BIO-12		
APM	NO-02: Noise Minimization with Quiet Equipment	In area in close proximity to sensitive receptors, quiet equipment (for example, equipment that incorporates noise control elements into the design; quiet model air-compressors or generators can be specified) would be used during construction whenever possible.		X					
APM	NO-03: Noise Minimization through Direction of Exhaust	Stationary equipment exhaust stacks and vents (i.e., on equipment like generators and lights) would be directed away from buildings where feasible.		X					
APM	NO-04: Blasting Mitigation	If blasting is required in close proximity to sensitive receptors, the timeframe that blasting activity would occur would be limited, in addition to limiting the number of blasts that occur per hour or per day.		X					

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP – Regional Mitigation Strategy for the AZ SEZs	NO-05: County, State, and Federal Noise Regulations	Project would be located far enough from residences or include engineering and/or operational methods such that county, state, and/or federal regulations for noise are not exceeded.		X	X				
BMP – Regional Mitigation Strategy for the AZ SEZs	NO-06: Hours of Daily Activity	The hours of daily activities would be limited, and noise barriers would be constructed if needed and practicable. Coordination with nearby residents is recommended.		X	X				
BMP	NO-07: Sensitive Wildlife Protection	To the extent feasible, locate stationary noise sources that exceed background ambient noise levels away from known or likely locations of and BLM sensitive wildlife species and their suitable habitat.		X	X	X	LUPA-BIO-12		

*See Appendix 2C

2A.9 HAZARDS AND HAZARDOUS MATERIALS

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	HAZ-01: Hazardous Substance Control and Emergency Response	DCRT would implement its hazardous substance control and emergency response procedures as needed in conjunction with a Hazardous Substance Control and Containment Plan and Emergency Response Plan for the Project. The procedures identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during all phases of Project construction through operation. They address worker training appropriate to the site worker's role in hazardous substance control and emergency response. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored on site. If it were necessary to store chemicals on site, they would be managed in accordance with all applicable regulations. Material safety data sheets would be maintained and kept available on site, as applicable. Project construction would involve soil surface blading/leveling and excavation. In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed		X	X		LUPA-BIO-9, LUPA-SW-6, LUPA-SW-7		X[10]

[10] APS would follow company policies and procedures for hazardous substance spills and emergency response.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		during site grading activities or excavation activities, the excavated soil would be tested and, if contaminated above hazardous waste levels, would be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil would require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations. All hazardous materials and hazardous wastes would be handled, stored, and disposed of in accordance with all applicable regulations by personnel qualified to handle hazardous materials. The hazardous substance control and emergency response procedures include, but are not limited to, the following: • Proper disposal of potentially contaminated soils. • Establishing site-specific buffers for construction vehicles and equipment near sensitive resources. • Emergency response and reporting procedures to address hazardous material spills. • Stopping work at that location and contacting the County Fire Department Hazardous Materials Unit immediately if visual contamination or chemical odors are detected; work would be resumed at this location after any necessary consultation and approval by the Hazardous Materials Unit.							

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		DCRT would complete its Emergency Action Plan Form as part of Project tailgate meetings. The purpose of the form is to gather emergency contact numbers, first aid location, work site location, and tailgate information.							
APM	HAZ-02: Fire Avoidance and Suppression	Per the Fire Prevention Plan for the Project: DCRT would select a welding site that is void of native combustible material and/or would clear such material for 10 feet around the area where the work is to be performed. DCRT would follow its standard practice for clearing in wildland areas. Project personnel would be directed to drive on areas that have been cleared of vegetation, park away from dry vegetation, and carry water, shovels, and fire extinguishers in times of high fire hazard. DCRT would also prohibit trash burning. Additionally, fire-suppression materials and equipment would be kept adjacent to all areas of work and in staging areas and would be clearly marked.	X	X	X	X	DFA-VPL-BIO-FIRE-1		
BMP	HAZ-02: Fire Avoidance and Suppression	APM HAZ-02 would not interfere with APM BIO-14, which encourages overland driving/access. Vehicle and equipment operators would drive on cleared areas and park away from vegetation where possible, would be responsible to monitor for fire ignition by vehicles and equipment; and would be equipped and trained to provide first response to an inadvertent wildland fire ignition associated with the Project.	X	X	X	X	DFA-VPL-BIO-FIRE-1		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	HAZ-03: Equipment & Material Inventory	DCRT would provide the BLM with an inventory of equipment and materials to cover each hazardous material used at any time during the life of the Project, updating as additions to equipment and materials are made. Appropriate equipment and materials would follow specific recommendations for individual Haz Mat types in BLM Handbooks, EPA guidelines, and from the California Department of Toxic Substance Control (DTSC).	X	X	X	X	LUPA-BIO-9	X	
BMP	HAZ-04	DCRT would provide the BLM with a Pesticide/Herbicide Use Proposal, outlining the pesticides and herbicides that would be proposed for use on the Project (the 12kV line would not require pesticide/herbicide use), demonstrating conformance with BLM requirements, and seeking preapproval before use. Only BLM-approved products would be used.	X	X	X				

*See Appendix 2C

2A.10 PUBLIC HEALTH AND SAFETY

APM OR BLM REQUIRED BMP OR EPM	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	PHS-01	Portable toilets would be provided at work sites to assure that adequate facilities are available for the duration of the Project and potential exposure to human waste is avoided.	X	X	X	X			X
BMP	PHS-02	A Fire Prevention Plan would be developed for the Project.	X	X	X	X	DFA-VPL-BIO-FIRE-1		X[11]

*See Appendix 2C

[11] APS would comply with their current fire plan on file with the BLM.

2A.11 TRAFFIC, TRANSPORTATION, AND PUBLIC ACCESS

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	TT-01: Traffic Coordination	Emergency service providers would be notified of the timing, location, and duration of construction activities. Traffic control devices and signs would be used as needed. These measures would be implemented in conjunction with a Traffic and Transportation Management Plan for the Project. This plan would also include measures/protocols for aviation, including helicopter use, coordination with local air traffic control, and a Congested Area Plan, pursuant to FAA regulations.		X					X
BMP – Military & Civilian Aviation in Regional Mitigation Strategy for AZ SEZs	TT-02: Structure Lighting in Military Training Routes (MTR)	Project structures that are located within MTRs would be fitted with night-vision compatible red lighting emitting an infrared energy between 675 and 900 nanometers.			X				
BMP	TT-03: Public Access, Marking, and Public Information for Closed Access	The BLM would determine if new access routes would be retained for public access through approval of the Access Plan for the Project. If any routes of travel are not accessible and/or closed, Carsonite posts and signing would note the closures. Where routes are closed, kiosks with information panels would be posted providing public information.	X	X	X				

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	TT-04: Access Plan	An Access Plan would be required to identify all routes where new disturbance and/or cross-country travel is proposed. Existing access would be used to the maximum extent practicable; new access would only be created when there is no other reasonable or practicable means of access.	X	X	X	X	LUPA-BIO-13		X
BMP	TT-05: Using Open and Designated Routes	The Access Plan for the Project would maximize use of open and designated access routes to the extent practicable.	X	X	X	X	LUPA-BIO-13		X
BMP	TT-06: Access Roads in Dune Habitat	Access Roads would be unpaved and constructed at grade in dune habitat. No berms or application of rock would be allowed on the California public lands portion of the Project in desert tortoise habitat. Should other adaptive access measures be required (such as temporary compaction or mats to allow access across washes), those measures would be formulated in concert with the BLM and contained in the Access Management Plan (Appendix 2B)	X	X	X	X	DFA-VPL-BIO-DUNE-1	X	
BMP	TT-07: Routes of Travel	Routes of travel for the Project on BLM-managed lands outside established roadways would be limited to those routes on the approved Access Plan.	X	X	X	X	LUPA-BIO-13		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP	TT-08: Prohibit Cross-Country Vehicle Use Outside Designated Work Areas	Within Project boundaries, prohibit cross-country vehicle and equipment use outside of approved designated work areas to prevent unnecessary ground and vegetation disturbance.		X	X	X	LUPA-BIO-13	X	
BMP	TT-09: Repairs to Local Roads	Local roads would be restored if road damage occurred as a result of Project construction.	X	X	X	X			X
BMP	TT-10: Notify AGFD of Helicopter Construction	DCRT would coordinate with AGFD to ensure that the use of helicopters for construction in Copper Bottom Pass would not conflict with or cause an aerial hazard to aircraft flying AGFD wildlife surveys in this location.		X					

*See Appendix 2C

2A.12 VISUAL RESOURCES

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	AES-01: Vegetation Removal and Grading	During Project construction activities, the amount of existing vegetation cleared from the route would be kept to the minimum as much as practicably possible. Grading would occur as minimally as practicable and would follow the existing land contours as much as possible.		X		X			X
APM	AES-02: Work Area Reclamation	Upon completion of the Project, all construction material and debris from the permanent ROW and temporary staging areas would be removed and the areas restored. All work areas would be graded and restored to as close to preconstruction conditions as possible.	X	X	X	X			X
BMP	AES-02: Work Area Reclamation	Work area reclamation would include pulling and tensioning sites; all disturbed work areas associated with the Project.	X	X	X	X			X
APM	AES-03: Visual Distance Zone	For Segment cb-01, to increase the visual distance zone from the Arizona Peace Trail and the Project. To minimize the view blockage or impairment caused by the transmission structures to the off-road vehicle riders using the Arizona Peace Trail, the transmission line would be located as far from the trail as can be practicably constructed, while still being located below the horizon.		X	X	X			

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM Captures BLM BMP for Reducing Visual Impacts of REFs 6.4.10 – Color Treat Transmission Towers to Reduce Contrasts with Existing Landscape	AES-04: Visual Contrast	Visual Contrast. For Segment cb-01, to minimize visual contrast between the elements of the transmission line structures and the surrounding landscape. Structures would be color treated appropriate colors to most effectively blend the structures with the visible background landscape.		X	X		DFA-VPL-VRM-3		
BMP	AES-04: Visual Contrast	Color treatment of transmission structures would be applied in all areas deemed necessary by the BLM. The BLM would select/approve the color treatment to be applied under AES-04. Color treatment would be applied to Project components, such as the SCS and fencing. All conductor would be non-specular, and all structures, whether color treated or not, would have a dull, non-reflective surface.		X	X		DFA-VPL-VRM-3		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM Captures BLM BMP for Reducing Visual Impacts of REFs 6.2.10 – Collocate Linear Features in Existing ROWs or Corridors	AES-05: Location	AES-5: Collocate the transmission line as close as possible to existing transmission lines of similar size and design (while maintaining the required 250-foot setback) to minimize the overall visual impact of the Project on the surrounding areas. Keeping the proposed transmission line within the same general corridor as existing transmission lines would reduce the spread of visual impacts from areas previously not affected. Collocating with existing transmission lines would also reduce the need to construct new access roads and their associated visual impacts.		X	X	X	LUPA TRANS-BIO-4		
APM	AES-06: Siting Staging and Laydown Areas	The Project would avoid siting, staging, and laydown areas in visually sensitive areas to the extent practicable. Staging areas would be located close to transportation access points and would be sited to take advantage of previously disturbed areas to the extent practicable.	X				LUPA-TRANS-BIO-1		X
BMP	AES-06: Siting Staging and Laydown Areas	APM AES-06 would apply to all Project work areas. Also, work areas would be located to minimize impacts, including but not limited to biological and visual.	X	X	X	X	LUPA-TRANS-BIO-1		X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP (BMPs for Reducing Visual Impacts of REFs 6.2.11)	AES-07: Avoid Siting Linear Features in the Centers of Valley Bottoms and on Ridgetops	The eye follows strong natural lines in the landscape, and these lines and associated landforms can "focus" views on particular landscape features. For this reason, linear facilities associated with renewable energy projects, such as transmission line ROWs, should be sited to avoid running across the centers of valley bottoms, and to avoid ridgetop bisection (i.e., routing the ROWs perpendicular to and over ridgelines).	X	X			LUPA TRANS-BIO-3		
BMP (BMPs for Reducing Visual Impacts of REFs 6.2.12)	AES-08: Avoid Skylining	"Skylining" of transmission/communication towers and other structures should be avoided. Transmission/communication towers and other structures should not be placed on ridgelines, summits, or other locations where they would be silhouetted against the sky. Skylining draws visual attention to the Project elements and can greatly increase visual contrast. Siting should take advantage of opportunities to use topography as a backdrop for views of facilities and structures to avoid skylining. Roads may be less visible if located along ridgetops, but if they are located on the ridge face they can be highly visible because of increased cut, fill, and side cast material.	X	X			LUPA TRANS-BIO-3		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP (BMPs for Reducing Visual Impacts of REFs 6.2.13)	AES-09: Site Linear Facilities along Natural Lines within the Landscape	Siting of facilities, especially linear facilities (e.g., transmission lines, pipelines, roads), should take advantage of natural lines within the landscape (e.g., natural breaks in the landscape topography, the edges of clearings, or transitions in vegetation). Siting of facilities on steep slopes should be avoided. Siting linear facilities along naturally occurring lines in the landscape can reduce apparent contrast through repetition of the line element or through combination of multiple line elements into a single line element. Facilities sited on steep slopes are often more visible (particularly if either the Project or viewer is elevated); they may also be more susceptible to soil erosion, which could also contribute to negative visual impacts.	X	X					

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
BMP (BMPs for Reducing Visual Impacts of REFs 6.3.8)	AES-10: Use Monopole, Guyed, and Lattice Electric Transmis-sion Towers Appropriate-ly	Consideration should be given to the appropriate choice of monopoles versus guyed or lattice towers for a given landscape setting. Lattice or guyed towers are less visually obtrusive on the rural landscape than monopoles, especially when placed half a mile or more from KOPs and against a landscape backdrop. When transmission towers are placed within a half mile or less from KOPs, then monopoles would occupy a smaller field of view than lattice towers. Monopoles are often more appropriate within built or partially built environments, while lattice or guyed towers tend to be more appropriate for less-developed rural landscapes, where the latticework would be more transparent against natural background textures and colors. Where transmission facilities are to be collocated in ROWs or corridors, and the existing ROW or corridor has either lattice towers only, guyed towers only, or monopoles only, the same tower type should be selected for new transmission facilities within the ROW/corridor.	X	X					
BMP (BMPs for Reducing Visual Impacts of REFs 6.6.8)	AES-11: Use Air Transport to Erect Transmis-sion Towers	In areas of the highest visual sensitivity, air transport capability should be used to mobilize equipment and materials for clearing, grading, and erecting transmission towers. The use of air transport capability preserves the natural landscape conditions		X					

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		between tower locations, and may reduce the need for construction roads.							
BMP	AES-12: Reclamation to Reduce Visual Impacts	The Reclamation Plan for the Project would include measures designed to reduce long-term impacts to visual resources.	X	X	X	X			X
BMP	AES-13: Shifts in Alignment to Reduce Visual Impacts	The specific location of the Project within the study area would be determined based on micro-siting of Project components and new disturbance associated with access and work areas to reduce, minimize, or eliminate visual impacts.	X	X	X	X			
BMP	AES-14: SCS Fencing Specifica-tions	The BLM would work with the applicant to design the height, type, and color of fencing used to enclose the SCS to meet the objectives of the Project, minimize or optimize visual impacts, and assure compatibility with critical infrastructure protection.		X	X				
APM	AES-15: Lighting	Limited lighting would be used during night construction to ensure safe working conditions while limiting the overall lighted area. To the extent practicable, lighting would be directed in a downward position to minimize impacts to night sky.		X					

*See Appendix 2C

2A.13 WATER RESOURCES

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	WQ-01: SWPPP Development and Implementa-tion	Following Project approval, DCRT would prepare and implement a SWPPP or an amendment to an existing SWPPP to minimize construction impacts on surface water and groundwater quality. Implementation of the SWPPP would help stabilize graded areas and reduce erosion and sedimentation. The Plan would designate BMPs that would be adhered to during construction activities. Erosion and sediment control measures, such as straw wattles, covers, and silt fences, would be installed prior to ground disturbance, based on the anticipated volume and intensity of precipitation, the nature of stormwater runoff in the Project Area, and the soil types within the Project Area. Suitable stabilization measures would be used to protect exposed areas during construction activities, as necessary and final stabilization would be completed when construction materials, waste, and temporary erosion and sediment control measure have been removed. During construction activities, measures would be implemented to prevent contaminant discharge from vehicles and equipment, including complying with the Spill	X	X			LUPA-BIO-9		X[12]

[12] APS would prepare and submit a separate SWPPP for the 12kV distribution line.

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		Prevention, Control, and Countermeasures requirements in 40 CFR 112. The Project SWPPP would include erosion control and sediment transport BMPs to be used during construction. BMPs, where applicable, would be designed by using specific criteria from recognized BMP design guidance manuals. Erosion-minimizing efforts may include measures such as the following: • defining ingress and egress within the Project site • implementing a dust control program during construction • properly containing stockpiled soils Erosion control measures identified would be installed in an area before construction begins and would be properly maintained until construction is complete and final stabilization begins. Temporary measures such as silt fences or wattles, intended to minimize sediment transport from temporarily disturbed areas, would remain in place until disturbed areas have stabilized. The Plan would be updated during construction as required by the SWRCB and ADEQ. The Plan would include the following components, in accordance with ADEQ requirements for coverage under the General Permit:							

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		• stormwater team qualifications and contact information • identification of operators • nature of construction activities • sequence and estimated dates of construction activities • site description • site map(s) • receiving waters • control measures to be used during construction activity • summary of potential pollutant sources • use of treatment chemicals • pollution prevention procedures, including spill prevention and response and waste management procedures							
APM	WQ-02: Worker Environment-al Awareness Program Development and Implementa-tion	The Project's worker environmental awareness program would communicate environmental issues and appropriate work practices specific to this Project. This awareness would include spill prevention and response measures and proper BMP implementation. The training would emphasize site-specific physical conditions to improve hazard prevention (such as identification of flow paths to nearest water bodies) and would include a review of all site-specific water quality requirements, including applicable portions of erosion control and sediment transport BMPs, Health and Safety Plan, and Hazardous Substance Control and Emergency Response Plan.	X	X					X

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	WQ-03: Vehicles and Equipment Fueling and Maintenance	Vehicle and equipment fueling and maintenance operations would be conducted in designated areas only; these areas would be equipped with appropriate spill control materials and containment.	X	X	X	X			X
BMP	WQ-04: Non-petroleum Dust Palliatives	Palliatives used for dust control would be non-petroleum products in addition to non-toxic, as specified in AQ-01.	X	X		X	LUPA-BIO-13, LUPA BIO 14	X	
BMP	WQ-05: Water Use	Water extracted or consumptively used for the construction, operation, maintenance, or remediation of the Project shall be solely for the beneficial use of the Project or its associated mitigation and remediation measures, as specified in approved plans and permits.		X			LUPA-SW-18		X
BMP	WQ-06: Avoidance of Hydrologic Alterations	Consideration shall be given to design alternatives that maintain the existing hydrology of the site or redirect excess flows created by hardscapes and reduced permeability from surface waters to areas where they would dissipate by percolation into the landscape. All hydrologic alterations shall be avoided that could reduce water quality or quantity for all applicable beneficial uses associated with the hydrologic unit in the Project area, or specific mitigation measures shall be implemented that would minimize unavoidable water quality or quantity impacts, as determined by BLM in		X		X	LUPA-SW-21, LUPA-SW-22, LUPA-BIO-DUNE-2, LUPA-BIO-DUNE-3		

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
		coordination with USFWS, CDFW, and other agencies, as appropriate.							
BMP	WQ-07: Structures in Floodplains	No permanent structures would be placed in floodplains that are narrower at the ROW crossing than the typical span width of 1,200 feet (i.e., it is assumed that such floodplains could be spanned and avoided).		X			LUPA-BIO-DUNE-2, LUPA-BIO-DUNE-3		

2A.14 MISCELLANEOUS

APM OR BLM REQUIRED BMP	APM/BMP	DESCRIPTION	PRE-CONST.	CONST.	O&M	DECOM	DRECP CMA ADDRESSED*	CA ONLY	12KV LINE TO SCS
APM	MISC-01	An Environmental Compliance Management Plan would be prepared.	X	X	X	X	LUPA-AIR-3		X
BMP	MISC-02	All cleared and graded material to be removed from the Project area would be relocated in compliance with local ordinances.	X	X	X	X			
BMP	MISC-03	The final POD would identify areas where the final structure site temporary disturbance area could be reduced and estimates of reduced areas, in advance of field staking for the Project.		X					
BMP	MISC-04	Locations for many areas of temporary disturbance would not been definitively identified until preparation of the final POD. All temporary disturbance would be located in previously disturbed areas and/or outside ecologically and aesthetically sensitive areas to the maximum extent practicable.	X	X	X	X	DFA-VPL-BIO-IFS-1		X
APM	MISC-05	Deleted							
APM	MISC-06	Project structure locations would be matched to adjacent existing transmission line structures to the extent practicable.	X	X					
BMP	MISC-07	Project structures would be located to avoid sensitive infrastructure.	X	X					

*See Appendix 2C