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Via email only

May 15, 2026

John Forsythe, CPUC Project Manager
California Public Utilities Commission
c/o Aspen Environmental Group
235 Montgomery Street, Suite 967
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Ivanpah-Control@aspeneg.com

RE: Draft Environmental Impact Report for Southern California Edison's SCE's) Ivanpah-Control Project (State Clearinghouse #2020080553)

Dear Mr. Forsythe,

The Desert Tortoise Council (Council) is a non-profit organization comprising hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and northern Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

Both our physical and email addresses are provided above in our letterhead for your use when providing future correspondence to us. When given a choice, we prefer to receive emails for future correspondence, as mail delivered via the U.S. Postal Service may take several days to be delivered. Email is an "environmentally friendlier way" of receiving correspondence and documents rather than "snail mail."

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats occupied by the Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments include recommendations intended to enhance protection of this species and its habitat during activities that may be authorized by the California Public Utilities Commission (CPUC), which we recommend be added to project terms and conditions in the authorizing documents [e.g., management plan and decision document, permit, issuance of right-of-way (ROW) grants, etc.] as appropriate. Please

accept, carefully review, and include in the relevant project file the Council's following comments and attachment for the proposed project.

The Mojave desert tortoise (tortoise) is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), "… based on population reduction (decreasing density), habitat loss of over 80% over three generations (90 years), including past reductions and predicted future declines, as well as the effects of disease (upper respiratory tract disease/mycoplasmosis). *Gopherus agassizii* (sensu stricto) comprises tortoises in the most well-studied 30% of the larger range; this portion of the original range has seen the most human impacts and is where the largest past population losses have been documented. A recent rigorous rangewide population reassessment of *G. agassizii* (sensu stricto) has demonstrated continued adult population and density declines of about 90% over three generations (two in the past and one ongoing) in four of the five *G. agassizii* recovery units and inadequate recruitment with decreasing percentages of juveniles in all five recovery units."

This status, in part, prompted the Council to join Defenders of Wildlife and the Desert Tortoise Preserve Committee (DTPC) to petition the California Fish and Game Commission (Commission) in March 2020 to elevate the listing of the Mojave desert tortoise from Threatened to Endangered under the California Endangered Species Act (CESA) (Defenders of Wildlife et al. 2020). Importantly, following California Department of Fish and Wildlife's (CDFW) (2024a) status review, in their April 2024 meeting the California Fish and Game Commission voted unanimously to accept the CDFW's petition evaluation and recommendation to uplist the tortoise from threatened to endangered under the CESA based on the scientific data provided on the species' status, declining trend, numerous threats, and lack of effective recovery implementation and land management (CDFW 2024b). On July 15, 2025, the tortoise was officially uplisted to endangered status under the CESA (Commission 2025).

Description of the Proposed Project

Southern California Edison (SCE or "the Applicant") submitted an application in 2019 to the California Public Utilities Commission (CPUC) to issue a permit for SCE to construct and operate the SCE Ivanpah-Control Project (I-C Project or Proposed Project). SCE proposes to construct and operate the I-C Project to correct physical clearance discrepancies along 262 miles of SCE's existing 115 kilovolt (kV) subtransmission lines located in Inyo, Kern, and San Bernardino Counties (Figure 1). The Proposed Project would ensure compliance with CPUC General Order 95 by remediating approximately 2,950 discrepancies identified through SCE's Transmission Line Rating Remediation Program along seven (7) 115 kV circuits.

There are four transmission line segments spanning nine existing substations. From north to south, the project segments are:

- Segment 1: Control Substation to Inyokern Substation (126 miles long), originally constructed in 1912, from Bishop Creek to the Inyokern Substation near Inyokern, CA;
- Segment 2: Inyokern Substation to Kramer Substation (48 miles long), originally constructed in 1913, from near Inyokern to near Kramer Junction, CA;

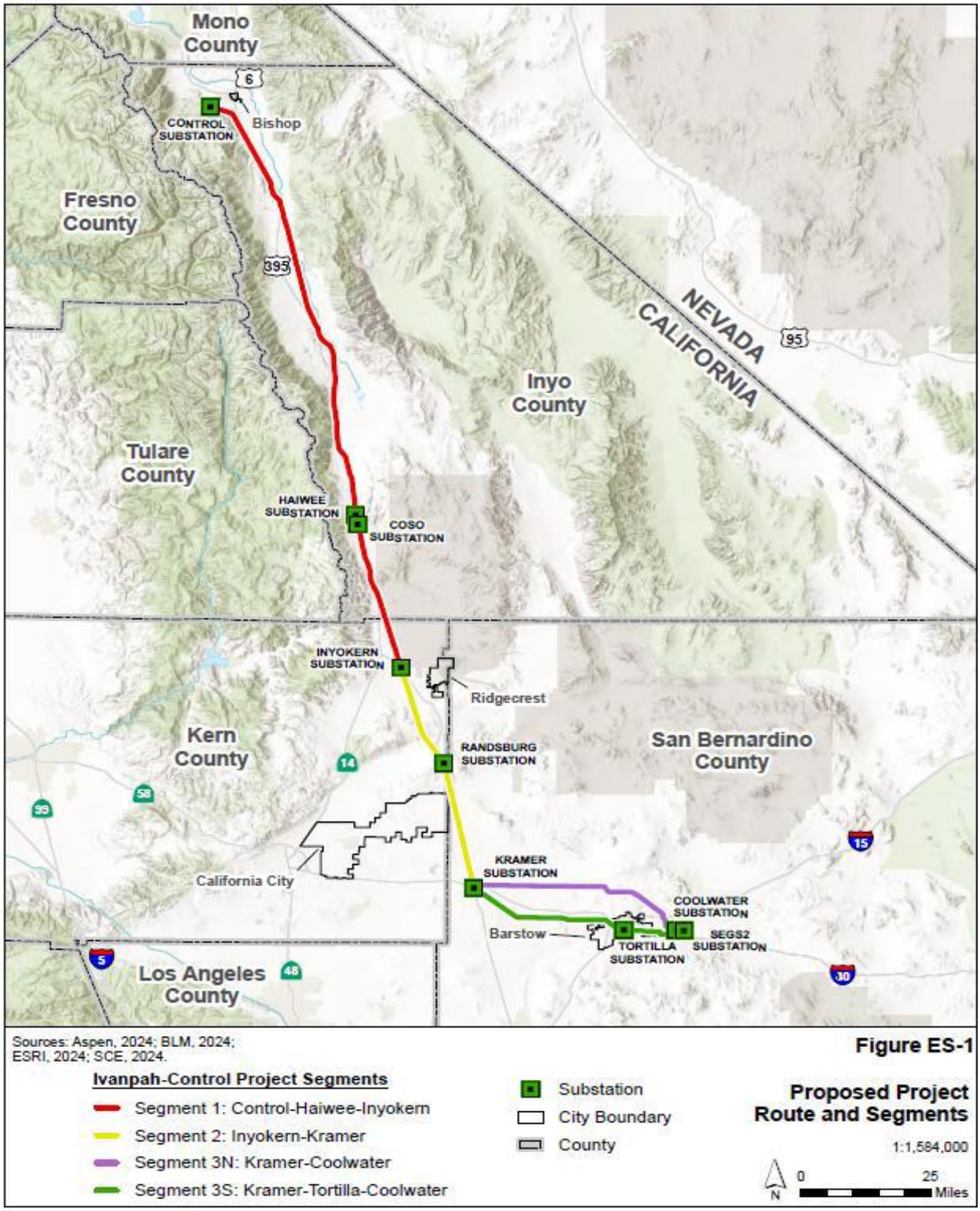


Figure 1. Location of Ivanpah-Control Project segments of subtransmission lines and substations owned by Southern California Edison.

- Segment 3N: Kramer Substation to Coolwater Substation (44 miles long), originally constructed in 1913, from near Kramer Junction to east of Barstow, CA;
- Segment 3S: Kramer Substation to Tortilla Substation to Coolwater Substation (44 miles long). Segment 3S has two 115 kV subtransmission line segments. SCE's Kramer-Tortilla Subtransmission Line was constructed in 1969 from Kramer Junction to the south side of Barstow. The Tortilla to Coolwater Substation Line is from the south side of Barstow to east of Barstow between I-15 and I-40.

Within Segment 1, 1,681 spans with discrepancies were identified, and in Segment 2, 335 spans were identified. Replacement structures in these segments would be located in a new alignment approximately 50 feet east of the existing alignment, followed by removal of old structures. Within Segment 3N, 241 spans were identified with discrepancies and in Segment 3S, 230 spans were identified. In Segments 3N and 3S, SCE proposes reconductoring of the existing subtransmission lines in combination with replacement of a small number of structures to minimize environmental impacts.

SCE submitted its first amended application to the CPUC on April 13, 2020, and a second amended application on October 31, 2024.

CPUC evaluated four alternatives in the Draft Environmental Impact Report (DEIR) in addition to the No Project Alternative. The action alternatives are restricted to Segment 1. The alternatives are:

- No Project Alternative – Modifications of the existing electrical system defined for the Proposed Project and the associated impacts would not occur. Facility repair and replacement would be implemented on an as-needed basis.
- Crater Mountain Realignment Alternative – SCE proposes a modified route in part of Segment 1 (see Figure 2).
- Manzanar Realignment Alternative – SCE proposes a modified route in part of Segment 1 (see Figure 2).
- Fossil Falls Realignment Alternative – SCE proposes a modified route in part of Segment 1 (see Figure 2).
- Proposed Project Alternative – In Segments 1 and 2, SCE would remove all existing subtransmission towers, poles, and conductors and replace them with tubular steel poles (TSPs), lightweight steel (LWS) poles, LWS pole H-frames, and multi-pole TSP and LWS pole structures and new conductors. SCE would also install overhead groundwire (OHGW) or optical groundwire (OPGW) for system protection. In Segments 3N and 3S, SCE would remove certain existing subtransmission towers and poles and replace them with steel multipole structures constructed from TSPs, wood multi-pole structures, and steel and wood H-frames constructed from LWS and wood poles. SCE would remove existing conductors and install new conductors on replacement and existing structures.

  Approximately 744 TSP and 397 permanent LWS poles would be installed. The diameter of TSP and LWS poles would typically be 2 to 6 feet and 1 to 4 feet at ground level, respectively, and taper to the top of the poles. Foundations to support these poles would

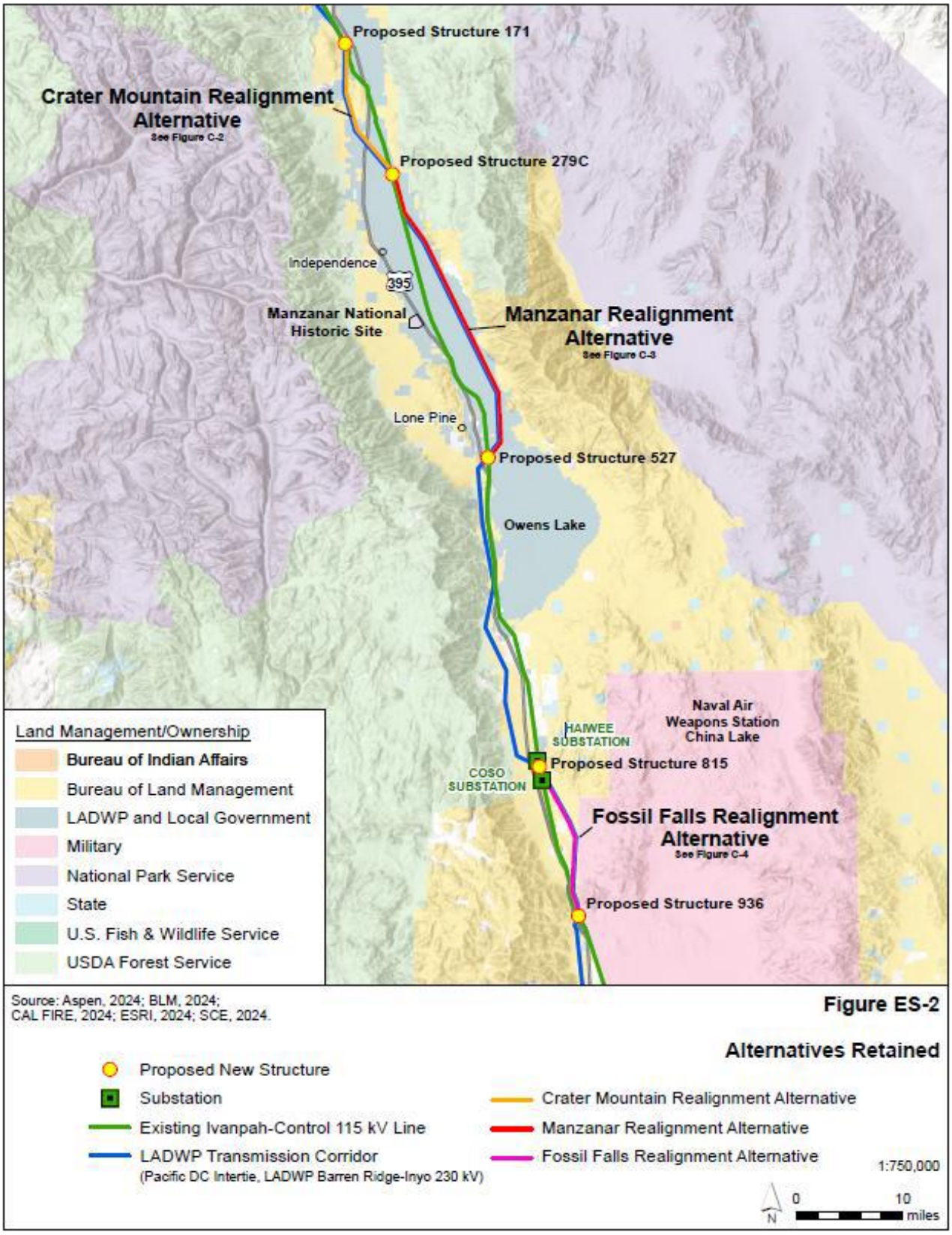


Figure 2. Locations of routes for three alternatives for the Ivanpah-Control Project.

be approximately 4 to 8 feet in diameter and would extend below ground approximately 10 to 30 feet with 1 to 3 feet of concrete visible above ground.

Approximately 124 multipole TSP structures (which comprise two or three individual TSPs located at a single site) would be used along with approximately 75 wood H-frame poles. Each vertical wood pole would extend approximately 65 to 74 feet above the ground. The diameter of the vertical wood poles would be approximately 3 feet at ground level and would taper to the top of the pole. The horizontal member of the H-frames would be approximately 7-square inches.

Substation modifications include replacing conductors, connecting new OPGW and underground communications cables, and installing control cabling and new relay and protection racks within the substations. Excavation and vault placement would be required.

Telecommunications infrastructure (either OPGW or ADSS fiber optic cable) would be added to connect the I-C Project-associated substations in Segments 1 and 2 to SCE's telecommunications system. Excavations and vault placement would be required.

SCE estimates that 54 material yards would need to be established along the transmission line routes during construction with each averaging about 5 acres. SCE classified the material yards as 27 occurring on lands previously disturbed (affecting about 135 acres), 26 on undisturbed lands (affecting about 130 acres), and 1 material yard is currently paved.

An estimated 306 miles of existing access and spur roads would be employed for construction of the I-C Project. No new permanent access roads would be developed but new permanent spur roads may be developed. Existing permanent access roads would be improved to accommodate the construction equipment and vehicles.

Helicopters will be used for construction purposes where overland access is not feasible. Project related helicopter activities may include transportation of construction workers, delivery of equipment and materials to structure sites, structure placement, structure removal, hardware installation, marker ball installation (if applicable), and conductor and fiber optic cable stringing operations. SCE anticipates using multiple locations such as Potential Material Yard Locations as the helicopter land zones or helicopter staging yards.

The Project description includes Applicant Proposed Measures (APMs) to minimize environmental impacts.

Three alternatives were dismissed from evaluation:

- Randsburg Underground Alternative – This alternative would place the lines underground through the historic mining community of Randsburg to reduce the aesthetic impacts. The analysis does not identify a significant aesthetic impact in the Randsburg area from the Proposed Project. As a result, the alternative would not avoid any significant effects associated with the Proposed Project.
- Non-Wires Alternatives – This alternative would avoid the construction of the new line by using other energy management techniques such as distributed generation, energy storage,

energy efficiency, demand response, and grid software and controls, to defer or replace the need for specific equipment upgrades. This alternative would not remediate the existing discrepancies and would not meet project objectives.

- SCE Alternatives – SCE identified seven types of corrective actions for the individual line segments. These alternatives were dismissed from evaluation because they would either create more severe impacts than the Proposed Project or would not meet project objectives.

The CPUC identified the Proposed Project as the Environmentally Superior Alternative.

The Proposed Project would be located on lands controlled by the Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), Department of Defense (DOD), California State Lands Commission (CSLC), Los Angeles Department of Water and Power (LADWP), and private landowners.

The CPUC is lead agency under the California Environmental Quality Act (CEQA) and has prepared this DEIR. BLM is preparing a separate Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA).

Comments on the Proposed Project

We appreciate that the CPUC notified us of the availability of the DEIR and the public comment period.

In the description of the Project, it appears that SCE will not be using lattice towers. Rather, SCE will install only poles. These replacement structures should reduce the available nesting substrates for common ravens. This reduction in human-subsidized nesting substrates should help in reducing predation by breeding common ravens on the tortoise and other wildlife species (Boarman 2003).

Throughout much of the DEIR, we were unable to find the scientific references that support the descriptions and conclusions offered in the DEIR with respect to biological resources especially the tortoise. Without these scientific references that have been peer reviewed, the conclusions in the DEIR are unsupported and appear to be someone's opinion of the impacts and the resulting conclusions from implementation of the I-C Project. In the Final EIR we recommend that references from the scientific literature be added to support analysis and conclusions especially with respect to impacts and whether the described mitigation would reduce the level of impacts to less than significant.

Page ES-7, ES.4. Applicant Proposed Measures: "The Applicant proposes to implement Applicant Proposed Measures (APMs) to ensure that the Project would occur with minimal environmental impacts and in a manner consistent with applicable rules and regulations. These measures would be implemented during the design, construction, and operation of the Project."

In reviewing the description of the Proposed Project in the DEIR in the Executive Summary section, we presumed that SCE's application also included maintenance of the facilities approved for construction. Later in the DEIR there is a description of maintenance activities. For example,

on page 2-13 of the DEIR is the statement, "Construction and operation and maintenance crews would access the Proposed Project via a network of access roads." We were unable to find information or analysis in the Executive Summary section on APMs to ensure that the Project would occur with minimal environmental impacts during maintenance activities.

We request that a description of the maintenance activities, impacts to biological resources including the tortoise/tortoise habitat/critical habitat, and effective mitigation to offset these impacts should be included in the Executive Summary of the Final Environmental Impact Report (Final EIR).

Pages 1- and 1-9, Table 1-2. Permits that May Be Required for the I-C Project: Please add that authorization from the U.S. Fish and Wildlife Service (USFWS) would be needed through issuance of a biological opinion and conference opinion for all species listed or proposed for listing under the Federal Endangered Species Act (FESA) that may be adversely affected by the Proposed Project. Our request is based on BLM's need to authorize the Proposed Project and that the entire Project is a connected action that cannot be divided into segments based on land ownership/management. This would make the Project a federal action. Please update other relevant sections of the EIR with respect to this FESA authorization.

Page 2-15, 2.4.1.7. Erosion and Sediment Control and Pollution Prevention: This section mentions storm water runoff quality control measures (e.g., boundary protection, erosion and sediment controls, etc.). Please ensure that if any retention or detention facilities or other facilities for stormwater or erosion management are constructed, drainages lined, or maintenance/improvements made to existing structures, they should be designed and maintained so as not to inadvertently trap or drown tortoises. In addition, they should not provide a source of water for tortoise predators such as common ravens and coyotes. This unintended water subsidy would attract these predators to the area and increase the opportunities for them to prey on tortoises (Boarman 2003, Esque et al. 2010a) and would increase tortoise mortality in the area.

Page 2-12, 2.4.1.1. Material Yards: "Preparation of the material yard would include temporary perimeter fencing, and depending on existing ground conditions at the site, grubbing and/or minor grading may be required to provide a plane and dense surface for the application of gravel or crushed rock. Any land that may be disturbed at the material yard would be returned to preconstruction conditions . . ."

Several of the material yards appear to be located in tortoise habitat including designated critical habitat. We request that in the Final EIR, CPUC specify what is meant by "returned to preconstruction conditions." For example, for SCE and the CPUC to know what preconstruction conditions are, SCE would need to collect data at each proposed material yard on the physical and biological composition of soils, seed banks, and annual and perennial plant species abundance, diversity, and cover. Please provide information on what actions SCE would implement to demonstrate that material yards have been returned to preconstruction conditions after the construction phase is completed including science-based monitoring and adaptive management actions.

Page 2-25, Table 2-4, Summary of Estimated Ground Disturbance: CPUC estimates that 2,974.2 acres will be disturbed during construction, 124.0 acres will be restored, and 1,754.9 acres will be permanently disturbed. Of this acreage, for the construction of the subtransmission lines, 2,285.4 acres would be disturbed, 123.5 acres would be restored, and 1,614.7 would be permanently disturbed. Our math indicates that 547.2 acres are not accounted for in any category. If these 547 acres would be temporarily disturbed, they should be restored. While the CPUC may not have a requirement for this, BLM does under the Federal Land Policy and Management Act (FLPMA) that requires BLM " . . . to prevent unnecessary or undue degradation of the lands" that BLM manages. Please add information on what the status of these 547 acres would be during and following completion of the construction phase and restoration information.

Page 2-27, Table 2-8, Ground Disturbance for Access and Spur Roads: In this table, the CPUC indicates that there are 305.9 miles of existing access and spur roads and 2.7 miles of new spur roads. When converted to acres, this table indicates that 678.3 acres from use of access and spur roads will be disturbed during Project construction with 129.7 acres permanently disturbed. Our math indicates that 548.6 acres are not accounted for in any category. If these 548.6 acres would be temporarily disturbed, they should be restored. Please see our comments above under Page 2-25 for a statutory requirement of why this restoration of temporary roads/disturbance sites should be required as a minimum on BLM-managed lands. We recommend that this restoration be required on lands managed by other public agencies because habitat loss, degradation, and fragmentation are a primary cause of reduction in species abundance, and over time impact biodiversity.

Page 2-42, 2.5.1. Operations and Maintenance of Subtransmission Components: Road maintenance activities described in this section of the DEIR include "blading," "moving and establishing berms," "culvert repair," and "storm water diversion devices." "In some cases, new access is created to remove and replace an existing pole."

As mentioned above in our comments, depending on the size and design of these structures, they may trap or overturn tortoises resulting in mortality, or impede tortoise movements resulting in harm. Blading or creating new access may result in direct mortality or injury to tortoises. Consequently, it is important that SCE implement measures to avoid or minimize take during operations and maintenance activities, as well as during construction. Please ensure that effective mitigation is required to avoid take of the tortoise and all special-status species during all phases of the I-C Project.

Page 2-43, 2.6 Project Decommissioning: "SCE would prepare a removal and restoration plan. The removal and restoration plan would address removal of SCE's facilities from the permitted area, and any requirements for habitat restoration and revegetation. The removal and restoration plan would then be approved by the permitting agency before implementation."

We are confused by the phrase "requirements for habitat restoration and revegetation." We presume that habitat restoration includes revegetation. Restoration means "to bring back to an original or normal condition." Thus, requiring habitat restoration would mean to bring back the habitat to its original condition prior to disturbance which would include restoring surface hydrology; soils including soil crusts and arbuscular mycorrhizal fungi (AMF), seed banks, and

the species abundance, diversity, and cover of vegetation. If CPUC has a different definition of "restoration," this should be provided in the Final EIR.

Because the I-C Project will impact the habitats of federally and state listed species, CDFW and USFWS should be required to approve the decommissioning plan. Please ensure that these agencies are required to approve the decommissioning plan as a term and condition of any permit issued by CPUC for the Proposed Project.

Pages 2-51 to 2-52, Applicant Proposed Measures 2.8.4. Biological Resources, Burrowing Owl. Conduct surveys and avoidance for burrowing owl: "Burrowing owl surveys shall be conducted in accordance with the most current CDFW guidelines (CDFG, 2012; or updated guidelines as they become available)."

We appreciate that this wording includes the use for updated guidelines for the western burrowing owl (*Athene cunicularia*). Because this species was recently elevated to candidate status under CESA, which affords it full protection under this legislation until the Commission makes a final decision on its status, CDFW may have additional/new requirements for surveys and work conducted in burrowing owl habitat. In addition, the definition of "take" under CESA now applies to the burrowing owl rather than the definition under the Migratory Bird Treaty Act and California Fish and Game Codes. Because of its regulatory status, we appreciate that SCE will prepare "a draft Burrowing Owl Relocation Plan in consultation with CDFW and USFWS prior to the start of any ground-disturbing activities." We presume this relocation plan will be finalized so it will be implemented prior to the start of ground-disturbing activities in the range of the owl.

Pages 2-53 to 2-55, Applicant Proposed Measures 2.8.4. Biological Resources**,** Desert Tortoise: "Pre-construction Biological Clearance Surveys and Monitoring. Pre-construction surveys/Construction monitoring. Prior to initial ground-disturbing activities, a biological monitor under the supervision of a USFWS or CDFW approved biologist – with experience monitoring and handling desert tortoise – will conduct a pre-activity survey in all work areas within potential desert tortoise habitat, plus an approximately 100-foot buffer."

This description of the survey methods to be implemented does not appear to comply with the USFWS's "Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*) (USFWS 2019) and Desert Tortoise Field Manual (USFWS 2009). The DEIR does not appear to require implementing "Linear Project Surveys" or "Quantitative Surveys" as described in USFWS (2019). We include both survey methods because the factor determining which method to use is the width of the project, less than 600 meters wide. If an action alternative other than the Proposed Project is selected by the CPUC, the width of the Proposed Project including decommissioning the existing lines may be wider than 600 meters.

A description of the tortoise surveys conducted by the Applicant is provided on page 3.5-4, section 3.5 Biological Resources, Survey Protocols, Desert Tortoise Surveys. We suggest referencing this section on Protocol Surveys in the section on Applicant Proposed Measures to explain that additional surveys have been completed and when they occurred.

We were unable to find a description of the environmental conditions (e.g., ambient temperature, etc.) under which tortoises would be moved from the ROW and released or the monitoring of the

tortoises that would occur after they are moved and released (i.e., a translocation or relocation plan). We are unsure why a relocation plan will be prepared for Mohave ground squirrels (*Xerospermophilus mohavensis*) and burrowing owls but not for tortoises. Because tortoises have a strong homing ability (Berry 1986) and site and burrow fidelity (UDWR 2024), we expect that moving them during the active season would result in them returning to/near their previous location, which may occur during Project construction. For example, if moved during the cooler inactive season, SCE should be required to place each tortoise in a suitable burrow and monitor it for a specified duration to ensure that each tortoise has accepted its new burrow and will remain there. A similar requirement should be made during the inactive hot season with the additional requirement of hydrating tortoises before being released. We strongly suggest that SCE be required to coordinate with CDFW and USFWS's Desert Tortoise Recovery Office in the development of this tortoise relocation plan, that these agencies are required to approve this plan, and that SCE be required to implement the plan. We recommend using the USFWS's "Translocation of Mojave Desert Tortoises from Project Sites: Plan Development Guidance" (USFWS 2020) as guidance in the development of this plan and "U.S. Fish and Wildlife Service Guidance on the Proactive Hydration of Mojave Desert Tortoises" (USFWS 2022) on how to hydrate tortoises. We support monitoring of tortoises after they have been moved, especially during the inactive seasons to ensure that tortoises remain in their new burrows and are not vulnerable to mortality from predation or thermal extremes.

Cover Materials: We appreciate that requirements for auger holes, trenches, pits and other steep-sided excavations will be either constructed with escape ramps (earthen or wooden) or securely covered when unattended to prevent entrapping animals, and they will be inspected twice a day for trapped animals. However, we were unable to find a requirement for the tortoise that all pipes, poles, or other similar construction materials or supplies positioned horizontally/stored shall be covered or capped in storage or laydown areas to prevent entrapping tortoises, including when placed in trenches. We found a similar requirement for Mohave ground squirrel but not for the tortoise. Please add this requirement and actions that would be implemented if a tortoise is found in these materials.

"Wildlife Attractants. All trash, food waste, water sources will be strictly controlled and monitored to ensure that no food or water attractants for tortoise or common raven are available on the work sites during or following project activities."

Please add food to the list of wildlife attractants. Common ravens have been observed to enter vehicles with open windows at project sites to search for and consume food that is not in a raven-proof container. Coyotes and free-roaming dogs should be added to the list of species that are predators of the tortoise and for which food, trash, food waste, and water sources will be secured so they are not accessible by these species during construction, operations and maintenance, and decommissioning activities.

Page 2-56, Applicant Proposed Measures 2.8.4. Biological Resources, Mohave Ground Squirrel: "Upon project completion, SCE will submit to the BLM a report containing at a minimum: locations for occurrences of Mohave ground squirrel (MGS), locations of relocated MGS, and occurrence details (number of individuals, age, etc.)."

Please add CDFW to the list of agencies that SCE will submit this report on the Mohave ground squirrel and Naval Air Weapons Station – China Lake for Mohave ground squirrels located near that facility. A similar requirement should be made of SCE for the tortoise with the report submitted to CDFW, USFWS, BLM, and to Naval Air Weapons Station – China Lake for tortoises located near that facility.

Page 2-58 to 2-59, Applicant Proposed Measures, 2.8.4. Biological Resources, Develop and Implement Habitat Restoration Plan (HRP): "Temporary impacts to regulated species' habitats, plant species, and vegetation communities shall be restored or revegetated" and "the goal of the HRP will be to restore plant species, habitat values, or vegetation communities."

Please see our comments above on "page 2-43, 2.6 Project Decommissioning" regarding our confusion in using "restored or revegetated." If a site has been altered such that the physical properties of the soil (e.g., top soil has been removed, compaction has occurred, wind or water erosion has occurred, surface hydrology has been changed) or biological properties of the soil (e.g., degradation or loss of soil crusts (Belnap et al. 2008), degradation or loss of AMF (Titus et al. 2002) has been degraded or destroyed from Project activities, revegetation is not likely to be successful. Consequently, whenever surface disturbance is part of a project in the desert, restoration of soil and hydrology is necessary to have successful revegetation of vascular plants.

Please apply this information and clarify the use of the appropriate term when discussing a habitat restoration plan, which we believe should be "restored," not "revegetated."

For a construction project or a project that results in new or recent surface disturbance, the goal should be to restore habitat values for the identified species and vegetation community, not restore plant species or vegetation communities. Focusing only on the vegetative component of the natural environment ignores the connected relationships between the biotic and abiotic components of the environment (i.e., surface hydrology, soils, and vegetation) in providing habitat values. Anything else would result in partial restoration of habitat values at best.

"The HRP will be submitted to CPUC and BLM for review and approval prior to the start of construction." We strongly recommend that CDFW and USFWS, including the Desert Tortoise Recovery Office, review and approve the HRP prior to the start of construction. These agencies will be issuing authorizations for several species and their habitats that will be adversely affected by the Proposed Project. USFWS's mission is to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people, and as the agency overseeing the implementation of the FESA, they are directed to conserve the ecosystems upon which endangered species and threatened species depend. CDFW's mission is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. Neither CPUC nor BLM have mission statement focused on management of biological resources.

Quantitative restoration success criteria: Please see our comments above on "page 2-12, 2.4.1.1. Material Yards and page 2-43, 2.6 Project Decommissioning." Quantitative success criteria will likely vary by the species and vegetation communities. For example, the success criteria may be greater in tortoise critical habitat, Tortoise Conservation Areas, and linkage habitats than other tortoise habitat. As previously mentioned, on BLM lands, BLM is charged

with preventing “unnecessary or undue degradation of the lands” under FLPMA. Consequently, the success criteria for habitat restoration would be high for these areas and on BLM lands. When the quantitative vegetation success criteria are developed they should be supported by information from laws, regulations, policies, and the scientific literature. Success criteria should not be arbitrary or appear to be arbitrary.

To improve the success of restoration, we recommend using the latest information from the scientific literature regarding methods to restore soil crusts (e.g., Chiquoine et al. 2016) and AMF (Titus et al. 2002, Clark et al. 2009, Hernandez et al. 2023, Chavez-Gonzalez 2024), seed banks (DeFalco et al. 2012, Lee et al. 2024), and seeding and outplantings (Abella et al. 2012, Abella and Berry 2016, Abella et al. 2023).

“Monitoring of the restoration sites will continue annually for up to five (5) years or the defined success criteria are achieved.” Depending on the methods implemented, the success of restoration would likely be low if the methods implemented to prepare the soil and surface and the methods of planting and maintenance do not follow the best available information in the scientific literature. SCE should not be released from its restoration obligation after 5 years of restoration efforts because they chose to not implement methods that have proven to have a high rate of success. SCE should be required to monitor success criteria and implement adaptive management until quantitative success criteria are achieved regardless of the time.

“SCE will provide annual reports to the CPUC and BLM.” As mentioned in our earlier comments in which we recommended that CDFW and USFWS review and approve the HRP prior to the start of construction, SCE should provide annual reports to these two agencies for their review, and an annual coordination meeting should occur between these agencies and SCE to determine whether changes should be made to the HRP to improve its implementation success.

We appreciate that a HRP will be developed and implemented. However, we are concerned about the practice of listing in the DEIR the mitigation plans that will be developed (e.g., Habitat Restoration Plan, Invasive Species Plan), but not provided these draft plans for public review in the DEIR. CPUC should include in the DEIR the draft mitigation plans so the public and the decisionmaker can review them and determine the effectiveness of the proposed mitigation. Stating that a mitigation plan will be developed and providing a general outline of its content, even when stating that “the best available science” will be used in their development is not adequate or appropriate, because the preparers are not always experts on the best available science for that specific issue/action. When mitigation plans are included in the public review process, this provides the public with the opportunity to provide comments based on their diverse knowledge and experience regarding the adequacy and soundness of the proposed mitigation plans. This public review process increases the likelihood that the mitigation plans when reviewed and finalized will be effective when implemented.

In addition, the mitigation plans should be included in the Final EIR so the decisionmaker can review them and determine the effectiveness of the proposed mitigation prior to signing the decision document and issuing authorization for the Project. Absent this information, the decisionmaker has no information on whether the mitigation plans will effectively offset the impacts to a level less than significant as concluded in the CEQA document.

Pages 2-59 to 2-62, Applicant Proposed Measures, Invasive Plant Management Plan: SCE will prepare and implement an invasive plant management plan [IPMP] that "shall include measures designed to avoid the introduction and spread of new nonnative invasive plant species (invasive plants) and minimize the spread of existing invasive plants resulting from project activities."

The IPMP should not "minimize the spread of existing invasive plants." This requirement allows for an undetermined expansion of the areal extent and/or density of nonnative invasive plants over time. We presume that because the existing transmission lines were installed from several decades to more than 100 years ago, the upgraded transmission lines would operate for a similar duration and implementation of the IPMP would continue during this time under SCE's operations and maintenance phase. During several decades, simply minimizing the spread of invasive plant species would result in an increase in their diversity, abundance, and distribution along with the myriad of adverse impacts associated with them including reduction in native biodiversity (California Biodiversity Initiative and Executive Orders https://www.californiabiodiversityinitiative.org/) and wildfires. If SCE desires to minimize the occurrence and spread of wildfires as they reported in the DEIR, SCE should prevent the abundance and spread of these plants within the Project site. We request that the objective of the IPMP be revised to reduce the abundance and halt the spread of invasive plants within the Project site.

Specific wording in the DEIR limits SCE's actions to minimize "the spread of existing invasive plants resulting from project activities." We ask how SCE or the regulatory agencies show they would determine whether the spread of existing invasive plants was the result of project activities or other activities. To address this issue, we strongly recommend that the spur and access roads associated with the Proposed Project be closed to all uses except those of SCE, its contractors, and emergency needs. Closing these roads and enforcing the closure would clarify that if there is an increase in the abundance or spread of invasive plants in the Project site, the cause would be activities associated with SCE rather than other activities.

Besides limiting vehicle access and surface disturbance to authorized Project activities, it would reduce direct take of the tortoise and other special-status species as well as the numerous indirect impacts associated with road creation, maintenance, and use (aka "road effect zone") for tortoises and other wildlife species.

"The IPMP also must meet BLM's requirements for NEPA disclosure and analysis if herbicide use is proposed for the project. The IPMP shall be submitted to the CPUC and BLM for review and approval prior to the start of construction."

The IPMP needs to meet requirements in addition to NEPA. Because the Proposed Project is located on lands occupied by species listed under FESA and CESA, USFWS and CDFW would need to conduct an ecological risk assessment or analysis of the impacts of the use of the identified herbicides on the Project site. Such analysis would be part of the process of obtaining a biological/conference opinion from USFWS and a section 2081 incidental take permit (ITP) from CDFW. After the biological/conference opinion and ITP are issued, if species occurring the Project area are listed or proposed for listing under FESA, or listed become candidate species under CESA, SCE would need to ensure that the process to reinitiate authorizations under FESA and CESA are implemented and completed before newly identified herbicides may be used. In

the Final EIR please add that authorizations from these agencies are needed prior to the use of herbicides.

“For the purpose of the IPMP, invasive plants shall include plants that (1) are invasive and rated high or moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006), or (2) aid and promote the spread of wildfires (such as *Bromus tectorum* (cheatgrass), *Brassica tournefortii* (Sahara mustard), and *Bromus madritensis* spp. *rubens* (red brome)) or (3) identified by BLM as special concern. The IPMP will be implemented throughout project pre-construction, construction, and restoration phases.”

Please modify this wording to include the most recent version of the California Invasive Plant Inventory Database that is available on their website, and add "Watch" plants that according to Cal-IPC are” a high risk of becoming invasive in the future.” The best method to halting invasive plants species is to remove them from an area before they become established as invasives (Rogstad et al. 2009). Including Watch plants in the IPMP would be a way to implement this best method to halting invasive plant species.

“Control. The IPMP must specify manual and chemical invasive plant control methods to be employed.”

We are concerned that the IPMP is limiting the control methods to traditional uses and is not considering new technologies (e.g., directed energy) that have been developed and are used on ROW in other parts of the country or may be developed in the future. Using directed energy has several advantages over using herbicides including targeting only the plants it is pointed at (e.g., no herbicide drift to downwind locations), no requirement to use a licensed applicator, no half-life or breakdown concerns, no concerns about acute or chronic impacts (i.e., mortality or disease) to animal species. We recommend modifying the wording so the IPMP would allow the use of other effective methods such as directed energy to control invasive plants.

Pages 2-63 to 2-65, Applicant Proposed Measures, Special-status Perennial Plants and Other Species: In this section we were unable to find information on how SCE would comply with the Western Joshua Tree Conservation Act. Please include this information in the Final EIR including obtaining a permit from the CDFW.

Page 2-69 Noise, Applicant Proposed Measures, Implement Best Management Practices for Construction Noise: “SCE will employ the following noise-control techniques, at a minimum, to reduce construction noise exposure at noise-sensitive receptors during construction.” The measures listed address impacts of noise to people.

The DEIR should include an analysis of the impacts of noise to special-status species in addition to people, birds, and bats. For example, tortoises have well-developed inner ears and respond to ground vibrations (Miles 1953). Vibrational and noise stimuli from motorized vehicles and construction equipment adversely affect tortoises (Ruby et al. 1994). Noise and vibrations have a potentially significant effects on the desert tortoise's behavior, communication, and hearing. Noise generated by heavy equipment during construction causes defensive behaviors by tortoises of stopping movement and withdrawing into their shells (Ruby et al. 1994). Noise from construction increases stress levels in tortoises and prevents them from hearing approaching

terrestrial predators (Bowles et al. 1999). Thus, the noise from a nearby construction site or road could result in higher predator mortality of tortoises nearby.

Page 3.5-4, section 3.5 Biological Resources, Survey Protocols, Desert Tortoise Surveys: "Protocol-level desert tortoise surveys were performed in the project area between May 8 and 12,

2017. Protocol-level desert tortoise surveys were performed in suitable habitat. Surveys followed methodology described in the Pre-project Field Survey Protocol (USFWS, 2010), with a slight modification: with USFWS agreement, additional belt transects beyond the survey area were limited to a single 60-foot transect beyond the survey area perimeter."

We have concerns about using pre-project surveys that were implemented 9 years ago when the locations of alternatives to the Proposed Project had not been identified. These concerns include changes in areas used by tortoises/locations of tortoise sign depending on whether surveys occurred in drought years or above average rainfall years, having inadequate information to analyze the impacts of the Fossil Falls Realignment Alternative to the tortoise/tortoise habitat, because this alternative was not identified at the time the tortoise surveys were implemented.

In addition, we were unable to find information on the number of authorized biologists and monitors that were used to conduct protocol surveys for the tortoise along the southern portion of Segment 1, and Segments 2, 3N, and 3S. These segments occur in the range of the tortoise. Much of the routes for the Proposed Project and Fossil Falls Realignment Alternative occur in habitat that the tortoise likely occupies/uses as linkage habitat. The concern about the number of authorized biologists and monitors used during these 5 days was elevated when we learned from reviewing the DEIR that during this same time surveys were conducted for the Mohave ground squirrel, and burrowing owl as part of the general sensitive wildlife surveys. We remind SCE, USFWS, and CDFW that when the methodology for protocol level surveys for the tortoise was developed, the statistical data used were the results of the abilities of numerous skilled surveyors to see tortoises when focused only on that mission and search image – to find tortoises (USFWS 2009). The tortoise survey protocols were not developed when surveyors were conducting specific protocol level surveys for other species and general wildlife surveys simultaneously. Combining surveys has the potential the surveyors to miss animals and sign that is present and underestimate their presence (and estimated amount of take) and locations where they occur.

We request that the Final EIR explain how these 9-year-old transects that appear to have been conducted at the same time and possibly by the same people as protocol surveys for two other species and general wildlife surveys are considered adequate to determine (1) the extent of adverse impacts to the tortoise/tortoise habitat and (2) the level of incidental take for the tortoise that the USFWS needs to analyze the effects of the I-C Project, the impacts of the taking, and the appropriate amount of incidental take to authorize in their biological opinion. The same request is made in providing for the needs of CDFW in their analysis and issuance of an ITP.

Page 3.5-12, Section 3.5.1. Environmental Setting, Special-status Wildlife Species, Desert Tortoise: "Desert tortoises are listed as threatened under both CESA and the federal Endangered Species Acts (ESA)." Please update this information to show that the Mojave desert tortoise was uplisted to endangered under CESA on July 15, 2025.

Page 3.5-14, Section 3.5.1. Environmental Setting, Special-status Wildlife Species, Monarch Butterfly: "The monarch butterfly is a candidate for federal listing under the ESA. While ESA candidate species have no legal protection (USFWS and NMFS, 1998), they may be present in the Project area."

On December 12, 2024, USFWS published a proposed rule to list the Monarch butterfly (*Danaus plexippus*) as a threatened species and designate critical habitat under the FESA. In the Environmental Setting, Special-status Wildlife Species section of the Final EIR and other relevant sections of the Final EIR, please update the information on the Monarch butterfly to include its status as proposed threatened and FESA's requirements under Section 7(a)(2) to confer with the USFWS on the proposed threatened Monarch butterfly.

Page 3.5-15, Section 3.5.1. Environmental Setting, Special-status Wildlife Species, LeConte's thrasher: "Le Conte's Thrasher. Le Conte's thrashers are a California species of special concern."

During the April 22, 2026 California Fish and Game Commission meeting, the LeConte's thrasher was named a "California Endangered Species Act candidate species and will undergo a one-year species status review" (https://wildlife.ca.gov/News/Archive/california-fish-and-game-commission-increases-bear-harvest-limit-to-2-hears-recommendations-on-mpa-petitions). As a candidate for potential listing, this species is temporarily afforded the same protections as a state-listed endangered or threatened species under CESA. Please revise the information on the regulatory status of this species in the Final EIR in all appropriate sections.

Page 3.5-21 to 3.5-26, Section 3.5.1.6. Environmental Setting by Segment, Wildlife Migration Corridors: The word "migration" has a distinct definition and does not apply to all animals. However, all animals move, and movement between populations, especially small populations, is essential for their long-term survival because of genetic and demographic stochastic effects. We suggest that this section be renamed "Wildlife Movement Habitats" or "Linkage Habitats" as this includes the occasional long-term movements as well as seasonal movements between populations. In addition, we suggest that "corridor" not be used because non-ecologists (and the decisionmaker is likely a non-ecologist) perceive a wildlife corridor as a narrow strip of habitat such as a wash. This term is not appropriate for use with many species such as the tortoise. Individual tortoises have been observed to move tens of kilometers in one season. These movements have been observed in large, open areas rather than a long (for example, tens of kilometers), narrow strip of habitat a few meters—or even a few hundred meters—wide (Averill-Murray et al. 2021) Regarding connectivity of Mojave desert tortoise populations and linkage habitat, Averill-Murray et al (2021) emphasized that "[m]aintaining an ecological network for the Mojave desert tortoise, with a system of core habitats (TCAs = Tortoise Conservation Areas) connected by linkages, is necessary to support demographically viable populations and long-term gene flow within and between TCAs."

"[H]abitat linkages among TCAs must be wide enough to sustain multiple home ranges or local clusters of resident tortoises (Beier and others, 2008; Morafka, 1994), while accounting for edge effects, in order to sustain regional tortoise populations." Consequently, effective linkage habitats are not long narrow corridors. Any development within them has an edge effect (i.e., indirect impact) that extends from all sides into the linkage habitat further narrowing or impeding the use of the linkage habitat, depending on the extent of the edge effect.

Averill-Murray et al. (2021) further notes that to help maintain tortoise inhabitance and permeability across all other non-conservation-designated tortoise habitat, all surface disturbance should be limited to less than 5-percent development per square kilometer because "the 5-percent threshold for development is the point at which tortoise occupation drops precipitously" (Carter et al. 2020). They caution that the upper threshold of 5 percent development per square kilometer may not maintain population sizes needed for demographic or functional connectivity; therefore, development thresholds should be lower than 5 percent. This low amount of development in tortoise linkage habitat is necessary because "[l]ow-mobility species, such as the desert tortoise, are considered "corridor dwellers" that may spend their entire life within corridors (Beier and Loe, 1992). In effect, low mobility of the species means that interconnected local populations of tortoises must persist across the landscape to ensure overall species persistence."

Large, connected landscapes also are necessary to facilitate natural range shifts of the tortoise in response to climate change (Averill-Murray et al. 2021). We presume that the I-C Project will likely be a long-term project (i.e., the Proposed Project is replacing transmission lines constructed more than 100 years ago). The impacts of climate change to the tortoise including its future distribution and likely response when encountering existing and proposed development projects such as the Proposed Project should be analyzed in the Final EIR.

For the Mohave ground squirrel, Esque et al. (2013) identified habitat connectivity needs for this species and modeled habitat availability in 2030 and 2080. This information should be used when analyzing the impacts of the I-C Project on the future survival of the Mohave ground squirrel and its ability to respond to climate change by moving north.

Page 3.5-27, section 3.5.2.1. Federal Regulations, Policies and Standards, Federal Endangered Species Act: "The Endangered Species Act (ESA) (16 USC 1531 et seq.) establishes legal requirements for the conservation of endangered and threatened species and the ecosystems upon which they depend."

This section describes sections 9 and 10 of FESA, the latter with respect to incidental take of a listed species. However, section 7, Interagency Cooperation, is not mentioned. Because much of the Proposed Project will occur on lands managed by federal agencies and these agencies must authorize the Project, section 7 of FESA would be the section of FESA that would apply to this Project. Please add information to the Final EIR on section 7(a)(1):

> "Federal agencies shall, in consultation with and with the assistance of the Secretary [now delegated to the USFWS], utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act."

and section 7(a)(2) of FESA:

> "Each Federal agency shall, in consultation with and with the assistance of the Secretary [now delegated to the USFWS], insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species."

Pages 3.5-27 to 3.5-38, section 3.5.2.1. Federal Regulations, Policies and Standards: Please add the Federal Land Policy and Management Act to this list of federal laws that apply to the I-C Project. Much of the route of the I-C Project is on federal lands administered by the BLM.

Page 3.5-30, section 3.5.2.2. State Regulations, Policies and Standards, Fully Protected Designations – California Fish and Game Code Sections 3511, 4700, 5515, and 5050: Regarding fully protected designations and take – the California legislature passed SB 147, which was approved by the governor on July 10, 2023. Among other things this law prohibits the taking of an endangered or threatened species, except in certain situations. This bill would, until December 31, 2033, authorize the CDFW to issue a permit under CESA that would authorize the take of a fully protected species resulting from impacts attributable to the implementation of specified projects if certain conditions are satisfied, including, among others, the conditions required for the issuance of an incidental take permit. Please update this section in the Final EIR with this information.

Please add the Western Joshua Tree Conservation Act of 2023 to this section of the Final EIR and its requirements.

In addition, in 2021 the U.S. District Court Central District of California ordered the USFWS to set aside the USFWS's 12-month finding that listing the Joshua tree under the FESA was not warranted as arbitrary, capricious, and contrary to the FESA, and remanded to the USFWS for reconsideration of its decision. If the species is listed under FESA after the CPUC issues its permit, SCE may need to halt their actions on federally managed lands until section 7 consultation with the USFWS is completed. Please add this information on the regulatory status of the Joshua tree and applicable mitigation to the Final EIR.

Page 3.5-36, section 3.5.3.2. Impact Significance Criteria, Significance Criteria: CPUC lists eight significance criteria. Two apply [Impact BIO-1 and Impact BIO-4] to the tortoise/tortoise habitat.

In the section on "Mandatory Findings of Significance," two of the three questions in the CEQA Handbook are applicable to the tortoise. They are:

- Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

and

- Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?

While the CPUC determined that the I-C Project would have a significant impact on the environment, the Impact Significance Criteria that the CPUC selected [Impact BIO-1 and Impact BIO-4, see below] do not appear to include all indirect impacts, impacts on the quality of the

environment, or reducing a population to a level below that of self-sustaining. Rather the CPUC's Impact Significance Criteria are limited to:

- Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, and
- Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

We request that the Impact Significance Criteria identified and used in determining the mitigation that will be implemented include all indirect impacts, impacts on the quality of the environment, and reducing a population to a level below that of self-sustaining. We request that these expanded Criteria are applied and analyzed for cumulative impacts to the tortoise and other special-status species. After this is completed the CPUC should develop and implement appropriate science-supported mitigation to fully offset these impacts for the tortoise, Mohave ground squirrel, and other species listed or protected under CESA. Fully offsetting these impacts (i.e., fully mitigate) would also comply with issuance criteria for a section 2081 ITP under CESA. We request that this information and analysis be added to the Final EIR.

To assist the CPUC in analyzing the impacts to tortoise populations from the construction, operations, maintenance, and decommissioning of the I-C Project and developing effective mitigation to fully offset the impacts, we are attaching "Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including Tortoises in the Western Mojave Recovery Unit." The I-C Project is in the Western Mojave Recovery Unit and crosses the Fremont-Kramer TCA and Superior-Cronese TCA. Tortoise populations in these TCAs and this Recovery Unit are below the density needed for population viability (Allison and McLuckie 2018), and the density of tortoises continues to decline in the Western Mojave Recovery Unit (USFWS 2025). The adult tortoise population declined by about 50 percent and the number of juvenile tortoises declined by 91 percent between 2004 and 2014 (Allison and McLuckie 2018). This downward trend continues (USFWS 2025). Also, the tortoise cannot achieve recovery under FESA unless it achieves recovery in all five recovery units including the Western Mojave Recovery Unit in California (USFWS 2011). This includes having viable populations in all five recovery units across four states. Although we are not aware of a recovery plan for the tortoise prepared by CDFW, we presume the requirements for recovery under CESA would be similar.

Desert tortoise populations face multiple threats (USFWS 2011). The action of one threat can influence the degree to which another threat is expressed (Tracy et al. 2004). Because threats to the tortoise are simultaneous, the degree to which a particular threat is expressed is partly a function of other active threats. The interaction of threats need not be simply additive. They can be synergistic (Tracy et al. 2004). In other words, the combined application of two or more threats may cause an overall effect or impact that is greater than the sum of each threat individually.

Multiple threats can also act synergistically. The deleterious effects or impacts of a given threat are substantially magnified when another threat is simultaneously acting (Tracy et al. 2004).

CEQA defines cumulative impact as "[i]mpacts resulting from the proposed Project when combined with similar effects of other past, present, and reasonably foreseeable future projects, regardless of which agency or person undertakes such projects" (cumulative impacts could result from individually insignificant but collectively significant actions taking place over time). When analyzing cumulative impacts of a project, the impact analysis would be additive over time. When analyzing the interactive and synergistic impacts of a project, the impact analysis would include simultaneous impacts at a magnitude greater than cumulative.

The purpose of CEQA includes (1) informing government decision makers and the public about the potential environmental effects of proposed activities; (2) identifying the ways that environmental damage can be avoided or significantly reduced; and (3) preventing significant, avoidable environmental damage by requiring changes in projects, either by the adoption of alternatives or imposition of mitigation measures. Failure to recognize and analyze interactive and synergistic impacts on resource issues means that the purpose of CEQA would not be met.

It is unclear whether CEQA identifies the interactive and synergistic impacts as requirements for analysis. If CEQA analysis does not include interactive and synergistic impacts, then a substantial level of impacts greater than cumulative impacts from the I-C Project and other projects will be ignored, ineffective mitigation will be implemented because it does not address these impacts, and ultimately for biological resources, a loss of biodiversity will occur.

We request that in the Final EIR, the CPUC include an analysis of the interactive and synergistic impacts to the tortoise and other special-status species, develop effective science-based mitigation, monitoring, and adaptive management to offset these impacts, and demonstrate that the identified mitigation would reduce these impacts to a less than significant level.

Beginning on page 3.5-37, 3.5.3.3. Impacts and Mitigation Measures: The DEIR provides descriptions of general impacts to the resource issues identified. Because our mission is to work toward the long-term conservation of desert tortoises in the wild, our review of the DEIR is focused on the description of direct, indirect, and cumulative impacts and an analysis of these impacts on the survival and recovery of the tortoise. We were unable to find this analysis of impacts to the tortoise/tortoise habitat including linkage habitat required for population connectivity and long-term survival in response to climate change. Other analyses of impacts that we were unable to find in the DEIR for the I-C Project with its surface disturbance, creation/use/maintenance of roads, and human access include:

- increased raven and coyote predation from subsidized food (road-kill, and exposure of fossorial/subfossorial animals during surface disturbance (Kristan and Boarman 2003, Esque et al. 2010a, Kristan et al. 2004, Holcomb et al. 2021, Deming 2024);
- increased human access to collect tortoises (Berry et al. 1996, USFWS 2011);
- increased noise levels that impact tortoise behavior and increase susceptibility to predation (Miles 1953, Ruby et al. 1994, Bowles et al. 1999, Gagno 2022);
- increased outbreaks of disease with reduced reproduction and increased mortality (Homer et al. 1998);
- increased nitrogen deposition from vehicles that promotes the growth of non-native invasive plants and other road effect zone impacts in nearby lands (Brooks and Pyke 2001, Rao et al. 2009, Esque et al. 2010b, Fenn et al. 2010, Fenn et al. 2018, Syphard et al. 2017);

- reduced availability of nutritious native herbaceous forage needed by all size classes of tortoises for growth and reproduction on nearby lands (Oftedal 2002, Drake et al. 2016);
- fragmentation of tortoise habitat and reduction/loss of population connectivity from the edge effects from development (Averill-Murray et al. 2021);
- road densities above which tortoises populations are unable to survive (Averill-Murray and Allison 2023);
- increased fuel load by non-native invasive plants in spaces between woody shrubs that carry wildfire (Brooks et al. 2004);
- increased human sources of wildfire (e.g., vehicles, etc.) (Brooks and Matchett 2006);
- increased size, frequency, and intensity of wildfires (Brooks et al. 2004); and
- recurring wildfires that result in vegetation type conversion from native shrubs and herbaceous plants to annual grasses (Brooks, 1999; Brooks and Esque, 2002; Brooks et al. 2004, Brooks and Matchett, 2006); and
- extent of the edge effect (i.e., indirect impact) that extends beyond the boundary of the I-C Project and into adjacent habitat including linkage habitat.

Any development within tortoise habitat or adjacent to/near tortoises has an edge effect (i.e., indirect impact) that extends beyond the boundary of the development and into adjacent habitat including linkage habitat. This edge effect narrows or impedes the use/effectiveness of tortoise habitat including linkage habitat needed to connect tortoise populations depending on the extent of the edge effect (Averill-Murray et al. 2021).

Please ensure that the EIR includes an analysis of these impacts to the tortoise/tortoise habitat including the areal extent of the impacts and the mitigation that would be implemented to effectively offset these impacts.

The analysis of impacts to the tortoise and other special-status species should include the temporal loss of the habitat's structure, functions, and values from construction, operation and maintenance, and decommissioning activities. Because replacing the lost vegetation from implementation of these activities would take years or decades, this is a temporal loss of habitat function for these species. The Applicant should be required to mitigate this temporal loss through additional compensation implemented as off-site mitigation. Please determine the extent of this temporal loss and calculate the additional compensation that would be needed to replace this loss. We request that this analysis and calculations be included in the Final EIR.

Several papers in the scientific literature identify the density of all roads (paved and off-highway vehicle routes) as a major threat to the survival and recovery of the tortoise (Berry et al. 2014, Tuma et al. 2016, Averill-Murray and Allison 2023). Averill-Murray and Allison (2023) reported that for road densities, including all linear features used for travel (including ROWs), managers should "apply a maximum road density of 0.6 km/km^2 to areas predominately containing lower-probability habitat for the tortoise, and for areas "managed for tortoise conservation" (i.e., TCAs and linkage habitats) "further reduce road densities in higher-probability habitats."

The Fremont-Kramer and Superior-Cronese TCAs, which the I-C Project crosses, had a road density of 1.57 km/km^2 and 0.79 km/km^2, respectively in 2014 (Averill-Murray and Allison 2023). Thus, more than a decade ago the road density in the Fremont-Kramer TCA had more than twice the road density that should occur in a TCA, and the Superior-Cronese TCA 25% higher

road density than should occur. It is likely that the road density in both these TCAs has increased since 2014. With implementation of the Proposed Project, SCE would be adding roads and increasing the road density in the Fremont-Kramer and Superior-Cronese TCAs.

To respond to climate change, tortoises will need intact habitat located north of current habitat. As mentioned in the DEIR, topography limits this northern movement to a confined area on the east side of the Sierra Nevada. CPUC should analyze and report in the EIR the density of roads in this area to determine existing road densities and whether these densities are greater or less than those needed by tortoises for persistence. If greater than either with the implementation of the I-C Project, CPUC should require effective mitigation to reduce the road densities in this area.

In the Final EIR CPUC should develop and implement effective mitigation to offset the impacts to tortoise survival from increased road densities caused by the Proposed Project in the TCAs. For the area north of Fremont-Kramer TCA, if the road density analysis indicates densities are too high, the CPUC should develop and implement effective mitigation for this area to reduce the road density.

Page 3.5-38, section 3.5.3.3. Impacts and Mitigation Measures, Vegetation and Habitat, Construction: "The loss and modification of native desert shrubland vegetation and habitat as a result of project construction could significantly affect special-status species on the project site or in the vicinity. Implementation of the following APMs, which were developed as part of the Project, would address impacts related to vegetation and habitat loss."

We found a general description of what the loss and modification to habitat may be, but we were unable to find information on how that loss would impact special-status species (e.g., tortoise). Next we found CPUC's solution to offset these impacts is to develop and implement a Habitat Restoration Plan, develop an Invasive Plant Management Plan, and prepare a Hazardous Materials and Waste Management Plan. These plans were not provided in the DEIR. In an earlier section of the DEIR a general outline was provided of what would be included in these plans. Please see our comments above on "page 2-58 to 2-59, Applicant Proposed Measures, 2.8.4. Biological Resources, Develop and Implement Habitat Restoration Plan (HRP)," and "pages 2-59 to 2-62, Applicant Proposed Measures, Invasive Plant Management Plan" regarding our issues with not providing mitigation plans for review during the public comment period.

SCE should be required to contribute to the National Fish and Wildlife Foundation's Raven Management Fund for regional and cumulative impacts. The amount should be determined following the formula provided by USFWS (2010) including the addition of the annual inflation rate that has occurred for each of the 16 years since the formula and Fund were implemented.

Page 5-14 to 5-15, section 5.3.5.2 Cumulative Effects of the Proposed Project, Biological Resources, Cumulative Analysis: This section of the DEIR describes the general types of impacts that are likely to occur to special-status species (e.g., Proposed Project has "the potential to disturb, modify, or remove habitat during ground disturbing activities. Ground disturbance may

result in trimming, cutting, crushing, burying or uprooting vegetation, damaging roots, or disturbing the existing seed bank of native habitats."). "The Proposed Project incorporates a number of APMs into the project design to minimize and avoid impacts to habitat and special-

status species" and concludes that "mitigation measures . . . "would reduce significant impacts to less than significant levels."

We were unable to find in the DEIR an ***analysis*** (emphasis added) of the cumulative impacts to the tortoise and other special-status species. We found a narrative describing the general types of impacts to species. Describing the types of impacts is not an analysis of how these impacts are likely to affect the survival and recovery of the special-status species (i.e., Mojave desert tortoise, Mohave ground squirrel, etc.) including their habitat needs. For example, the Proposed Project will create new roads, improve existing roads, and these roads will be used by SCE and their contractors for construction and maintenance. Until CPUC conducts this analysis, it is not possible to develop effective science-supported mitigation to offset the impacts. Until this mitigation (i.e., each mitigation plan) is developed and supported with scientific analysis/references, it is not possible to conclude that the implementation of the mitigation (which has yet to be developed) is likely to reduce the impacts of the Proposed Project to less than significant.

For example, a cumulative impact not analyzed in the DEIR is the effect of roads and road use on the tortoise and its habitat. "Roads and transmission lines have long narrow linear footprints that are often more evenly and widely distributed across landscapes. As a result, the influence of roads and transmission lines is likely to far exceed their surface footprint and these as well as railroads have the potential to impact long-term connectivity and genetics" of tortoise populations (Carter et al. 2020).

In the DEIR, we found no information that the CPUC analyzed the extent of the numerous cumulative impacts to tortoise populations and habitat, the effectiveness of the mitigation plan to be developed, and an accounting that implementation of these plans would offset these impacts to a level that is less than significant. Because of the absence of this information, CPUC cannot conclude that the proposed mitigation will effectively offset the impacts to a level less than significant.

Please see our comments above under "page 3.5-36, section 3.5.3.2. Impact Significance Criteria, Significance Criteria" regarding interactive and synergistic impacts that should be analyzed in addition to cumulative impacts.

We request that the Final EIR include an analysis of the cumulative impacts to the tortoise and other special-status species and their habitats especially with respect to population viability, population connectivity, climate change and linkage habitat, habitat quality, habitat quantity, and habitat arrangement for the duration of the Project. Interactive and synergistic impacts should be included in this analysis. This should be the foundation for identifying, developing, and implementing the science-based mitigation plans, monitoring, and adaptive management to offset these impacts. The cumulative, interactive, and synergistic impacts that remain would be analyzed to determine whether they are significant or would be reduced to a level less than significant.

For example, impacts to soils are mentioned in one sentence. However, absent in that sentence were the impacts to native seed banks and how this effects the vegetation and habitat of the area long term. "The invasion of the Mojave ecoregion by non-native annual plants homogenizes the soil seed bank by rapidly driving a decline in native plant diversity beyond a critical threshold in

non-native plant relative abundance, and a concomitant decrease in the compositional variability of the seed bank across the landscape." With the addition of wildlife, this disturbance allows "for a rapid increase in the relative abundance of non-native plants driving more rapid losses of native diversity and resulting in greater homogenization across space" (Lee et al. 2024). Thus, species diversity of native plants in the soil seed bank is being lost along with impacting species diversity and trophic levels of animals (Lee at al. 2024).

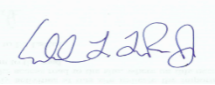
We are confused by the titles of some of the mitigation plans mentioned in the DEIR, For example, the DEIR names a mitigation action as "Develop Integrated Weed Management Plan," but in other sections of the DEIR, CPUC mentions "Develop Invasive Plant Management Plan." A weed management plan is not the same as an invasive plant management plan. Similarly, as mitigation for habitat loss, the CPUC would "Develop and Implement Habitat Restoration Plan" but later in the DEIR "Develop and Implement Habitat Compensation Plan." In addition, some mitigation actions include "develop and implement," while for others, the requirement is only to "develop" or "prepare" with no requirement to "implement." Please correct these inconsistencies in the Final EIR.

We suggest that CPUC use consistent titles for mitigation plans. In addition, we strongly suggest that the mitigation plans should be included in the Final EIR. Please see our comments above under "page 2-58 to 2-59, Applicant Proposed Measures, 2.8.4. Biological Resources, Develop and Implement Habitat Restoration Plan (HRP)" regarding reasons for including mitigation plans in the CEQA document.

We appreciate this opportunity to provide the above comments and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the CPUC that may affect desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. We trust that the CPUC will consider these comments and effectively implement mitigation to fully offset impacts to the tortoise/tortoise habitat, other listed species, and species of special concern. as part of the Governor's directive to conserve biodiversity in California.

Please respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this Project.

Respectfully,



Edward L. LaRue, Jr., M.S.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

Attachment: Appendix A – Demographic Status and Trend of the Mojave Desert Tortoise including the Western Mojave Recovery Unit

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Appendix A
Demographic Status and Trend of the Mojave Desert Tortoise
including the Western Mojave Recovery Unit

Status of the Population of the Mojave Desert Tortoise: The Council provides the following information for resource, land management, and permitting agencies so that these data may be included and analyzed in their project and land management documents and aid them in making management decisions that affect the Mojave desert tortoise (tortoise).

There are 17 populations of Mojave desert tortoise described below that occur in Critical Habitat Units (CHUs) and Tortoise Conservation Areas (TCAs); 14 are on lands managed primarily by the BLM; 8 of these are in the California Desert Conservation Area (CDCA). In addition, there are linkage habitats that have been identified for the tortoise that are necessary for genetic and demographic connectivity between these 17 populations (e.g., Averill-Murray et al. 2021). Without this connectivity, these tortoise populations will not be able to move in response to the effects of climate change. They will not be able to survive genetic and demographic stochastic events that result from small population size resulting in extirpation.

As the primary land management entity in the range of the Mojave desert tortoise, the Bureau of Land Management's (BLM's) implementation of a conservation strategy for the Mojave desert tortoise in the CDCA through implementation of its Resource Management Plan and Amendments through 2014 has resulted in the following changes in the status for the tortoise throughout its range and in California from 2004 to 2014 (**Table 1**, **Table 2**; USFWS 2015, Allison and McLuckie 2018). The Council believes these data show that BLM and others land management and permitting agencies have failed to implement an effective conservation strategy for the Mojave desert tortoise as described in the recovery plans (both USFWS 1994a and 2011), and have contributed to tortoise declines in density and abundance between 2004 to 2014 (**Table 1, Table 2**; USFWS 2015, Allison and McLuckie 2018) with declines or no improvement in population density from 2015 to 2024 (**Table 3**; USFWS 2016, 2018, 2019, 2020, 2022a, 2022b, 2025).

Important points from these tables and the scientific papers analyzing these data include the following:

Change in Status for the Mojave Desert Tortoise Range-wide
● Ten of 17 populations of the Mojave desert tortoise declined from 2004 to 2014.

● Eleven of 17 populations of the Mojave desert tortoise are below the population viability threshold. These 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs.

Change in Status for the Western Mojave Recovery Unit – California
● This recovery unit had a 51 percent decline in tortoise density from 2004 to 2014.

● Tortoise populations in all three TCAs in this recovery unit have densities that are below population viability.

- Recruitment of juvenile tortoises into the adult population has declined by 91% since 2004 representation in 2004, respectively.

Table 1. Summary of 10-year trend data for the 5 Recovery Units and 17 CHUs/TCAs for Mojave desert tortoise. The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and the percent change in population density between 2004 and 2014. Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) or showing a decline from 2004 to 2014 are in red.

Recovery Unit: Designated Critical Habitat Unit[1]/Tortoise Conservation Area	Surveyed area (km^2)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km^2 (SE)	% 10-year change (2004–2014)
Western Mojave, CA	**6,294**	**24.51**	**2.8 (1.0)**	**–50.7 decline**
Fremont-Kramer	2,347	9.14	2.6 (1.0)	–50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	–56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	–61.5 decline
Colorado Desert, CA	**11,663**	**45.42**	**4.0 (1.4)**	**–36.25 decline**
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	–29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	–37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	–64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	–52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	–60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	**4,160**	**16.2**	**4.5 (1.9)**	**+325.62 increase**
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	**3,446**	**13.42**	**1.9 (0.7)**	**–67.26 decline**
El Dorado Valley, NV	999	3.89	1.5 (0.6)	–61.14 decline
Ivanpah Valley, CA	2,447	9.53	2.3 (0.9)	–56.05 decline
Upper Virgin River	**115**	**0.45**	**15.3 (6.0)**	**–26.57 decline**
Red Cliffs Desert	115	0.45	15.3 (6.0)	–26.57 decline
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	**25,678**	**100.00**		**–32.18 decline**

[1] U.S. Fish and Wildlife Service. 1994b. Endangered and threatened wildlife and plants; determination of critical habitat for the Mojave population of the desert tortoise. Federal Register 55(26):5820-5866. Washington, D.C.

Table 2. Estimated change in abundance of adult Mojave desert tortoises in each recovery unit between 2004 and 2014 (Allison and McLuckie 2018). Decreases in abundance are in red.

Recovery Unit	Modeled Habitat (km^2)	2004 Abundance	2014 Abundance	Change in Abundance	Percent Change in Abundance
Western Mojave	23,139	131,540	64,871	-66,668	-51%
Colorado Desert	18,024	103,675	66,097	-37,578	-36%
Northeastern Mojave	10,664	12,610	46,701	34,091	270%
Eastern Mojave	16,061	75,342	24,664	-50,679	-67%

Upper Virgin River	613	13,226	10,010	-3,216	-24%
Total	**68,501**	**336,393**	**212,343**	**-124,050**	**-37%**

Table 3. Summary of data for Agassiz's desert tortoise, *Gopherus agassizii* (= Mojave desert tortoise) from 2004 to 2024 for the 5 Recovery Units and 17 Critical Habitat Units (CHUs)/Tortoise Conservation Areas (TCAs). The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and percent change in population density between 2004-2014 (USFWS 2015). Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) (USFWS 1994a, 2015) or showing a decline from 2004 to 2014 are in **red.**

Recovery Unit: Designated CHU/TCA &	% of total habitat area in Recovery Unit & CHU/TCA	2004 density / km^2	2014 density/ km^2 (SE)	% 10-year change (2004–2014)	2015 density / km^2	2016 density / km^2	2017 density / km^2	2018 density / km^2	2019 density / km^2	2020 density / km^2	2021 density / km^2	2024/ 2025 density /km^2
Western Mojave, CA	**24.51**		**2.8 (1.0)**	**–50.7 decline**								
Fremont-Kramer	9.14		2.6 (1.0)	–50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data	1.8
Ord-Rodman	3.32		3.6 (1.4)	–56.5 decline	No data	No data	3.9	2.5/3.4*	2.1/2.5*	No data	1.9/2.5*	2.7
Superior-Cronese	12.05		2.4 (0.9)	–61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data	No data
Colorado Desert, CA	**45.42**		**4.0 (1.4)**	**–36.25 decline**								
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	–29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9	7.4
Chuckwalla, CA	10.97		3.3 (1.3)	–37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6	No data
Chemehuevi, CA	14.65		2.8 (1.1)	–64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data	No data
Fenner, CA	6.94		4.8 (1.9)	–52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3	No data
Joshua Tree, CA	4.49		3.7 (1.5)	+178.62 increase	No data	2.6	3.6	No data	3.1	3.9	No data	No data
Pinto Mtn, CA	1.98		2.4 (1.0)	–60.30 decline	No data	2.1	2.3	No data	1.7	2.9	No data	No data
Piute Valley, NV	3.61		5.3 (2.1)	+162.36 increase	No data	4.0	5.9	No data	No data	No data	3.9	4.0

Northeastern Mojave AZ, NV, & UT	**16.2**		**4.5 (1.9)**	**+325.62 increase**								
Beaver Dam Slope, NV, UT, & AZ	2.92		6.2 (2.4)	+370.33 increase	No data	5.6	1.3	5.1	2.0	No data	No data	1.7
Coyote Spring, NV	3.74		4.0 (1.6)	+ 265.06 increase	No data	4.2	No data	No data	3.2	No data	No data	2.7
Gold Butte, NV & AZ	6.26		2.7 (1.0)	+ 384.37 increase	No data	No data	1.9	2.3	No data	No data	2.4	No data
Mormon Mesa, NV	3.29		6.4 (2.5)	+ 217.80 increase	No data	2.1	No data	3.6	No data	5.2	5.2	No data
Eastern Mojave, NV & CA	**13.42**		**1.9 (0.7)**	**–67.26 decline**								
El Dorado Valley, NV	3.89		1.5 (0.6)	–61.14 decline	No data	2.7	5.6	No data	2.3	No data	No data	
Ivanpah Valley, CA	9.53		2.3 (0.9)	–56.05 decline	1.9	No data	No data	3.7	2.6	No data	1.8	
Upper Virgin River, UT & AZ	**0.45**		**15.3 (6.0)**	**–26.57 decline**								
Red Cliffs Desert**	0.45	29.1 (21.4-39.6)**	15.3 (6.0)	–26.57 decline	15.0	No data	19.1	No data	17.2	No data	No data	17.5†/ declined by 26% since 2023††
Rangewide Area of CHUs - TCAs/Rangewide Change in Population Status	**100.00**			**–32.18 decline**								

*This density includes the adult tortoises translocated from the expansion of the MCAGCC, that is resident adult tortoises and translocated adult tortoises.

**Methodology for collecting density data initiated in 1999.

†Results from 2023

†† Population declines reported in UDWR (2025) do not include tortoise road mortality or loss of tortoises from the population from illegal collection

Change in Status for the Superior-Cronese Tortoise Population in the Western Mojave Recovery Unit.

● The population in this recovery unit experienced declines in densities of 61 percent from 2004 to 2014. In addition, there was a 51 percent decline in tortoise abundance.

● This population has densities less than needed for population viability (USFWS 1994a).

Change in Status for the Mojave Desert Tortoise in California

● Eight of 10 populations of the Mojave desert tortoise in California declined from 29 to 64 percent from 2004 to 2014 with implementation of tortoise conservation measures in the Bureau of Land Management's Northern and Eastern Colorado Desert (NECO), Northern and Eastern Mojave Desert (NEMO), and Western Mojave Desert (WEMO) Plans.

● Eight of 10 populations of the Mojave desert tortoise in California are below the viability threshold for density. These eight populations represent 87.45 percent of the habitat in California that is in CHU/TCAs.

● The two viable populations (as determined by density of adult tortoises) of the Mojave desert tortoise in California are declining. If their rates of decline from 2004 to 2014 continue, these two populations will no longer be viable by about 2030.

Change in Status for the Mojave Desert Tortoise on BLM Land in California

● Eight of eight populations of Mojave desert tortoise on lands managed primarily by the BLM in California declined from 2004 to 2014.

● Seven of eight populations of Mojave desert tortoise on lands managed primarily by the BLM in California are no longer viable.

Change in Status for Mojave Desert Tortoise Populations in California that Are Moving toward Meeting Recovery Criteria

● The only population of Mojave desert tortoise in California that did not decline is on land managed by the National Park Service, which increased 178 percent from 2004 to 2014.

Important points to note from the data from 2015 to 2024 in Table 3 are:

Change in Status for the Mojave Desert Tortoise in the Western Mojave Recovery Unit:

● The density of tortoises continues to decline in the Western Mojave Recovery Unit

● The density of tortoises from 2015 to 2024 continues to fall below the density needed for population viability.

Change in Status for the Mojave Desert Tortoise in the Colorado Desert Recovery Unit:

● Many of the populations in this recovery unit have densities that are near the threshold for population viability.

Change in Status for the Mojave Desert Tortoise in the Northeastern Mojave Recovery Unit:

- Two of the three population with densities greater than needed for population viability declined to level below the minimum viability threshold.

- Three of the four populations in this recovery unit have densities below the minimum density needed for population viability.

Change in Status for the Mojave Desert Tortoise in the Eastern Mojave Recovery Unit:

- Both populations in this recovery unit have densities below the minimum density needed for population viability.

Change in Status for the Mojave Desert Tortoise in the Upper Virgin River Recovery Unit:

- The one population in this recovery unit is small and appears to have stable densities.

The Endangered Mojave Desert Tortoise: The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the FESA, Congress defined an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range…" In the California Endangered Species Act (CESA), the California legislature defined an "endangered species" as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes (California Fish and Game Code § 2062). Because most of the populations of the Mojave desert tortoise were non-viable in 2014, most are declining, and the threats to the Mojave desert tortoise are numerous and have not been substantially reduced throughout the species' range, the Council believes the Mojave desert tortoise should be designated as an endangered species by the USFWS and California Fish and Game Commission. The Commission agreed and in 2025 uplisted the tortoise from threatened to endangered. Despite claims by USFWS (Averill-Murray and Field 2023) that a large number of individuals of a listed species and an increasing population trend in part of the range of the species prohibits it from meeting the definitions of endangered, we are reminded that the tenants of conservation biology include numerous factors when determining population viability. The number of individuals present is only one of a myriad of factors (e.g., species distribution and density, survival strategy, sex ratio, recruitment, genetics, numerous anthropogenic-caused threats including climate change, etc.) used to determine population viability. In addition, a review of all the available data does not show an increasing population trend (please see Tables 1 and 3). When examining the available data on tortoise densities over several years to the present, we are not sure which populations showed increasing trends in densities or numbers.

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