



DESERT TORTOISE COUNCIL

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Via email only

21 December 2021

California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825
Attn: Sarah Mongano
sarah.mongano@slc.ca.gov
CEQA.comments@slc.ca.gov

RE: Comments on Draft Environmental Impact Report for Stagecoach Solar Project, San Bernardino County, CA (State Clearinghouse No. 2020100234; CSLC EIR No. 763; W30213; W26868)

Dear Ms. Mongano,

The Desert Tortoise Council (Council) is a non-profit organization comprised of 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 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.

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats likely occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments pertain to enhancing protection of this species during activities authorized by the California State Lands Commission (CSLC), which we assume will be added to the Decision Record as needed. Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project.

Mojave desert tortoise is now on the list of the world's most endangered tortoises and freshwater turtles. It is in the top 50 species. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers Mojave desert tortoise to be Critically Endangered (Berry *et al.* 2021). "species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), a current population size of fewer than 50 individuals, or other factors." It is one of three turtle and tortoise species in the United States to be critically endangered.

Description of Proposed Project

The CSLC is considering whether to lease its lands to Aurora Solar, LLC (Applicant), a wholly owned subsidiary of Avangrid Renewables to construct and operate the proposed Stagecoach Solar Project and Gen-tie line. The Stagecoach Facilities lease area covers 3,570 acres of which about 1,975 acres would be occupied by the solar panels, ancillary project facilities including a 5,000-square-foot operations and maintenance (O&M) facility, a 56-acre BESS 27 (battery energy storage system), a substation, fencing and security, and new access roads. The Stagecoach Solar Project would be located approximately 15 miles south of the City of Barstow and 12 miles northwest of the unincorporated community of Lucerne Valley and on both sides of the Lucerne Valley Cutoff Road.

The Stagecoach 220 kilovolt (kV) electrical generation intertie (gen-tie) line and fiber optic line would run approximately 9.1 miles, connecting the Stagecoach Solar Generation Plant to the proposed Southern California Edison (SCE) Calcite Substation. The proposed SCE Calcite Facilities would be located on and adjacent to an approximately 75-acre parcel that extends on the west and east sides of State Route 247 (Barstow Road), directly north of Haynes Road, in San Bernardino County. This substation would be used to interconnect electrical generation facilities in the region to the SCE electrical system. It would be designed, constructed, owned, operated, and maintained by SCE and require a permit from the California Public Utilities Commission (CPUC).

Issues Analyzed from the Council's Scoping Comments

In our November 11, 2020 letter to the CSLC in response to the Notice of Preparation, the Council identified several issues that should have been described and analyzed in the DEIR. We found that some of these were discussed (e.g., biological surveys, inclusion of the proposed Calcite substation), but were unable to find a discussion or analysis of other identified issues (e.g., impacts to existing off-highway vehicle (OHV) routes, creation of new routes/increased use of existing routes and their impacts on the tortoise and their habitats, impacts from the solar panels creating a heat sink, increased subsidies to tortoise predators, use of new/improved project access roads by the public and associated impacts from increased road/vehicle use (road effect zone), and draft mitigation plans. As such, the Council finds that the DEIR has failed to address our formal scoping comments, and request that these issues be analyzed in the Final EIR.

Subsidized Tortoise Predators: Common ravens are known predators of the Mojave desert tortoise and their numbers have increased substantially because of human subsidies of food, water, and sites for nesting, roosting, and perching to hunt (Boarman 2003). Coyotes and badgers are also predators of tortoises. Because ravens can fly at least 30 miles in search of food and water daily (Boarman et al. 2006) and coyotes can travel an average of 7.5 miles or more daily (Servin et al. 2003), this analysis should extend out at least 30 miles from the proposed project site.

We found little discussion and no analysis of the impacts of ravens and other subsidized predators on the Mojave desert tortoise in the DEIR. We found the following, “Facilities and equipment may become nest or perch sites for common raven, which in turn may prey on special-status species (desert tortoise).”

The Final EIR should analyze if the proposed Project would result in an increase in common ravens and other predators of the desert tortoise in the action area. During construction, operations and maintenance, decommissioning, and restoration phases of the proposed project, the CSLC should require science-based management of common raven, coyote, and badger predation on tortoises in the action area. This would include the tortoise relocation sites.

For local impacts, the Predator Management Plan should include reducing/eliminating human subsidies of food and water, and for the common raven, sites for nesting, roosting, and perching to address local impacts (footprint of the proposed project). This includes buildings, fences, and other vertical structures associated with the project site. In addition, the Predator Management Plan should include provisions that eliminate the pooling of water on the ground or on roofs to avoid providing new water sources for these tortoise predators.

The Predator Management Plan should include science-based monitoring and adaptive management throughout all phases of the project to collect data on the effectiveness of the Plan’s implementation and implement changes to reduce/eliminate predation on the tortoise if existing measures are not effective.

For regional and cumulative impacts, the CSLC should require the applicant to participate in an effort to address regional and cumulative impacts. For example, in California, the project proponent should contribute to the National Fish and Wildlife Foundation’s Raven Management Fund to help mitigate for regional and cumulative impacts. Unfortunately, this Fund that was established in 2010 has not revised its per acre payment fees to reflect increased labor and supply costs during the past decade to provide for effective implementation. The National Fish and Wildlife Foundation should revise the per acre fee.

We request that for any of the transmission options, the project use towers that prevent raven nesting and perching for hunting. For example, the tubular design pole with a steep-pointed apex and insulators on down-sloping cross arms is preferable to lattice towers, which should not be used.

Impacts from Roads/Road Effect Zone: We found no discussion, analysis of impacts, or mitigation for the tortoise from increased use of roads, and creation and use of new roads. Road establishment is often followed by various indirect effects such as increased human access causing disturbance of species' behavior, increase predation, spread of invasive species, and vandalism and/or collection. Nafus et al. (2013) reported that roads may decrease tortoise populations via several possible mechanisms, including cumulative mortality from vehicle collisions and reduced population growth rates from the loss of larger reproductive animals. Other documented impacts from road construction, use, and maintenance include increases in roadkill of wildlife species as well as tortoises, creating or increasing food subsidies for common ravens, and contributing to increases in raven numbers and predation pressure on the desert tortoise.

Vehicle use on new roads and increased vehicle use on existing roads equates to increased direct mortality and an increased road effect zone for desert tortoises. Road construction, use, and maintenance adversely affect wildlife through numerous mechanisms that can include mortality from vehicle collisions, and loss, fragmentation, and alteration of habitat (Nafus et al. 2013; von Seckendorff Hoff and Marlow 2002).

In von Seckendorff Hoff and Marlow (2002), they reported reductions in Mojave desert tortoise numbers and sign from infrequent use of roadways to major highways with heavy use. There was a linear relationship between traffic level and reduction. For two graded, unpaved roads, the reduction in tortoises and sign was evident 1.1 to 1.4 km (3,620 to 4,608 feet) from the road. Nafus et al. (2013) reported that roads may decrease tortoise populations via several possible mechanisms, including cumulative mortality from vehicle collisions and reduced population growth rates from the loss of larger reproductive animals. Other documented impacts from road construction, use, and maintenance include increases in roadkill of wildlife species as well as tortoises, creating or increasing food subsidies for common ravens, and contributing to increases in raven numbers and predation pressure on the desert tortoise.

We request that the Final EIR include information on the locations, sizes, and arrangements of roads to the proposed project and within it, who will have access to them, whether the access roads will be secured to prevent human access or vandalism, and if so, what methods would be used. The presence/use of roads even with low vehicle use has numerous adverse effects on the desert tortoise and its habitats that have been reported in the scientific literature. These include the deterioration/loss of wildlife habitat, hydrology, geomorphology, and air quality; increased competition and predation (including by humans); and the loss of naturalness or pristine qualities.

All direct and indirect effects to the tortoise should be analyzed in the Final EIR. The analysis of the effects from road establishment and use/increased use should include cumulative effects to the tortoise with respect to nearby tortoise ACECs/critical habitat units (e.g., Ord-Rodman ACEC and Critical Habitat Unit), areas designated/needed for connectivity between ACECs/Tortoise Conservation Areas (TCA), for the recovery unit, and rangewide. We request that the Final EIR include information on who will have access to the new or improved roads, whether the project area including access roads will be secured to prevent human access or vandalism, and if so, what methods would be used. The presence of roads even with low vehicle use has several adverse effects to the desert tortoise and its habitats. These include the deterioration/loss of wildlife habitat, hydrology, geomorphology, and air quality; and increased competition and predation (including by humans).

Please include in the Final EIR analysis, the five major categories of primary road effects to the tortoise and special status species: (1) wildlife mortality from collisions with vehicles; (2) hindrance/barrier to animal movements thereby reducing access to resources and mates; (3) degradation of habitat quality; (4) habitat loss caused by disturbance effects in the wider environment and from the physical occupation of land by the road; and (5) subdividing animal populations into smaller and more vulnerable fractions (Jaeger et al. 2005a, 2005b, Roedenbeck et al. 2007). For the tortoise, these analyses should be at the population, recovery unit, and rangewide levels.

In summary, road establishment/increased use is often followed by various indirect impacts such as increased human access causing disturbance of species' behavior, increased predation, spread of invasive species that alters/degrades habitat, and vandalism and/or collection. The analysis of the impacts from road establishment and use should include cumulative effects to the tortoise with respect to nearby critical habitat and other TCAs, areas identified as important linkage habitat for connectivity between nearby critical habitat units/TCAs as these linkage areas serve as corridors for maintaining genetic and demographic connectivity between populations, recovery units, and rangewide.

Specific Comments

2.2.4.1 220 kV Transmission Line: “The single circuit transmission structures would be either tubular steel poles or lattice steel towers, approximately 80 feet tall and spaced approximately 800 feet apart...” In our scoping letter, we requested the proponent use tubular steel poles to deter raven nesting and subsequent increased predation on the tortoises. We reiterate the need for transmission structures that do not allow ravens to construct nests on them. Please require these steel poles rather than lattice towers that create nesting substrates for ravens.

2.2.5 Fire Safety: “A Fire Management and Prevention Plan would be prepared for construction, operation, and decommissioning of the facility.”

and

2.4.4 Fire Safety During Operation: “A Fire Safety, a Fire Management and Prevention Plan would be prepared in coordination with the San Bernardino County Fire Department or other emergency response organizations to identify fire hazards and response scenarios that may be involved with operating the Stagecoach Solar Generation Plant. This would include information on response to accidents involving downed power lines or accidents involving damage to solar arrays and facilities.” This Plan should be included in the Final EIR. Please see our comments under **Mitigation Plans** below that discuss the necessity of including this and other mitigation plans in the Final EIR.

2.3.3 Stagecoach Solar Generation Plant Construction: Noise issue and indirect impacts. “Bulldozers and motor-graders would typically be used;” “Earthworks scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles, and graders may all be used to perform grading. Land-leveling equipment, such as a smooth steel drum roller, would be used to even the surface of the ground and to compact the upper layer;” “Gravel or aggregate base material would be

imported to the site...” Table 2-2 lists many types of construction equipment including water truck, front-end loader, scrapers, bulldozers, graders, hydraulic ram, backhoes, crane, tractor, and pile driver, trencher, cable plow, sheepsfoot roller, and power screener. These examples of equipment have noise levels that are considered very loud to extremely loud, which need to be assessed and mitigated in the Final EIR.

Bowles et al. (1999) conducted a study on the effects of aircraft noise and sonic booms on tortoises. Exposures to simulated jet overflights produced a typical reptilian defensive response, freezing. The behavioral change was abrupt during initial exposures. During or shortly after exposure onset, tortoises frequently became immobile for periods of up to 113 minutes, interrupting activities such as walking or eating (Bowles et al. 1999). Such a response may make tortoises more susceptible to predation or thermal stress.

Results of exposure to sonic booms incidents indicate desert tortoises could develop hearing deficits because of frequent exposure to focused sonic booms and other high-amplitude impulses over a lifetime (e.g., off-road vehicle noise, blasts from construction). Because the peak level of the test booms was close to the damage risk threshold adopted for humans and animals (140 dB peak SPL), the critical level for damage to tortoises is the same as for humans despite their less sensitive hearing (Bowles et al. 1999). Thus, the impacts that would occur to human hearing when living near a construction area with no protection would occur to the tortoise near the Project area. Please include this information and subsequent analysis for the tortoise in the EIR.

2.3.3.6 Project Substation and 2.3.3.7 Battery Energy Storage System: The Project description includes “construction of drainage components to capture and direct stormwater flow across the substation site.” We are concerned about the potential for entrapment of tortoises. Please provide more information in the Final EIR on the design of these drainage components to determine if hatchling to adult tortoises would be able to traverse them.

2.3.4.1 Stagecoach Gen-tie Line Access Roads: “Existing roads would be improved;” “brush clearing, grading, erosion control, and installation of culverts or riprap;” “Watering may be required to control dust and to retain fine surface rock;” and “A new two track road (up to 10 feet wide and up to 9.1 miles long) would parallel the Stagecoach Gen-tie Line.” Please see our comments on **Impacts from Roads**. Because ravens and other tortoise predators are attracted to water, we request that watering to control dust not result in ponding of water.

2.3.4.5 Stagecoach Gen-tie Line Site Restoration: “Temporarily disturbed areas would be re-graded so that surfaces drain naturally and blend with the natural terrain. The areas would be left in a condition that would facilitate re-vegetation or re-seeding, provide for proper drainage, and prevent erosion. As with restoration of temporarily disturbed areas at the solar generation plant, the Applicant would restore all temporarily disturbed areas to their preconstruction condition. Temporarily disturbed areas would be restored to their original contour and would be seeded with native plant species.”

and

2.5 Stagecoach Facilities Closure, Decommissioning, Reclamation, and Restoration: “After removal of all on-site improvements, remediation and restoration of the area would be performed to return the site to its pre-construction condition, to the extent feasible. This includes planting native plants and re-seeding with an appropriate native grass seed mix as needed.” Where is the requirement that this restoration effort be monitored and adaptive management implemented until the preconstruction condition for the native vegetation is restored? Monitoring and adaptive management plans to ensure restoration success need to be added to the Final EIR.

Studies around the world have shown that desert ecosystems can act as important carbon sinks. The California deserts account for nearly 10 percent of the state’s carbon sequestration; below ground in soil and root systems, and above ground in biomass. Protecting this biome can contribute to securing carbon stores in the state (MDLT 2021). Given the current climate change conditions, there is an increasing need for carbon sequestration. Since vascular plants are a primary user of carbon and the proposed Project would result in the loss/degradation of thousands of acres of plants and their ability to sequester carbon for decades or longer unless successful measures are implemented to restore native vegetation, it is imperative that vegetation be restored to areas degraded/lost to temporary disturbance and restoration occur immediately following decommissioning.

2.4.1 Vegetation Treatment: “The Stagecoach Solar Generation Plant O&M staff would address the removal of noxious weeds and vegetation across the site through targeted spraying, occasional scarifying, or weeding to reduce fire hazards.” Please replace “noxious” with “non-native” as these terms have different meanings and the fire issue is not caused by lethal, injurious, or toxic plants but by the abundance of non-native plants that create an increased fuel load that carries fire.

2.6.1 Description of SCE Calcite Facilities Components: “SCE Calcite Substation. A 220 kV switchyard on approximately 7 acres along with approximately 4 additional acres for drainage, grading, and an access road.” Please see our comments under **Impacts of Roads** and **2.3.3.6** Project Substation and **2.3.3.7** Battery Energy Storage System.

2.6.2 Construction of SCE Calcite Substation: Please see all our comments on the construction of the Stagecoach facility, and be sure they are also applied to the construction of the Calcite Substation.

3.2 “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. In Figure 2-3, there is a BLM Development Focus Area immediately to the east of the proposed Project.

In addition, in the DEIR the CSLC says it is using the “List Approach, which entails listing past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside of the control of the agency.” The DEIR then lists projects related to solar energy development and transmission, but not other types of future projects that would have a cumulative impact on the resource topics analyzed in the DEIR. Rather, it says “reasonably foreseeable are future projects that were either proposed or approved at the time the EIR analysis was initiated.” The Final EIR should be updated to include projects proposed or approved at the time of the DEIR release to the public. Otherwise, the supplied date may be a few years outdated. We consider this an oversight by the CSLC that should be rectified in the Final EIR, specifically for the Mojave desert tortoise.

Mitigation Plans: The Final EIR should include effective mitigation for all direct, indirect, and cumulative effects to the tortoise and its habitat from implementation of the proposed Project; the mitigation should use the best available science with a commitment to implement the mitigation commensurate with the occurrence of impacts to the tortoise and its habitat. Mitigation should include a fully-developed desert tortoise relocation plan (including protection of tortoise relocation area(s) from future development and human disturbance in perpetuity); predator management plan; non-native plant species management plan; fire prevention plan; compensation plan for the degradation and loss of tortoise habitat that includes protection of the acquired, improved, and restored habitat in perpetuity for the tortoise from future development and human use; and habitat restoration plan when the lease is terminated and the proposed project is decommissioned.

CSLC says in the DEIR that some of these plans will be prepared. However, all plans should be provided in the Final EIR so the public and the decisionmakers can determine their adequacy (i.e., whether they are scientifically rigorous and would be effective in mitigating for the displacement and loss of tortoises and degradation and loss of tortoise habitat from project implementation). Their inclusion is necessary to determine their adequacy for mitigating direct, indirect, and cumulative impacts, and monitoring for effectiveness and adaptive management regarding the desert tortoise. If these plans are not provided, it is not possible for CSLC, California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service (USFWS) to determine the environmental consequences of the project to the tortoise. Please see **Incidental Take Permits** below.

4.3.1.2 Environmental Setting of the Stagecoach Solar Generation Plant, Wildlife Movement: CSLC says, “Ord-Rodman ACEC is to the east. It is located on approximately 204,860 acres and provides high density desert tortoise habitat capable of sustaining viable tortoise populations and the highest value critical habitat.”

We are not sure what “high density desert tortoise habitat” means. The habitat in the Ord-Rodman ACEC currently supports a tortoise population that is below the population viability density and has been declining in density and numbers for several years (please see Attachment A – Status of the Mojave Desert Tortoise). Please clarify/correct the information on the Ord-Rodman ACEC with respect to the tortoise.

4.3.2 Regulatory Setting, Apple Valley Multi-Species Habitat Conservation Plan (MSHCP)/Natural Community Conservation Plan (NCCP): The CSLC says, “The draft MSHCP/NCCP is expected to be published in summer 2021.” This statement indicates this section of the DEIR was written prior to and has not been reviewed since before summer 2021. Please update the Final EIR to include current information regarding the status of the MSHCP, and include research on movements and linkage habitats needed by the tortoise (e.g., Hromada et al. 2020, etc.).

4.3.4.1 Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, Construction, Recommended Mitigation, MM BIO-1d: Weed Management. “An Integrated Weed Management Plan (IWMP) would minimize non-native infestations in wildlife habitat by specifying methods to prevent introduction or spread, monitoring to identify infestations, and timely implementation of manual or chemical control.”

The draft plan should have been included in the DEIR. We suggest modifying the wording in the Final EIR so that control methods are not limited to manual or chemical methods. Other effective methods may be developed during the life of the proposed Project (e.g., light energy).

4.3.4.1 Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, Construction, Recommended Mitigation, MM BIO-1a: Implement Biological Monitoring. To this mitigation, please add in the Final EIR that an Authorized Biologist will be approved by the USFWS and CDFW and will oversee all pre-construction surface disturbance activities as well as construction, decommissioning, and restoration activities that may result in take of the tortoise. The CSLC may recommend an Authorized Biologist to these agencies, but USFWS and CDFW must approve the Authorized Biologist(s).

4.3.4.1 Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, Construction, Recommended Mitigation, MM BIO-1e: “Revegetation. Impacts to habitats that are temporarily impacted by construction would be rectified through revegetation per a Revegetation Plan, in coordination with appropriate resource agencies. The Plan would detail revegetation methods, restoration strategies to minimize soil erosion, dust generation, and weed invasions, revegetation success standards, adaptive management strategies, reporting requirements, and long-term vegetation management, which would ensure successful revegetation of wildlife habitat areas.” The Council fully supports the implementation of this mitigation and offers the following document links to assist in its implementation:

- https://deserttortoise.org/wp-content/uploads/BMP_fact_sheet_1_restore_perennials.pdf
- https://deserttortoise.org/wp-content/uploads/BMP_fact_sheet_2_forage.pdf
- https://deserttortoise.org/wp-content/uploads/BMP_fact_sheet_3_topsoil.pdf
- https://deserttortoise.org/wp-content/uploads/BMP_fact_sheet_4_severe_disturbance.pdf
- https://deserttortoise.org/wp-content/uploads/BMP_fact_sheet_5_roads.pdf
- https://deserttortoise.org/wp-content/uploads/restoration_plan_guidance_21apr2017.pdf

We strongly recommend using recent scientific findings (e.g., journal articles) to decide which methods should be implemented to provide successful vegetation restoration (e.g., Abella and Berry 2016).

4.3.4.1 Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, Construction, Recommended Mitigation, MM BIO-1g: Compensate for Loss of Natural Habitat. All permanent and long-term impacts to desert tortoise and Joshua tree habitat would be offset through protection and management of off-site compensation lands of comparable habitat value, in perpetuity. We strongly support this mitigation and request that (1) it be fully funded by the Applicant; (2) that a permanent conservation easement be placed on the off-site compensation lands so they will not be developed in the future; and (3) that the principles of reserve design be implemented when determining the location, size, and arrangement of the compensation lands (USFWS 1994, section D.1.b, pages 48- 49). In addition, the compensation lands should be acquired commensurate with the timing of the loss/degradation of habitat from construction, but preferably prior to loss/degradation. Please see our additional comments on compensation lands in section 4.3.4.1. Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, O&M and Decommissioning, Recommended Mitigation MM BIO-1g, Compensate for Loss of Natural Habitat, Desert tortoise habitat.

4.3.4.1. Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, O&M and Decommissioning, Recommended Mitigation, MM BIO-1a: Implement Biological Monitoring, Authorized Desert Tortoise Biologist: “For desert tortoise protection measures, Avangrid will nominate one or more qualified individuals to serve as Authorized Desert Tortoise Biologist for the solar generation plant and gen-tie line, for approval by the USFWS.” Please add that CDFW must also approve the Authorized Desert Tortoise Biologist.

In addition, it is the responsibility of the Authorized Desert Tortoise Biologist, not the Lead Biologist, to train and supervise desert tortoise monitors. Please correct the wording in the Final EIR to reflect the Authorized Desert Tortoise Biologist’s responsibilities.

Similarly, we believe the DEIR is incorrect in saying, “Desert Tortoise Education Requirements: Prior to the start of construction activities, a desert tortoise education program shall be presented by the Lead Biologist to all personnel who will be present on Project work areas.” This wording and the remainder of this section should be the responsibility of the Authorized Desert Tortoise Biologist, not the Lead Biologist. Please correct this wording in the Final EIR.

4.3.4.1. Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, O&M and Decommissioning, Recommended Mitigation MM BIO-1d: Weed Management: “The Applicant shall prepare and implement an Integrated Weed Management Plan (IWMP) to minimize or prevent invasive weeds from infesting the site or spreading into surrounding habitat during construction, O&M, and decommissioning. The plan must be submitted to the CSLC staff for review and approval a minimum of 60 days prior to the start of construction activities”

and

4.3.4.1. Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, O&M and Decommissioning, Recommended Mitigation MM BIO-1e: Revegetation: “The Applicant shall prepare and implement a Revegetation Plan, to be submitted to the CSLC staff for review and approval a minimum of 60 days prior to the start of construction activities.”

We strongly request that the IWMP and Revegetation Plan be submitted to the desert vegetation restoration scientists from the Department of the Interior and State of California for review and approval in addition to the CSLC staff. These scientists would have the current knowledge and expertise to determine whether the proposed IWMP and Revegetation Plan would be successful and effective in eliminating/substantially reducing non-native plants from the Project area and restoring functioning habitats in the action area (please see below for definition of “action area”).

4.3.4.1. Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, O&M and Decommissioning, Recommended Mitigation MM BIO-1g: Compensate for Loss of Natural Habitat: “Desert tortoise habitat. Suitable desert tortoise habitat is found throughout the proposed solar generation plant site, gen-tie route, and SCE Calcite Facilities area. Compensation for loss of this habitat shall be at a 1:1 ratio (i.e., one acre of compensation habitat of comparable quality for each acre of permanent or temporary disturbance).”

Please note that it is the regulatory agencies, not the project proponent, who decides the appropriate level of compensation. To our knowledge in the last 10-or-more years, CDFW has required compensation be a minimum of 3:1 for projects affecting tortoises and occupied habitats. CDFW must be consulted when determining appropriate compensation levels.

In the DEIR, the CSLC says that the federally and state threatened Mojave desert tortoise are present, and their sign was found throughout the Project area [see Figures 4.3-4a to 4.3-4e and Appendix F, Figure 2, Section 3.3.2 Special-status Species – Mojave Desert Tortoise (Present in Project Area) (pages 24 and 25), Table 6, and Figure 6]. Therefore, it is likely that implementation of the proposed Project would result in “take” of the tortoise under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA).

Because this DEIR is not also a National Environmental Policy Act (NEPA) document, there appears to be no federal nexus for the proposed Project. Consequently, the applicant or CSLC would need to obtain a section 10(a)(1)(B) incidental take permit from the USFWS and a section 2081 incidental take permit from the CDFW for take of the Mojave desert tortoise prior to initiating ground disturbance activities. One requirement in obtaining a USFWS incidental take permit is that the permit applicant must minimize and mitigate the impacts of the taking to the maximum extent practicable.

The Habitat Conservation Plan (HCP) Handbook clarifies the meaning of “minimize and mitigate to the maximum extent practicable” (USFWS and NMFS 2016). It explains that “fully offset” means completely mitigating any impacts expected to remain after avoidance and minimization measures are implemented. In other words, fully offset means the biological value that will be lost from covered activities (e.g., construction, operation and maintenance and decommissioning of the proposed Project) will be fully replaced through implementation of conservation measures with equivalent biological value. “Fully offset” also means the mitigation is commensurate (equal) with the impacts of taking. This standard will also be met where the applicant demonstrates that while the HCP will not completely offset the impacts of the taking, the minimization and mitigation measures provided in the plan represent the most the applicant can practicably accomplish.

Similarly, California Fish and Game Code section 2081(b) authorizes the CDFW to “authorize, by permit, the take of endangered species, threatened species, and candidate species if all of the following conditions are met:

- (1) The take is incidental to an otherwise lawful activity.
- (2) The impacts of the authorized take shall be minimized and fully mitigated (emphasis added). The measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant’s objectives to the greatest extent possible. All required measures shall be capable of successful implementation. For purposes of this section only, impacts of taking include all impacts on the species that result from any act that would cause the proposed taking.
- (3) The applicant shall ensure adequate funding to implement the measures required by paragraph (2), and for monitoring compliance with, and effectiveness of, those measures.”

These USFWS and CDFW requirements mean that the proposed compensation of 1:1 for tortoise habitat will not likely be adequate. Given the quality of the tortoise habitat described in the DEIR for the Project area and the amount of tortoise sign found, the compensation ratio may be greater than 1:1 to mitigate for this lost biological value including the temporal loss. We recommend the USFWS and CDFW conduct an analysis, such as a Property Analysis Record (PAR), to determine the value of the Project area to the tortoise and the value of identified compensation land.

Another requirement that the USFWS must meet before issuing an incidental take permit is to analyze the impacts of the taking in a biological opinion. This analysis includes the “action area,” which is defined in 50 Code of Federal Regulations 402.02 and their Desert Tortoise Field Manual (USFWS 2009) as “all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action.” Because some activities described in the DEIR (e.g., pile driving, access roads construction/improvement and use) would have indirect impacts on the tortoise at distances greater than 300 feet, the survey results for the tortoise may have underestimated their presence and therefore the indirect impacts on this species. This underestimate should be considered when conducting a PAR or similar analysis to determine appropriate compensation for the tortoise.

4.3.4.1. Impacts of the Stagecoach Solar Generation Plant, Impact Discussion, O&M and Decommissioning, Recommended Mitigation, MM BIO-3b: Relocate Special-status Wildlife Species. “The Applicant shall prepare and implement a wildlife relocation plan to ensure that special-status wildlife species, including desert tortoise, burrowing owl, American badger, and desert kit fox, are safely avoided or relocated off the Project site prior to and during construction.”

“The Lead Biologist shall oversee implementation of the plan. The wildlife relocation plan shall conform to USFWS guidelines (USFWS 2020) [sic] for desert tortoise surveys, avoidance, and relocation, and CDFW staff guidance for burrowing owl, American badger, and desert kit fox passive relocation, including scheduling to avoid disturbance to natal dens or burrows.” We strongly recommend that the Authorized Desert Tortoise Biologist is the person who will oversee the implementation of the relocation plan with respect to the tortoise.

We appreciate this opportunity to provide input and trust that our comments will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other CSLC projects that may affect species of desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you 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

cc: California State Clearinghouse, state.clearinghouse@opr.ca.gov
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Attachment A Status of the Populations of the Mojave Desert Tortoise

The Council provides the following information for the California State Lands Commission so that these or similar data may be included in the Final EIR and used in the analysis of direct, indirect, and cumulative impacts of the Stagecoach Solar Project to the tortoise.

Changes in the status for the tortoise throughout its range, in California, in the Western Recovery Unit, and Ord-Rodman population from 2004 to 2014 are provided below (Table 1 USFWS 2015, Allison and McLuckie 2018; Table 2 Allison and McLuckie 2018). There are 17 populations of Mojave desert tortoise described below that occur in Critical Habitat Units (CHUs) and TCAs; 14 are on lands with the majority of the land management responsibility residing with the Bureau of Land Management (BLM); 8 of these are in the California Desert Conservation Area (CDCA).

Table 1. Summary of 10-year trend data for 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/km² 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/km² (10 breeding individuals per mi²) (assumes a 1:1 sex ratio) and showing a decline from 2004 to 2014 are in red.

Recovery Unit: Designated Critical Habitat Unit/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

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%

Important points from these tables include the following:

Change in Status for the Mojave Desert Tortoise Range-wide

- Four of five Tortoise Recovery Units have declined in density and abundance from 2004 to 2014.
- Ten of 17 populations of the Mojave desert tortoise declined from 2004 to 2014.
- Eleven of 17 populations of the Mojave desert tortoise are no longer viable. These 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs.

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 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 no longer viable. These eight populations represent 87.45 percent of the habitat in California that is in CHU/TCAs.
- The two viable populations 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 2020 and 2031.

Change in Status for the Mojave Desert Tortoise in the Western Mojave Recovery Unit, the location of the proposed Stagecoach Solar Project

- The density of tortoises declined more than 50 percent between 2004 and 2014.
- None of the three populations in this recovery unit are viable populations.
- The abundance of tortoises declined more than 50 percent.

Change in Status for the Mojave Desert Tortoise in the Ord-Rodman Population, the population of the proposed Stagecoach Solar Project

- The density of this tortoise population declined more than 56 percent.
- This population has declined below the viable density threshold. It is no longer a viable population.

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

- Eight of eight populations of Mojave desert tortoise on lands managed by the BLM in California declined from 2004 to 2014.
- Seven of eight populations of Mojave desert tortoise on lands managed 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 is not declining is on land managed by the National Park Service, which has increased 178 percent in 10 years.

The Endangered Mojave Desert Tortoise: The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the Federal Endangered Species Act (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, 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 U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). The California Fish and Game Commission is currently considering a petition by the Defenders of Wildlife, Desert Tortoise Council, and Desert Tortoise Preserve Committee to uplist the tortoise from threatened to endangered.

Mojave desert tortoise is now on the list of the world’s most endangered tortoises and freshwater turtles. It is in the top 50 species. The International Union for Conservation of Nature’s (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers Mojave desert tortoise to be Critically Endangered (Berry et al. 2021). “species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), a current population size of fewer than 50 individuals, or other factors.” It is one of three turtle and tortoise species in the United States to be critically endangered.

The summary of data above indicates that current management actions for the Mojave desert tortoise are inadequate to help recover the desert tortoise. BLM and other land management agencies have been ineffective in halting population declines, which has resulted in non-viable populations.

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