

DESERT TORTOISE COUNCIL

3807 Sierra Highway #6-4514

Acton, CA 93510

www.deserttortoise.org

eac@deserttortoise.org

Via email and BLM NEPA ePlanning Portal

11 December 2023

Derek Eysenbach, Erica Stewart, Celina Martinez
Bureau of Land Management
Yuma Field Office
Attention: Ranegras Plains Energy Center Project
7341 E. 30th Street
Yuma, AZ 85365
[BLM AZ CRD Solar@blm.gov](mailto:BLM_AZ_CRD_Solar@blm.gov)

RE: Scoping Comments – Ranegras Plains Energy Center Solar Project Environmental Impact Statement, LaPaz County, AZ (DOI-BLM-AZ-C020-2022-0015-EIS)

Dear Mr. Eysenbach, Ms. Stewart, and Ms. Martinez,

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.

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 likely used by Sonoran desert tortoises (*Gopherus morafkai*) (synonymous with Morafka’s desert tortoise), our comments include recommendations intended to enhance protection of this species and its habitat during activities authorized by the Bureau of Land Management (BLM), which we recommend be added to project terms and

conditions in the authorizing document (e.g., right of way grant, etc.) as appropriate. Please accept, carefully review, and include in the relevant project file the Council’s following comments for the proposed project.

We appreciate that BLM contacted the Council to advise us of the publication of the Notice of Intent (NOI) to prepare a draft environmental impact statement (DEIS) for the proposed project.

Description of Proposed Project

According to the BLM’s National Environmental Policy Act (NEPA) ePlanning webpage, Ranegras Plains Energy Center, LLC, a wholly owned subsidiary of Savion, LLC (Applicant or project proponent), applied to the BLM Yuma Field Office for a right-of-way on public land to construct, operate, and maintain a 700-megawatt (MW) solar photovoltaic and battery energy storage system. The Ranegras Plains Energy Center (proposed project) consists of photovoltaic modules, a battery energy storage system, electrical collection lines, a switchyard, operations and maintenance facilities, access roads, and temporary work areas. The proposed project would connect to the regional electrical grid via a proposed 11-mile-long, 500-kilovolt transmission line to the Delaney Colorado River Transmission Ten West Link Series Compensation Station.

The proposed project is located about 30 miles east of Quartzite in La Paz County, Arizona, along and south of Interstate 10 near the Vicksburg Road exit. The application areas cover about 5,142 acres of public land administered by the BLM. The proposed project also includes 56 acres of Arizona State Trust land and 6 acres of private land for the generation tie-in (gen-tie) transmission line. The map that BLM provided showing the location of the application area is presented below.

BLM is the lead agency for the proposed project and has identified the following cooperating agencies – U.S. Fish and Wildlife Service (USFWS), Bureau of Reclamation, Department of Defense, Department of Energy, and U.S. Environmental Protection Agency (US EPA).

Scoping Comments

The purpose of scoping is to allow the public to participate in an “early and open process for determining the scope of issues to be addressed, and for identifying the significant issues related to a proposed action” [40 Code of Federal Regulations (CFR) 1501.7]. The DEIS should discuss how this proposed project conforms to the management structure of the current land management plan for the area (e.g., Yuma Resource Management Plan (BLM 2010)) and other related documents (Programmatic Solar EIS (BLM and DOE 2012).

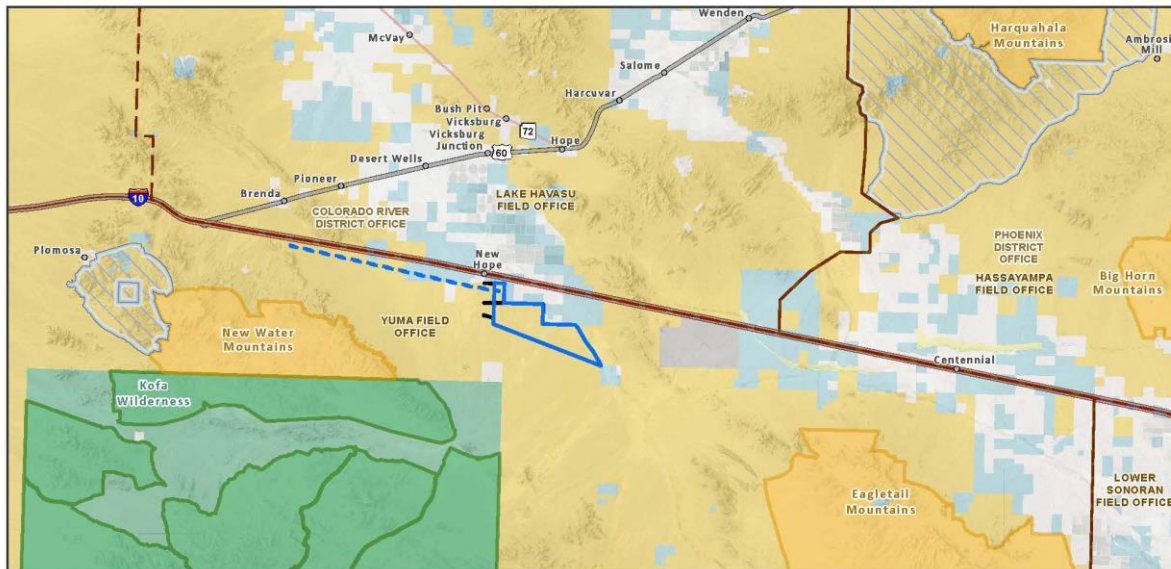
Project Description

The maps of the project site that BLM provided is small and has little information on natural and human-created features within the project boundary and nearby area (e.g., elevation, topography, occurrence of washes, vegetation associations, access, buildings, utilities, etc.). The DEIS should include this information.



BLM AZ Renewable Energy - Ranegras Plains Solar Overview

Bureau of Land Management - Arizona State Office



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|-----------------------------|--|----------------------------------|
| Ranegras Plains Solar | Area Critical Environmental Concern (ACEC) | Surface Management Agency |
| Access Roads - 40 ft. Width | BLM Wilderness Area | Bureau of Land Management |
| Gen-Tie | USFWS Wilderness Area | Bureau of Reclamation |
| | BLM Admin Boundaries | County |
| | Field Office Boundary | Local or State Parks |
| | District Office Boundary | Private |
| | | State |
| | | US Fish and Wildlife Service |

Map Produced by BLM Arizona State Office
 Coordinate System: NAD 1983 UTM Zone 12N
 Scale: 1:375,000 at 8.5x11 page output
 Date: 10/20/2023

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

The information BLM provided about the proposed project does not include the decommissioning and restoration of the project area. The solar projects that the Council has reviewed that are proposed for locations on BLM land in other states have included these phases as part of the proposed project. We request these be included or that BLM explain why they are not included. This information is important in determining and developing appropriate and effective mitigation for the project. Absent this information, we conclude that BLM expects the project impacts to be in perpetuity and the mitigation should reflect this impact.

Alternatives Proposed and Analyzed

We are continually dismayed that BLM’s “alternatives analyses” rarely require Applicants to consider alternative locations for solar projects. For every project we are aware of on our public lands managed by the BLM, a single fixed location is identified; the impact area may be slightly smaller or larger, but there is never a second or third location. The DEIS should consider alternative sites in its analysis, and document why this particular site was chosen. For example, was it chosen because these lands are brown fields, old agriculture, or other human uses of biotic habitats that have been degraded (these would be biologically-based determinations), or was the location selected solely for financial or technical reasons.

A federal appellate court has ruled that in an EIS a federal agency must evaluate a reasonable range of alternatives to the project including other project and mitigation sites, and must give adequate consideration to the public's needs and objectives in balancing ecological protection with the purpose of the proposed project, along with adequately addressing the proposed project's impacts on the desert's sensitive ecological system [National Parks & Conservation Association v. Bureau of Land Management, Ninth Cir. Dkt Nos. 05-56814 et seq. (11/10/2009)].

Rooftop Solar: The Council requests that the BLM describe the purpose and need for this project and develop and analyze other viable alternatives, such as "rooftop solar," which is a term for placing solar panels in already developed areas including parking lots as well as on the roofs of buildings, and which we believe constitute "other reasonable courses of actions" (40 CFR 1508.25). As an example, we are aware that there are one or more dairy operations west of the proposed project site with several large, shaded feeding areas and barns for dairy cows. Placing some of the solar panels on the roofs of these structures would likely reduce the footprint of the proposed project resulting in fewer adverse impacts to natural resources, less mitigation that the Applicant would need to implement, and be located closer to Compensation Station.

The Council supports alternatives to reduce the need for additional solar energy projects in relatively undisturbed habitats. For example, the City of Los Angeles has implemented a rooftop solar Feed-in Tariff (FiT) program, the largest of its kind in America. The FiT program enables the owners of large buildings to install solar panels on their roofs, and sell the power they generate back to utilities for distribution into the power grid. We request that BLM include an urban solar alternative. Under this alternative, owners of large buildings or parking areas would grant a project proponent permission to install solar panels on their roofs and cover parking areas, and sell the power they generate back to utilities for distribution into the power grid.

This approach puts the generation of electricity where the demand is greatest, in populated areas. It would also reduce transmission costs, greenhouse gas emissions from constructing energy projects far from the sources of power demand and materials for construction, the elimination of plants at the project site that sequester carbon now and into the future, the number of affected resources in the desert that must be analyzed under the National Environmental Policy Act (NEPA), and mitigation costs for direct, indirect, and cumulative impacts; monitoring and adaptive management costs; and habitat restoration costs following decommissioning. The DEIS should include an analysis of where the energy generated by this project would be sent and the needs for energy in those targeted areas that may be satisfied by urban solar. We request that at least one viable alternative be analyzed in the DEIS where electricity generation via solar energy is located much closer to the areas where the energy will be used, including generation in urban/suburban areas.

We ask that a realistic analysis of rooftop solar be developed in the DEIS and not dismissed in an "Alternative Considered but Rejected from Further Consideration" without any meaningful analysis; that the project does not financially benefit this particular project proponent is not a good enough reason to dismiss a rooftop solar alternative.

Sites with Degraded Natural Resources: In addition, BLM should include a viable alternative of locating solar projects on bladed or highly degraded tracts of land (e.g., abandoned agricultural fields,). Such an alternative would not result in the destruction of desert habitats and mitigation for the lost functions and values of these habitats. These losses and mitigation are costly from an economic, environmental, and social perspective.

These two alternatives are important to consider to minimize or avoid the loss of vegetation that sequesters carbon. Studies around the world have shown that desert ecosystems can act as important carbon sinks. For example, 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). This situation is likely true for Arizona. Given the current climate change conditions, there is an increasing need for carbon sequestration. Vascular plants are a primary user of carbon. The proposed project would result in the destruction of thousands of acres of vegetation. This destruction would release carbon sequestered in the roots of these plants and would eliminate the ability of these plants to sequester carbon in the future unless successful measures are implemented to restore the same biomass of native vegetation as it is being destroyed. For helping to minimize the impacts of climate change, it is imperative that the proposed project not result in the loss of vegetation and release of carbon.

Distributed Generation: Another alternative that BLM should analyze is Distributed Generation Alternatives. Distributed Generation installs smaller scale PV facilities at or near the point of energy use, i.e., metropolitan/urban areas. The Distributed Energy Alternatives should include BLM-land only and a combination of BLM land and land owned/managed by others (e.g., private and State lands).

Strategically Locate the Project: Still another alternative is to consider a much larger area, conduct surveys for natural resources including the tortoise throughout this area, and using these results, site the solar project, access roads, and gen-tie line in areas that have the least adverse impacts to these resource issues.

An Option for Alternatives with in Areas with Native Vegetation: During the past decade, there has been a trend towards mowing the vegetation beneath new solar panels, allowing it to grow back, and then allowing tortoises to repatriate areas beneath the panels. The DEIS should consider the monitoring results of recently developed solar projects where soils have been bladed versus those facilities where the vegetation has been mowed or crushed and allowed to revegetate the area. In the latter case, it may be appropriate to allow tortoises to enter the facilities and re-establish residency (i.e., repatriate) under the solar panels as vegetation recolonizes the area or allow tortoises to move through the Project site when traversing between upper elevation habitats. This could be an option for the current project. It should be designed/implemented as a scientific experiment to add to the limited data on this approach to determine the extent of effects on Sonoran desert tortoise populations and movements/connectivity between populations, which is an important issue for this species, particularly over the long-term. Long-term monitoring for the life of the project would need to be included to accurately evaluate the effectiveness of this strategy. We request that this study be included in the DEIS.

Compliance with Relevant Regulations, Codes and Policies

We expect that BLM will comply fully with all applicable statutes, regulations, Executive and Departmental Orders, BLM manuals, and other requirements, including state requirements, as they pertain to the proposed project. BLM should demonstrate in the DEIS that the proposed project meets all these requirements with respect to the tortoise, that:

- The proposed project will be in conformance with decisions in current land use plan(s) and the Federal Land Policy and Management Act (FLPMA) with respect to sustained yield;
- the proposed project will be consistent with priority conservation, restoration, and/or adaptation objectives in the best available landscape-scale information (e.g., for tortoise population connectivity, management of native plant species and reduction/elimination of non-native, invasive species, etc.);
- the applicant has coordinated with governments and all appropriate agencies, and will implement actions that comply with officially adopted plans and policies (e.g., conservation and management plans);
- the proposed project is in an area with low or comparatively low resource conflicts and where conflicts can be resolved with effective mitigation;
- the proposed project will be located in, or adjacent to, previously contaminated or disturbed lands;
- the proposed project will avoid, and if not possible, minimize adverse impacts to important wildlife habitats and migration/movement corridors including the desert tortoise;
- the proposed project will minimize impacts on lands with wilderness characteristics and the values associated with these lands, with particular focus on the New Water and Eagletail Mountains Wilderness Areas and Kofa National Wildlife Refuge;
- the proposed project will not adversely affect lands donated or acquired for conservation purposes, or mitigation lands identified in previously approved projects such as translocation areas for desert tortoise;
- significant cumulative impacts on resources of concern should not occur as a result of the proposed project (i.e., exceeding an established threshold such as population viability for the tortoise or connectivity among tortoise populations); and,
- BLM's analysis would use current data on the tortoise for the project area, population, and range wide, as population numbers and densities have substantially declined in many areas along with the recent destruction of habitat from fires, so environmental documents should publish the data/knowledge currently available.

We believe that a multiagency approach is best to ensure BLM is meeting its obligations, soliciting review and input from pertinent federal and state resource agencies, academia, Tribal governments/agencies, and non-governmental organizations (NGOs). We ask that as the Federal Lead Agency, the BLM, ensure that provisions given in the following documents be implemented if this project is developed:

- Arizona Game and Fish Department. 2010. Desert Tortoise Survey Guidelines for Environmental Consultants.
- Arizona Game and Fish Department. 2014. Guidelines for Handling Sonoran Desert

Tortoises Encountered on Development Projects.

- Arizona Interagency Desert Tortoise Team. 2008. Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat. June 2008.
- Bureau of Land Management. 2008a. Special Status Species Management – Manual 6840. Washington, D.C. December 12, 2008.
- Bureau of Land Management. 2021a. Reinstating the Bureau of Land Management (BLM) Manual Section (MS-1794) and Handbook (H-1794-1) on Mitigation. Instruction Memorandum IM 2021-046. September 22, 2021.
- Bureau of Land Management. 2021b. Mitigation Handbook (H-1794-1). https://www.blm.gov/sites/default/files/docs/2021-10/IM2021-046_att2.pdf.
- Bureau of Land Management. 2021c. Mitigation Manual (MS-1794). Bureau of Land Management, September 22, 2021. https://www.blm.gov/sites/default/files/docs/2021-10/IM2021-046_att1_0.pdf.
- Bureau of Land Management. 2022. Habitat Connectivity on Public Lands Instruction Memorandum 2023-005.
- Council on Environmental Quality. 2023. Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors.
- U. S. Fish and Wildlife Service and Cooperating Agencies comprising the Arizona Interagency Desert Tortoise Team. 2015. Candidate Conservation Agreement for the Sonoran Desert Tortoise (*Gopherus morafkai*) in Arizona. Phoenix AZ.

According to the BLM Manual 6840, Special Status Species Management includes the following BLM directives (BLM 2008a) that are applicable to the Sonoran desert tortoise:

6840.01 Purpose. The purpose of this manual is to provide policy and guidance for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands. BLM special status species are: (1) species listed or proposed for listing under the Federal Endangered Species Act (FESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the FESA, which are designated as BLM sensitive by the State Director(s).

6840.02 Objectives. The objectives of the BLM special status species policy are (1) to conserve and/or recover FESA-listed species and the ecosystems on which they depend so that FESA protections are no longer needed for these species, and (2), to initiate proactive conservation measures that reduce or eliminate threats to BLM-sensitive species to minimize the likelihood of and need for listing of these species under the FESA. With respect to the Sonoran desert tortoise, we request that the Proposed action or other alternatives contribute to meeting objectives in BLM Manual 6840 – Special Status Species Management (BLM 2008a).

Connected Actions

Pursuant to Section 1508.25 of the Council on Environmental Quality’s (CEQ) regulations (40 CFR 1508.25), any DEIS must cover the entire scope of a proposed action, considering all connected, cumulative, and similar actions in one document. Pursuant to Section 1506.1(a) of these regulations, an agency action cannot “[l]imit the choice of reasonable alternatives” before reaching a final decision in a published [Record of Decision] (ROD). These regulations ensure agencies will

prepare a complete environmental analysis that provides a “hard look” at the environmental consequences of all proposed actions instead of segmenting environmental reviews (Novack 2015). Please explain whether any current proposed actions within the region are connected and if not, why.

Affected Environment

The Ranegras Fields Solar Center Draft EIS should include data on tortoise survey results for the project site and adjacent areas. If these field data are unavailable, we request that BLM use available models of tortoise presence/habitat and overlay the proposed route networks for comparison/overlap. We ask that BLM be conscientious about minimizing the total number of disturbed acres in portions of the project area that are known to contain tortoises and higher quality habitat. Failure to provide these data would indicate that BLM lacks information on the demographic status of the tortoise in the project area and is unable to manage for the tortoise at a landscape level, as it committed to in the Sonoran Desert Tortoise Candidate Conservation Agreement (USFWS et al. 2015).

Standardized Surveys – Sonoran Desert Tortoise and Other Species

For the Draft EIS to fully analyze the effects and identify potentially significant impacts, the following surveys should be performed to determine the extent of rare plant and animal populations occurring within areas to be directly and indirectly impacted by the proposed project.

The Applicant should fund focused surveys for all rare plant and animal species reported from the vicinity of the proposed project (e.g., the Information for Planning and Consultation (IPaC – <https://ipac.ecosphere.fws.gov/>), NatureServe, etc.). Results of the surveys will determine appropriate permits from Arizona Game and Fish Department (AZGFD), BLM, and U.S. Fish and Wildlife Service (USFWS) and associated avoidance, minimization, and mitigation measures. Focused plant and animal surveys should be conducted by knowledgeable biologists for respective taxa (e.g., rare plant surveys should be performed by botanists), and to assess the likelihood of occurrence for each rare species or resource (e.g., plant community) that has been reported from the immediate region. Focused plant surveys should occur only if there has been sufficient rainfall to promote germination of annual plants in the spring or late summer. Alternatively, the DEIS may assess the likelihood of occurrence with a commitment by the proponents to perform subsequent focused plant surveys prior to ground disturbance, assuming conditions are favorable for germination.

Migratory Birds/Eagles: BLM should ensure that all actions it authorizes are implemented in compliance with the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and associated regulations, executive orders, and policies (e.g., Driscoll 2010, Pagel et al. 2010) to avoid mortality or injury to migratory birds and harassment of eagles.

Burrowing Owl: Because Arizona does not have a specified protocol, surveys for western burrowing owl (*Athene cunicularia*) should be coordinated with the USFWS as the species is protected under the Migratory Bird Treaty Act. BLM should consider implementing available survey methods (CDFG 2012). In addition to the project footprint, the protocol requires that

peripheral transects be surveyed at 30-, 60-, 90-, 120-, and 150-meter intervals in all suitable habitats adjacent to the subject property to determine the potential indirect impacts of the project on this species. If burrowing owl sign is found, California Department of Fish and Game (CDFG) (2012) describes appropriate minimization and mitigation measures that would be required. Also note that BLM should demonstrate in the DEIS how it will comply with “E.O. 13186 – Responsibilities of Federal Agencies To Protect Migratory Birds.” If burrowing owl sign is found, BLM and the Applicant should develop a science-based relocation/mitigation/monitoring/adaptive management plan with the USFWS and AZGFD and ensure that this plan is implemented.

Sonoran Desert Tortoise Surveys: Surveys for Sonoran Desert tortoise must be conducted at the proper times of year. Although there is not a formal protocol survey method for Sonoran desert tortoises, we believe that the survey methods for Mojave desert tortoise (USFWS 2019) would be appropriate. Because USFWS (2009) requires only experienced biologists to perform protocol surveys, USFWS biologists should review surveyors’ credentials prior to initiating the surveys. Per this protocol, if the impact area is larger than 500 acres, the surveys must be performed during the active time periods for the tortoise so that a statistical estimate of tortoise densities can be determined for the “action area” (i.e., the area to be affected both directly and indirectly by the proposed project) as applied to the species. The results of these surveys should be published in the DEIS and should include density estimates for each alternative assessed. If any tortoise sign is found, the Applicant should coordinate with USFWS and AZGFD prior to conducting any ground disturbance.

Tortoise Linkage Areas/Linkage Habitats: There is limited information on linkage areas/habitats for the Sonoran desert tortoise. However, information in the scientific literature suggests that interpopulation movements that historically linked tortoise populations has been drastically reduced by the development of anthropogenic barriers, so much so that these movements have likely become impossible (Edwards et al. 2004). Suter et al. (2023) noted that for the Sonoran desert tortoise “linear barriers to tortoise movement and dispersal are fragmenting landscape connectivity” and “may be changing the role and spatial distribution of important habitat patches, which may suppress the species’ ability to persist in the rapidly changing landscape that is the Sonoran Desert.” Habitat patches managed for tortoises are important for range wide connectivity for the tortoise (Suter et al. 2023).

We suggest using recent data about the Mojave desert tortoise in analyzing impacts from the Ranegras Plain Solar Center for this resource issue. In 2021, Averill-Murray et al. published a paper on connectivity of Mojave desert tortoise populations and linkage habitat. The authors 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.”

“Ignoring minor or temporary disturbance on the landscape could result in a cumulatively large impact that is not explicitly acknowledged (Goble 2009); therefore, understanding and quantifying all surface disturbance on a given landscape is prudent.” Furthermore, “habitat linkages among TCAs must be wide enough to sustain multiple home ranges or local clusters of resident tortoises (Beier et al. 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 inhabitation and permeability across all other non-conservation-designated tortoise habitat, all surface disturbance could 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.

The lifetime home range for the Mojave desert tortoise is more than 1.5 square miles (3.9 square kilometers) of habitat (Berry 1986) and may make periodic forays of more than 7 miles (11 kilometers) at a time (Berry 1986). Sonoran desert tortoise also likely make these long-distance forays between populations.

The fundamentals of conservation biology include the need for gene flow between populations to maintain genetic diversity; this enables a species to more likely survive, especially during climate change, which enables biodiversity. Thus, linkage habitats are important as they provide connectivity among wildlife populations to maintain viability and biodiversity.

The DEIS should include supported information on the heat sink impacts of solar projects and analyze what the impacts would be on the project site and nearby areas that may be used by tortoises during the operations and maintenance phase of the project.

Impacts from Proliferation of Nonnative Plant Species and Management Plan: The DEIS should include an analysis of how the proposed project would contribute to the spread and proliferation of non-native invasive plant species; how this spread/proliferation would affect the desert tortoise and its habitats (including availability of adequate nutritious forage and the frequency and size of human-caused fires); and how the proposed project may affect the frequency, intensity, and size of human-caused and naturally occurring fires. We strongly urge the BLM to include in the DEIS a management and monitoring plan for nonnative invasive plant species. The plan should integrate management/enhancement of native vegetation with fire prevention and fire response to wildfires.

BLM should require the Applicant to restore native vegetation at construction access roads and other areas not needed for operation and maintenance of the project. In addition, BLM should block the public from accessing the maintenance road(s) along the gen-tie line to prevent the impacts associated with this activity

Hydrology and Water Quality: Regarding water quality of surface and ground water, the DEIS should include an analysis of the impacts of water acquisition, use, and discharge for construction, panel washing, potable uses, and any other uses associated with this proposed project, and cumulative impacts from water use and discharge on native perennial shrubs and annual vegetation used for forage by the Mojave desert tortoise, including downstream and downslope impacts. The DEIS should analyze how much water is proposed to be used during construction, and operations, maintenance, decommissioning, and restoration; how any grading, placement, and/or use of any project facilities will impact downstream/downslope flows that are reduced, altered, eliminated, or enhanced. This analysis should include impacts to native and non-native vegetation and habitats for wildlife species including the Sonoran desert tortoise, for which washes are of particular importance for feeding, shelter, and movements. Bouse Wash appears to be in or adjacent to the project site and may be important in facilitating tortoise movements under Interstate 10.

We request that the DEIS include an analysis of how water use during construction, operations and maintenance, decommissioning, and habitat restoration will impact the levels of ground water in the region. These levels may then impact surface and near-surface flows at springs, seeps, wetlands, pools, and groundwater-dependent vegetation in the basin. The analyses of water quality and quantity of surface and ground water should include appropriate measures to ensure that these impacts are fully mitigated, preferably beginning with avoidance and continuing through CEQ's other forms of mitigation (40 CFR 1508.20).

Tortoise Predators and a Predator Management Plan: 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. However, in the Sonoran Desert, there has been limited scientific investigation on the impacts of ravens on tortoises.

The DEIS should analyze if this new solar facility and gen-tie line would result in an increase in common ravens and other predators of the desert tortoise in the action area, particularly given the proximity to occupied desert tortoise habitats in the adjacent mountains. During construction, operations and maintenance, decommissioning, and restoration phases of the proposed project, the BLM should require science-based management of common raven, coyote, and badger predation on tortoises in the action area. This would include the translocation 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 that are a water subsidy that attracts 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 BLM should require the project proponent to participate in efforts to address regional and cumulative impacts thereby helping to ensure effective management and conservation of the tortoise.

We request that for any of the transmission options, the project use infrastructure (particularly towers) that prevent raven nesting and perching for hunting. For example, for gen-ties/transmission lines 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. New fencing should not provide resources for ravens, like new perching and nesting sites.

Fire Prevention/Management Plans: The proposed project would include infrastructure components that have been known to cause fires. Lithium-ion batteries at the project site have the potential to explode and cause fires and are not compatible with using water for fighting fires. Photovoltaic panel malfunctions have caused vegetation to burn onsite. We request that the DEIS include a Fire Prevention Plan, in addition to a Fire Management Plan, and that it specifically target methods to deal with explosions/fires produced by these batteries/panels as well as other sources of fuel and explosives on the project site. The Fire Prevention Plan should be developed in combination with the management and monitoring plan for nonnative invasive plant species.

Translocation Plan - Translocated Tortoises & Translocation Sites: If the proposed project will displace tortoises, the following questions should be answered:

- How many tortoises will be displaced by the proposed project?
- How long will translocated tortoises be monitored?
- Will the monitoring report show how many of those tortoises lived and died after translocation and over time?
- Are there any degraded habitats or barren areas that may impair success of the translocation?
- Are there incompatible human uses in the new translocation area that need to be eliminated or managed to protect newly-translocated tortoises?
- Were those translocation areas sufficiently isolated that displaced tortoises were protected by existing or enhanced land management?
- How will the proponent minimize predation of translocated tortoises and avoid adverse climatic conditions, such as low winter rainfall conditions that may exacerbate translocation success?
- Were tortoises translocated to a site where they would be protected from threats (e.g., off-highway vehicles, future development, etc.)?

These questions should be answered and analyzed in the Environmental Consequences section of the DEIS.

The Applicant should implement the USFWS's Translocation Guidance (USFWS 2020) and coordinate translocation with BLM and AZGFD. In addition, the proponent's project-specific translocation plan should be based on current data and developed using lessons learned from earlier translocation efforts (e.g., increased predation, drought, etc.). The Translocation Plan should include implementation of a science-based monitoring plan approved by the USFWS and AZGFD that will accurately assess these and other issues to minimize losses of translocated tortoises and impacts to their habitat. For example, the health of tortoises may be jeopardized if they are translocated during drought conditions, which is known to undermine translocation successes (Esque et al. 2010). If drought conditions are present at the time of project development, we request that the Applicant confer with the USFWS/AZGFD immediately prior to translocating tortoises and seek input on ways to avoid loss of tortoises due to stressors associated with drought. One viable alternative if such adverse conditions exist is to postpone translocation until which time conditions are favorable to enhance translocation success.

Moving tortoises from harm's way, the focus of the Translocation Guidance, does not guarantee their survival and persistence at the translocation site, especially if it will be subject to increased human use or development. In addition to the Translocation Guidance and because translocation sites are mitigation for the displacement of tortoises and loss of habitat, these sites should be managed for the benefit of the tortoise in perpetuity. Consequently, a conservation easement or other durable legal designation should be placed on the translocation sites. The project proponent should fully fund management of the site to enhance it for the benefit of the tortoise in perpetuity.

In addition, we request that BLM develop a geographic information system that maps/tracks all locations of mitigation/compensation for projects authorized by BLM so these areas can be easily identified and not be developed for other uses in the future. This would apply to the tortoise and all special status species in Arizona. This map would be updated for each new BLM project and included in the BLM's NEPA document.

Monitoring: The DEIS should clearly identify that all monitoring plans that are included in each management plan will (1) be scientifically and statistically credible; (2) be implemented; and (3) require BLM/Applicant to implement adaptive management to correct land management practices promptly if the mitigation is not accomplishing its intended purposes. BLM should ensure that monitoring occurs to comply with Chapter 11 of the BLM National Environmental Policy Act Handbook H-1790-1 BLM (2008a).

Need for a Resource Management Plan Amendment: BLM should explain in the DEIS whether the proposed project is in compliance with the current resource management plan (RMP), and if not, what changes would be made to amend the RMP for the Ranegras Plains Solar Center. In 2013, BLM said it "intends to assess the need for new or expanded Solar energy zones (SEZs) at least once every five years." Further, Arizona BLM (2013) committed that "[t]he process to identify new or expanded SEZs will be open and transparent, with opportunities for substantial involvement of multiple stakeholders, and follow the steps outlined in the Solar ROD [Record of Decision](BLM and DOE 2012, page 168)."

Cumulative Effects Analysis: In the cumulative effects analysis of the DEIS, please ensure that the CEQs "Considering Cumulative Effects under the National Environmental Policy Act" (1997) is followed, including the eight principles, when analyzing cumulative effects of the proposed action to the tortoise and its habitats. CEQ states, "Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern. The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects." The analysis "must describe the response of the resource to this environmental change." Cumulative impact analysis should "address the sustainability of resources, ecosystems, and human communities." For example, the DEIS should include data on the estimated number of acres of tortoise habitats degraded/lost and the numbers of tortoises that may be lost to growth-inducing impacts in the region.

For federal projects where the lead agency funds, authorizes, or carries out some part of the project, CEQs guidance on how to analyze cumulative environmental consequences is given in the eight principles listed below:

1. Cumulative effects are caused by the aggregate of past, present, and reasonable future actions.

The effects of a proposed action on a given resource, ecosystem, and human community, include the present and future effects added to the effects that have taken place in the past. Such cumulative effects must also be added to the effects (past, present, and future) caused by all other actions that affect the same resource.

2. Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, non-federal, or private) has taken the actions.

Individual effects from disparate activities may add up or interact to cause additional effects not apparent when looking at the individual effect at one time. The additional effects contributed by actions unrelated to the proposed action must be included in the analysis of cumulative effects.

3. Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.

Environmental effects are often evaluated from the perspective of the proposed action. Analyzing cumulative effects requires focusing on the resources, ecosystem, and human community that may be affected and developing an adequate understanding of how the resources are susceptible to effects.

4. It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.

For cumulative effects analysis to help the decision maker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to the affected parties.

5. Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.

Resources are typically demarcated according to agency responsibilities, county lines, grazing allotments, or other administrative boundaries. Because natural and sociocultural resources are not usually so aligned, each political entity actually manages only a piece of the affected resource or ecosystem. Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use actual sociocultural boundaries to ensure including all effects.

6. Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.

Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects.

7. Cumulative effects may last for many years beyond the life of the action that caused the effects.

Some actions cause damage lasting far longer than the life of the action itself (e.g., acid mine damage, radioactive waste contamination, species extinctions). Cumulative effects analysis needs to apply the best science and forecasting techniques to assess potential catastrophic consequences in the future.

8. Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.

Analysts tend to think in terms of how the resource, ecosystem, and human community will be modified given the action's development needs. The most effective cumulative effects analysis focuses on what is needed to ensure long-term productivity or sustainability of the resource.

Note that CEQ recognizes that synergistic and interactive impacts as well as cumulative impacts should be analyzed in the NEPA document for the resource issues.

The Council understands that lands in applications for rights-of-way are "held" by BLM from other development. These "held" lands are not considered in cumulative impact analysis for other proposed projects unless the project is in the active [emphasis added] planning stage. This approach seems inconsistent with the purpose of cumulative impact analysis for reasons give below.

Cumulative effects is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). CEQ further states "[c]ommonly, analysts only include those plans for actions which are funded or for which other NEPA analysis is being prepared. BLM's approach does not meet the letter or intent of CEQ's regulations. It underestimates the number of future projects, because many viable actions may be in the early planning stages" (CEQ 1997).

BLM has stringent requirements when applying for a ROW, including 43 CFR 2804.12(a)(5) that requires the applicant to demonstrate technical and financial responsibility; 43 CFR 2804.26(a)(5) that requires BLM to review pending applications and reject those where the applicant cannot demonstrate technical or financial capability; and 43 CFR 2804.25 that requires the timely submittal of a Plan of Development (POD). In addition, under 43 CFR 2804.10(a), BLM should conduct a pre-application ROW meeting to identify potential environmental and siting constraints, determine whether lands are available for proposed ROW uses, discuss potential alternative site locations, discuss timeframes for processing proposed applications, inform applicants of financial obligations in processing an application, and facilitate coordination with federal, state, tribal and local government agencies.

The Council contends that if BLM follows these requirements, it is unlikely that when BLM accepts an application for a ROW, especially for solar energy development given the directives from the current administration for renewable energy development on BLM lands, it is likely to be granted and the project implemented. We request that BLM include ROW applications it has accepted but that have not entered the active planning stage in the cumulative impacts analysis for the Ranegras Plains Solar Center and for all future projects on BLM land. We understand BLM is considering several solar projects in Arizona and the total acreage may exceed 38,000 acres. This

acreage would be dedicated to a single use. This acreage is a substantial change to the current land use and should be included in the cumulative impact analysis for these projects. All should be considered when implementing the eight principles of cumulative effects analysis of the various resource issues, including the tortoise on a landscape level, to determine whether they should be included in this analysis.

We request that the DEIS (1) include the above eight principles in its analysis of cumulative impacts to the Sonoran desert tortoise; (2) address the sustainability of the tortoise in proximate mountain ranges; (3) include linkage habitats in its analysis of impacts that is needed for connectivity of tortoise populations; and (4) include mitigation along with monitoring and adaptive management plans that protect desert tortoises and their habitats during both construction and operation of approved facilities. The DEIS should include an analysis of all proposed mitigation and how its implementation (including monitoring for effectiveness and adaptive management) would result in “no net loss in quantity and quality of Sonoran desert tortoise habitat...and using offsite mitigation (compensation) for unavoidable residual habitat loss.”

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 Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects funded, authorized, or carried out by the BLM that may affect 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.
Chairperson, Ecosystem Advisory Committee, Desert Tortoise Council

Cc: Tracy Stone-Manning, Director, Bureau of Land Management, tstonemanning@blm.gov
Nada L. Culver, Deputy Director of Policy and Programs, Bureau of Land Management, nculver@blm.gov
David Jenkins, Assistant Director of Resources & Planning, Bureau of Land Management, djenkins@blm.gov
Raymond Suazo, Arizona State Director, Bureau of Land Management, rsuazo@blm.gov
Ann McPherson, Environmental Review, U.S. Environmental Protection Agency, mcperson.ann@epa.gov

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