



DESERT TORTOISE COUNCIL

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Via email only

November 18, 2018

Attn: Herman Pinales
Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130
BLM_NV_SNDO_DLE_DLA@blm.gov

RE: Comment Letter on Draft Resource Management Plan Amendment and Draft Environmental Assessment for Dry Lake East Designated Leasing Area (DOI-BLM-NV-S010-2018-0131-EA)

Dear Mr. Pinales:

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 solar project. Given the location of the proposed action in habitats occupied by Agassiz's desert tortoise (*Gopherus agassizii*) (synonymous with "Mojave desert tortoise"), our comments pertain to enhancing protection of this species during activities authorized by the Bureau of Land Management (BLM).

Summary of Proposed Action and Alternatives

The BLM, Las Vegas Field Office, has prepared a Resource Management Plan Amendment (RMPA) and Draft Environmental Assessment (Draft EA) (collectively Draft Document) to: 1) disclose and analyze the environmental effects of establishing the Dry Lake East Designated Leasing Area (DLA) for development of utility-scale photovoltaic solar energy generation and

transmission facilities, and 2) hold a competitive lease auction to take place so the area can be developed for utility-scale solar energy generation (Proposed Action collectively for 1 and 2).

The Proposed Action would be located on approximately 1,800 acres of lands managed by the BLM in a valley east of the Arrow Canyon Range, and north and west of the Dry Lake Range. The Proposed Action is approximately 10 miles northeast of Las Vegas, in Clark County, Nevada, east of the Dry Lake Solar Energy Zone (SEZ), and south of the Moapa Indian Reservation. According to BLM, all land in the SEZ has been used. The Draft Document analyzes the “no action” and “proposed action” alternatives for the leasing action.

Section 1 of the Draft Document

In section 1.2, Relationship to Other Plans and Analyses, BLM states, “The Proposed Action would be consistent with other officially approved federal, state, and local plans, policies, and programs and with applicable federal regulations, policies, and laws.” It then mentions the U.S. Fish and Wildlife Service’s (USFWS) 2012 programmatic biological opinion for the designation of the SEZs under the BLM’s Solar Energy Program.

We disagree with the inclusion of this biological opinion as consistent with the Proposed Action for two reasons. First, the Proposed Action is not within a SEZ, so the biological opinion is not consistent with or relevant to the Proposed Action. Second, the USFWS’ biological opinion was issued in 2012 using information available at that time on the Mojave desert tortoise. Since 2012, additional information has been published on the tortoise that shows its declining status and trend throughout a significant portion of its range. Please see *Status of the Mojave Desert Tortoise* below.

One of the requirements in a biological opinion is that reinitiation is required if new information reveals the effects of the proposed action on listed species or critical habitat is in a manner or to an extent that was not considered in the biological opinion. We believe that BLM should request reinitiation under section 7 of the federal Endangered Species Act (FESA) because of recent information on the declining status and trend of the Mojave desert tortoise as this information was not available at the time the biological opinion was prepared.

Status of the Mojave Desert Tortoise

The Council has serious concerns about direct, indirect, and cumulative sources of human mortality for the Mojave desert tortoise given the status and trend of the species rangewide, within each of the five recovery units, within the Tortoise Conservation Areas (TCAs) that comprise each recovery unit, and within/near areas identified by the USFWS as linkage areas or corridors between critical habitat units. The Proposed Action is near the Mormon Mesa tortoise population, is located in a key linkage area identified by the USFWS, and is located in tortoise habitat.

Densities of Adult Mojave Desert Tortoises: A few years after listing the Mojave desert tortoise under the FESA, the USFWS published a Recovery Plan for the Mojave desert tortoise (USFWS 1994a). It contained a detailed population viability analysis. In this analysis, the minimum viable density of a Mojave desert tortoise population is 10 adult tortoises per mile² (3.9 adult tortoises per km²). This assumed a male-female ratio of 1:1 (USFWS 1994a, page C25) and certain areas of habitat with most of these areas geographically linked by adjacent borders or corridors of

suitable tortoise habitat. Populations of Mojave desert tortoises with densities below this amount are in danger of extinction (USFWS 1994a, page 32). The Revised Recovery Plan (USFWS 2011) designated five recovery units for the Mojave desert tortoise that are intended to conserve genetic, behavioral, and morphological diversity necessary for the recovery of the entire listed species (Allison and McLuckie 2018).

Rangewide, densities of adult Mojave desert tortoises declined more than 32% between 2004 and 2014 (Table 1) (USFWS 2015). At the recovery unit level, between 2004 and 2014, densities of adult desert tortoise declined, on average, in every recovery unit except the Northeastern Mojave (Table 1). Adult densities in the Northeastern Mojave Recovery Unit increased 3.1% per year (SE = 4.3%), while the other four recovery units declined at different annual rates: Colorado Desert (4.5%, SE = 2.8%), Upper Virgin River (3.2%, SE = 2.0%), Eastern Mojave (11.2%, SE = 5.0%), and Western Mojave (7.1%, SE = 3.3%) (Allison and McLuckie 2018). However, the small area and low starting density of the tortoises in the Northeastern Mojave Recovery Unit (lowest density of all Recovery Units) resulted in a small overall increase in the number of adult tortoises by 2014 (Allison and McLuckie 2018). In contrast, the much larger areas of the Eastern Mojave, Western Mojave, and Colorado Desert recovery units, plus the higher estimated initial densities in these areas, explained much of the estimated total loss of adult tortoises since 2004 (Allison and McLuckie 2018).

At the population level, represented by tortoises in the TCAs, densities of 10 of 17 monitored populations of the Mojave desert tortoise declined from 26% to 64% and 11 have densities that are less than 3.9 adult tortoises per km² (USFWS 2015). Of the three populations of Mojave desert tortoises that are near the Proposed Action, the Gold Butte population is below the minimum viable density, the Coyote Spring population is slightly above the minimum viable density (4.0 tortoises per km² vs. 3.9 per km²), and the Mormon Mesa population is above the minimum viable density (USFWS 2015). While the 2015 data indicate that these populations are increasing, tortoises cannot afford additional impacts that would slow or reverse this trend. We are concerned that the Proposed Action would bring additional indirect impacts to these populations, especially the Mormon Mesa population, and their trend would decline.

Table 1. Summary of 10-year trend data for 5 Recovery Units and 17 Critical Habitat Units (CHU)/Tortoise Conservation Areas (TCA) for Agassiz's desert tortoise, *Gopherus agassizii* (=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 2004-2014. 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 (USFWS 2015).

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, 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
Total amount of land	25,678	100.00		-32.18 decline

Population Data on Mojave Desert Tortoise: The Mojave desert tortoise was listed as threatened under the FESA in 1990. The listing was warranted because of ongoing population declines throughout the range of the tortoise from multiple human-caused activities. Since the listing, the status of the species has changed. Population numbers (abundance) and densities continue to decline substantially (please see Table 1).

Density Juvenile Mojave Desert Tortoises: Survey results indicate that the proportion of juvenile desert tortoises has been decreasing in all five recovery units since 2007 (Allison and McLuckie 2018). The probability of encountering a juvenile tortoise was consistently lowest in the Western Mojave Recovery Unit. Allison and McLuckie (2018) provided reasons for the decline in juvenile desert tortoises in all recovery units. These included decreased food availability for adult female tortoises resulting in reduced clutch size, decreased food availability resulting in increased mortality of juvenile tortoises, prey switching by coyotes from mammals to tortoises, and increased abundance of common ravens that typically prey on smaller desert tortoises.

Declining adult densities through 2014 have left the Western Mojave adult numbers at 49% (a 51% decline) and in the Eastern Mojave at 33% (a 67% decline) of their 2004 levels (Allison and McLuckie 2018, USFWS 2015). Such steep declines in the density of adults are only sustainable if there were suitably large improvements in reproduction and juvenile growth and survival. However, the proportion of juveniles has not increased anywhere in the range of the Mojave desert tortoise since 2007, and in the Western and Eastern Mojave recovery units the proportion of juveniles in 2014 declined to 91% (a 9% decline) and 77% (a 23% decline) of their representation in 2004, respectively (Allison and McLuckie 2018).

Abundance of Mojave Desert Tortoises: Allison and McLuckie (2018) noted that because the area available to tortoises (i.e., tortoise habitat and linkage areas between habitats) is decreasing, trends in tortoise density no longer capture the magnitude of decreases in abundance. Hence, they reported on the change in abundance or numbers of the Mojave desert tortoises in each recovery unit (Table 2). They noted that these estimates in abundance are likely higher than actual numbers of tortoises and the changes in abundance (i.e., decrease in numbers) are likely lower than actual numbers because of their habitat calculation method. They used area estimates that removed only impervious surfaces created by development as cities in the desert expanded. They did not consider degradation and loss of habitat from other sources, such as the recent expansion of military operations (753.4 km² so far on Fort Irwin and the Marine Corps Air Ground Combat Center, both in the Western Mojave Recovery Unit), intense or large scale fires (e.g., 576.2 km² of critical habitat that burned in 2005), development of utility-scale solar facilities (so far 194 km² have been permitted) (USFWS 2016), or other sources of degradation or loss of habitat (e.g., recreation, mining, grazing, infrastructure, etc.). Thus, the declines in abundance of Mojave desert tortoise are likely greater than those reported in Table 2.

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%

Habitat Availability: Data on population density or abundance does not indicate population viability. The area of protected habitat or reserves for the subject species is a crucial part of the viability analysis along with data on density, abundance, and other population parameters. In the Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994a), the analysis of population viability included population density and size of reserves (i.e., areas managed for the desert tortoise) and population numbers (abundance) and size of reserves. The USFWS' Recovery Plan reported that as population densities for the Mojave desert tortoise decline, reserve sizes must increase, and as population numbers (abundance) for the Mojave desert tortoise decline, reserve

sizes must increase (USFWS 1994a). In 1994, reserve design (USFWS 1994a) and designation of critical habitat (USFWS 1994b) were based on the population viability analysis from numbers (abundance) and densities of populations of the Mojave desert tortoise in the early 1990s. Inherent in this analysis is that the lands be managed with reserve level protection (USFWS 1994a, page 36) or ecosystem protection as described in section 2(b) of the FESA, and that sources of mortality be reduced so recruitment exceeds mortality (that is, $\lambda > 1$) (USFWS 1994a, page C46).

Habitat loss would also disrupt the prevailing population structure of this widely distributed species with geographically limited dispersal (isolation by distance; Murphy et al. 2007; Hagerty and Tracy 2010). Allison and McLuckie (2018) anticipate an additional impact of this habitat loss/degradation is decreasing resilience of local tortoise populations by reducing demographic connections to neighboring populations (Fahrig 2007). Military and commercial operations and infrastructure projects that reduce tortoise habitat in the desert are anticipated to continue (Allison and McLuckie 2018) as are other sources of habitat loss/degradation.

Allison and McLuckie (2018) reported that the life history of the Mojave desert tortoise puts it at greater risk from even slightly elevated adult mortality (Congdon et al. 1993; Doak et al. 1994), and recovery from population declines will require more than enhancing adult survivorship (Spencer et al. 2017). The negative population trends in most of the TCAs for the Mojave desert tortoise indicate that this species is on the path to extinction under current conditions (Allison and McLuckie 2018). They state that their results are a call to action to remove ongoing threats to tortoises from TCAs, and possibly to contemplate the role of human activities outside TCAs and their impact on tortoise populations inside them.

Densities, numbers, and habitat for the Mojave desert tortoise declined between 2004 and 2014. As reported in the population viability analysis, to improve the status of the Mojave desert tortoise, reserves (area of protected habitat) must be established and managed. When densities of tortoises decline, the area of protected habitat must increase. When the abundance of tortoises declines, the area of protected habitat must increase. We note that the Desert Tortoise (Mojave Population) Recovery Plan was released in 1994 and its report on population viability and reserve design was reiterated in the 2011 Revised Recovery Plan as needing to be updated with current population data (USFWS 2011, p. 83). With lower population densities and abundance, a revised population viability analysis would show the need for greater areas of habitat to be protected for the Mojave desert tortoise. In addition, we note that none of the recovery actions that are fundamental tenets of conservation biology has been implemented throughout most or all of the range of the Mojave desert tortoise.

Definition of an Endangered Species: Agassiz's 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 Agassiz's desert tortoise to be Critically Endangered (Turtle Conservation Coalition 2018).

The IUCN places a taxon in the Critically Endangered category when the best available evidence indicates that it meets one or more of the criteria for Critically Endangered. These criteria are: 1)

population decline - a substantial (>80 percent) reduction in population size in the last 10 years; 2) geographic decline - a substantial reduction in extent of occurrence, area of occupancy, area/extent, or quality of habitat, and severe fragmentation of occurrences; 3) small population size with continued declines; 4) very small population size; and 5) analysis showing the probability of extinction in the wild is at least 50 percent within 10 years or three generations.

In the FESA, Congress defined an “endangered species” as “any species which is in danger of extinction throughout all or a significant portion of its range...” Given the information above under the *Status of the Mojave Desert Tortoise* and the definition of an endangered species, the Council believes the status of the Mojave desert tortoise is that of an endangered species. This biological status should be included in the analysis of impacts of the Proposed Project to the tortoise.

The Council believes that the Draft Document is deficient in revealing the declines listed above. We believe that the Final Document needs to be augmented with this information to be considered complete and to educate the public and decision-maker on the current plight of the Mojave desert tortoise.

Analysis of Alternatives

In reviewing the Draft Document, we are not sure why BLM selected the DLA for leasing and future solar energy development. Although it had previously been included in Dry Lake Solar Energy Zone (SEZ) in the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Draft PEIS) (BLM and DOE 2010), the DLA was eliminated from the SEZ in the Final PEIS (BLM and DOE 2012).

The Council on Environmental Quality (CEQ) promulgates compliance regulations as authorized by National Environmental Policy Act (NEPA). Pursuant to Section 1508.25 of the CEQ regulations, a NEPA document must cover the entire scope of a proposed action, considering all connected, cumulative, and similar actions in one document. Under Section 1506.1(a) of these regulations, a discretionary action by a federal agency cannot “[l]imit the choice of reasonable alternatives” before reaching a final decision. We note that in issuance of the Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Final PEIS, BLM and DOE 2012), a final decision was reached to eliminate the southern portion of the Dry Lake SEZ or DLA from the Dry Lake SEZ. We believe that decision completed this NEPA process for designation of SEZs.

In addition, it established BLM’s new baseline for analysis of future decisions on solar energy development outside the SEZs. As such, BLM is obligated to follow CEQ’s regulations for its new proposed action, the development of individual projects in the DLA using this new baseline. This is especially important given new information on the status of the Mojave desert tortoise and connectivity data/needs for the tortoise. The Dry Lake SEZ is situated in an area that provides habitat and genetic connectivity between areas with greater habitat suitability, particularly between the Mormon Mesa Critical Habitat Unit west of the SEZ and portions of greater habitat suitability north and east of the SEZ (Figure 11.3.12.1-1 in the Final PEIS) (BLM and DOE 2012). The USFWS identified the entire revised SEZ and the DLA as priority connectivity habitat for the desert tortoise through a least-cost pathway model (Ashe 2012) based

upon the United States Geological Survey (USGS) model for desert tortoise predicted suitable habitat (Nussear et al. 2009). High-priority connectivity areas “...are necessary to facilitate natural processes of gene exchange between populations in order to maintain population viability (BLM and DOE 2012).”

Given the BLM’s final decision to eliminate the DLA from the SEZ, this allows BLM to site individual projects in an approved SEZ as described in the Final PEIS, or site them elsewhere as directed by regulation and court decisions. While the DLA may be proposed as a site for future leasing for solar energy development, we note that in the development of alternatives, the BLM must include a reasonable range of alternatives to the project including other sites. We did not find this reasonable range of alternatives in the Draft Document, which should be identified and analyzed in the Final Document.

The Council supports alternatives not identified in the Draft Document to reduce the need for additional solar energy projects in relatively undisturbed habitats in the Mojave Desert. One such alternative is rooftop solar. The owners of large buildings should install solar panels on their roofs, and sell the power these panels 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 may also reduce transmission costs; the number of affected resources that must be analyzed under NEPA and other environmental laws; mitigation costs for direct, indirect, and cumulative impacts; monitoring and adaptive management costs; and habitat restoration costs following decommissioning. The Final Document should include an analysis of where the energy generated by this Project would be sent, and how the needs for energy in those targeted areas may be satisfied by rooftop solar.

In addition, BLM should include another viable alternative of locating solar projects on bladed or highly degraded tracts of land (e.g., abandoned agricultural fields) rather than destroying desert habitats and attempting to mitigate for the lost functions and values of these habitats. The latter approach is costly from an economic, environmental, and social perspective. To support the development of these additional alternatives, we note that a federal appellate court has previously ruled that the BLM must evaluate a reasonable range of alternatives to the project including other sites (as previously mentioned), and must give adequate consideration to the public’s needs and objectives in balancing ecological protection with the purpose of the proposed project/proposed action, along with adequately addressing the proposed project’s/proposed action’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.* (11/10/09)).

We believe the BLM has artificially narrowed the Purpose and Need of the Draft Document so that only the location that will meet the Purpose and Need is the DLA. BLM’s statement in section 2.3, Alternatives Considered but Eliminated from Detailed Analysis, supports this belief. The Draft Document states: “No other alternatives were required to address unresolved conflicts concerning alternative uses of available resources.” Consequently, we believe the Draft Document does not comply with NEPA. In addition, in the Draft Document, BLM says “As all land in the Dry Lake Solar Energy Zone (SEZ) has been used, there is a need to identify and prioritize additional locations best suited for the production of solar energy on public lands.” We thought this was the purpose of BLM designating SEZs throughout many western states on BLM land

and the programmatic EIS process. We are confused regarding BLM's insistence that future solar energy projects must be limited to this area around the Dry Lake SEZ.

We request that BLM expand the Purpose and Need sections in the Final Document to represent the public's need for electricity and resource protection, evaluate a reasonable range of alternatives, and in this range of alternatives include one or more viable alternatives where solar energy production is located much closer to the areas where the energy use has the greatest demand, including urban/suburban areas (e.g., "rooftop solar" and others).

BLM's Need to Approve the Lease of the DLA before Conducting Environmental Analysis

In section 1.2, Relationship to Other Plans and Analyses, BLM states "The Draft Solar Programmatic Environmental Impact Statement (Draft PEIS)...contained a comprehensive environmental review of all of the BLM's identified SEZs, including direct, indirect, and cumulative impacts for each SEZ, so that projects proposed with the DLA could tier off the Draft Solar PEIS resulting in limited project-specific NEPA analysis."

In section 3.1, Analysis Assumptions, BLM states "The assumptions used for impact analysis across all resources are as follows:

- The land will be leased by the BLM through a competitive lease auction and utilized for photovoltaic development;
- The decisions to be made based on this analysis are purely administrative and will not result in any ground disturbance;
- No direct impacts on resources (other than visual) will occur;
- Indirect impacts would occur as a result of the designation of a solar leasing area and are discussed in the resources sections below;
- Decisions made from this document will not allow ground disturbance; and
- Project-specific NEPA analyses will be performed for future projects that occur within the DLA to identify specific impacts."

Regarding the Mojave desert tortoise, in Table 3.3-1, Threatened Endangered or Candidate Animal Species, BLM states "Desert tortoise (*Gopherus agassizii*), is the only Threatened or Endangered species present in the proposed DLA. The action to designate the DLA will result in no direct physical change to the habitat. The Proposed Action is not anticipated to cause adverse impacts on tortoise populations or cause extraordinary circumstances/noncompliance with the RMP. The Proposed Action has a no effect determination on the threatened desert tortoise (*Gopherus agassizii*). This project would have no effect on any other federally listed species or designated critical habitat."

"Desert tortoises are distributed within the proposed DLA. The primary direct impacts of future proposed actions on federally protected species would be the potential take through mortality or injury of desert tortoise during construction, maintenance, and harassment of federally protected species from potential translocation. Project-specific tortoise surveys would be required and would be performed according to USFWS protocol prior to construction of individual solar projects within the DLA. Tortoise translocation plans will be developed as part of site-specific NEPA analysis. This notice will serve as the Section 7 Determination and no additional paperwork will be provided (Sec 7 Log # NV-052-18-055)."

We have several concerns regarding these statements in the Draft Document and BLM's intent of leasing the DLA prior to conducting project-specific environmental analysis.

1. The Final PEIS indicates that both the northern and southern areas of the proposed Dry Lake SEZ were reduced. The southern area included the elimination of the DLA. However, we were unable to find in the Final PEIS a clear statement on why the decision-maker eliminated the northern and southern areas of the SEZ in the Final PEIS. Under each resource subheading, the Final PEIS indicated that overdrafting of ground water; substantial impacts to visual resources; and impacts to military operations, the acoustical environment, cultural resource impacts, and tribal concerns would be somewhat to substantially reduced. In addition, the Final PEIS says the Dry Lake SEZ was reduced with the intent of avoiding or minimizing some potential impacts on desert tortoise after the USFWS identified the entire revised SEZ and the DLA as priority connectivity habitat for the desert tortoise. This area "provides habitat and genetic connectivity between areas with greater habitat suitability, particularly between the Mormon Mesa Critical Habitat Unit west of the SEZ and portions of greater habitat suitability north and east of the SEZ" (BLM and DOE 2012). If these were the reasons for eliminating the northern and southern areas from the Dry Lake SEZ, most/all of these concerns would likely remain with the leasing of the DLA as it commits BLM to using this area for solar energy development. We request in the Final Document that BLM clarify the reason(s) the northern and southern areas were eliminated from the Dry Lake SEZ and how leasing the southern area maintains the decision-maker's reason(s) for eliminating the southern area or DLA from the SEZ.

We note that the Final PEIS includes the following language "Development of actions to reduce impacts (e.g., reasonable and prudent alternatives, reasonable and prudent measures, and terms and conditions) on the desert tortoise would require formal consultation with the USFWS under Section 7 of the ESA. This project-level consultation will tier from the programmatic ESA Section 7 consultation." By including "reasonable and prudent alternatives" and "project-level consultation" in the Final PEIS, BLM and DOE are acknowledging that alternatives to partial or full development of the final Dry Lake SEZ may be necessary to prevent this SEZ from jeopardizing the continued existence of the tortoise. This language also reinforces BLM's need to consider other viable alternatives for solar energy development outside the DLA in the Final Document.

2. The information in the Final PEIS for moving forward with solar energy development outside the Dry Lake SEZ and BLM's variance process appears to contradict the path and intent of the Draft Document. The Final PEIS states, "The lands eliminated from the proposed Dry Lake SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in these areas to avoid and/or minimize impacts. Any solar development within these areas in the future would require appropriate environmental analysis."

According to the BLM website on solar variances (<http://blmsolar.anl.gov/variance/>), "to provide flexibility, variance areas are potentially available for utility-scale solar energy development in accordance with the variance process. Variance areas are made up of BLM-administered lands that are outside of solar energy zones (SEZs) and not otherwise excluded by the Solar Energy Program. The BLM will consider right-of-way (ROW) applications for utility-scale solar energy development in variance areas on a case-by-case basis based on environmental considerations;

coordination with appropriate Federal, State, and local agencies and tribes; and public outreach. This evaluation is referred to as the variance process.” We believe that BLM should follow its variance process and not lease land for solar energy development in the DLA or elsewhere before receiving applications, evaluating them on a case-by-case basis, and coordinating with the public. After this analysis, the decision-maker would have information to make an informed decision per CEQ regulations.

3. We find the process that BLM is implementing beginning with the Draft PEIS to the Draft Document confusing. Initially BLM and DOE included the DLA in the proposed Dry Lake SEZ, and then they excluded the northern and southern (DLA) areas of the SEZ in the Final PEIS. Now it appears BLM wants to develop the DLA for solar energy by granting a lease prior to conducting an analysis of environmental impacts for each proposed project. The Council does not see this process as transparent or logical to the public because the process does not follow the path set by the BLM and DOE in preparing a PEIS to designate SEZs, and does not follow the BLM’s variance process. Consequently, we find it confusing. As such, it does not allow the public to fully understand and effectively comment on the Draft Document for the DLA.

4. From the BLM’s past and current process and actions, the Council has the perception that the BLM is segmenting the approval process for solar energy development in the DLA. We are concerned that if BLM approves the Draft Document for leasing the DLA for solar development, this “seals the fate” of this area for future development. While the action of leasing the DLA or any other BLM land for future solar development is an administrative action that does “not allow ground disturbance,” it is intrinsically linked to solar energy development in the DLA that will result in future ground disturbance along with numerous other direct, indirect, and cumulative impacts to the human environment. But for the leasing, the solar development projects would not occur in the DLA. In addition, it contradicts the statements in the Final PEIS, “BLM expects that individual projects could be sited in these areas to avoid and/or minimize impacts,” and “Any solar development within these areas in the future would require appropriate environmental analysis. This analysis should be completed before issuing a lease or ROW in the DLA to ensure that the resource concerns that caused BLM to eliminate the DLA from the Dry Lake SEZ and other relevant resource concerns are considered before a final decision on land use is made.

5. We are concerned that BLM is proposing to use the environmental analysis in the 2010 Draft PEIS to inform the decision-maker and lease the DLA, yet we find this analysis is outdated and incomplete. This is true for the Mojave desert tortoise, especially at the population and species levels. The Draft PEIS does not provide an adequate foundation to fully inform the public or the decision-maker about the Proposed Action and all impacts to the tortoise. The Final PEIS, issued in 2012, includes additional information/analysis on the Mojave desert tortoise and other resource issues that were not in the Draft PEIS (e.g., “11 additional special status species have been identified that could potentially occur in the affected area” of the Dry Lake SEZ BLM and DOR 2012). Thus, this and other information and analysis is missing or outdated in the Draft PEIS that BLM is using to tier from for its preparation of/analysis in the Draft Document. The Final Document should rely on the latest available information, not outdated information given in the Draft PEIS.

Because the Final PEIS was released in 2012, some of its information and analysis is outdated. As mentioned above, the status of the desert tortoise has changed considerably since the Draft PEIS and Final PEIS were issued. In addition, we do not believe the PEIS fully complied with CEQ's requirement to conduct a cumulative impacts analysis of the impacts of the proposed action on the Mojave desert tortoise, the other resources that comprise/contribute to its habitat, or the ecosystem. If BLM's approach is to tier off the Draft PEIS as stated in the Draft Document, we strongly request that information in the Draft PEIS be added and updated, especially the information on the status of the Mojave desert tortoise, the analysis of impacts to the tortoise and its habitat at a population and species level, and its future survival. In addition, we strongly request that BLM ensure that CEQ's (1997) eight principles of cumulative impacts analysis be included and implemented when updating information and analysis in the Draft PEIS (see below).

6. We are concerned about the public maintaining its right to participate in the review of the environmental analysis of proposed projects, to provide comment, and if the public deems it appropriate, to challenge a federal agency regarding its decision for each project. BLM's proposed process for approval of leasing the DLA may mean the public would not have the opportunity to review and comment on the environmental analysis of solar energy projects or challenge the analysis/proposed decision because the decision had already been made when BLM issued the lease that lands in the DLA will be used for solar energy development.

7. We are concerned that cumulative impacts, especially concerning the desert tortoise and its habitat, may not have been adequately analyzed for the DLA. Section 11.3.22.4 Cumulative Impacts on Resources in the Final PEIS does not discuss solar development in the areas eliminated from the Dry Lake SEZ including the DLA.

The Council strongly requests that BLM prepare a new NEPA document (herein "Final Document") that complies with CEQ's regulations. This new document should begin with a new environmental baseline (the approved Dry Lake SEZ) and would include: 1) a broader Purpose and Need statement that reflects the needs of the public; 2) an evaluation of a reasonable range of alternatives for the entire proposed project including other sites; 3) an evaluation that gives adequate consideration to the public's needs and objectives in balancing ecological protection with the purpose of the entire proposed project; 4) an evaluation of the direct, indirect, and cumulative impacts of the entire proposed project on the status and trend of the Mojave desert tortoise at a population and species level, its future survival, critical habitat, and quality and quantity of habitat, including configuration for connectivity needs; and 5) and an evaluation of other sensitive biological resources in/near the project area.

For the evaluation of impacts on the tortoise, BLM should 1) provide analysis of impacts to survival, reproduction, and recruitment of the tortoise; 2) an analysis of impacts from predation, vandalism, collection, road use and the "road effect zone," disease, fire, invasive species, forage availability and nutrition, hazardous materials, and other forms of mortality; 3) analysis of climate change on the tortoise; and 4) how the configuration and quality of tortoise habitat under the no action and action alternatives impacts the future survival of the tortoise.

Once the impacts have been presented and evaluated in the Final Document, BLM should develop appropriate mitigation, monitoring, and adaptive management plans that fully address

and offset the local, regional, and cumulative impacts of the entire proposed project. Such plans would include (but are not limited to) 1) a fully-developed desert tortoise repatriation plan (and translocation plan if repatriation is not possible); 2) predator management, weed management, fire prevention and response, and hazardous material management plans; 3) 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; 4) a plan to protect tortoise translocation area(s) in perpetuity from future development and human use; and 5) habitat restoration plan when the lease is terminated and the entire proposed project is decommissioned.

The hazardous materials management plan should include requirements for safe transport, storage, use, and disposal of these materials as well as a response plan to deal with hazardous materials for the entire proposed project site, below the project site (e.g., ground water), and off site. In addition, the fire response plan should specifically target methods to deal with explosions/fires produced by batteries that may be used for storage of electrical power, as well as other sources of fuel and explosives on the project site. If the proposed project is located in important linkage areas for the desert tortoise, BLM should require monitoring of tortoise populations in the nearby tortoise conservation areas/ACECs to identify any impacts of the each proposed projects and be prepared to require implementation of additional mitigation, as appropriate, in coordination with USFWS and Nevada Department of Wildlife.

Cumulative Impacts Analysis

The CEQ (1997) 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.”

CEQ provides eight principles of cumulative impacts analysis (CEQ 1997, Table 1-2). These are as follows and should be addressed in the Final Document:

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 need 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.

In addition, CEQ states, “The consequences of human activities will vary from those that were predicted and mitigated.” “[M]onitoring for accuracy of predictions and the success of mitigation measures is critical.” “Adaptive management provides the opportunity to combine monitoring and decision making in a way that will ensure protection of the environment and societal goals.”

We were unable to find in the Draft Document, the application of these eight principles of cumulative impacts analysis with respect to the Mojave desert tortoise or commitments by the BLM to monitor the success of mitigation and implement adaptive management. We have the same comment for the Final PEIS. We request that BLM prepare a new NEPA document (herein “Final Document”) that includes these eight principles in its analysis of cumulative impacts to the Mojave desert tortoise. This NEPA document would analyze the sustainability of the tortoise given the information on the *Status of the Desert Tortoise* (provided above), and include monitoring and adaptive management for the mitigation measures that directly and indirectly affect the tortoise and its habitat.

Confusing Terminology

In the Draft Document, Mitigation Measure 7.2, “The use of pesticide treatment requires the [lease] Holder to coordinate with the BLM SNDO [Southern Nevada District Office] weed management specialist.....and prepare, submit, obtain, and maintain a pesticide use proposal (PUP) to utilize pesticides for project activities.”

We searched online to find the biological opinion issued to BLM by the USFWS for the pesticides that BLM would permit to be used in the DLA as analyzed in the BLM’s 2007 Final PEIS Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States (Final Vegetation PEIS). We were unsuccessful in finding this biological opinion. We request that BLM include in the biological opinion for the Final Document an analysis of the effects of the specific pesticides that BLM is authorizing for use in the DLA.

We are confused by BLM’s terminology. The BLM refers to the 2007 Final Vegetation PEIS, which is for herbicide use, but the Draft Document discusses the “use of pesticide[s].” According to the dictionary, a pesticide is “a chemical preparation for destroying plant, fungal, or animal pests.” Thus, “pesticide” is a general term that includes herbicides as well as insecticides, rodenticides, fungicides, and other chemicals that kill pests. In the Final Document, we request that BLM clarify its use of the terms “pesticide” and “herbicide.” We recommend that the Final Document describe the category/categories of pesticides authorized for use at the proposed project site and the specific chemical formulas that will be permitted within each category.

We note that although the U.S. Environmental Protection Agency has approved pesticides for use, it has not completed consultation with the USFWS for the use of most pesticides in the range of the Mojave desert tortoise, as required by section 7(a)(2) of the FESA. If BLM intends to authorize use of pesticides that have not been analyzed for their effects on the tortoise through the section 7 consultation process, we request that BLM add a mitigation measure that consultation will be completed prior to a pesticide’s use in the range of the tortoise to comply with FESA.

In summary, because of concerns that we described above including a deficient cumulative impact analysis and failure to adequately describe the status of the Mojave desert tortoise that we provided above, we do not support the action alternative in the Draft Document and request that BLM select the “no action alternative” at this time until BLM is able to prepare a Final Document that complies with CEQ’s regulations especially concerning the tortoise.

We appreciate this opportunity to provide input and trust that our comments will further protect tortoises, aid BLM in its efforts to comply with NEPA and other federal regulations, and assist BLM in its management of the Mojave desert tortoise and its habitat. Herein, we ask that the Desert Tortoise Council be identified as an Affected Interest for this and all other BLM projects that may affect species of desert tortoises, and that any subsequent environmental documentation for this Proposed Action or entire proposed project is provided to us at the contact information listed above.

Regards,



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Chair, Ecosystems Advisory Committee

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