GALATI | BLEK LLP

455 Capitol Mall Suite 350
Sacramento CA 95814
Tel· 916.441.6575
Fax· 916.441.6553

DOCKET
09-AFC-9
DATE APR 30 2010
RECD. APR 30 2010

April 30, 2010

California Energy Commission
Docket Unit
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **RIDGECREST SOLAR 1, LLC'S INITIAL COMMENTS ON THE BIOLOGICAL RESOURCES SECTION OF THE STAFF ASSESSMENT/ DRAFT ENVIRONMENTAL IMPACT STATEMENT DOCKET NO. (09-AFC-9)**

Enclosed for filing with the California Energy Commission is the original of **RIDGECREST SOLAR 1, LLC'S INITIAL COMMENTS ON THE BIOLOGICAL RESOURCES SECTION OF THE STAFF ASSESSMENT/ DRAFT ENVIRONMENTAL IMPACT STATEMENT**, for the Ridgecrest Solar Power Project (09-AFC-9).

Sincerely,

Marie Mills

Scott A. Galati
David L. Wiseman
GALATIBLEK LLP
455 Capitol Mall
Suite 350
Sacramento, CA 95814
(916) 441-6575

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:	**DOCKET NO. 09-AFC-9**
Application for Certification for the RIDGECREST SOLAR POWER PROJECT	**RIDGECREST SOLAR 1, LLC'S INITIAL COMMENTS ON THE BIOLOGICAL RESOURCES SECTION OF THE STAFF ASSESSMENT/DRAFT ENVIRONMENTAL IMPACT STATEMENT**

BIOLOGICAL RESOURCES

Page C.2-1

The Staff Assessment states that: (1) the RSPP site supports unique habitat and biological resources, and a high concentration of desert tortoise (DT); (2) represents an important geographic area that supports genetic linkage between populations of Mohave ground squirrel (MGS); and (3) the qualities of the site to support high DT concentrations and MGS habitat and population connectivity are unique and irreplaceable, and consequentially project impacts cannot be fully mitigated.

The Applicant's detailed responses regarding DT densities and importance of the RSPP site for DT are provided in the attached white paper prepared by Dr. Alice Karl, dated April 27, 2010.

The conclusions in the Staff Assessment regarding the importance of the RSPP site for MGS are largely unsubstantiated and conclusory. The Staff Assessment presents no empirical data or other substantial evidence (e.g., comparative habitat assessments or population data for nearby lands) to demonstrate that the site is "irreplaceable," particularly unique, or critical for local or regional MGS viability. As discussed below, the Staff Assessment also overestimates the potential impacts of the project on MGS with predictions that the project would "result in isolation of MGS population" and "lead to

excessive inbreeding." Without any site-specific MGS population data to support these conclusions, they can only be viewed as purely speculative. In addition to presenting unsubstantiated conclusions, the Staff Assessment is biased in that it presents only data that supports the conclusions that impacts on MGS would be so severe that they would be unmitigable.

Prior to development of the Staff Assessment, the Applicant provided CEC with an objective analysis regarding potential impacts that including the following factual information. MGS has not been previously documented within the Project area and no MGSs were detected within the Project area during wildlife surveys conducted during 2009, although no presence/absence trapping surveys were conducted as part of the RSPP site assessment. Because MGS trapping was not expected to accurately reflect MGS occurrence (or lack of occurrence) in the Project area given the species' tendency for dynamic population fluctuations in known occupied areas, and because the Applicant has chosen to assume that MGS is present on the site, a habitat assessment in lieu of trapping was conducted by Dr. Phil Leitner to quantify and map MGS habitat within the Project disturbance area and surrounding right-of-way (Leitner 2009). Dr. Leitner is an expert on the life history and habitat associations of MGS. The MGS habitat assessment included a visual evaluation of conditions within the Project area as well as at numerous locations in the vicinity where MGS have been previously documented (Leitner 2009). Of the 1,922.6 acres of the RSPP disturbance area mapped as potentially suitable for MGS, only 5% (102.6 acres) was identified as potentially high-quality habitat. Potentially high-quality areas are concentrated along El Paso Wash and a smaller wash in the southwest corner of the site. As discussed in the Page C-2.35 MGS habitat discussion, below, the current Project design avoids these areas to protect high-quality habitats and maintain north-south habitat connectivity for MGS through the site.

The Applicant has proposed compensatory mitigation that is intended to fully mitigate impacts to DT and MGS, meets or exceeds West Mojave Plan mitigation requirements, and is expected to be feasible. The Staff Assessment provides no substantial evidence for its opinion that project impacts to MGS habitat on the RSPP site, which includes a relatively low proportion of high-quality MGS habitat, cannot be fully mitigated.

The Applicant provides additional information in response to the Staff Assessment's conclusions regarding MGS habitat connectivity, below under the discussion of Page C-2.35.

Page C.2-1

The SA states that "The project site supports a high concentration of the state and federal listed desert tortoise (DT)." Please see the attached white paper prepared by Dr. Alice Karl, dated April 27, 2010 regarding DT density on the Project relative to elsewhere in the West Mojave based on current datasets. We request that the Setting/Existing condition section be revised to reflect this more detailed analysis of the DT status on site within the regional context (see comment on this topic for page C.2-20 below).

Page C.2-1

The text states that [the project site]…"represents an important geographic area which supports genetic linkage between populations of the state listed threatened Mohave ground squirrel (MGS)". There is very little data or evidence currently available regarding

MGS population connectivity and genetic exchange. Studies to support this claim have not been conducted for the site or adjacent lands. The text should therefore be revised to "[the project site] represents "**a potentially"** important geographic area which **could support** genetic linkages between populations of the state listed threatened Mohave ground squirrel (MGS)."

Page C.2-17, Desert Tortoise
The text states that "Further, the Mojave population [of DT] can be subdivided genetically into several separate genetic units, each ecosystem based." This statement does not have a reference cited and is not supported by information presented in the revised recovery plan (USFWS 2008). The recovery plan suggests a very contiguous population genetically even across many recovery units-isolation by distance gene flow is the dominant genetic pattern observed in the DT population (see page 51 of USFWS 2008). The recovery plan says that there could be some sub-structuring, but to be cautious in that interpretation. The DT Recovery Plan states: "There also may be some sub-structuring within the Western Mojave Recovery Unit (Murphy et al. 2007), which may be an artifact of discrete sampling within generally continuous habitat (Allendorf and Luikart 2007:400). In addition, up to 40 percent of individuals were incorrectly assigned to the appropriate subpopulation in assignment tests; habitat in California was well connected prior to human development, allowing gene flow to occur over long geographic distances and multiple vegetation types (Murphy et al. 2007)". We recommend that the statement in the SA be replaced with the 2 sentences from the DT recovery plan reproduced above.

C.2-18, Desert Tortoise.

Table 3 displays a comparison of DT density observed on the RSPP site to the "average" DT density reported from the USFWS line distance sampling (LDS) across all sample units within the West Mojave Recovery Unit (RU) over the past several years. Please refer to Dr. Alice Karl's white paper (attached) for a detailed response to this density comparison methodology. In addition, the RSPP density estimate used in the comparison should be revised from 9.8/km2 to the updated value of 8.2 adult DT/km2, with an explanation for the change (only adult DT > 160mm midline carapace length are to be included in the abundance/density estimate).

Page C.2-19, Estimation of Desert Tortoise Abundance

The SA reports that the ratio of juvenile to adult DTs at the RSPP site is greater than at other nearby sites: "This is a higher percentage of juveniles than was reported for the El Paso and Red Rock studies or the Jawbone-Butterbredt Area of Critical Environmental Concern (ACEC) study." However, no data on those ratios/percentages is presented, nor a reference. Please report the data or the reference.

> The number of DTs found above ground should be revised from 28 DTs to 23 adult DTs. The original value was reported in the AFC erroneously and included DTs of unknown size classes, abundance estimates are only supposed to be based on adult DTs greater than 160mm midline carapace length. The Application for Certification (AFC; AECOM 2009) reports 9.8 adult tortoises per km^2, but the density was revised to 8.1 based on subsequent data analysis. The preliminary estimated adult DT abundance and associated density reported in AFC (69 adult DTs were estimated, corresponding to 9.8 DTs/km^2) included five observations of DTs of unknown size class in the calculation. These DTs of unknown size class were subsequently removed

from the calculation and estimates were revised (57 adult DTs were estimated, corresponding to 8.1 DTs/km^2) prior to submittal of the Applicant's Responses to CEC Data Requests in January, 2010. As specified in the USFWS protocol, only tortoises that are greater than 160-millimeters (mm) midline carapace length (MCL) are to be used to estimate tortoise abundances within the survey area. This is because the parameters used in the equation are based on USFWS range-wide monitoring data collected for adult tortoises greater than 160-mm MCL (USFWS 2009); therefore estimated abundance calculations are valid only for adult DTs within this specified size class.

Page C.2-20. Desert Tortoise

The SA states: "The entire BRSA contains suitable habitat for DTs." Please revise to: "The entire BRSA contains suitable habitat for DTs, with the exception of developed areas."

Page C.2-22. Mohave Ground Squirrel.

Several statements on this page should be revised for additional clarification. 1) "As a result of these considerations, the applicant has chosen to assume presence of the species over the entire project site **where suitable habitat** occurs (SM 2009a)." 2) "In summary, the entire original proposed project site consists of suitable MGS habitat, **with the exception of steep rocky terrain in the central-eastern and southern portions of the project site** (SM 2009a). **However, these areas of steep terrain may be suitable for dispersal by MGS juveniles (Leitner, personal comm.).** This reference to Phil Leitner was taken from the MGS Draft Conservation Strategy.. (Page 3); and 3) "Biologically, the habitat south and north of Brown Road is ~~the same~~ **similar** and **both include areas** of high value for MGS. ~~Therefore, the entire proposed project site likely represents suitable habitat for MGS.~~"

C.2-23. Mohave Ground Squirrel.

The first 2 sentences in the second paragraph on Habitat Connectivity is not specific to MGS (.e.g., MGS do not make seasonal migrations), and is not consistent with the main topic of the rest of the paragraph. We suggest revising these two (2) introductory sentences, and moving them up to follow after the end of the second paragraph under the MGS heading on page C.2-21, as they are relevant to the life history of the species. Recommended revised statement is as follows: " **MGS is a resident (i.e., non-migratory) species that occupies a relatively small home range; home range size averages approximately 0.91 acre and varies from 0.25 to 2 acres. The proposed RSPP site could be used by MGS for relatively short-distance movements, primarily dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions), and movements related to home range activities (e.g., foraging for food or water; defending territories; or searching for mates, breeding areas, or cover)."**

Page C.2-23. Mohave Ground Squirrel.

The second half of the habitat connectivity paragraph is missing some important relevant information about the state of the science regarding MGS movements and connectivity. This paragraph makes it sound as if it is known that the RSPP site is a corridor for MGS movement, which is highly speculative. Somewhere near the end of this paragraph, we suggest inserting the following text from the BRTR which emphasizes the state of the science on MGS movements and connectivity **"However, no studies have been conducted to determine to what extent past habitat loss and fragmentation in the vicinity of Ridgecrest may have altered MGS historic movement patterns. Additionally no detailed studies have been conducted on MGS movements in this area in general.** We also suggest revising the introductory sentence of this paragraph to: **"A review of the spatial context of the proposed RSPP site in relation to known populations in the Project vicinity** ~~MGS studies have~~ ~~identified~~ indicate that the proposed RSPP site ~~as~~ **may be a** potentially ~~a~~ valuable habitat linkage for MGS.".

The SA states that there is only a narrow corridor (2.5 miles) available for MGS dispersal between north and south MGS known populations. As indicated above, this is highly speculative. Phil Leitner has indicated that juvenile MGS may use rocky, lower suitability habitat for dispersal; therefore, we request that this information be added into the discussion here. We request including the following statement (from the RSPP BRTS) prior to the last sentence in this section on Habitat Connectivity: **"However, steep rocky terrain occurring in the vicinity of the Project site may support dispersing juvenile MGS (Leitner 2009), perhaps widening the potential area for population linkages in the vicinity of the Project site." In addition, the El Paso Wash is open between the solar array fields so dispersal could continue assuming this is an MGS corridor.**

Page C-2. 24. Western burrowing owl.

For clarity, we suggest revising the following statement: "Seven active burrowing owl burrows were located on the project site in three separate regions of the BRSA, including five main or nest burrows and two satellite burrows; **all of these except one main burrow are located in the current disturbance area.**"

Page C.2-27. Kit Fox.

While adult kit foxes were not mentioned in the Project AFC they were detected in association with 2 of the 3 active complexes in which pups were also detected; therefore please add the following text: " A total of 75 burrows and burrow complexes were found within the original disturbance area, including 4 active complexes ~~and 3 complexes that~~, **3 of which** had pups. **Adult kit foxes were also detected at 2 of the complexes with pups**."

Page C.2-32. Impacts Western Burrowing Owl.

Data in the impacts section is not consistent with info in the setting section, or with AECOM reported results for WBO. Please revise the following statement to be consistent with the AFC: "~~Seven~~ **Six** active burrows with at least one pair with juveniles and four individual owls were found within the original proposed disturbance area. An additional pair ~~and four additional individuals~~ ~~were~~ **with juveniles was** found within the original buffer area."

The SA should reference measure BIO-12 also for compensation for loss of WBO habitat, reducing impacts to WBO to less than significant.

Page C.2-34. Impacts Badger and Kit Fox.

Info reported regarding 2009 survey result for kit fox is inaccurate. While the AFC never reported adult kit fox detections, adult kit foxes were detected in association with 2 of the complexes that had pups. Please replace the following statement "Adult foxes were not observed during focused surveys in 2009." with **"Adult foxes were observed in association with 2 of the active complexes with pups."**

Page.C.2-34. Impacts MGS.

Please revise the following to be consistent with data presented in the AFC and habitat assessment produced by Phil Leitner: "The entire 1,944 -acre proposed RSPP project site is suitable habitat for the California threatened Mohave ground squirrel (MGS), **with the exception of steep rocky Terrain (approximately 13 acres) in the central-eastern and southern portions of the Project site. However, these areas of steep terrain may be suitable for dispersal by MGS juveniles (Leitner, personal communication).**

Page C-2.35, First Paragraph (Mohave Ground Squirrel Salvage Trapping and Translocation)

The Staff Assessment states that salvage trapping and translocation of MGS should occur prior to grading, to minimize fatalities to MGS. As described in the Data Request Responses provided on January 25, 2010, Dr. Phil Leitner, an expert on the life history of the MGS, has expressed serious concerns regarding the effectiveness of any attempt to translocate this species. Nonetheless, the Applicant directed Dr. Leitner to prepare a translocation plan to comply with the Data Requests. This MGS translocation plan is included in Data Request Response DR-BIO-59. Dr. Leitner incorporated many of his concerns regarding MGS translocation into his response. Based on these concerns, the feasibility of implementing an effective translocation program appears to be highly questionable. The Applicant is committed to implementing reasonable avoidance and minimization measure to reduce Project impacts to MGS. However, rather than attempting to implement a translocation program that would have little, if any, chance of success, the Applicant proposes to proceed with grading without trapping, recognizing that any incidental take of MGS must be covered by a California Endangered Species Act (CESA) incidental take permit and compensatory mitigation and associated securities would be required to satisfy CESA.

Page.C.2-35. Impacts MGS.

Please clarify: "The applicant's biologist, **Dr. Phil Leitner (local MGS expert)**, doubts the feasibility of implementing a translocation plan for MGS."

Page C-2.35, Second Paragraph (Mohave Ground Squirrel Habitat Connectivity)

The Staff Assessment states that: (1) the RSPP would substantially reduce connectivity between the core MGS population to the west (Little Dixie Wash) and the population to the east (Ridgecrest area), and between the Olancha core population to the north and populations to the south; and (2) the project will result in isolation of MGS populations and lead to excessive inbreeding and decrease their ability to withstand random catastrophic events or disease, which could cause the reduction or elimination of these populations.

The Applicant understands that maintaining MGS habitat connectivity is important for regional viability. In the Project AFC and preliminary Habitat Mitigation and Monitoring Plan, the Applicant acknowledges potential impacts of the RSPP on MGS habitat connectivity, and proposes compensatory measures to fully mitigate this potential impact. The Applicant has also responded to Agency staff concerns about connectivity that were expressed in 2009, by redesigning the RSPP to avoid high-quality MGS habitat, including the El Paso Wash. The Project redesign also included reconfiguring the solar fields to avoid a smaller wash in the southwest corner of the RSPP site that has been identified by Dr. Leitner as providing high-quality MGS habitat. In combination, these design modifications would provide adequate MGS habitat connectivity through the RSPP. In addition, BLM land located east and west of the RSSPP is expected to remain suitable for MGS movement for the foreseeable future. Thus, habitat connectivity would be retained through the RSPP, as well as east and west of the RSPP, which would continue to provide potential north-south movement opportunities for MGS. For reasons unknown, the Staff Assessment declined to acknowledge these facts.

The Staff Assessment implies that the existing RSPP site is the only potentially suitable corridor for movement between MGS populations; it does not recognize other potential areas for connectivity that exist and have been identified on various maps. For example, Figure DR-58-4 of the Data Request Responses, which was prepared in collaboration with Dr. Leitner, and Biological Resources Figures 4 and 5 of the Staff Assessment, show the RSPP site in relation to potential east-west and north-south MGS habitat linkages. Even with construction of the RSPP, undeveloped areas to the north of the RSPP would remain and connect MGS populations to the west and east. As shown in the figures, these undeveloped areas to the north provide a wider and more direct connection between MGS populations to the west and east than the RSPP site, which is positioned slightly to the south of these populations as mapped.

The Staff Assessment does not acknowledge that north-south connectivity through El Paso wash, which supports most of the high quality MGS habitat found on the RSPP site, would be maintained. While construction of the Project would result in loss of suitable MGS habitat, the recent reconfiguration of the Project would avoid El Paso Wash. This would provide a north-south habitat connection through the wash and would allow wildlife movement through the Project area. Reconfiguration has also resulted in reduced impacts to another wash in the southwest corner of the Project area, allowing for an additional north-south habitat corridor along the western edge of the Project area. These two connections are shown in the figures. While the Project would clearly result in some habitat loss and fragmentation, habitat connectivity would be maintained within the Project area. In addition, north-south habitat corridors exist along both the west and east boundaries of the Project area that can provide connectivity. It should be possible to maintain linkages from Indian Wells Valley to the south even with construction of the RSPP. Additionally, opportunities for MGS movement around the perimeter of the Project area would remain, as would suitable habitat, after Project construction.

The Staff Assessment states that mountains near the RSPP site create natural barriers to MGS movements, and the RSPP site's low-relief topographic position makes it a "visible funnel" for north-south MGS movement. Although MGS typically occurs in flat to moderate terrain, dispersing juveniles can traverse steep terrain ("Draft Mohave Ground Squirrel Conservation Plan"; Desert Managers Mohave Ground Squirrel Working Group [unpublished] *citing* Leitner, pers. comm.); and the steeper terrain adjacent to the RSPP could possibly be used by juvenile MGS for dispersal ("Ridgecrest Habitat Assessment",

Leitner 2009). Therefore, the extent to which natural landscape features near the RSPP site function as genetic barriers is unknown. It should also be noted that mountainous terrain runs east-west between the RSPP and MGS populations to the south. If this type of terrain functions as a movement barrier between MGS populations as Staff has stated, movements between populations north and south of the RSPP site would be impeded or impaired under existing conditions; and the importance of the RSPP site in the context of north-south MGS population connectivity may be diminished.

While the Staff Assessment chose to present only information supportive of its conclusions, what is most concerning is that the effects of reduced connectivity are unsubstantiated and based on speculation. For example, no scientific evidence is presented in the Staff Assessment to support the statement that the project will result in isolation of MGS populations and lead to excessive inbreeding. Given the paucity of empirical data on MGS dispersal, genetic exchange, regional movement patterns and requirements, and use of the RSPP site by resident or dispersing MGS, the dire prediction presented in the Staff Assessment raises concerns regarding the objectivity of the analysis.

Page C.2-37. Impacts Desert Tortoise.

Again the adult DT abundance estimate needs to be revised. See the same response as for page C.2-19 above.

The following statement is speculative and does not acknowledge that the reconfigured project area also eliminates some area where DT was detected. Therefore, we request revising the statement to "**Estimated adult DT abundance in the current Project disturbance area will be updated"** once additional surveys in 2010 have been completed. ~~may determine DT within the current proposed disturbance area is higher than 69 because several that the actual number of hundred acres of suitable habitat have not been fully surveyed~~.

Page C.2-38. Impacts Desert Tortoise.

Update all the density estimates and discussion based on responses from above. For example, update adult DT density estimate from 9.8/km2 to 8.2/km2, and update any relative density conclusions (moderate/high densities). Please see the response to Page **C.2-19** to explain the revision in this value.

Page C.2-38-C.2-39 Impacts Desert Tortoise. Climate Change Discussion.

The SA discusses the uniqueness of the Mojave DT population with respect to the broad range of climate conditions they can persist under relative to DT elsewhere in their range and that this could be a potentially important genetic trait to maintain in the population given the global climate change predictions. Please see Dr. Alice Karl's white paper (attached) for a discussion of other populations of DT in the vicinity of the RSPP and existing disturbance factors that may already affect populations on site.

Page C.2-50 to c.2-51. Mitigation under CEQA.

The Applicant does not agree with the determination that project impacts are "unmitigatable". Please see the response above for Page C-2.35 which addresses maintenance of a potential movement corridor for MGS by the project redesign and Dr. Alice Karl's analysis of the site's value to the DT in the attached white paper. The project was redesigned to reduce impacts to MGS. Numerous additional avoidance and minimization measures will be employed to reduce impacts to biological resources and compensatory mitigation will be provided to compensate for impacts to DT and MGS.

Page C.2-53. Compensatory Mitigation.

The SA indicates a required mitigation ratio of 5:1 for all RSPP impact acres (in total). This is inconsistent with the mitigation ratios outlined in the WEMO Plan which require 1:1 compensation outside of Conservation Areas and 5:1 compensation within Conservation Areas. The following text is from the WEMO Plan:

> *Within the Habitat Conservation Area the fee would be based on a compensation ratio of 5:1 (five times the average value of an acre of land within the HCA). Outside of the HCA on lands delineated as disturbed habitat, the mitigation fee would be based on a compensation ratio of 0.5:1 (one half the average value of an acre of land within the HCA). Within all other areas outside of the HCA, the mitigation fee would be based on a 1:1 compensation ratio… The mitigation fee would not be additive where multiple species exist on site, or where conservation areas for species overlap.*

A 5:1 ratio is proposed by Staff for the whole site despite the fact that only the portion south of Brown Road is within the MGS Conservation Area. The SA argues that the MGS conservation area boundary at Brown Road is biologically irrelevant and impacts should be mitigated at the same ratio on both sides of the road which are viewed as equally valuable.

The Applicant has proposed the following mitigation strategy for DT and MGS that is consistent with WEMO and accounts for varying MGS habitat quality on the portion of the site that is not within the MGS Conservation Area:

> Mitigation for impacts to 1,922.6 acres of MGS habitat will consist of acquisition, preservation, and enhancement through management of a minimum of 7,078.2 acres or acreage equivalent fees to achieve a 5:1 compensation ratio for all potential habitat within the WEMO MGS Conservation Area, (impacts = 794.7 acres), a 3:1 ratio for moderate- and high-quality habitat outside the WEMO MGS Conservation Area (impacts = 988.4 acres), and a 1:1 ratio for low-quality habitat outside of the WEMO MGS Conservation Area (impacts = 139.5 acres). A 5:1 compensation ratio is proposed for low-, moderate-, and high-quality habitat within the WEMO MGS Conservation Area to maintain consistency with WEMO Plan requirements. However, the ratios required by the WEMO Plan do not account for finer scale habitat variability as demonstrated by the MGS habitat quality analysis completed for the RSPP site by Phil Leitner PhD (2009). As shown on figures submitted as part of the January 25 Data Responses, a higher concentration of low-quality habitat is present within the WEMO designated MGS Conservation Area, suggesting that a 5:1 ratio for the Project impacts in this area likely overcompensates for Project effects on the species.
>
> Mitigation for impacts to 1,944.1 acres of DT habitat will consist of acquisition, preservation, and enhancement through management of a minimum of 5,816.5 acres or acreage equivalent fees to achieve a 3:1 compensation ratio for DT occupied habitat (impacts = 1,936.2 acres), with the exception of low quality habitat (highly disturbed, adjacent to roads) that is proposed at a 1:1 ratio (impacts = 7.9 acres). The mitigation ratio (3:1) for occupied DT habitat is consistent with current trends on large-scale solar projects (e.g., Ivanpah), though the RSPP has greater inherent threats than other solar sites and would warrant consideration of lower ratios. The mitigation ratio proposed for highly disturbed lands is also considered to be conservative as the WEMO would dictate a 0.5:1 ratio for DT impacts associated with disturbed lands.

Page C.2-55. Alternatives.

The SA analysis of all No Project Alternatives concludes no significant impacts to listed DT or MGS. However, with "no project" alternatives, there would be no compensatory mitigation implemented to preserve habitat for DT, MGS (north of Brown Rd.), and other desert species. With increased urban pressure at the RSPP, it is likely that this area will be subject to degradation over time. Please see Dr. Alice Karl's attached white paper for further discussion. Thus, the No Project Alternatives would not contribute to regional conservation and habitat management as the RSPP would with implementation of the COC. Please see the response above for Page C-2.35 regarding MGS connectivity and Dr. Alice Karl's attached white paper regarding DT populations.

Page C.2-71, Biological Resources Table 5

The footnote highlights the fact that not all of the projects which were depicted in the table will be constructed and many of them will not use the entire ROW area. Please adjust this table should to show where these projects are in the process and the ones which have not filed with any of the appropriate agencies. It would be helpful if the table identified what stage the project's are currently in.

Page C.2-88, Noteworthy Public Benefits

We recommend that this section be revised to recognize the contribution of the compensatory mitigation requirements to DT and MGS populations in the region. The RSPP would set aside and preserve more suitable lands in perpetuity that are managed for the benefit these species than the project will impact. .

Page C.2-89, Verification to Condition of Certification BIO-1

The second paragraph of the Verification to Condition BIO-1 requires submittal of the approved Designated Biologist within 7 days of receiving the Energy Commission Decision. RSI requests this be modified consistent with other conditions that measure the verification timeline "prior to" an activity such as mobilization or construction. In addition, language has been added to the verification for clarification. RSI requests the Verification be modified as follows.

The Project Applicant shall submit "**to"** the CPM and BLM's Authorized Officer "**the** approved Designated Biologist ***no less than 30 days prior to construction"*** ~~within 7 days of receiving the Energy Commission Decision.~~ No construction-related or decommissioning/project closure ground disturbance, grading, boring, or trenching shall commence until an approved Designated Biologist is available to be on site.

Page C.2-94, Verification to Condition of Certification BIO-6

The first paragraph of the Verification to this Condition of Certification requires submittal of the final WEAP within 7 days of docketing of the CEC's Final Decision or BLM's ROD. RSI requests this be modified consistent with other conditions that measure the verification timeline "prior to" an activity such as mobilization or construction. We request the Verification be modified as follows.

Verification: "***No less than 30 days prior to construction"*** ~~Within 7 days of docketing of the Energy Commission's Final Decision, or publication of BLM's Record of Decision/ROW Issuance, whichever comes first~~, the Project owner shall provide to BLM's Authorized Officer and the CPM a copy of the final WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

Page C.2-94-96, Condition of Certification BIO-7

See above response regarding relocation of Mohave ground squirrel. In the first paragraph of this condition, we request removal of the Mohave ground squirrel relocation plan from the list of BRMIMP avoidance and minimization measures.

Revisions to the disturbance area calculations are currently in progress based on the project reconfiguration and updates to the alignment of linear project features, such as the ROW, transmission line, and communication lines. Updated habitat impact and disturbance area calculations will be provided to the CEC subsequent to completion of biological resource surveys currently being conducted this spring for the transmission line corridor, reconfigured project area, and additional Project Disturbance Areas not previously identified in prior surveys to date. Therefore, impacts to biological resources will be revised again and reported to the CEC in separate reports forthcoming later this spring. Because the Project Disturbance Area may be revised from that described in the SA/DEIS, RSI requests the third paragraph of the Verification to this Condition of Certification be modified as shown below.

Suggested Edits to third paragraph of the verification:

…To verify that the extent of the construction disturbance does not exceed that described in ~~this analysis,~~ ***these Biological Resources Conditions of Certification***, the Project owner shall submit aerial photographs, at an approved scale, taken before and after construction to the CPM and BLM's Authorized Officer.

In addition, Point No. 8 in the COC and the third paragraph of the Verification to this Condition of Certification requires verification that the extent of construction disturbance does not exceed that described in the Staff Assessment by submitting aerial photographs before and after completion. Aerials can be used to verify boundaries, but they are difficult to use for acreage calculations to 10th's of an acre. We suggest using whole acreage numbers in making this comparison. Revisions to the disturbance area calculations are currently in progress based on survey and project design updates.

Suggested Edits to Point No. 8 in the COC:

> …Provide a final accounting of the estimated and actual impact acreage and a determination of whether additional habitat compensation is necessary. "***Construction acreages shall be rounded to the nearest acre".***

Pages C.2-96-100, Condition of Certification BIO-8

The second paragraph of the Verification to this Condition of Certification requires submittal of a Revegetation Plan no less than 30 days after the CEC issues the License or BLM issues the ROW. RSI requests this be modified consistent with other conditions that

measure the verification timeline “prior to” an activity such as mobilization or construction. We request the Verification be modified as follows.

No less than 30 days “***prior to construction”*** ~~following the publication of the Energy Commission License Decision or the Record of Decision/ROW Issuance, whichever comes first,~~ the project owner shall submit to the CPM and BLM‘s Authorized Officer a final agency-approved Revegetation Plan that has been reviewed and approved by BLM‘s Authorized Officer and the CPM. All modifications to the Revegetation Plan shall be made only after approval from BLM‘s Authorized Officer and the CPM.

Pages C.2-100-103, Condition of Certification BIO-10

This condition requires tortoise exclusion fencing to be included in the permanent security fencing for the plant site and allows temporary tortoise exclusion fencing for linear features. In order to facilitate construction and meeting the ARRA funding start of construction deadline, it would be helpful to be allowed to install temporary exclusion fencing around some portion of the plant site so that clearance surveys and construction could begin within a subset of the site. In addition, transect surveys over a 90-foot width can be excessive depending upon the area of disturbance and RSI is requesting flexibility based on impact area for surveys prior to exclusionary fencing installation. Therefore RSI recommends the following modification to the proposed condition.

1. Desert Tortoise Exclusion Fence Installation. To avoid impacts to desert tortoises, permanent desert tortoise exclusion fencing shall be installed along the permanent perimeter security fence and temporarily installed along the ~~utility corridors”~~ ***linear features or around any subset of the plant site where construction would be localized”***. The proposed alignments for the permanent perimeter fence and “***alignments of temporary fencing along linear features or any subset of the plant site where construction would be localized*** “~~utility rights-of-way~~ ~~fencing~~ shall be flagged and surveyed within 24 hours prior to the initiation of fence construction. Clearance surveys of the perimeter fence “***alignment and the alignment of any temporary fencing along linear features or around any subset of the plant site where construction would be localized”*** ~~and utility rights-of-way alignments~~ shall be conducted by the Designated Biologist(s) using techniques outlined in the USFWS‘ 2009 *Desert Tortoise Field Manual*. And may be conducted in any season with USFWS and CDFG approval. Biological Monitors may assist the Designated Biologist under his or her supervision. These fence clearance surveys shall provide 100% coverage of all areas to be disturbed and an additional transect along both sides of the fence line. “***Disturbance associated with fence construction shall not exceed 30 feet on either side of the proposed fence alignment. Prior to the surveys the project owner shall provide to the CPM, CDFG and USFWS a figure clearly depicting the limits of construction disturbance for the proposed fence installation. The fence line survey area shall be 90 feet wide centered on the fence alignment. Where construction***

disturbance for fence line installation can be limited to 15 feet on either side of the fence line, this fence line survey area may be reduced to an area approximately 60 feet wide centered on the fence alignment". ~~This fence line transect shall cover an area approximately 90 feet wide centered on the fence alignment.~~ Transects shall be no greater than 15 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS'2009 *Desert Tortoise Field Manual*. Any desert tortoise located during fence clearance surveys shall be handled by the Designated Biologist(s) in accordance with the USFWS'2009 *Desert Tortoise Field Manual*.

a. Timing, Supervision of Fence Installation. The exclusion fencing shall be installed "***in an area*** "prior to the onset of site clearing and grubbing "***in that area"***. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present.

2. Desert Tortoise Clearance Surveys within the Plant Site. Following construction of the permanent perimeter security fence and the attached tortoise exclusion fence, the permanently fenced power plant site shall be cleared of tortoises by the Designated Biologist, who may be assisted by the Biological Monitors. "***Portions of the power plant site may be fenced with temporary tortoise exclusion fence to facilitate construction of the power plant site in stages and in such cases the area within the temporary tortoise exclusion fence shall be cleared of tortoises."*** Clearance surveys shall be conducted in accordance with the USFWS'2009 *Desert Tortoise Field Manual* (Chapter 6 – Clearance Survey Protocol for the Desert Tortoise – Mojave Population) and shall consist of two surveys covering 100% the project area by walking transects no more than 15-feet apart. If a desert tortoise is located on the second survey, a third survey shall be conducted. Each separate survey shall be walked in a different direction to allow opposing angles of observation. Clearance surveys of the power plant site ***are encouraged to*** ~~may only~~ be conducted when tortoises are most active (April through May or September through October). "***Clearance surveys of the power plant site that contain no desert tortoise sign may be conducted throughout the year. Clearance surveys of the power plant site that are occupied (have documented desert tortoise sign) may only be conducted when tortoises are most active".*** Surveys outside of these time periods "***in occupied desert tortoise habitat*** require approval ***(via e-mail or authorization letter")*** by USFWS and CDFG. Any tortoise located during clearance surveys of the power plant site shall be relocated and monitored in accordance with the Desert Tortoise Relocation/Translocation Plan.

Page C.2-104, Condition of Certification BIO-11, Mohave Ground Squirrel Clearance Surveys

This Condition is impracticable and not biologically beneficial to the species. There is no feasible way to exclude MGS from returning to the site after being relocated. The rationale for this has been provided previously by Dr. Phil Leitner in the Data Request responses and is summarized above. See response to the Staff Assessment, Page C-2.35.

Page C.2-104, Condition of Certification BIO-12, Desert Tortoise and Mohave Ground Squirrel habitat Compensatory Mitigation and CESA Incidental Take Authorization

The discussion in paragraph 1 on Page C.2-47 of the Staff Assessment states: "Full mitigation for the loss of this high value location for DT is not possible. The loss of this high density site will result in residual effects even with the acquisition of compensation lands. If the site is permitted, the following conditions of certification will reduce impacts but not below a significant level." The Staff Assessment makes a determination that the DT habitat is of high quality with high densities of DT and that the impacts cannot be fully mitigated. The applicant does not agree with the Staff conclusions regarding the value of this resource or the unmitigable finding. For a more detailed discussion on the rationale for the Applicant's position, please see the Page C.2-35 response above and Dr. Alice Karl's attached white paper.

Condition of Certification BIO-12 provides the framework and criteria for habitat compensation and land acquisition. The applicant believes that funding of programs in lieu of strict land acquisition could provide a great benefit to the Desert Tortoise conservation and discussed such an approach in its mitigation proposals in response to Staff data requests. We understand that CDFG is considering implementing a "in lieu fee" program and advanced mitigation strategies intended for renewable energy projects seeking ARRA funding pursuant to new authorizing State legislation. While this fee is voluntary and the amount is unknown at this time, the applicant requests that the Staff revise this condition to allow flexibility in mitigation strategies beyond mere land acquisition. The applicant would like to explore alternative mitigation strategies such as those outlined in our mitigation proposal in the upcoming Staff Assessment Workshop. A fee equivalent compensation option would provide funding for recovery actions. These actions include securing habitat within desert wildlife management areas or conservation areas, rehabilitation or closure of roads within DWMAs, removal of wild horses and burros, cleanup of illegal dumps, fencing of roads, providing movement corridors under roads, and desert revegetation projects. It is reasonable that compensation could be land acquisition, equivalent fees, or a combination of lands and equivalent fees.

The applicant also requests that this condition be revised to allow the mitigation to more closely match the timing of construction. We have revised the condition for Staff's consideration in a manner to allow funding and acquisition to be independently tied to timing of construction of each power plant unit.

Requested changes to the condition are provided below.

BIO-12: To fully mitigate for habitat loss and potential take of desert tortoise, Mohave ground squirrel and other special status species, the RSPP owner shall provide compensatory mitigation at a 5:1 ratio for impacts to 1,944 acres or the area disturbed by the final Project footprint. ***Mitigation may include compensation lands purchased in fee or in easement, equivalent fees, or a combination thereof.*** The requirements for ***compensatory mitigation*** ~~acquisition of 10,010 acres of compensation lands~~ shall include the following:

1. Responsibility for Acquisition of Lands: The responsibility for acquisition of lands "***(through fee or easement)"*** may be delegated by written agreement from the Energy Commission to a third party, such as a non-governmental organization supportive of habitat conservation. Such delegation shall be subject to approval by the CPM in consultation with CDFG, BLM, and USFWS, prior to land acquisition, enhancement or management activities. If habitat disturbance exceeds that described in this analysis, the Project Applicant shall be responsible for funding acquisition, habitat improvements and long-term management of additional compensation lands or additional funds required to compensate for any additional habitat disturbances. Additional funds shall be based on the adjusted market value of compensation lands at the time of construction to acquire and manage habitat. Water and mineral rights shall be included as part of the land acquisition. Agreements to delegate land acquisition to CDFG or an approved third party and to manage compensation lands shall be implemented within 18 months of the Energy Commission's License Decision. "***Alternatively, the project may implement/participate in the equivalent fee program"***,

2. Selection Criteria for Compensation Lands. The compensation lands selected for acquisition shall:
    a. be within the Western Mojave Desert, with potential to contribute to desert tortoise and Mohave ground squirrel habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise and Mohave ground squirrel, and/or other preserve lands;
    b. provide habitat for desert tortoise and Mohave ground squirrel with capacity to regenerate naturally when disturbances are removed;
    c. ***"to the extent feasible,"*** be "***prioritized*** "near larger blocks of lands that are either already protected or planned for protection, or which could feasibly be protected long-term by a public resource agency or a non-governmental organization dedicated to habitat preservation;
    d. ***"to the extent feasible",*** be connected to lands currently occupied by desert tortoise and Mohave ground squirrel, ideally with populations that are stable, recovering, or likely to recover;
    e. not have a history of intensive recreational use or other disturbance that might make habitat recovery and restoration infeasible;
    f. not be characterized by high densities of invasive species, either on or immediately adjacent to the parcels under consideration, that might jeopardize habitat recovery and restoration; and
    g. not contain hazardous wastes.

3. Review and Approval of Compensation Lands***/"Equivalent Fee Program"*** Prior to Acquisition. A minimum of three months prior to acquisition of the property ***or "implementing/participating in the equivalent fee program"***, the Project

owner shall submit a formal ~~acquisition~~ proposal to the CPM, CDFG, USFWS and BLM describing the parcel(s) intended for purchase ***and/or the in lieu fee "or species recovery programs to be funded[1]"***. This ~~acquisition~~ proposal shall discuss the suitability of the proposed parcel(s) as compensation lands for desert tortoise and Mohave ground squirrel in relation to the criteria listed above "***and/or the contribution to the program or fund for the recovery of the species as well as documentation of the proposed compensation equivalency"***. Approval from the CPM, in consultation with CDFG, BLM, and the USFWS, shall be required for acquisition of all parcels comprising the "***compensation lands***~~10,010 acres~~ ***and/or implementing/participating in the equivalent fee program"***.

4. Commission Mitigation Security: The Project owner shall provide financial assurances to the CPM with copies of the document(s) to CDFG, BLM, and the USFWS, to guarantee that an adequate level of funding is available to implement the Energy Commission Complementary Mitigation Measures described in this condition. These funds shall be used solely for implementation of the measures associated with the RSPP. Alternatively, financial assurance can be provided to the CPM and CDFG in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM, in consultation with CDFG, BLM, and the USFWS, to ensure funding in the amount of (TBD) be provided. This Security amount was calculated as follows and may be revised upon completion of a Property Analysis Record (PAR) or PAR-like analysis of the proposed compensation lands:
    a. land acquisition costs for compensation lands, calculated at TBD /acre = TBD;
    b. costs of initial habitat improvements to compensation lands, calculated at TBD/acre = TBD; and
    c. costs of establishing an endowment for long-term management of compensation lands, calculated at TBD/acre = TBD.

5. Compensation Lands Acquisition Conditions: The Project Applicant shall comply with the following conditions relating to acquisition of ~~the~~ compensation lands after the CDFG and the CPM, in consultation with BLM and the USFWS, have approved the proposed compensation lands and received Security as applicable and as described above.
    a. Preliminary Report: The Project Applicant , or approved third party, shall provide a recent preliminary title report, initial hazardous materials survey report, biological analysis, and other necessary documents for the proposed "***compensation lands"*** ~~10,010 acres~~. All documents conveying or conserving compensation lands and all conditions of title/easement are subject to a field review and approval by the CPM, in consultation with CDFG, BLM, and the USFWS, California Department of General Services and, if applicable, the Fish and Game Commission and/or the Wildlife Conservation Board.

[1] The mitigation programs include potential BLM lands as defined by the REAT Agencies. REAT Agencies have proposed mechanisms such as deed restrictions, conservation easements, or right-of-way exclusion areas that would provide permanent protection for acquired mitigation lands under BLM management.

b. Title/Conveyance: The Project Applicant shall transfer fee title or a conservation easement to the 10,010 acres of compensation lands to CDFG under terms approved by CDFG. Alternatively, a non-profit organization qualified to manage compensation lands (pursuant to California Government Code section 65965) and approved by CDFG and the CPM may hold fee title or a conservation easement over the habitat mitigation lands. If the approved non-profit organization holds title, a conservation easement shall be recorded in favor of CDFG in a form approved by CDFG. If the approved non-profit holds a conservation easement, CDFG shall be named a third party beneficiary. If a Security is provided, the Project owner or an approved third party shall complete the proposed compensation lands acquisition within 18 months of the start of Project ground-disturbing activities.

c. Initial Habitat Improvement Fund. The Project Applicant shall fund the initial protection and habitat improvement of the "***compensation lands"*** ~~10,010 acres~~. Alternatively, a non-profit organization may hold the habitat improvement funds if they are qualified to manage the compensation lands (pursuant to California Government Code section 65965) and if they meet the approval of CDFG and the CPM. If CDFG takes fee title to the compensation lands, the habitat improvement fund must go to CDFG.

d. Long-term Management Endowment Fund. Prior to ground-disturbing Project activities, the Project Applicant shall provide to CDFG a non-wasting capital endowment in the amount determined through the Property Analysis Record (PAR) or PAR-like analysis that would be conducted for the "***compensation lands"*** ~~10,010 acres~~. Alternatively, a non-profit organization may hold the endowment fees if they are qualified to manage the compensation lands (pursuant to California Government Code section 65965) and if they meet the approval of CDFG and the CPM. If CDFG takes fee title to the compensation lands, the endowment must go to CDFG, where it would be held in the special deposit fund "established ***solely for the purpose of managing compensatory lands in perpetuity"*** ~~pursuant to California Government Code section 16370~~. If the special deposit fund is not used to manage the endowment, the Desert Tortoise Preserve Committee or similarly approved entity identified by CDFG shall manage the endowment for CDFG and with CDFG supervision.

e. Interest, Principal, and Pooling of Funds. The Project Applicant , CDFG and the CPM shall ensure that an agreement is in place with the endowment holder/manager to ensure the following conditions:

    i. Interest. Interest generated from the initial capital endowment shall be available for reinvestment into the principal and for the long-term operation, management, and protection of the approved compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action approved by CDFG designed to protect or improve the habitat values of the compensation lands.

ii. Withdrawal of Principal. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the CDFG or the approved third-party endowment manager to ensure the continued viability of the species on the "***compensation lands"*** ~~10,010 acres~~. If CDFG takes fee title to the compensation lands, monies received by CDFG pursuant to this provision shall be deposited in a special deposit fund established "***solely for the purpose of managing compensatory lands in perpetuity"*** ~~pursuant to Government Code section 16370~~. If the special deposit fund is not used to manage the endowment, the California Wildlife Foundation or similarly approved entity identified by CDFG would manage the endowment for CDFG with CDFG supervision.

iii. Pooling Endowment Funds. CDFG, or a CPM and CDFG approved non-profit organization qualified to hold endowments pursuant to California Government Code section 65965, may pool the endowment with other endowments for the operation, management, and protection of the "***compensation lands"*** ~~10,010 acres~~ for local populations of desert tortoise and Mohave ground squirrel. However, for reporting purposes, the endowment fund must be tracked and reported individually to the CDFG and CPM.

iv. Reimbursement Fund. The Project shall provide reimbursement to CDFG or an approved third party for reasonable expenses incurred during title, easement, and documentation review; expenses incurred from other state or state approved federal agency reviews; and overhead related to providing compensation lands.

The Project is responsible for all compensation lands acquisition/easement costs, including but not limited to, title and document review costs, as well as expenses incurred from other state agency reviews and overhead related to providing compensation lands to the department or approved third party; escrow fees or costs; environmental contaminants clearance; and other site cleanup measures.

Verification: No less than 90 days prior to acquisition of the property, the Project Applicant shall submit a formal ~~acquisition~~ proposal to BLM's Authorized Officer, the CPM, CDFG, and USFWS describing the parcels intended for purchase "***and/or funding of the in lieu fee or species recovery programs***."

No later than 18 months following the publication of the Energy Commission License Decision the Project Applicant shall provide written verification to BLM's Authorized Officer, the CPM, USFWS and CDFG that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient(s). Alternatively, no later than 30 days prior to beginning Project ground-disturbing activities, the Project owner shall provide written verification of Security in accordance with this condition of certification. If Security is provided, the Project owner, or an approved third party, shall complete and provide written verification of the proposed compensation lands acquisition "***(through purchase or easement) and/or the in lieu fee or species recovery programs to be funded*** "within 18 months of the start of Project ground-disturbing activities." ***If land acquisition is proposed, w"*** ~~W~~ithin 180 days of the land or easement purchase, as determined by the date on the title, the Project Applicant , or an approved third party, shall provide BLM's Authorized Officer, the CPM, CDFG and USFWS with a management plan for the compensation lands and associated funds. BLM's Authorized Officer and the CPM shall review and approve the management plan, in consultation with CDFG and the USFWS.

Within 90 days after completion of Project construction, the Project Applicant shall provide to the CPM and CDFG an analysis with the final accounting of the amount of habitat disturbed during Project construction.

Page C.2-110, Condition of Certification BIO-15, Monitoring Impacts of Solar Technology on Birds

The Verification to this Condition of Certification requires submittal of a Bird Monitoring Study no less than 10 days after the CEC issues the License or BLM issues the ROW. The applicant requests this be modified consistent with other conditions that measure the verification timeline "prior to" an activity that gives rise to the potential impacts. In the case of potential impacts to birds from facility features the appropriate timeline would be operations.

Verification: ~~No less than 10 days following the publication of the Energy Commission License Decision or the Record of Decision/ROW Issuance, whichever comes first "~~***No later than 30 days prior to commercial operation of the facility***," the project owner shall submit to the CPM, BLM's Authorized Officer, USFWS and CDFG a final Bird Monitoring Study. Modifications to the Bird Monitoring Study shall be made only after approval from BLM's Authorized Officer and the CPM.

BIO-13: The Raven Monitoring, Management and Control Plan shall include a funding mechanism for support of the USFWS regional raven management program. (Amount still to be determined**.**

RSPP will agree to a specific amount, but we cannot accept an open ended financial obligation. We would prefer to discuss with USFWS to justify an amount relevant to our site.

Pages C.2-112-113, Condition of Certification BIO-17

This condition requires preconstruction burrowing owl surveys. To facilitate staged construction, RSI requests the following modifications so that the surveys can be concentrated to only those portions of the project site that may be undergoing construction. In addition, the condition as written requires surveys of lands within 1 mile of the project to identify relocation sites and requires enhancement of small mammal burrows on the relocation site; however, the recommended relocation methods involve passive relocation, which does not involve active relocation of WBO to specific burrows. Some lands adjacent to the disturbance area are privately owned and will not likely be accessible for this purpose. Therefore, identifying and enhancing a relocation site is not practical or relevant to the relocation of owls from the site. The Project Applicant will construct new or enhance existing burrows at a suitable offsite location to support the passive relocation of WBO or other WBO in the region. The location of those burrows will be defined in the Burrowing Owl Mitigation Plan that will define passive relocation procedures. Given that it will not be possible to determine where passively relocated WBO disperse and establish, the Applicant does not agree with the requirement to monitor relocation lands and submit yearly reports. RSI requests that the Condition of Certification be revised to clarify this.

Condition of Certification BIO-12 provides the framework and criteria for habitat compensation and land acquisition. The applicant believes that funding of programs in lieu of strict land acquisition could provide a great benefit to the Burrowing Owl conservation We understand that CDFG is considering implementing a “in lieu fee” program and advanced mitigation strategies intended for renewable energy projects seeking ARRA funding pursuant to new authorizing State legislation. While this fee is voluntary and the amount is unknown at this time, the applicant requests that the Staff revise this condition to allow flexibility in mitigation strategies beyond mere land acquisition.

RSI requests the following modifications:

BIO-17 The Project Applicant shall implement the following measures to avoid, minimize and offset impacts to burrowing owls:

1. Pre-Construction Surveys. The Designated Biologist or Biological Monitor shall conduct pre-construction surveys for burrowing owls in accordance with CDFG guidelines (California Burrowing Owl Consortium 1993). The survey area shall include the Project Disturbance Area and surrounding 500 foot survey buffer. “***If the project is constructed in stages then the pre-construction surveys should be conducted for the disturbance area and a 500- foot buffer for each stage of construction.”***
2. …
3. Timing of Site Grading and Offsite Land Preparation. ~~In conjunction with the preconstruction surveys for burrowing owl described above, the project owner shall perform field surveys within a 1-mile buffer area surrounding the Project Disturbance Areas in order to record the number and location of existing, abandoned~~

~~ground squirrel burrows for relocated owl use and the location of any offsite resident burrowing owls. Any existing small mammal burrows identified within the offsite areas shall be enhanced (enlarged or cleared of debris) or new burrows will be created (by installing artificial burrows) at a ratio of 2:1 on offsite lands. Therefore, t~~***T***he project owner shall provide at least two natural or artificial burrows per owl that will be relocated "***from the project site"*** (CDFG 1995). If artificial burrows are deemed necessary, they shall be installed during the non-breeding season and will be installed following Arizona Game and Fish Department burrowing owl management guidelines (Burrowing Owl Working Group 2007) ~~which recommends that artificial burrows be placed within 100 meters of the original burrow~~. "***The artificial burrows will be installed greater than 500 feet from the project area to allow an adequate non-disturbance buffer from construction activities in the breeding and non-breeding seasons."***

The project Applicant shall allow for approximately two weeks for the passive relocation process to take place and to allow relocated owls to acclimate to new, off-site burrows. The timing of the Project Disturbance Area grading and owl passive relocation shall be timed to coincide concurrently to the extent possible to discourage owls from moving back to the impact site. Staff recommends that once owls that would be impacted by project construction have been determined to have vacated their burrows "***and/or successful passive relocation has occurred"***; site grading must begin within five working days. If construction of the facility or transmission line is delayed for more than 30 days, a follow-up clearance survey for burrowing owl shall be performed.

4. Implement Avoidance Measures. If an active burrowing owl burrow is detected within 500 feet from the Project Disturbance Area and Transmission Line and water pipeline Disturbance Area boundaries, the following avoidance and minimization measures shall be implemented:
    a. Establish Non-Disturbance Buffer. Fencing shall be installed at a 250-foot radius from the occupied burrow to create a non-disturbance buffer around the burrow. The non-disturbance buffer and fence line may be reduced to 160 feet if all project-related activities that might disturb burrowing owls would be conducted during the non-breeding season (September 1st through January 31st). Following preconstruction surveys, owls and/or if active burrows are found in the Project

Disturbance Areas (including transmission line), the appropriate non-disturbance buffer area described above shall be implemented. Signs shall be posted in English and Spanish at the fence line indicating no entry or disturbance is permitted within the fenced buffer.

b. Monitoring: If construction activities will occur within 500 feet of the occupied burrow during the nesting season (February 1 – August 31st) the Designated Biologist or Biological Monitor shall monitor to determine if these activities have potential to adversely affect nesting efforts, and shall make recommendations to minimize or avoid such disturbance.

Verification: Within 30 days of any ground disturbing activities, the project owner shall submit to BLM's Authorized Officer, the CPM, CDFG and USFWS an approved Burrowing Owl Relocation~~/Translocation~~ Plan based on the applicant's plan submitted in January 2010 (SM 2010a).

Prior to the start of site mobilization activities, construction related ground disturbance, grading, boring, or trenching on the project site, the project owner shall submit to the CPM and BLM's Authorized Officer, a final Burrowing Owl Relocation ~~Area Management~~ Plan that reflects review and approval by Energy Commission staff and BLM in consultation with CDFG and USFWS.

If preconstruction surveys detect burrowing owls within 500 feet of proposed construction activities, the Designated Biologist shall provide to the CPM and BLM's Authorized Officer documentation indicating that non-disturbance buffer fencing has been installed at least 10 days prior to the start of any project related site disturbance activities. The project owner shall report monthly to BLM's Authorized Officer, the CPM, CDFG, and USFWS for the duration of construction on the implementation of burrowing owl avoidance and minimization measures. Within 30 days after completion of construction, the project owner shall provide to the CDFG, BLM's Authorized Officer, and the CPM a written construction termination report identifying how mitigation measures described in the plan have been completed.

~~On January 31st of each year following construction, the Designated Biologist shall provide a report to the CPM, BLM's Authorized Officer, USFWS, and CDFG that describes the results of monitoring and management of the burrowing owl relocation area.~~

Page C.2-114, Condition of Certification BIO-18, Lake or Stream Impact Minimization and Compensation Measures

The applicant requests that this condition be revised to allow for mitigation to be achieved by land acquisition or contribution to an in lieu fee or species recovery program. The applicant also requests changes to the condition section regarding biological conditions to

remove the reference to non-native vegetation becoming a listed species. Non-native vegetation in the desert should not become a listed resource. Proposed changes to the condition are presented below.

1. Acquire Off-Site Desert Wash: The project owner shall "***provide compensatory mitigation, which may include compensation lands purchased in fee or in easement, equivalent fees, or a combination thereof, for impacts to state jurisdictional ephemeral washes determined in the verified delineation".*** ~~, acquire, in fee or in easement, a parcel or parcels of land that includes ephemeral washes with at least the number of acres of state jurisdictional waters determined in the verified delineation…. ~~***If land acquisition is proposed, the*** ~~The~~ terms and conditions of this acquisition or easement shall be as described in Condition of Certification "**BIO-12"** with the additional criteria that the desert wash mitigation lands…

2. Review and Approval of Compensation Lands Prior to Acquisition: The project owner, or a third-party approved by the CPM, in consultation with CDFG, shall submit a formal ~~acquisition~~ proposal to the CPM and CDFG describing the parcel(s) intended for purchase "***and/or the in lieu fee or species recovery programs to be funded[2]. If acquisition (through fee or easement) is proposed",*** ~~Tthis acquisition~~ proposal shall include a description and delineation of waters of the state within the parcels(s); shall describe the floodplain and immediate watershed in the vicinity of the drainage; and shall identify the area of lands surrounding the drainage needed to adequately manage the waters of the state to protect and enhance their biological functions and values. Approval from the CPM, in consultation with CDFG, shall be required for acquisition of all parcels comprising the compensation lands in advance of purchase "***and/or for implementing/participating in the equivalent fee program***."

3. Security for Implementation of Mitigation:

4. Right of Access and Review for Compliance Monitoring: The CPM reserves the right to enter the project site or allow CDFG to enter the project site at any time, with reasonable prior notice to ensure compliance with these conditions.

5. …

6. Notification:

    a. Biological Conditions: a change in biological conditions includes, but is not limited to the following: 1) the presence of biological resources within or adjacent to the Project area, whether native or non-native, not previously known or occur in

[2] The mitigation programs include potential BLM lands as defined by the REAT Agencies. REAT Agencies have proposed mechanisms such as deed restrictions, conservation easements, or right-of-way exclusion areas that would provide permanent protection for acquired mitigation lands under BLM management.

the area; or 2) the presence of biological resources within or adjacent to the Project area~~, whether native or non-native~~, the status of which was changed to endangered, rare, or threatened, as defined in section 15380 of Title 14 of the California Code of Regulations.

7. …

Verification: No fewer than 30 days prior to the start of work potentially affecting waters of the state…

"If land acquisition is proposed", ~~D~~draft agreements to delegate land acquisition to the CDFG or an approved third party and agreements to manage compensation lands shall be submitted to Energy Commission staff for review and approval (in consultation with CDFG) prior to land acquisition. Such agreements shall be mutually approved and executed at least 60 days prior to start of any project-related ground disturbance activities. The project owner shall provide written verification to the CPM that the compensation lands have been acquired and recorded in favor of the approved recipient(s). Alternatively, before beginning project ground disturbance activities, the project owner shall provide Security in accordance with this condition "***and/or contribute funds into an in lieu fee or species recovery program".***

No less than 90 days prior to acquisition of the parcel (s) containing the compensation acres of waters of the state determined in the verified delineation, the project owner, or a third-party approved by the CPM, in consultation with CDFG, shall submit a formal acquisition proposal to the CPM and CDFG describing the parcel(s) intended for purchase.

"If compensation lands are acquired", ~~W~~***w***ithin 90 days after the land purchase, as determined by the date on the title, the project owner shall provide the CPM with a draft management plan for review and approval, in consultation with CDFG for the compensation lands and associated funds. No later than "***18"*** ~~12~~ months after "***start of ground-disturbing activities"*** ~~publication of the Energy Commission Decision~~ the project owner shall submit a final Management Plan for review and approval to the CPM and CDFG.

April 30, 2010

/original signed/

_____

Scott A. Galati
Counsel to Ridgecrest Solar I, LLC

April 29, 2010

Eric Solorio
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Ridgecrest Solar Power Project (RSPP), Docket No. 09-AFC-9, Analysis of Population and Species Impacts to the Desert Tortoise, prepared by Alice E. Karl, Ph.D.

Dear Mr. Solorio:

As requested, attached please find the Analysis of Population and Species Impacts to the Desert Tortoise Due to the Siting of this Project in its Current Location, prepared by Alice E. Karl, Ph.D. This is an update to the March document, which was docketed in draft on April 7, 2010. This has been docketed in accordance with CEC requirements.

If you have any questions, please feel free to contact me at 510-809-4662 (office) or 949-433-4049 (cell).

Sincerely,

Billy Owens
Director, Project Development

Solar Millennium LLC
1625 Shattuck Avenue, Suite 270
Berkeley, CA 94709-4611
tel (1) 510-524-4517
fax (1) 510-524-5516
Info@SolarMillennium.com
http://www.SolarMillennium.com

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the *RIDGECREST SOLAR POWER PROJECT*

Docket No. 09-AFC-9

PROOF OF SERVICE
(Revised 4/12/2010)

APPLICANT
Billy Owens
Director, Project Development
Solar Millenium
1625 Shattuck Avenue, Suite 270
Berkeley, CA 94709-1161
owens@solarmillennium.com

Alice Harron
Senior Director, Project Development
1625 Shattuck Avenue, Suite 270
Berkeley, CA 94709-1161
harron@solarmillennium.com

Elizabeth Copley
AECOM Project Manager
2101 Webster Street, Suite 1900
Oakland, CA 94612
elizabeth.copley@aecom.com

Scott Galati
Galati/Blek, LLP
455 Capitol Mall, Suite 350
Sacramento, CA 95814
sgalati@gb-llp.com

Peter Weiner
Matthew Sanders
Paul, Hastings, Janofsky & Walker LLP
55 2nd Street, Suite 2400-3441
San Francisco, CA 94105
peterweiner@paulhastings.com
matthewsanders@paulhastings.com

INTERVENORS
California Unions for Reliable Energy (CURE)
Tanya A. Gulesserian
Elizabeth Klebaner
Marc D. Joseph
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
tgulesserian@adamsbroadwell.com
eklebaner@adamsbroadwell.com

Desert Tortoise Council
Sidney Silliman
1225 Adriana Way
Upland, CA 91784
gssilliman@csupomona.edu

Basin and Range Watch
Laura Cunningham & Kevin Emmerich
P.O. Box 70
Beatty, NV 89003
bluerockiguana@hughes.net

Western Watersheds Project
Michael J. Connor, Ph.D.
California Director
P.O. Box 2364
Reseda, CA 91337-2364
mjconnor@westernwatersheds.org

***Terri Middlemiss**
Dan Burnett
P.O. Box 984
Ridgecrest, CA 93556
catbird4@earthlink.net
imdanburnett@verizon.net

INTERESTED AGENCIES
California ISO
E-mail Preferred
e-recipient@caiso.com

Janet Eubanks, Project Manager,
U.S. Department of the Interior
Bureau of Land Management
California Desert District
22835 Calle San Juan de los Lagos
Moreno Valley, California 92553
Janet_Eubanks@ca.blm.gov

ENERGY COMMISSION
JAMES D. BOYD
Vice Chair and Presiding Member
jboyd@energy.state.ca.us

ANTHONY EGGERT
Commissioner and Associate Member
aeggert@energy.state.ca.us

Kourtney Vaccaro
Hearing Officer
kvaccaro@energy.state,ca.us

Eric Solorio
Project Manager
esolorio@energy.state.ca.us

Tim Olson
Advisor to Commissioner Boyd
tolson@energy.state.ca.us

Jared Babula
Staff Counsel
jbabula@energy.state.ca.us

Jennifer Jennings
Public Adviser
publicadviser@energy.state.ca.us

*indicates change

DECLARATION OF SERVICE

I, Elizabeth Copley, declare that on April 29, 2010, I served and filed copies of the attached Ridgecrest Solar Power Project (Docket No. 09-AFC-9) Analysis of Population and Species Impacts to the Desert Tortoise Due to the Siting of this Project in its Current Location. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:

[http://www.energy.ca.gov/sitingcases/solar_millennium_ridgecrest].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

For service to all other parties:

X sent electronically to all email addresses on the Proof of Service list;

_ by personal delivery;

X by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

X sending an original paper copy and one electronic copy, mailed and emailed Respectively, to the address below (preferred method);

OR

__ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-9
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

RIDGECREST SOLAR POWER PROJECT

ANALYSIS OF POPULATION AND SPECIES IMPACTS TO THE DESERT TORTOISE, DUE TO THE SITING OF THIS PROJECT IN ITS CURRENT LOCATION

Alice E. Karl, Ph.D
P.O. Box 74006 Davis, California 95617
heliophile@mindspring.com

BACKGROUND

The Ridgecrest Solar Power Project (RSPP or Project) is located in Indian Wells Valley, approximately 8 km (5 mi) from the city of Ridgecrest and approximately 9.6 km (6 mi) from the town of Inyokern, in Kern County, California (Figure 1). The 702 ha (1734.8 acre) RSPP abuts State Highway 395, a major north-south commerce and transportation route in California, and crosses Brown Rd., a locally-used two-lane paved road. A complete Project description can be found in the Project Application for Certification (AECOM 2009a).

Desert tortoise surveys were completed in Spring 2009 and observed 23 adult desert tortoises within the Project footprint. Using the current USFWS (2009) calculations, the estimated adult tortoise abundance was 57, or 8.1 adult tortoises per square kilometer (km^2) [1].

The discussion presented herein provides an objective assessment of the relative value of the tortoises at the RSPP site to species persistence and recovery, based on the available tortoise data. This analysis is specifically to assist the resource agencies and Project proponents in determining whether the Project's effects on tortoises can be mitigated, and what mitigation measures might be appropriate. Further, there is a brief discussion of specific Project design that could decrease both the Project effects on tortoises at this site, as well as potentially assist in desert tortoise recovery.

ANALYSIS

Several factors are important in assessing the inherent value of a group of tortoises to both the local population and to the species, irrespective of mitigation measures that may be employed to minimize a project's impacts. These include the following:

1. Abundance of tortoises relative to other locations within the population
2. Identified importance of the area for recovery and tortoise conservation, by CDFG and USFWS
3. Existing impacts to the site's tortoises and relative longevity of the population in light of these impacts, irrespective of the project

[1] Note: The Application for Certification (AFC; AECOM 2009a) reports a density estimate of adult tortoises, 9.8 adult tortoises/km^2. The density was revised to 8.1, based on subsequent data analysis (Solar Millennium, LLC, 2010a, b).

4. Disruption to genetic connectivity within the population that would occur due to the project
5. Cumulative population fragmentation, including the project, that could result in decreased value of the habitat surrounding the project
6. Heightened anthropogenic or other impacts that could result should the project be built

Each of these factors is discussed in detail below.

Tortoise Abundance

Tortoise abundance at the RSPP is examined in this paper relative to the following questions:

- Could the absolute value of 8.1 tortoises/km^2 be considered a high tortoise density by historic standards, when tortoise densities were higher throughout their range?

- What does a density of 8.1 mean in the context of tortoise populations?

RSPP Tortoise Density Compared to Other Relevant Sites. Historically, a density of 8.1 adult tortoise/km^2 would have been considered a low tortoise density. Table 1 shows the five trend plots studied by BLM in the western Mojave Desert that historically had the highest tortoise densities. Adult tortoise densities from the period 1979-1982 ranged from 36-92 adult tortoises/km^2. The three plots closest to the RSPP (the two Desert Tortoise Natural Area [DTNA] plots and Fremont Valley) had the highest densities. The other recognized high-density plots in California, outside the western Mojave Desert, had 38-83 adult tortoises/km^2. So, historically, 8.1 would have been considered to be very low.

Populations of desert tortoises have declined dramatically since the mid-1980's (Karl 2004a, Tracy et al. 2004, McLuckie et al. 2006, Boarman et al.), so RSPP tortoise density is also examined in the context of current tortoise densities. There are few recent (i.e., within the ten years prior to the 2009 RSPP surveys) available data for localized sites *where tortoises are expected*. Table 2 lists 19 locations in tortoise habitat, and excludes locations that were specifically chosen by project developers based on their anticipated lack of tortoises and other costly resources (e.g., solar project sites). Adult tortoise densities at these 19, western Mojave Desert sites range from 0-28 adult tortoises/km^2 (Table 2). The RSPP tortoise density of 8.1 falls slightly above the median density value (7.7) of these 19 sites and slightly below the mean value (8.5). The relative density of these sites in the context of tortoise density rangewide is unknown because no data are available to complete the analysis.

Table 1. Estimated adult tortoise densities for historically high density plots in California[1].

Historically High Density Plot	#Adults/km2	Year
Western Mojave Desert		
DTNA[2] Interior Plot	92	1982
DTNA Interpretive Center	69	1979
Fremont Valley	45	1981
Kramer Hills	42	1980
Lucerne Valley	36	1980
Elsewhere in California		
Chuckwalla Bench	75	1979
Goffs	83	1983
Upper Ward Valley	38	1980
Ivanpah	42	1979

1. Data Source: BLM (2005), Berry (1990, 1997)
2. Desert Tortoise Natural Area (DTNA)

Two regional sampling programs may further elucidate RSPP tortoise abundance in the context of the tortoise's geographic range in California. Density transects for the Ridgecrest area in the late 1970's estimated 8-19 tortoises/km^2 in the Project vicinity (Berry and Nicholson 1984). This was considered a relatively low tortoise density at the time because during this same sampling program, 7640 km^2 in California were estimated to have over 19 tortoises/km^2 and nine areas were estimated to have over 58 tortoises/km^2. While the validity of those earlier estimates in the strict context of a mathematical representation of tortoise density (i.e., number of tortoises per unit area) has been rejected, the 1970's sampling program was nonetheless valuable in predicting areas of *relatively* high, medium, and low tortoise abundance. The RSPP area was consistently shown to be a relatively low density.

More recent transects conducted for the West Mojave Plan (WMP) in 1999 again consistently found very low sign counts in the RSPP vicinity and remainder of Indian Wells Valley (U.S. Bureau of Land Management [BLM] 2005). On 23 of the 25 transects throughout the valley, zero to three sign were observed; on the remaining two transects (north of the RSPP), four to eight sign were observed[2]. Sign on transects in the immediate vicinity of the RSPP site totaled one to three per transect. During this same sampling program, there were many areas in the WMP planning area that had higher (9-16 sign) to substantially higher (17-50 sign) sign counts, indicating that the RSPP vicinity (i.e., the RSPP site and surrounding Indian Wells Valley) is a low tortoise density

[2] Note: The WMP transects did not attempt to estimate tortoise density. They merely reported sign counts as a measure of relative tortoise abundance. A total sign count was reported for each transect.

Table 2. Available desert tortoise density estimates on localized sites in the western Mojave Desert. Sites were generally small, 1 km^2 or 1 mi^2, unless noted. All sites were expected to be occupied by desert tortoises based on habitat.

Site	#Adults/km^2		Time or Time Span for Estimates[1]	Reference
	Time 1	Time 2		
USGS Plots				
DTNA Interior Plot	92.0	5.0	1979, **1982**, 1988, 1992 **1996,** 2002	BLM (2005), Berry (2003)
DTNA Interpretive Center	69.9	18.1	**1979**, 1985, 1989, **1993,** 2002	BLM (2005), Berry (2003)
Fremont Valley	44.8	12.7	**1981**, 1987, **1991**, 2001, 2007	BLM (2005), Jones (2008)
Fremont Peak	27.0	1.9	**1980,** 1985, 1989, **1993**, 2001, 2007	BLM (2005), Jones (2008)
Kramer Hills	44.0	13.1	1980, **1982**, 1987, 1991, **1995**, 2007	BLM (2005), Jones (2008)
Lucerne Valley	35.9	25.1	**1980**, 1986, 1990, **1994**, 2005	BLM (2005), Jones (2008)
Johnson Valley	26.6	6.2	**1980**, 1986, 1990, **1994**, 2008	BLM (2005)
Stoddard Valley	47.9		1981, **1987**, 1991	BLM (2005)
Fort Irwin Expansion Project				
MT-1	28.0		1999	Karl (1999)
NL-1	10.0		1999	Karl (1999)
Plot 1	14.0		2001	Karl (2002a)
Plot 2	5.0		2001	Karl (2002a)
Plot 3	0+		2001	Karl (2002a)
Plot 4	7.7		2001	Karl (2002a)
Plot 5	7.0		2001	Karl (2002a)
Plot 6	5.0		2001	Karl (2002a)
Plot 8	10.8-12.0		2001, 2002	Karl (2002a, b)
Plot 9	13.2-13.9		2002	Karl (2002b)
MCAGCC Land Acquisition Project:				
Johnson Valley Plot 1	7.8		2009	B. Henen, NREA, pers. comm.
Johnson Valley Plot 2	6.0		2009	B. Henen, NREA, pers. comm.
Johnson Valley Plot 3	12.5		2009	B. Henen, NREA, pers. comm.
Twentynine Palms Plot 4	10.6		2009	B. Henen, NREA, pers. comm.
Cadiz Valley Plot 5	5.0		2009	B. Henen, NREA, pers. comm.
Cadiz Valley Plot 6	0.0		2009	B. Henen, NREA, pers. comm.
Johnson Valley Plot 7	4.0		2009	B. Henen, NREA, pers. comm.

Table 2, continued.

Site	#Adults/km^2		Time or Time Span for Estimates[1]	Reference
	Time 1	Time 2		
Emerson Lake	3.0		2009	B. Henen, NREA, pers. comm.
Acorn	10.6		2009	B. Henen, NREA, pers. comm.
Larger Sites:				
Fort Irwin: Southern Expansion Area Clearance – 32 km^2	7.2		2006-7	A. Walde, pers. comm.
Hyundai Motor America Mojave Test Track – 18.3 km^2	1.5		2004	Karl (2004b)

1. The years listed are all the years that each site was studied. The years in bold type are those presented in the previous columns of tortoise density, with the (a) first bold-font year in the list representing the year with the highest historic density and the second bold-font year representing the most recent available data. Note that while the sites may have been surveyed in years subsequent to the most recent year in bold type, density data for adult tortoises are not available.

area compared to other locations in the tortoise's range. Consistent with the sampling results in Indian Wells Valley, recent sampling near Red Rocks State Park, west of the RSPP, suggested very low tortoise densities there as well, fewer than four adult tortoises/km^2 (Keith et al. 2005).

The WMP transects are significant in the analysis of tortoise abundance because the WMP data are relatively recent. Compared to other areas in the WMP planning area, tortoise abundance in the RSPP vicinity was low to moderately low. In other words, if the RSPP estimated tortoise density is 8.1adults/km^2, then there are other areas that have substantially higher tortoise densities in the WMP planning area.

In summary, regional sampling studies indicate that tortoise densities have remained consistently relatively low in the RSPP area for 30 years, compared to other areas where tortoise abundance has been sampled. Even assuming that tortoise densities at the RSPP were likely to have been somewhat higher several decades ago than they are now, consistent with the rangewide pattern of tortoise declines (Karl 2004a, Tracy et al. 2004, McLuckie et al. 2006, Boarman et al. 2008), the evidence strongly supports historic low densities, not the dramatic declines seen on the high density areas (see Table 2 - "USGS Plots"). WMP transects indicate that recent tortoise densities in the RSPP vicinity remain relatively low compared to several other areas in the WMP planning area, indicating that 8.1 adult tortoises/km^2 is a relatively low density. A specific RSPP site density comparison to the specific tortoise densities in 19 locations in the western Mojave Desert where tortoises were expected based on suitable habitat, and which were previously assessed during the WMP transects to be areas of moderate to medium tortoise abundance, suggests that the RSPP tortoise density of 8.1 is a moderate to medium tortoise density. Based on available data, then, it can be concluded that the RSPP is, and historically has been, in a relatively low tortoise density area, with the Project site itself considered a moderate to medium tortoise density by current comparisons.

Comparison of RSPP to USFWS Line Distance Sampling Densities. In an earlier California Energy Commission workshop on the RSPP, Mr. Richard Anderson compared RSPP tortoise density to those from the USFWS' Line Distance Sampling (LDS) program that has been implemented to determine regional and rangewide trends in tortoise densities (Attachment 1). This comparison resulted in the RSPP site appearing higher than any area within the desert tortoise's range in California, Nevada, and Utah. However, the comparison is invalid because the sampling units for the LDS program are thousands of square kilometers (Table 3), up to 9298 km^2, compared to the 7.02 km^2 RSPP site. Notwithstanding that the LDS program surveyed critical habitat units within the recovery units, where tortoise densities are assumed to achieve their highest levels, sampling in those critical habitat units included both non-tortoise habitat and occupied habitat:

> "The expectation was that most of the rugged terrain would be sampled in this way, and the transect locations would be representative, not purposefully in better areas for encountering tortoises" (USFWS 2009b:10).

> "Estimates of density for 2007 … coincide(s) with increasing efforts to sample all areas managed for desert tortoises; the new areas of interest were excluded in the past as potentially low or no suitability to desert tortoises….many areas added to the sampling frame contain lower densities of tortoises than the core areas sampled among all years" (USFWS 2009b: 8).

The goal of the LDS program is to provide density for each broad sampling stratum, so no information is provided in the LDS report (USFWS 2009b) that would permit the reader to determine the percentage of the area within each broad sampling stratum that comprises non-habitat or varying levels of tortoise abundance. However, an examination of the smaller sampling units within the major sampling strata shows a high degree of variation in tortoise density (Table 3; USFWS 2009b: Tables 8 and 9), including densities that are higher than at RSPP.

Finally, caution should be used when making comparisons to exact density estimates provided by the LDS program. According to the most recent LDS report:

> "There is considerable variability from year to year in the same recovery unit. For instance, in the Western Mojave the [revised] estimate is 4.4 tortoises/km^2 in 2004, …6.1 in 2005, and 4.7 tortoises/ km^2 in 2007. This does not reflect realistic changes in population size in such a large area over one-year periods, but is a consequence of the relatively imprecise annual estimates" (USFWS 2009b:39).

There is enough variability in the program's methods and precision of estimates, as well as expressed difficulties with the data, that comparing 8.1 tortoises/km^2 to densities that are different by only a few tortoises/km^2 may be too fine-grained a comparison.

In summary, the LDS program's goal of identifying density trends in broad recovery units does not permit applicability of their results, as presented in their summary report (USFWS 2009b), to very small sites such as the RSPP. LDS numbers are not comparable because of the size of the LDS sampling units compared to small units such as the RSPP, because an undisclosed percentage of the sampled sites are not tortoise habitat, and because of other aspects of the methods. The data show that smaller units can have different individual densities (both higher and lower) that are masked by averaging all densities across a unit that includes both non-habitat and suitable habitat.

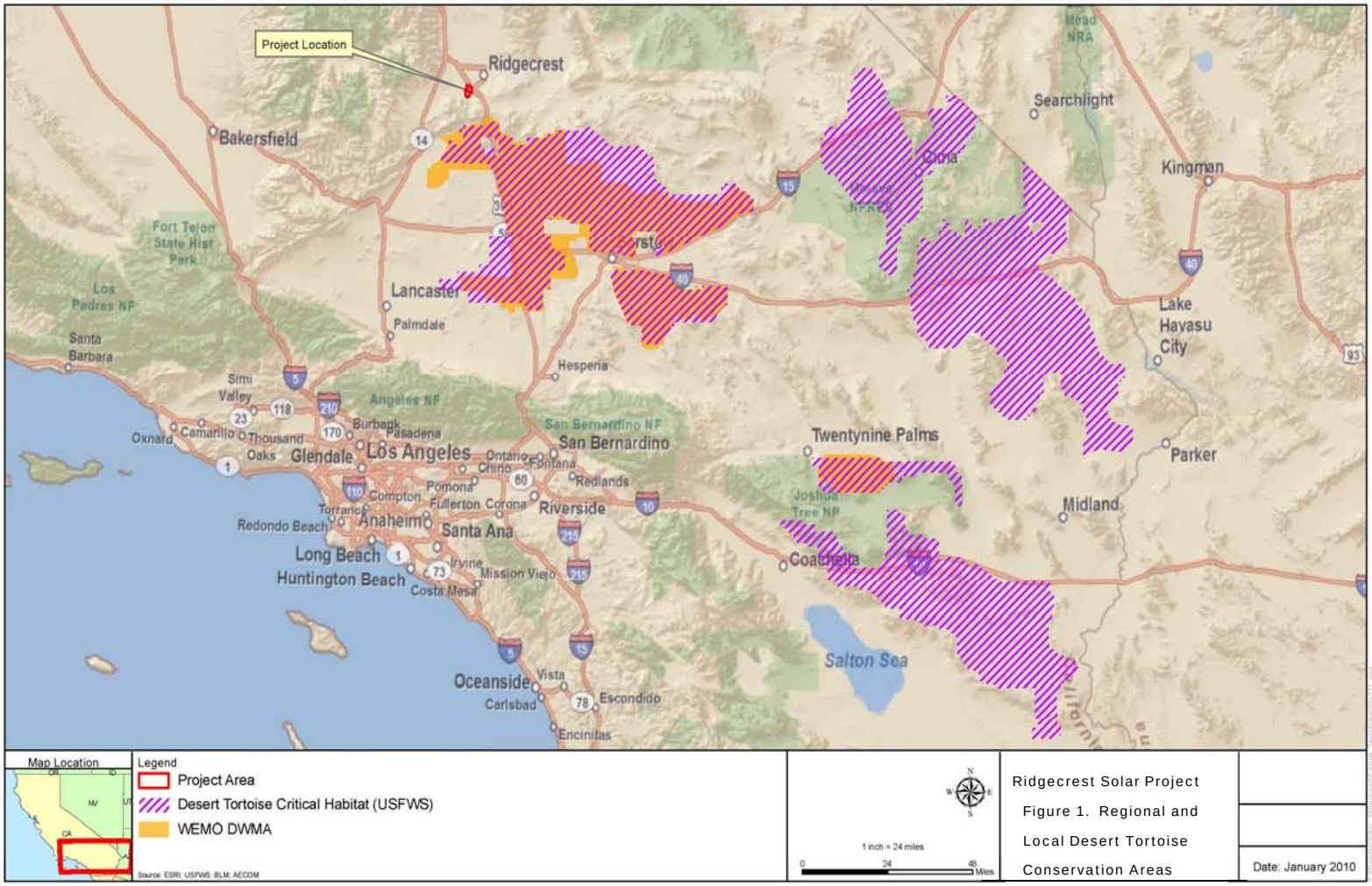
Designated Conservation Areas for the Desert Tortoise

The RSPP and surrounding area have not been identified by the U.S. Fish and Wildlife Service (USFWS 1994a and b) and the BLM (2005) as an important area for desert tortoise recovery and population persistence (Figure 1). Desert Wildlife Management Areas (DWMAs) and designated critical habitat are both about 11 km (7 miles) south of the RSPP. These designations appear to be consistent with tortoise density information from the RSPP studies, in the context of the remainder of the species range in the Mojave and Sonoran (California) Deserts (see above). The data on tortoise distribution and abundance provide the hard data from which population impacts can be analyzed.

Table 3. Broad sampling strata used to estimate tortoise density in the federally listed portion of the species range. All but the last sampling stratum are USFWS LDS sampling strata. Major strata are in bold font, followed by monitoring strata within each major stratum. Size of each stratum is shown.

Sampling Stratum	#Adults/km^2	Sampling Unit Size (km^2)	Date	Source
West Mojave RU[1]	**4.7**	**9298.0**	2007	USFWS (2009b)
5 sampling strata within the RU used for calculating RU values	2.4-8.2	608-3447	2007	USFWS (2009b)
Eastern Mojave RU	**5.8**	**6681.0**	2007	USFWS (2009b)
3 sampling strata within the RU used for calculating RU values	4.2-6.6	1862-2567		
Northeastern RU	**1.7**	**4917.0**	2007	USFWS (2009b)
4 sampling strata within the RU used for calculating RU values	1.2-3.3	968.0		
Eastern Colorado RU	**5.0**	**4263.0**	2007	USFWS (2009b)
3 sampling strata within the RU used for calculating RU values	4.5-7.1	755-3509		
Northern Colorado	**4.6**	**4038.0**	2007	USFWS (2009b)
Upper Virgin River	**14.9**	**114.0**	2007	McLuckie et al (2008) in USFWS (2009)
Fort Irwin: Southern Expansion Area	**6.8**	**32**	2001-2	(Karl 2002)
32, one km2 sampling units	>0-25.1	1		

1. RU = Recovery Unit


Project Location
Ridgecrest
Bakersfield
Searchlight
Kingman
Lancaster
Palmdale
Hesperia
Lake Havasu City
Santa Barbara
Simi Valley
Oxnard
Camarillo
Thousand Oaks
Glendale
Los Angeles
Burbank
Pasadena
San Bernardino
Ontario
Chino
Fontana
Redlands
Pomona
Compton
Fullerton
Corona
Riverside
Torrance
Redondo Beach
Anaheim
Santa Ana
Long Beach
Huntington Beach
Irvine
Mission Viejo
Costa Mesa
Twentynine Palms
Parker
Midland
Coachella
Salton Sea
Oceanside
Vista
Carlsbad
Escondido
Encinitas
Fort Tejon State Hist Park
Los Padres NF
Angeles NF
San Bernardino NF
Joshua Tree NP
Mead NRA
Map Location
Legend
Project Area
Desert Tortoise Critical Habitat (USFWS)
WEMO DWMA
Source: ESRI; USFWS; BLM; AECOM
1 inch = 24 miles
0
24
48
Miles
Ridgecrest Solar Project
Figure 1. Regional and Local Desert Tortoise Conservation Areas
Date: January 2010

However, that tortoises are present at densities of 8.1 adults/km^2 has prompted conclusions that this must be high quality habitat. Most of the site is not high quality habitat, however, even El Paso Wash and the smaller wash along the southern border of the Project site. Rather than being distributed relatively evenly throughout the site, tortoises are concentrated in the better habitats on the site, those that provide greater abundance of cover and forage species. I completed a habitat assessment on 25 February by walking the entire Project site's original footprint (AECOM 2009a) and recording and assessing all habitat variables (shrub species richness, evenness, composition, density, robustness; soil consistence and texture; substrate; hydrology; topography; anthropogenic influences). The eastern portion of the site is the best habitat on the site, with a moderately diverse shrub community (*Larrea tridentata*, *Ambrosia dumosa*, with *Senna armata*, *Eriogonum inflatum*, *Cylindopuntia echinocarpa*, *Ericameria cooperi*, A*camptopappus sphaerocephalus* and occasional *Ambrosia salsola*, *Psorothamnus fremontii*, and *Lycium andersonii*) of about 12-14% cover, gently undulating terrain with numerous runnels, soft coarse-sandy loam, and a 10-15% substrate cover of fine gravel. Proceeding west and south, habitat quality declines rapidly. The topography is relatively flat, with broad, relatively sparsely vegetated rises and long, linear swales. The shrub community has low species richness, generally represented by three species on the rises *L. tridentata* and *A. dumosa* with occasional *E. echinocarpa*; the long troughs, which carry water through the valley, contain *S. armata* and *A. salsola* as well. El Paso Wash is the largest of these troughs and has essentially the same species; they are simply more robust and appear to be slightly more dense, thus providing more cover. The lack of increased species richness and cover was surprising, as El Paso Wash has been represented as a high quality wash in several discussions about the Project site. The smaller wash along the southern border of the Project site is similar to El Paso Wash, simply smaller.

In conclusion, the habitat appears to be generally a medium to moderately low quality on most of the site, with higher quality in the northeast and slightly higher quality in the long swales and washes. Tortoise distribution on RSPP is consistent with this observation.

Even though current densities have declined dramatically on formerly high density study plots (see Table 2), many or most of those areas have the potential to increase again because the habitat that supported the higher densities still exists in most cases. On RSPP, there is no evidence that a habitat that would support higher densities was present in at least the last several decades, so tortoise densities aren't likely to rise to a higher density if the site is left undisturbed, simply based on current habitat quality.

Existing Anthropogenic Impacts

The site is next to Highway 395, a heavily traveled, major commerce and transportation route in California. Heavily traveled roads are known mortality sinks for tortoises and other wildlife (Nicholson 1978, Karl 1989, Boarman 1992 and 2009, LaRue 1993, Marlow and von Seckendorff Hoff 1997, Rosen et al. 2007), so it is highly likely that Highway 395 has resulted in continual tortoise mortalities, simultaneously fragmenting the population.

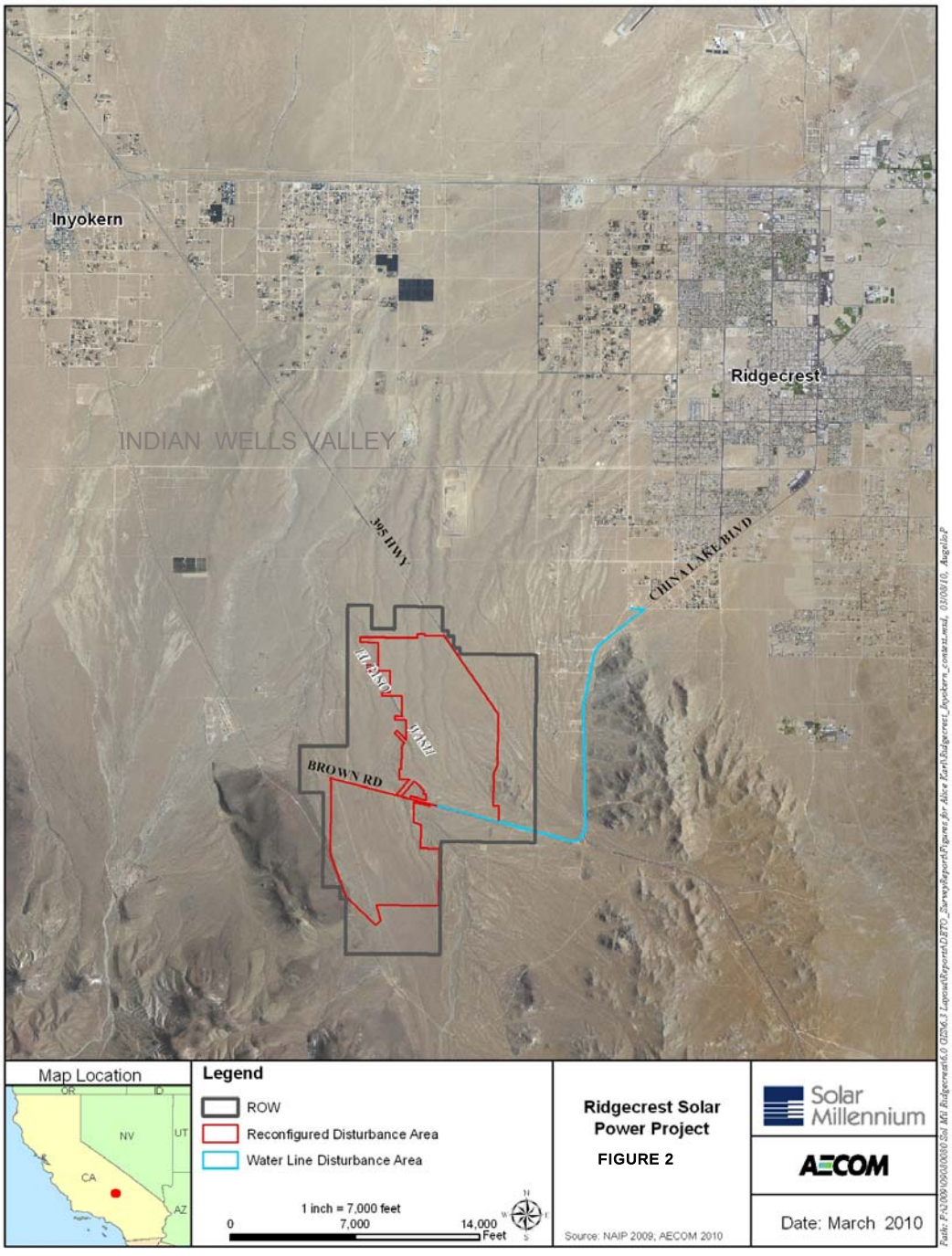
In addition, the towns of Ridgecrest and Inyokern, the "ranchette" community that has expanded away from the towns proper, and local agriculture (Inyokern, mostly) degrade and fragment the area's tortoise habitat. Not only is habitat removed, in a fragmented pattern, but dogs (which prey on desert tortoises), children, and motor-based recreational activity typically expand to areas immediately outside desert towns. The result of these activities is increased loss and degradation of habitat and increased tortoise depredations and collections. Ravens, which are common in the area (pers. obs.), undoubtedly due to the subsidies provided by the town and agriculture (e.g., trash, roadkills, harvesting and tilling practices that provide prey and forage, water) are likely to already exert an influence on recruitment in the local tortoise population, the effects of which could occur at RSPP. For instance, clearance of tortoises for the Hyundai Test Track south of California City, where ravens are common due to the nearby towns (California City and Mojave) and the Mojave landfill, found no tortoises between the reproductive-sized tortoises and the very small (<a few years old) juvenile stage (Karl 2004). There appeared to be total lack of recruitment into this population, possibly due to raven predation. At RSPP, small tortoises were observed, so some recruitment is occurring. But, Ridgecrest-area ravens are probably still impacting recruitment to some extent.

Connectivity

It is reasonable to ask whether this population could be a source population because of its high habitat quality, high density, security from threats to population viability, and/or some other unidentified quality. And, if so, would the Project restrict the flow of genes to other areas of the population? Based on the above analysis and aerial photographs, development of this site would not appear to impair connectivity within the population. First, the relatively low to medium tortoise densities in the RSPP vicinity, a moderate quality habitat that is already impacted by anthropogenic factors, would not suggest that this is an unusually important population segment. While one might further speculate that this population could hold genetic or phenotypic characters that would promote species and population persistence and recovery, there is no evidence to support that speculation. Second, with the updated project footprint refinement (Figure 2), connections to the El Paso Mountains pass to the south could be conserved by minimizing impacts to El Paso Wash, assuming that Project mitigation also ensures that (a) tortoises are not funneled onto the highway along these corridors, and (b) OHV traffic does not increase in these washes. Undoubtedly, the Project would affect tortoise movements, which would subsequently affect connectivity and gene flow, but the RSPP location and surrounding habitats and anthropogenic features do not suggest that the effect would be critical to population functioning.

Cumulative Population Fragmentation

The RSPP would further fragment occupied tortoise habitat. Unlike some species of birds and mammals that might abandon an area if habitat fragmentation were to reach a certain threshold, the threshold at which fragmented habitat would become undesirable or unusable by tortoises is unknown. Furthermore, mere habitat fragmentation (i.e., patch


Inyokern
Ridgecrest
INDIAN WELLS VALLEY
395 HWY
CHINA LAKE BLVD
BROWN RD
Map Location
OR
ID
NV
UT
CA
AZ
Legend
ROW
Reconfigured Disturbance Area
Water Line Disturbance Area
1 inch = 7,000 feet
0
7,000
14,000
Feet
N
W
E
S
Source: NAIP 2009, AECOM 2010
Ridgecrest Solar Power Project
FIGURE 2
Solar Millennium
AECOM
Date: March 2010

size and connectivity) is typically difficult to separate from the suite of impacts affecting tortoise use of an area. (For instance, tortoises occupying fragmented habitats around towns are also subject to the other negative influences associated with towns [see above]). It does not appear that development of the RSPP would result in a level of fragmentation that would reduce surrounding habitat to unusable fragments. From aerial photographs, there appears to be ample habitat, even if somewhat degraded by anthropogenic activities, in the surrounding area to support the use of the area by tortoises should the RSPP be built.

Heightened Anthropogenic or Other Impacts That Could Result

No new types of resources for tortoise predators would be added by the RSPP that are not currently in the Project vicinity. Water, food, and nesting resources are all abundant and readily available in the surrounding communities of Ridgecrest and Inyokern.

CONCLUSION

This paper analyzes variables that are important in the analysis of RSPP impacts to this tortoise population. There may be other variables that could be important, but for which the data are currently lacking. At this juncture, an objective assessment of the RSPP's impacts to the species must rely on available data, with a reasonable consideration of the likelihood of unknown factors.

Based on the Project site tortoise abundance in the context of the rest of the species' range through the Mojave and Sonoran (California) Deserts and existing recovery and conservation approaches, as well as its location relative to existing anthropogenic effects, it is difficult to conclude that the siting of this Project in its current location would result in a biologically significant effect on the species persistence or recovery. Furthermore, while the Project would have indisputable effects on tortoises by removing habitat and disrupting movements, behavior and existing social systems, even resulting in some tortoise losses, careful mitigation (well-executed clearances, translocation, and follow-up monitoring) is likely to minimize Project-related tortoise mortality and costs to the population.

More importantly, off-site mitigation has the potential to provide mitigation that will enhance tortoise recovery. Fencing Highway 395 with tortoise exclusion fencing and adequately spaced culverts would eliminate tortoise mortality on Highway 395, decrease the current population fragmentation caused by that highway, and make available many hectares of safe habitat for use by tortoises. Even though tortoise conservationists have consistently agreed that highway fencing, with culverts to permit genetic flow, is an important mitigation measure, it has rarely been achieved. Over 15 years have passed since this measure was identified in the desert tortoise recovery plan (USFWS 1994a). Private mitigation funds are a way to accomplish this. If USFWS and CDFG feel that the tortoise population in the RSPP vicinity is important for tortoise recovery, then it would be important to eliminate the highway mortality and decrease the population

fragmentation. This could be a reasonable trade for the loss of some tortoise habitat in the area and disruption of the tortoise population.

In summary:

- Data show that this is and historically has been a low to moderate or medium density population.
- The revised Project footprint will recede from two of the three best tortoise habitats on the original Project site, thereby permitting continued connectivity to the south.
- Because of the revised Project footprint, it is likely that a large percentage of the tortoises will not require relocation, but will be automatically excluded from the Project.
- If the Project is built, an opportunity exists to eliminate an important mortality sink and population fragmenting feature currently impacting the population. This conservation measure is unlikely to be accomplished in the near future without dedicated funding. History has shown that most heavily traveled roads through tortoise habitat remain unfenced, despite this being a strongly advocated measure for decades.

LITERATURE CITED

AECOM. 2009b. Ridgecrest Solar Power Project Application for Certification. Prepared for Palo Verde Solar I, LLC. Submitted to the California Energy Commission on August 31, 2009. 900 pp.

AECOM. 2009b. Solar Millennium Ridgecrest Solar Power Project desert tortoise technical report, Kern County, California. Unpub. report prepared for Solar Millennium, LLC, Berkeley, CA. 22 pp plus attachments.

Anderson, R. 2009. Presentation of desert tortoise density comparisons for the Ridgecrest Solar Power Project (figure).

Berry, K.H. 1990. Status of the desert tortoise in California in 1989. Unpub. report. U.S. BLM, Riverside, CA.

---. 1997. Demographic Consequences of Disease in Two Desert Tortoise Populations in California, USA. New York Turtle and Tortoise Society. Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles - An International Conference, pp. 91–99.

---. 2003. Declining trends in desert tortoise populations at long-term study plots in California between 1979 and 2002: Multiple causes. Paper presented at the 2003 Desert Tortoise Council Symposium, Las Vegas, Nevada.

--- and L.L. Nicholson, 1984. The distribution and density of desert tortoise populations in California in the 1970's. Chapter 2 *in* K.H. Berry (ed.) Status of the Desert Tortoise (*Gopherus agassizii*) in the United States. Unpubl. rept. from Desert Tortoise Council to U.S. Fish and Wildlife Service, Sacramento, California. Order No. 11310-0083-81.

Boarman, W.I. 1994. Effectiveness of fences and culverts for protecting desert tortoises along California State Highway 58: summary of the 1993 field season. Draft. Unpub. rept. to the California Energy Commission. Contract No. 700-90-015, Phase 3, Task 3-3. 23 pp. plus appendices.

---, W.B. Kristan, III, and A.P. Woodman. 2008. Neither here nor there: current status of Sonoran desert tortoise populations in Arizona. Paper presented at the 2008 Desert Tortoise Council Symposium, Las Vegas, NV.

Karl, A. E. 1989. Investigations of the desert tortoise at the California Department of Health Services' proposed low-level radioactive waste facility site in Ward Valley, California. Unpub. rept. submitted to U.S. Ecology and Ecological Research Services. 116 pp.

---. 2002. Desert tortoise abundance in the Fort Irwin National Training Center expansion area: second-year studies. 45 pp. plus appendices.

---. 2004a. Drought: acute effects and impacts to recovery of the desert tortoise. Paper presented at the 2004 Desert Tortoise Council Symposium, Las Vegas, NV.

---. 2004b. Initial summary of tortoise translocation from the Hyundai facility. Memorandum to California Department of Fish and Game, U.S. Fish and Wildlife Service, and Hyundai Motor America. 2pp.

Keith, K., K. Berry, and J. Weigand, 2005. Surveys for desert tortoises in the Jawbone-Butterbredt Area of Critical Environmental Concern, Eastern Kern County, California. Unpub. rept. 50 pp.

Jones, R. 2008. Desert tortoise, our state reptile. Presentation at the 2008 Desert Tortoise Council Symposium, Las Vegas, Nevada.

LaRue, E.L. 1993. Distribution of desert tortoise sign adjacent to Highway 395, San Bernardino County, California. Draft. Unpub. rept. from Tierra Madre Consultants to Gratten, Gersick, Karp, and Miller, Sacramento, CA. 17 pp.

Marlow, R. W., K. von Seckendorff Hoff, and P. Brussard. 1997. Management of wild tortoise populations is complicated by escape or release of captives. Pp. 479-480 *in* J. van Abbema (ed.), Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles – an International Conference. Joint publ. of the New York Turtle and Tortoise Society and the WCS Turtle Recovery Program.

McLuckie, A.M., M.R.M. Bennion, R.A. Fridell, and R. Radant. 2006. Status of the desert tortoise in the Red Cliffs Desert Reserve. Paper presented at the 2006 Desert Tortoise Council Symposium, Las Vegas, NV.

---, M.M. Reitz, and R.A. Fridell. 2008. Regional desert tortoise monitoring in the Red Cliffs Desert Reserve, 2007. Utah Division of Wildlife Resources, Salt Lake City, UT. Publ. No. 08-19. 57 pp.

Nicholson, L.L. 1978. The effects of roads on desert tortoise populations. Pp. 127-129 *in* M. Trotter (ed.) Proceedings of the 1978 Desert Tortoise Council Symposium.

Rosen, P.C., P.A. Holm, and E.B. Wirt. 2007. Studies of drought and highway effects on tortoises at Organ Pipe Cactus national Monument, Arizona. Paper presented at the 2007 Desert Tortoise Council Symposium, Las Vegas, NV.

Tracy, C.R., R.C. Averill-Murray, W.I. Boarman, D. Delehanty, J.S. Heaton, E.D. McCoy, D.J. Morafka, K.E. Nussear, B.E. Hagerty, and P.A. Medica. 2004. Desert Tortoise Recovery Plan assessment. Report to U.S. Fish and Wildlife Service, Reno, Nevada.

U.S. Bureau of Land Management. 2005. 2005. West Mojave Plan, A Habitat Conservation Plan and California Desert Conservation Area Plan Amendment,

Final Environmental Impact Report and Statement. California Desert District Office, Moreno Valley, CA. Available online at: http://www.blm.gov/ca/pdfs/cdd_pdfs/wemo_pdfs/plan/wemo/.

U.S. Fish and Wildlife Service. 1994a. Desert tortoise (Mojave population) recovery plan. U.S. Fish and Wildlife Service, Portland, Oregon.

---. 1994b. Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Mojave Population of the Desert Tortoise. Federal Register 59(26):5820-5866.

---. 2009a. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). April 2009. 16 pp. Desert Tortoise Recovery Office, Reno, NV.

---. 2009b. Range-wide monitoring of the Mojave Population of the desert tortoise: 2007 annual report. Desert Tortoise Recovery Office, Reno, NV.

Solar Millennium, LLC. 2010a. Response to Basin and Range Watch Set 0, Data Requests #1 to #7. Docketed March 30, 2010.

---. 2010b. Ridgecrest Solar Power Project Draft Biological Assessment. In prep.

Attachment 1.

Presentation by Mr. Richard Anderson at the California Energy Commission Workshop for the Ridgecrest Solar Power Project.

Desert Tortoises Densities (USFWS 2009)

NE Mojave	Density (km²)
2001	2.4
2002	-
2003	3.7
2004	1.2
2005	1.8
2007	1.7
E Mojave	
2001	6.2
2002	4.1
2003	-
2004	5.3
2005	7.2
2007	5.8

E Colorado	Density (km²)
2001	10.1
2002	7.7
2003	4.0
2004	6.4
2005	7.9
2007	5.0
N Colorado	
2001	7.2
2002	-
2003	6.3
2004	6.9
2005	10.8
2007	4.6

Desert Tortoises Densities (USFWS 2009)

W Mojave	Density (km²)
2001	5.6
2002	5.8
2003	3.8
2004	4.4
2005	6.1
2007	4.7

	Density (km²)
Ridgecrest SPP	9.8
Ivanpah SPP	**1.6 (no correction)**
	Raw Data (no correction)
Ridgecrest	**5.1** (km²)
Ivanpah	**1.6** (km²)

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the *RIDGECREST SOLAR POWER PROJECT*

Docket No. 09-AFC-9

PROOF OF SERVICE
(Revised 4/12/2010)

APPLICANT
Billy Owens
Director, Project Development
Solar Millenium
1625 Shattuck Avenue, Suite 270
Berkeley, CA 94709-1161
owens@solarmillennium.com

Alice Harron
Senior Director, Project Development
1625 Shattuck Avenue, Suite 270
Berkeley, CA 94709-1161
harron@solarmillennium.com

Elizabeth Copley
AECOM Project Manager
2101 Webster Street, Suite 1900
Oakland, CA 94612
elizabeth.copley@aecom.com

Scott Galati
Galati/Blek, LLP
455 Capitol Mall, Suite 350
Sacramento, CA 95814
sgalati@gb-llp.com

Peter Weiner
Matthew Sanders
Paul, Hastings, Janofsky & Walker LLP
55 2nd Street, Suite 2400-3441
San Francisco, CA 94105
peterweiner@paulhastings.com
matthewsanders@paulhastings.com

INTERVENORS
California Unions for Reliable Energy (CURE)
Tanya A. Gulesserian
Elizabeth Klebaner
Marc D. Joseph
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
tgulesserian@adamsbroadwell.com
eklebaner@adamsbroadwell.com

Desert Tortoise Council
Sidney Silliman
1225 Adriana Way
Upland, CA 91784
gssilliman@csupomona.edu

Basin and Range Watch
Laura Cunningham & Kevin Emmerich
P.O. Box 70
Beatty, NV 89003
bluerockiguana@hughes.net

Western Watersheds Project
Michael J. Connor, Ph.D.
California Director
P.O. Box 2364
Reseda, CA 91337-2364
mjconnor@westernwatersheds.org

*Terri Middlemiss
Dan Burnett
P.O. Box 984
Ridgecrest, CA 93556
catbird4@earthlink.net
imdanburnett@verizon.net

INTERESTED AGENCIES
California ISO
E-mail Preferred
e-recipient@caiso.com

Janet Eubanks, Project Manager,
U.S. Department of the Interior
Bureau of Land Management
California Desert District
22835 Calle San Juan de los Lagos
Moreno Valley, California 92553
Janet_Eubanks@ca.blm.gov

ENERGY COMMISSION
JAMES D. BOYD
Vice Chair and Presiding Member
jboyd@energy.state.ca.us

ANTHONY EGGERT
Commissioner and Associate Member
aeggert@energy.state.ca.us

Kourtney Vaccaro
Hearing Officer
kvaccaro@energy.state,ca.us

Eric Solorio
Project Manager
esolorio@energy.state.ca.us

Tim Olson
Advisor to Commissioner Boyd
tolson@energy.state.ca.us

Jared Babula
Staff Counsel
jbabula@energy.state.ca.us

Jennifer Jennings
Public Adviser
publicadviser@energy.state.ca.us

*indicates change

DECLARATION OF SERVICE

I, Marie Mills, declare that on April 30, 2010, I served and filed copies of the attached **RIDGECREST SOLAR 1, LLC'S INITIAL COMMENTS ON THE BIOLOGICAL RESOURCES SECTION OF THE STAFF ASSESSMENT/ DRAFT ENVIRONMENTAL IMPACT STATEMENT,** dated April 30, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: **[http://ww.energy.ca.gov/sitingcases/ridgecrest_solar].**

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

__X__ sent electronically to all email addresses on the Proof of Service list;

_____ by personal delivery;

__X__ by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__X__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-9
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

// Original Signed //

_____
Marie Mills