

July 19, 2016

Valley South Subtransmission Project  
Final EIR Comments  
c/o Aspen Environmental Group  
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Eric Chiang, CPUC Project Manager  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco CA 94102

*Via Email & U.S. Mail*

Re: *Comments on Valley South Subtransmission Project DEIR*

Dear Aspen Environmental Group, Mr. Chiang, and the California Public Utilities Commission:

Under the California Environmental Quality Act (“CEQA”), and on behalf of our client Social Environmental Justice Alliance (“SEJA”), this is to provide comments regarding the Final Environmental Impact Report (“FEIR”) for the Valley South Subtransmission Project (“VSSP” or “the Project”), for which Southern California Edison (“SCE”) is the Project Proponent. These comments are for the consideration of the California Public Utilities Commission when it considers the proposed Project.

The following are items of significant new information requiring recirculation of the DEIR:

- The new inclusion of the U.S. Fish & Wildlife Service (“USFWS”) as an agency from whom SCE must obtain approval prior to implementing the Project,
- The statement that sometimes SCE won’t be remediating for impacts to vegetation after impacting it: the FEIR indicates that the Project will be broken up into “defined segments,” with remediation occurring sometimes after a segment is completed, but those segments have not been identified.
- New impacts to plant and animal species have been identified:

- The FEIR reverses course regarding the round-leaved filaree, C.R.P.R. 1.B.1, which the DEIR said was not present – the FEIR says it was observed within the Survey Area approximately 50 feet north of Murrieta Hot Springs Road in 2015.
- The FEIR similarly indicates that the small-flowered microseris was observed, as opposed to the DEIR which says it was not observed. Apparently it was seen at two locations within the Survey Area, with over 200 individual plants in existence.
- The FEIR acknowledges new sightings of the least Bell’s vireo (“LBV”) and the southwestern willow flycatcher (“SWFL”) that were not included in the DEIR. This makes impacts to these species more likely.
- The FEIR acknowledges for the first time that a section of the Project passes through a portion of the Criteria Area for the MSHCP. *See* FEIR section C.5.2.3.
- In response to our comment B1-32, you acknowledge for the first time that Table C.5-8 depicts additional Project components which would be additional acreage where the location of habitat is unknown by SCE. Your claim that these impacts would be the same as those identified in other portions of the DEIR falls short when you can’t identify where the impacts are to occur. You simply cannot know the answer in advance.
- At C.5-65 of the FEIR you have modified the noise monitoring component of Mitigation Measure BIO-7 to only require noise monitoring for special status bird species. This conflicts with the MBTA and it is significant new information requiring recirculation.
- The planned Habitat Replacement and Monitoring Plan and Nesting Bird Monitoring Plan and Cultural Resources Management Plan all should have been provided with the DEIR and should be recirculated with a new DEIR.
- Your revision of MM BIO-18 to make the requirement that rainfall be 80% of normal and without temporal abnormalities prior to surveys for listed or special status plants waivable by the CPUC.
- The revision to MM NOI-1 to eliminate the requirement that the CPUC approve any construction outside locally permitted hours.

There is no explanation in the FEIR why this information was omitted.

Regarding the impacts to humans from EMFs, you acknowledge that the World Health Organization (“WHO”) and the California Department of Health Services (“DHS”) are relying on epidemiological studies to classify EMF as a possible human carcinogen. While you assert that those organizations have not changed their findings to “probable” or “known,” they have not eliminated their classification as “possible” either, and the EIR should have acknowledged the risk found, in the body of the EIR under the threshold for mandatory findings of significance for substantial adverse effects on human beings, either directly or indirectly.

As to our comment B1-6, you have not defined the sections of the Project that will be segmented so there is no way to assure that your remediation of vegetation will be adequate.

In response to our comment B1-11 regarding aesthetics, for Key Observation Point (“KOP”) 2, you assume that drivers will travel over the speed limit of 65 miles per hour. This is not based on substantial evidence. We reiterate that you are making assumptions regarding trip lengths that are arbitrary.

Regarding our comment B1-15, as to KOP 6 you assert that you have reviewed “community recognized” as well as “officially designated” scenic vistas. Have you interviewed members of the community to determine this? Your conclusion is not based on substantial evidence.

On comment B1-16, a short-term visual impact can also be significant.

As to comment B1-20, you say you have assessed cumulative impacts to agricultural resources but you haven’t identified the projects you’ve surveyed to arrive at the conclusion of no significant impact, and they are not necessarily the cumulative projects you have identified for impacts to other resources. You’re supposed to identify cumulative projects for each impact.

Regarding comment B1-27, you say that Tables C.4-10 and -11 show that construction site emissions “are a small fraction of the SCAQMD regional emissions thresholds.” But the charts reflect your analysis for *local* emissions. You don’t have any analysis for regional emissions with respect to cumulative emissions. Moreover, the quantity of PM<sub>10</sub> you disclose could easily be a cumulatively significant quantity relative to the LST threshold. And these assessments relate to your marshaling yards which you concede would be in operation for much if not all of the Project duration.

As to B1-29, you say access roads and spur roads, along with “many” of the laydown/staging areas are contained within the impact corridor you surveyed. That these laydown/staging areas may be within SCE property already does not mean they should not be surveyed.

Concerning our comment B1-34, you should have made the HRMP available with the DEIR.

On comment B1-43, the Nesting Bird Monitoring Plan should have been provided with the DEIR.

Regarding comment B1-44, while you allow a biological monitor to determine that noise is bothering nesting (special status) birds even if it is below your identified thresholds, (1) this is only for special status birds, and (2) the damage is likely to have already been done

already as the monitor is only likely to detect that noise is bothering birds by things like abandonment of the nest by the adult birds.

We disagree with your interpretation of mitigation measure (“MM”) BIO-11 for the Quino checkerspot butterfly (“QCB”). *See* response to comment B1-54. MM BIO-11 only provides for mitigation of permanent impacts to habitat. You could have revised the MM and you did not. The remediation will not benefit the current populations of the QCB at the time of the destruction of the habitat, so this is a significant impact.

In follow-up to our comment B1-58, MM’s BIO-15 and -16 also do not provide for relocation of individual SKR, but provide for “take” of the species based on a future permit, and they only provide for compensation for “permanent” loss of habitat. “Temporary” impacts are not addressed. Regarding comment B1-59, we do not believe a 100-foot buffer is adequate or that a take permit is only required if SCE invades upon that buffer. Additionally, SKR habitat should be marked in specified areas throughout the VSSP route within 30 days of construction, not for the VSSP as a whole. You could have identified locations of SKR habitat as previously surveyed on your maps but did not.

As to comment B1-60, the Habitat Mitigation and Monitoring Plan should have been prepared already and circulated with the DEIR.

Regarding comment B1-62, see our comment concerning recirculation above. Also, it appears you do not provide for avoidance of special status plants, only listed plants.

On comment B1-63, on critical habitat for the San Diego ambrosia, you haven’t established that it will not be affected simply because pull-and-tension sites are only every 6,000 feet and the length of the critical habitat is only about 2,000 feet because we do not know and will not know where the pull-and-tension sites will start and end (or this information was not disclosed in the DEIR anyway).

Regarding the western spadefoot toad, on comment B1-64, we have commented throughout that you are unclear whether you will work at night and driving vehicles at night. You indicated that you would use lighting at early dawn and just before dusk. This means you will operate vehicles prior to dawn and after dusk which could affect the toad and other species.

As to B1-65, there is a significant possibility toads can migrate to the sites you intend to exclude them from after surveys are complete.

In your response to B1-66 and elsewhere, you assert there are preconstruction surveys for other species and that in those surveys you will look for everything. This is contrary to good practice and no responsible biologist will operate in that way. Included as Attachment A are the comments of a biologist, Renee Owens, on another project to this effect. This comment also applies regarding your assertion you will survey for all birds

when you survey for listed birds under MM BIO-8, as you assert in response to comment B1-68.

On B1-69, the mortality and loss of habitat for special-status bat species, you again cite to your “suite” of mitigation measures you claim will reduce impacts to the bats. But none are likely to be effective for the bats. Regarding noise suppression, you cite to MM NOI-2 and MM BIO-7, but BIO-7 requires monitoring by the biologist for impacts to *birds*.

Comments B1-71 through -73 addressed both California Rare Plant Rank (“CRPR”) 4 and 1 species. You only addressed our comment regarding CRPR 4 species. We’ve addressed above your new revision to MM BIO-18, making surveys after adequate rainfall waivable, which is significant new information. Your distinction between “permanent” and “temporary” impacts is far from clear and your mitigation of only 0.5:1 for “temporary” impacts is wholly inadequate (at a net ratio of 45%) and does not call for preservation in perpetuity. That CPUC has previously approved projects with a 10% “free pass” on destruction of rare plants does not mean it is acceptable under CEQA.

As to the burrowing owl, in comment B1-74 through -75, you assert that MM BIO-3 is adequate compensation for habitat loss as it requires “compensation for impacts to annual grassland habitat, which is known to support species such a burrowing owl.” Burrowing owl generally require other animals’ burrows. The fact that there is grassland is not adequate mitigation, and particularly so if it is not nearby, which you have not required. Again, MM’s NOI-2 and BIO-7 are not aimed at alleviating noise impacts to this species, and you have not addressed groundborne vibration impacts to the owl or any other species.

Regarding cumulative impacts, we reiterate our comments B1-80 and B1-81 that cumulative impacts are not the same as direct impacts and you have not provided substantial evidence that you won’t have cumulative impacts to listed, candidate or special status species.

In response to our comment B1-86, that SCE will use equipment with a high likelihood of damaging buried resources, you assert that a qualified archaeologist will be onsite per MM CR-4. But MM CR-4 only requires the archaeologist to be onsite when there is ground disturbance in an Environmentally Sensitive Area, which you define as one recommended for listing with the California Registry of Historic Resources (“CRHR”). It is highly likely that significant cultural resources exist elsewhere. You haven’t specified how additional areas will be monitored under MM CR-2.

Regarding our comment B1-91, you assert that General Orders 95 and 128 will reduce impacts from seismically induced ground shaking even though they do not address them. The most you can identify is that the Orders indicate that construction “shall be according to accepted good practice.” But there are no seismic loading criteria provided so there is no way to determine that the structures will meet them.

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On comment B1-93, we are certain that SCAQMD has not adopted a GHG threshold for industrial projects other than its own. The url you provided does not work.

In comments B1-97 and B1-99, you assert that the County of Riverside and City of Temecula General Plans do not relate to undergrounding of distribution lines when they refer to undergrounding of “utilities.” There is no indication they do not.

Regarding comment B1-101, you assert that your mitigations for noise involve more than just mufflers. You cannot get around the fact that the highest noise levels anticipated, with a material handling truck and a boom/crane truck simultaneously operating, will still occur. And concerning groundborne vibration, in B1-102 you assert that a large tractor would have a vibration level of 0.089 in/sec PPV at 25 feet and a loaded truck like an auger truck or semi tractor would have one of 0.076 in/sec PPV at 25 feet. You claim these are both “below the threshold,” but they are both above the threshold of 0.01 in/sec PPV from the Murrieta Municipal Code.

On emergency service vehicles, in B1-103 you assert that impacts would be mitigated by giving such vehicles an immediate right of passage through construction areas. This may well not be possible given you will be digging holes and needing to place steel plates over them, which cannot be done instantly.

Please advise us when you plan to take action on this Project at [bentley@blumcollins.com](mailto:bentley@blumcollins.com) and [collins@blumcollins.com](mailto:collins@blumcollins.com). Thank you.

Sincerely,

Craig M. Collins

Attachments: Attachment A

APNs: 060723119 and 060736406  
Applicant: Joshua Tree Solar Farm, LLC  
Project #: P201400482/CUP  
March 2016

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Feb 9, 2016

Christina Caro  
Adams Broadwell Joseph & Cardozo  
601 Gateway Blvd., Suite 1000  
South San Francisco, CA 94080

Subject: Comments on the Joshua Tree Solar Farm Initial Study Project Number  
P201400482/CUP

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Dear Ms. Caro:

This letter contains my comments on the Initial Study (IS) and proposed Mitigated Negative Declaration (MND) of the Joshua Tree Solar Farm development project (Project) prepared by San Bernardino (County) pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the State CEQA California Environmental Quality Act (CEQA) guidelines.

The Applicant, Joshua Tree Solar, is a subsidiary of NextEra Energy (NEE). According to NextEra's company website<sup>1</sup>, they are an energy company with revenues of approximately \$17.0 billion, and their primary subsidiaries are Florida Power and Light Company (the 3<sup>rd</sup> largest electric utility in the U.S.) and Hawaiian Electric Industries.

The Applicant proposes to construct and operate an industrial solar energy facility located in unincorporated San Bernardino County, covering a total of approximately 115 acres of land in addition to construction ("improvement") activities along a mile or more of a gentle line comprising an existing section of the Southern California Edison (SCE) electrical distribution line. The generated power will be delivered to the SCE electrical grid via a 33 kilovolt (kV) interconnection to the distribution system at a point near Sunfair Road, south of State Route 62.

### Professional Background

I am an environmental biologist with 23 years of professional experience in wildlife ecology and natural resource management, and since 1994 have maintained U.S. Fish and Wildlife (USFWS) Recovery permits for listed species (birds and insects) under the Endangered Species Act (ESA). In addition to these I hold several California state and federal certifications for surveys and monitoring of protected and special status species. I have extensive experience monitoring and studying many species across several taxa, including reptiles and amphibians, passerines and raptors, and marine and terrestrial

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<sup>1</sup> NextEra Energy Inc. (n.d.) Retrieved May 25, 2015 from  
[http://www.nexteraenergy.com/company/our\\_company.shtml](http://www.nexteraenergy.com/company/our_company.shtml)

mammals. I have served as a biological resources expert on over a hundred projects, many of them involving both conventional and renewable industrial scale energy projects on private, public, and military lands, many in California. The scope of work I have conducted as an independent contractor, supervisor, and full time environmental consultant employee has included assisting clients to evaluate and achieve environmental compliance, restoration, mitigation, and research as related to biological resources; as well as submitting written reports and comments for such work. This work often included assessing and reviewing actions pursuant to CEQA and the National Environmental Policy Act (NEPA), along with surveying, preparing, and contributing to Biological Reports, Assessments, and Environmental Assessments, among others.

My conservation and natural history research on highly endangered and rare vertebrate species in Latin America has received various awards, including the National Geographic Research and Exploration Award and the National Commission for Scientific and Technological Research Award for the Novel Researcher. My research on reptiles has been featured on National Geographic Television and Discovery Channel documentaries, and I have served as an on- and off-camera technical consultant for wildlife documentaries filmed by National Geographic Television, Discovery Channel, BBC, and Animal Planet.

I have a Master's degree in Ecology, and my professional experience includes college instruction at the college level since 1991. I was an adjunct instructor in Biology and Zoology at Palomar Community College and San Diego State University between 1991 and 1995, where I authored a laboratory text for Biology majors. In 1999-2000 I taught semester-long field courses in Tropical Ecology in Ecuador and the Galapagos for Boston University. In 2008 I was a Visiting Full Time Professor in Environmental Science and Botany at Imperial Valley College (IVC), and since 2012 have been teaching Environmental Science at IVC as an Adjunct Professor. At present I am enrolled in a self-designed MS degree program in Environmental Studies from Green Mountain College, focusing on developing a Program in Environmental Science field study in Belize and Venezuela.

I have gained particular knowledge of the biological resource issues associated with the Project through my work on numerous other projects in the California, including several years of surveys on nearby industrial wind and solar facilities for pre-, during, and post-construction activities. My comments are based upon first-hand observations, review of the environmental documents prepared for the Project, review of scientific literature pertaining to biological resources known to occur in and near the Project area, consultation with other biological resource experts, and the knowledge and experience I have acquired throughout my 2 years of working in the field of natural resources research and management.

Finally, pursuant the species discussions below, it is important to note that I have extensive experience conducting focused surveys for sensitive wildlife residents and migrants in California desert ecosystems (including the Mojave, Sonoran, and Yuha deserts), including such species as the desert tortoise, kit fox, fringe-toed lizard, flat-



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tailed horned lizard, burrowing owl, resident and migratory raptors including eagles, and many nesting birds protected under the Migratory Bird Treaty Act (MBTA).

### **The Initial Study's Failure To Provide Accurate And Comprehensive Evidence of Biological Resources Precludes a Thorough Assessment and Understanding Of Project Impacts**

The 2015 Desert Tortoise (DT) Survey and Biological Resources Assessment (BRA) erroneously characterizes the majority of the site as “highly disturbed ... and is poor or nondesert tortoise habitat.”<sup>2</sup> The airport runway is the previously developed part of the site along with small buildings on the southern end, all with the appearance of being decommissioned years ago. As such the site is composed of differing degrees of native habitat that has endured little disturbance, or has been re-establishing, with some invasive species present but not predominant in much of the site. However, the BRA’s description generates an image of a nearly barren site with limited vegetation growth, due to its being “formerly developed” as the BRA states (not an actual habitat designation of any kind). If true, the vegetation map and associated habitat type designations should reflect this degree of non-habitat or “disturbed” habitat, however in their more accurate representation of onsite vegetation communities, they do not.

The IS states that “The current composition of the existing land is best described as *vacant land of dirt and sand* with a sparse vegetation community consisting of native grasses and shrubs”<sup>3</sup> (italics added). This unscientific portrayal could be applied to almost any desert habitat as described by a non-biologist or layperson, and the use of such language infers a desire on the part of the authors to make the site sound more lacking in biological viability than their own BRA data portray. Such a bias is inappropriate for an accurate environmental analysis. Also, given the available data (discussed below) regarding this region’s use by desert tortoises and the high likelihood this site could be used as a migration corridor for federally protected tortoises, to characterize it as “poor or non-desert tortoise habitat” as the BRA summary does is misleading at best.

A 2013 National Renewal Energy Laboratory Technical Report of Solar Development on Contaminated and Disturbed Lands defines what types of land should be deemed disturbed in respect to appropriate development for commercial solar installations, specifically: contaminated lands, barren lands, invasive species-impacted lands and “others: (“e.g. recently burned, gravel pits”)<sup>4</sup>. The Project site does not fit into any of these categories, neither is accurately described as *mostly* highly disturbed. “Highly”

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<sup>2</sup> Teta Tech, Inc. and A. Karl. June 2015. 2015 Desert tortoise survey and general biological resources assessment for the Joshua Tree Solar Farm. Retrieved from: <http://www.sbcounty.gov/Uploads/LUS/Environmental/JoshuaTreeSolarFarm/2015%20Joshua%20Tree%20Solar%20Farm%20Bio%20Report%20061215.pdf>.

<sup>3</sup> Joshua Tree Solar Farm Initial Study. January 2016. Retrieved from: <http://cms.sbcounty.gov/lus/Planning/Environmental/Desert.aspx>

<sup>4</sup> Macknick et. el. Dec 2013. Solar Development on Contaminated and Disturbed Lands National Renewal Energy Laboratory Technical Report NREL/TP 6A20-58485. Retrieved from: <http://www.nrel.gov/docs/fy14osti/58485.pdf>

disturbed habitats should be predominated by over 50% of non-native plants or some other visually detectable type of disturbance to the overall habitat in question. The BRA vegetation maps, habitat types described, and photos do not bear out such an overall description, neither does the list of plants observed onsite which amount to 90 native species and 9 non-native species. If the Project Applicant wants to claim with any accuracy that the site is predominately “highly” disturbed habitat, they should provide Transect data indicating such.

The BRA for the Project states,

“Tetra Tech, Inc. (Tetra Tech) conducted comprehensive field surveys for biological resources in Spring 2012 and Spring 2015 to determine the potential presence or absence of special-status species and their habitat within and on lands surrounding the proposed Project. Surveys were also conducted on additional surrounding areas in Spring 2013. Focused surveys were conducted for these species and concurrently, a general biological resource assessment was completed. This report includes the results of the Spring 2012 and 2015 surveys and replaces the Spring 2012 *Desert Tortoise Survey and General Biological Resources Assessment* (Tetra Tech and Karl 2012). This report also satisfies the County of San Bernardino *Report Protocol for Biological Assessment Reports*.”<sup>5</sup>

It should be noted that this BRA was not posted on the San Bernardino county website - where all relevant public information for the Project is to be made available to the public - until approximately one week before the comment deadline for the Project.

Based upon the BRA’s statement above, and upon reviewing the biological summaries therein as the documentation provided to the Applicant to support all conclusions regarding summary impact analysis of biological resources for the Project, certain reporting and survey details are inadequate, completely lacking, or contradictory regarding the necessary information required and available for adequate analysis of impacts, as summarized:

1. The certification of these and similar biological technical reports are signed by the biologists (and others) conducting surveys. However, all but one signature is missing on this report including that of the primary author, instead replaced with a generic “signature forthcoming” text, thereby calling into question the validity of the entire BRA.

The BRA also does not provide the qualifications of the biologists conducting focused surveys for protected species (desert tortoise, burrowing owl, rare plants), despite the fact that USFWS recommends for such to be provided<sup>6</sup>, and because agency permits, certifications, and/or an established degree of experience are necessary not only for desert tortoises but other special status species as well.

<sup>5</sup> Tetra Tech, Inc. and A. Karl. June 2015. 2015 Desert tortoise survey and general biological resources assessment for the Joshua Tree Solar Farm. p. ES-1

<sup>6</sup> USFWS. 2010. Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (*Gopherus Agassizii*). Retrieved from <http://www.deserttortoise.org/documents/2010DTPre-projectSurveyProtocol.pdf>

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2. The above BRA states that its format follows county protocol for Biological Assessment Reports, however no such documentation is cited nor readily available on the county website to ascertain the accuracy of this statement. If such exists, it should be cited.

3. According to above statement “Surveys were also conducted on additional surrounding areas in Spring 2013.” However, there is no detailed data provided within the BRA regarding any such surveys, therefore they cannot be considered a legitimate part of the impact analysis.

4. The BRA states that “All special-status wildlife species in Table 3 were sought concurrently with desert tortoise surveys...Survey methods were reviewed and approved by FWS and CDFW in both 2012 and 2015 prior to commencing field work.”<sup>7</sup>

This is not accurate for two reasons:

First, the confirmation referred to includes remarks by the agency (CDFW) where the agency notes that the surveyors claim that “parcels surrounding the project site are privately owned and therefore no buffer surveys are planned due to access constraints”. In response, the agency requested that documentation be provided, such as a letter or an email sent to private landowners be provided, along with a list of phone numbers of residents who were contacted. No such list or letters were provided by the biologists. Instead, one biologist asserted that, “To date, BPAE’s ability to contact the site’s private landowners has been challenging...The buffer surveys for tortoise and burrowing owl would require that BPAE contact approximately 100 landowners for permission to access their land. Therefore, buffer surveys are not logically feasible.”<sup>8</sup> And yet upon reviewing private parcels maps for the region, one can see the total properties bordering the site proposed footprint, including the proposed gen-tie line to be altered, amounts to closer to 20 private properties, not 100. Even if not all of these landowners could be reached, simply making contacting with a couple key owners could have resulted in access to parcels bordering a large percentage of the entire property. It is the burden and responsibility of the Applicant, and thus by default the environmental consultant hired by the Applicant, to pursue due diligence in attempting to retrieve what information they can regarding not just data from the site to be directly impacted, but also regarding surrounding conditions that may be indirectly impacted.

The importance of such information is further supported by the USFWS “Frequently Asked Questions” Section of their Pre-Project DT Field Survey Protocol,

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<sup>7</sup>*Ibid.* p. 9

<sup>8</sup> Teta Tech, Inc. and A. Karl. July 2012. Desert tortoise survey and general biological resources assessment for the Joshua Tree Solar Farm. Retrieved from:  
<http://www.sbcounty.gov/Uploads/LUS/Environmental/JoshuaTreeSolarFarm/2015%20Joshua%20Tree%20Solar%20Farm%20Bio%20Report%20061215.pdf>. Appendix C.

***“Why do small and linear projects where no tortoises were found have to do additional surveys at 200-m (~655-ft) intervals parallel to the project area perimeter?”***

Even though neither tortoises nor tortoise sign were found within the action area at the time of the survey, the area may be part of an animal’s home range. The annual home range of a female desert tortoise averages around 0.15 to 0.16 km<sup>2</sup> (35 to 40 acres), about one third the size of male home ranges, which are variable and can be >2 km<sup>2</sup> (500 acres; O’Conner et al. 1994; Duda et al. 1999; Harless et al. 2009). Therefore, projects that are ≤0.8 km<sup>2</sup> (200 acres) or linear may overlap only part of a tortoise’s annual home range and the possibility that a resident tortoise was outside the project area at the time surveys were conducted must be addressed. In these cases, three additional 10-m (~30-ft) belt transects at 200-m (~655-ft) intervals parallel to and/or encircling the project area perimeter (200-m, 400-m, and 600-m from the perimeter of the project site) should be completed.”<sup>9</sup>

Therefore the BRA nor the IS achieve the necessary requirements in conducting complete surveys for DT since they did not include any adjacent habitat (formerly referred to as a “Zone of Influence”) as required by USFWS Survey Protocol for any action that may occur within the range of the Mojave DT, specifically,

“If neither tortoises nor sign are encountered during the action area surveys and the project, or any portion of project, is ≤ 0.8 km<sup>2</sup> (200 acres) or linear, three additional 10-m (~30-ft) belt transects at 200-m (~655-ft) intervals parallel to and/or encircling the project area perimeter (200-m, 400-m, and 600-m from the perimeter of the project site) should be surveyed.”<sup>10</sup>

Also, according to the email documentation provided in the 2012 BRA that the authors refer to regarding protocol approval by the agency, within that correspondence the company did *not* ask if it was acceptable to conduct *all* species surveys concurrently with focused surveys of DT. This is a significant oversight for several reasons:

The special-status species mentioned in Table 3 include over 70 species from various taxa (birds, mammals, plants). Some of these species (i.e. rare plants, certain other sensitive species, raptors, Migratory Bird Treaty Act nesting bird species) are almost always surveyed by conducting entirely separate, focused surveys altogether. A review of any random assortment of biological technical reports prepared for the purpose of fulfilling CEQA requirements of a Biological Assessment similar to this one will show that focused surveys are conducted literally as such, where the biologist is ‘focusing’ on the species for which the protocol has been designated, and not splitting his or her time

<sup>9</sup> USFWS 2010. Preparing for any action that may occur within the range of the Mojave Desert Tortoise (*Gopherus agassizii*). Retrieved from: [https://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html#Reptiles](https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Reptiles)

<sup>10</sup> USFWS 2010. Preparing for any action that may occur within the range of the Mojave Desert Tortoise (*Gopherus agassizii*). Retrieved from: [https://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html#Reptiles](https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Reptiles)

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attempting a protocol survey while also attempting to observe the ground, vegetation, and skies all at once for all other vertebrate, invertebrate, plant and animal species that may also be present at any given time on and near the site. I have been conducting focused and general surveys for sensitive and endangered species since 1991, in desert habitats and many others, and at no time have I or any of my staff biologists found it appropriate to conduct a focused protocol survey for an elusive rare or endangered species while concurrently assuming one could also accurately detect all or the majority of all other mammals, reptiles, birds, invertebrates, and/or rare plants, all at the same time, on the same day, and all under the same weather conditions. This sort of expectation would only be made by an inexperienced or otherwise irresponsible biologist, and is not an appropriate assumption for fulfillment of a technical report and impact analysis of this nature.

It is not unusual for DT surveys to be conducted concurrently with a few other desert *burrowing* species, such as burrowing owls and/or kit fox, as these surveys all include intensive surveying of the ground for burrows and often difficult-to-detect signs (scat, tracks) of these elusive species that can spend up to 95% of their time out of sight, underground in burrows.<sup>11,12</sup> However it is this elusive nature of the DT that requires such intense focus and inevitably results in detection rate of tortoises - by even the most experienced surveyors – of anywhere between a wide range of 30 – 70% of tortoises present.<sup>13,14,15</sup> Given the nature of such protocol surveys, the expectation that all other wildlife species can accurately be detected concurrently is simply erroneous.

Also, it is widely accepted that it is the rare species that are more sensitive, require greater protection, and thus most important to detect. By definition rare species occur in lower densities, and/or have lower occurrences on average for any given occupied territory, and thus require even great attention, focus, and time dedicated to accurate observation data.

By conducting surveys for almost all species with the potential to occur on site, all concurrently, it is only logical to conclude that by doing so the biologists significantly increased the likelihood that they missed key individuals of either tortoises or other sensitive species, especially those that may be flying overhead while the biologists were busy scouring the ground for DT, Burrowing owls, or kit fox sign.

<sup>11</sup> Cablk, M. E., & Heaton, J. S.. (2006). Accuracy and Reliability of Dogs in Surveying for Desert Tortoise (*Gopherus agassizii*). *Ecological Applications*, 16(5), 1926–1935.

<sup>12</sup> Zylstra, E. R., Steidl, R. J., & Swann, D. E. (2010). Evaluating Survey Methods for Monitoring a Rare Vertebrate, the Sonoran Desert Tortoise. *The Journal of Wildlife Management*, 74(6), 1311–1318.

<sup>13</sup> *Ibid.*

<sup>14</sup> Nussear, E. et. al. 2008. Are Wildlife Detector Dogs Or People Better At Finding Desert Tortoises (*Gopherus Agassizii*)? *Herpetological Conservation and Biology*. 3(1): 103-115.

<sup>15</sup> Frielich, J. and LaRue, E. 1998. Importance of Observer Experience in Finding Desert Tortoise. *The Journal of Wildlife Management*, 62(2): 590-596.

5. Other details call into question the accuracy of the DT survey conclusions and the author's subjective reporting on habitat suitability and likelihood of DT occurring onsite. For instance, the 2015 BRA states that "studies in the area have found tortoise sign higher on the bajada"<sup>16</sup> however no citation of such studies are provided. On the other hand, the BRA then states that "one study east of the report found no sign" and cites personal communication with permitted DT biologist Ed LaRue. The BRA then goes on to claim that surveys approximately one mile away, for the Cascade Solar Project, did not detect any tortoise sign in 2011. And yet the same biologist Ed LaRue submitted a letter to county planner Paul Delaney, with an associated map, stating in regards to the nearby solar project:

"I've performed 270 focused tortoise surveys in the area on about 11,500 acres since 1989 in the area between Yucca Valley and 29 Palms, including the project area... As you can see, every site we've surveyed in the area has had tortoises. I share this information with you because there are relatively new consultants out there performing surveys and not finding tortoise sign. Given our findings, I expect the consultants performing these surveys to find tortoise sign; if not, their results would be questionable.... We are very concerned about this project because of its proximity to the Copper Mountain College Translocation Area, which is a half mile downwind to the east of the proposed project. There are as many as 20 tortoises in that conservation area that may be affected by this project."

It is important to note that according to his map less than half a mile east of the Project gen-tie site, and about a half mile southeast of the airport Project site, Mr. LaRue has detected DTs (Attachments A-B), contrary to statement by the 2015 BRA asserting there to be no tortoises east of the site. The presence of DT within close proximity of the site is not surprising, given additional factors not mentioned in the BRA or the IS, namely:

- Despite some of it being degraded, habitat for sections of the site and especially its perimeter is appropriate for either DT foraging, burrowing, and/or as a migration or wildlife corridor,
- The CNDDDB database shows the entire site and area surrounding it in all directions, for a minimum of 1.5 miles, as designated positive for DT<sup>17</sup>
- The site is located within a USFWS designated Recovery Unit<sup>18</sup> (Attachment C),

<sup>16</sup> Teta Tech, Inc. and A. Karl. June 2015. 2015 Desert tortoise survey and general biological resources assessment for the Joshua Tree Solar Farm. Retrieved from: <http://www.sbcounty.gov/Uploads/LUS/Environmental/JoshuaTreeSolarFarm/2015%20Joshua%20Tree%20Solar%20Farm%20Bio%20Report%20061215.pdf>

<sup>17</sup> Teta Tech, Inc. and A. Karl. June 2015. 2015 Desert tortoise survey and general biological resources assessment for the Joshua Tree Solar Farm. Retrieved from: <http://www.sbcounty.gov/Uploads/LUS/Environmental/JoshuaTreeSolarFarm/2015%20Joshua%20Tree%20Solar%20Farm%20Bio%20Report%20061215.pdf>

<sup>18</sup> Murphy, P., Strout, N. and Darst, C. March 2013. Solar Energy and the Mojave Desert Tortoise: Modeling Impacts and Mitigation. USFWS and University of Redlands Report to the CEC.

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- According to the USGS the entire site and surrounding area is designated as having “high value habitat potential”, and within a half a mile as having “high value contiguous habitat”.<sup>19</sup> (Attachments C, D)

The BRA appears to go to great lengths to downplay this area’s moderate to high potential for the presence of desert tortoise, despite the database and agency information available to the contrary. The lack of focused protocol surveys as recommended by the USFWS, including failure to survey the buffer zones (Zone of Influence), failure to primarily focus on the species for which the protocol is written only, and failure to provide a comprehensive discussion the other existing conditions and research relevant to the species in this region, precludes a thorough understanding of existing conditions and the relative severity of Project impacts to the Desert Tortoise. Without such the Applicant cannot ensure that any mitigation actions are conducted at an appropriate level to reduce impacts below that of significant.

6. The Project’s burrowing owl survey 2015 Report (BUOW Report) says that site surveys in both 2012 and 2015 were conducted according to California Burrowing Owl Consortium (CBOC) Guidelines and CDFW Staff Report on Burrowing Owl Mitigation<sup>20</sup>. This is not accurate due to the following:

(a) the CBOC guidelines state that surveys should include a 150 meter buffer zone proximal to the project impact zone “to account for adjacent burrows and foraging habitat outside the project area and impacts from factors such as noise and vibration due to heavy equipment which could impact resources outside the project area.”<sup>21</sup> As with the DT protocols, the BUOW Report states that required buffer surveys were not done due to “access constraints”, yet also notes that “we had surveyed a formerly considered site south of the Project in 2012”.<sup>22</sup> So by their own admission, apparently constraints did not include a region south of the habitat, yet no attempts were made to include this area in buffer surveys or data reporting.

(b) The CBOC protocols include specific times for surveying BUOW, specifically two hours before sunset and one after, or one hour before sunrise to two hours after. The language for such is even quoted in the BUOW Report.<sup>23</sup> This serves the dual purpose of maximizing ability to detect owls while not causing undue disturbance (harassment) of the birds during key periods of the day. The CBOC also requires all time and

<sup>19</sup>Desert Tortoise Data Explorer <http://www.spatial.redlands.edu/dtro/dataexplorer/>

<sup>20</sup> CDFW. March 2012. Staff Report on Burrowing Owl Mitigation. Retrieved from: [https://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html](https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html)

<sup>21</sup> California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Retrieved from [https://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html](https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html), see also

[http://www.safca.org/documents/Environmental%20Protections%20page%20folders/Protection\\_southsacstreams/CDFG.BUOWsurveyProtocol.pdf](http://www.safca.org/documents/Environmental%20Protections%20page%20folders/Protection_southsacstreams/CDFG.BUOWsurveyProtocol.pdf)

<sup>22</sup> Teta Tech, Inc. and A. Karl. July 2015 burrowing Owl Survey Report for the Joshua Tree Solar Farm. p.2

<sup>23</sup> *Ibid.*

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weather data to be reported for each survey. However, the BUOW Report leaves out such data for the first survey in 2012, and also notes that Phase II of the BUOW surveys were conducted concurrently with DT surveys. As such, the surveys did not follow protocol guidelines for the times allowed to be surveying for BUOW, instead it appears biologists geared their time in the field to prioritize completion and fulfillment of DT surveys instead.

(c) The CBOC protocol guidelines stipulate that if burrows are located onsite that could be used by owls, then a Phase III survey should be conducted, specifically, “If the project site contains burrows that could be used by burrowing owls, then [Phase III] survey efforts should be directed towards determining owl presence on the site.”<sup>24</sup> The Project’s 2015 BRA described inactive kit fox dens, observed as active in 2012, were located on site. Such dens could be utilized by owls and thus are considered potential burrows, and yet the Project’s BUOW Report states that no Phase III surveys were necessary. This is in direct contradiction to protocol methodology and represents an inaccurate interpretation of such by Project biologists. The BUOW Report says that Survey methods were reviewed and approved by CDFW prior to surveys, however they provide no evidence of such, and the email correspondence (discussed above) regarding agency approval of survey methodology provided in the 2012 Project Biological Report refers only to desert tortoise, not burrowing owls or any other species.

(d) The CBOC guidelines recommend that two biologists concurrently survey projects over ~100 acres to insure maximum coverage of any given site. However, in 2015 BUOW surveys were conducted by only one individual.

In summary, the lack of focused protocol surveys as recommended by the CDFW and the CBOC precludes a thorough understanding of existing conditions and the relative severity of Project impacts to the burrowing owl. Without such the Applicant cannot ensure that any mitigation actions are conducted at an appropriate level to reduce impacts below that of significant.

7. The Project’s BRA notes various times that some plants that may be present onsite were not detected due to the notably dry conditions at the time of the surveys. It is therefore reasonable to conclude that some special status species could be significantly impacted yet were not even addressed in the discussion of impact mitigation. For instance, p. 25 of the BRA states,

“In addition to the special-status species observed during surveys, it is possible that some...special-status species could inhabit the survey area and immediately adjacent areas. These are noted in Table 3 and include species that may not have been observed during surveys because of their rarity, behavior, season of surveys (e.g., wintering birds or summer annuals), or lack of germination or above ground growth due to reduced rainfall. In addition, several annual plant species identified in Table 3 may not have been present during spring surveys because germination or growth

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<sup>24</sup>California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Retrieved from [https://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html](https://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html)



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occurs earlier or later in the year, or because rainfall was insufficient for germination. There are several species that have moderate potential to be present on the Project, and may be available for surveying in fall or summer.”

This assertion by the BRA raises the important question of why surveys were not conducted at different times of year, if the authors (correctly) believe that such surveys could reveal more key data regarding special status species? Even the California Native Plant Society recommends several surveys in a given year to increase detection rate of plants that germinate at different times and under varying moisture conditions. Some rare plant mitigation measures require detailed, species-specific protocols that cannot be created or assessed if the analysis of rare plant species onsite is limited or incomplete. As such, the development of clear mitigation recommendations for this IS appear to require more rare plants surveys, including at different times of year and after significant rainfall.

8. The BRA lists no invertebrates on its list of species detected or in any discussion, despite the fact that the CNDDDB lists 4 special status species observed in this region (California cuckoo bee, Coachella Valley Jerusalem cricket, Morongo desert snail, and Roberts' rhopalolemma bee). Although it is true that deserts offer lower diversity of species and lower density of individuals than other biomes, and invertebrates might be more difficult to detect (especially if the biologist conducting the survey is an expert on tortoises and not insects or arachnids), I find it hard to believe that this site - or virtually any region of the planet - is completely devoid of invertebrates. These omissions need to be addressed by more biological surveys on the site and its bordering regions, without such a thorough analysis of significant impacts to wildlife is incomplete.

According to the California Environmental Quality Act (14 CCR § 15064), the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. According to my professional opinion regarding the information provided and the summaries found in the BRA, and the additional evidence provided on behalf of other expert biologists, databases, and agencies, I do not believe the Applicant has provided all of the data necessary and available to make an accurate assessment of significant impacts of the Project, including the degree to which they must be mitigated to be reduced to that of below significant.

### **The Initial Study Fails to Clearly Indicate How Impacts to Biological Resources Will Be Reduced to Below Significant**

#### **1. Bird Impacts due to Collisions Not Mitigated Below Significant**

The IS fails to adequately assess and reduce significant impacts to migratory birds, including to raptors and water birds, that will be caused by the Project. Various birds were anecdotally detected while biologists were conducting surveys focused on the ground to detect tortoises. For instance, they noted a prairie falcon onsite during one survey. However, the complete lack of surveys with protocols prioritized for searching for migratory and nesting birds is an oversight that results in a failure to adequately report

and assess significant impacts of the Project to avian species, including the long list of birds protected under the MBTA, and special status birds known to occur within the region according to the CNDDDB, including the LeConte's thrasher, Bendire's thrasher, Northern harrier, prairie falcon, and loggerhead shrike.

The IS states that "there are no known wildlife corridors and migratory routes associated with the project."<sup>25</sup> This statement is at best inaccurate provided that the site is very much part of the Pacific Flyway, and is only a few miles from migratory bird stopovers along the north south trajectory of the flyway. Bird hot spots along this section of the flyway include Barker Dam, the 29 Palms Inn, Joshua Tree National Park near Park Boulevard, Joshua Tree National Park Black Rock Campground, and Big Morongo Canyon Preserve, where bird counts of 133, 127, 149, 108, and 229 species have recently been recorded, respectively.<sup>26</sup> It is also important to note that one of the nation's largest and most important migratory bird stopovers, especially for birds traveling over dry desert habitats, is the Salton Sea, which lies directly in the flyway trajectory south of the site. This stopover includes an official USFWS checklist of over 950 species.

The IS also states that "Avian mortalities have been a recent topic of discussion at solar facilities in southern California. However, this project is substantially smaller and is located in a more disturbed and developed area than other solar projects."<sup>27</sup>

This statement is provided without context, because it ignores the **cumulative effect** of potential impacts to birds, from what is known as the "lake effect", contributed by the nearby Cascade solar facility comprised of over 150 acres of solar panels located 0.52 miles from the proposed Project site. The IS also claims,

"Although any structure can pose a collision risk to birds, the project does not contain tall structures that would extend into the airspace of birds migrating at high elevations. Additionally, the panels that will be used for this project are coated with a non-reflective material. The material is designed to enhance light absorption and reduce light reflection (glare), thereby reducing the likelihood that birds would identify the project site as a water body. The solar facility would have a maximum height of 12 feet, so there is a low likelihood birds would use the panels for nesting or perching. Therefore, it is not anticipated there would be impacts associated with perching or nesting of avian species. For the above reasons, the project is expected to have a minimal contribution to cumulative impacts on birds."

These reasons are unsupported as evidence and erroneous. As a professional consultant who has conducted numerous monitoring studies of various solar facilities in the desert for bird and bat mortalities and injuries (details below), I can attest to the fact that birds collide with solar panels and associated structures, as well as perch on them, and even nest on them, regardless of the size of the facility overall, the height of the solar panels or associated structures, the presence of (theoretically) albedo-reducing designs, and

<sup>25</sup> Initial Study p. 86.

<sup>26</sup> Ebird observations <http://ebird.org/ebird/hotspots>

<sup>27</sup> Initial Study p. 86

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regardless of the degree of accumulated dust that cover panels over time. Indeed, these individual features have not been tested whatsoever as supporting evidence for minimizing bird impacts and use of solar panels, and therefore are inappropriately used as argument supporting the IS' claim of "no significant impact".

Additionally, the assertion that "The [panel] material is designed to enhance light absorption and reduce light reflection (glare), thereby reducing the likelihood that birds would identify the project site as a water body" presupposes two completely untested assumptions, that (a) the reason birds collide with the panels is due to the panels degree of reflectivity or "glare", and that (b) a panel design that has been developed to reduce glare for the sake of reducing visual impacts to humans will contribute to reduced bird collisions as well. Neither of these assumptions have been tested to any extent whatsoever, neither do they take into consideration the largely poorly understood field of avian vision as it differs from humans.

Therefore these assumptions are irrelevant for the task of confirming impacts to birds will be made less than significant. Dr. Christine Sheppard, a biologist with the American Bird Conservancy who has studied bird collisions with windows to an extensive degree, states that methods for reducing impacts to windows have to do with various factors related to bird vision and perception.<sup>28</sup> She postulated that solar panel collisions may be caused by various factors, one of them being the fact that the large, low lying mass of panels appears like water not just due to albedo but due to the appearance of one large, unbroken dark mass resembling a water body (pers. comm., Feb 2013). This theory is supported partially by the phenomenon whereby waterbirds collide with new or wet (i.e. dark) asphalt; especially birds whose feet are physiologically far back on the body and thus characteristically only land and take-off from a body of water (i.e. grebes, loons).<sup>29</sup> Klem (2009) and Kagan et al. (2014) discuss several techniques (e.g., UV-reflective or solid, contrasting bands spaced no further than 28 cm from each other on arrays) that enable birds to avoid collisions with windows, and presumably solar panels.<sup>30,31</sup> The techniques described by Klem and Kagan et al. are feasible, and they can and should be incorporated as required mitigation.

The IS does not adequately consider potential impacts to birds as a result of increased risk of injury and death from collisions striking panels as well as electrical wires, when in fact I have witnessed and reported bird mortalities due to collisions with electrical wires at solar facilities in the Sonoran desert. Birds include passerines like warblers, water birds

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<sup>28</sup>See <http://abcbirds.org/program/glass-collisions/>

<sup>29</sup>Sidor, I. et. al. Mortality Of The Common Loon In New England, 1987 To 2000. 2003. *Journal of Wildlife Diseases*. 39:306-315. Retrieved from: <https://www.pca.state.mn.us/sites/default/files/sidor2003.pdf>

<sup>30</sup> Klem D Jr. 2009. Preventing Bird-Window Collisions. *The Wilson Journal of Ornithology*. 121(2):314–321.

<sup>31</sup>Kagan RA, TC Viner, PW Trail, EO Espinoza. 2014. Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis. National Fish and Wildlife Forensics Laboratory. 28 pp. Retrieved from: <http://alternativeenergy.procon.org/sourcefiles/avian-mortality-solar-energy-ivanpah-apr-2014.pdf>

such as grebes, and raptors including American kestrels (Figures 1- 17). Not only did birds collide with panels and other structures on a consistent basis – with increases in mortalities during migration season – but these collisions occurred on panels that also were built using design strategies that various facilities claimed would reduce or even eliminate reflectivity and glare.<sup>32</sup> Furthermore, solar facilities generate a tremendous amount of dust, which accumulates on the panels over time despite efforts to remove it by the facility workers. If reduced reflectivity was actually a primary, or only, factor causing bird-panel collisions, one would assume that the added layer of albedo-reducing dust would correlate with reduced bird collisions. However, it did not (Figures 1-10, 13).

The IS contradicts its own argument regarding impacts from bird collisions, saying such are not expected to result in significant impacts to migrating or local avian species while indicating that there is insufficient evidence to truly assess the risk associated with collisions with solar fields. Yet in the same discussion the report posits there is evidence available to determine that the solar PV modules, and other characteristics of the facility, will minimize said lake effect.<sup>33</sup>

In this discussion regarding impact to birds the IS is incomplete in its analysis and incorrect in its conclusions, and fails to properly offer effective mitigation for significant impacts to birds that may fly over the area. Scientific data does exist regarding the impact of industrial solar projects on birds. In a report by the USFWS Forensics Laboratory, an analysis of bird deaths at three different locations and different types of installations demonstrate that bird deaths due to strikes to solar panels and collisions with associated electrical wires associated do occur systematically, and are significant.

The Forensics report states that despite the type of facility or its technology, the solar facilities represent “equal-opportunity hazards for the bird species that encounter them”.<sup>34</sup> Seventy-one species were identified in the mortality report, and were not restricted to water birds by any standard. They were described as representing a broad range of ecological types from strictly aerial feeders (hummingbirds) to ground feeders (roadrunners) to raptors (hawks and owls.) The report points out that some deaths were caused by impact trauma, representing the same risk that the Project panels would pose by design, and conclude that the number of dead birds are under-represented, “perhaps vastly so”.

Further evidence of bird deaths due to strikes to solar panels or from solar installation related electrocutions has been made available to the California Energy Commission.<sup>35</sup> The data reveal that over the course of one year of monitoring, over 700 bird mortalities

<sup>32</sup>For example, see Imperial Solar Energy Center South Final EIR/EA. p. 4.1-8  
[http://www.blm.gov/style/medialib/blm/ca/pdf/elcentro/nepa/csolar\\_south.Par.27226.File.dat/4I\\_SECs\\_EnvironmentalConsequences.pdf](http://www.blm.gov/style/medialib/blm/ca/pdf/elcentro/nepa/csolar_south.Par.27226.File.dat/4I_SECs_EnvironmentalConsequences.pdf)

<sup>33</sup>*Ibid.*

<sup>34</sup>Kagan et. al. 2014 April. Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis. National Fish and Wildlife Forensics Laboratory.

<sup>35</sup>H.T. Harvey and Associates, April 2015. Ivanpah Solar Electric Generating System Avian and Bat Monitoring Plan. Retrieved from: [http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN204258\\_20150420T14](http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN204258_20150420T14)

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were detected, including 16 days where avian mortalities numbered ten or more. Although the Ivanpah facility where this study took place is a solar collector and a different technology than the Proposed Project, the data collected is relevant to the Project site considering that 84 bird mortalities were positively identified as being the result of impacts (strikes or collisions) to the facility panels and wires, and are thus representative of the risks posed by the Project PV panel array design.

Recommendations to reduce incidences of bird deaths at solar sites (characteristic of the Project design) included retrofitting of solar panels, placement of perch deterrent devices where indicated, a two-year minimum of a well-designed monitoring protocol that includes daily surveys of all birds. A bird and bat monitoring plan is clearly an essential part of any mitigation strategy to enable better assessment of Project mortalities necessary for an appropriate Adaptive Management Plan<sup>36</sup>, or for that matter any measurable mitigation of the impacts described above, with performance criteria for what reduced impacts will mean in respect to bird (and bat) mortalities.

Finally, as mentioned above, evidence illustrating the reality of the significance of risk of bird strike impacts to solar panels and associated electrical wires has been personally observed by me and my professional colleagues. As a biological consultant I have conducted professional surveys between 2013 and 2015 as part of an ongoing mortality monitoring program on four solar industrial installations located in the Sonoran desert. Throughout these surveys, as part of scientific data collection on behalf of an established Bird and Bat Monitoring Program on desert solar facilities in southern California, I have witnessed the results of of bird collisions that occurred due to the presence of PV panels or related electrical infrastructure, including but not limited to species such as the Western grebe, sora, Virginia rail, red-tailed hawk, American kestrel, McGillivray's warbler, Wilson's warbler, American coot, lesser nighthawk, and mourning dove.

Contrary to the IS claims, birds can and do perch, and nest, on the facility utilities and grounds (Figures 1- 17). None of the deaths or injuries I observed were a result of a solar flux burns as these are not part of the design of the installations where I conducted the research. It is highly likely no one would be aware of these mortalities, injuries, or nests had there been no requirement of a mitigation bird and bat monitoring project in place. Such data collection should be an essential part of any and all solar industrial facility mitigation, especially given how many new impacts to wildlife are discovered each year as more such facilities are developed across the region, and how much we have yet to learn regarding such impacts birds and bats.

Not only have I witnessed these impacts, it is important to understand for the sake of mitigation analysis that such impacts have repeatedly been underestimated and minimized in environmental impact reports for desert solar projects, resulting in a lack of impact mitigation due to too many Projects and lead agencies ignoring the Precautionary Principle, and now the evidence available, confirming that collisions are a serious impact created by solar facilities and thus must be appropriately addressed in mitigation analyses.

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<sup>36</sup>*Ibid.*, Table 10.

In their comments to the SOITEC Solar Final EIR, a project proposed in eastern San Diego county, the USFWS states that as they collect reports of collisions and mortalities at solar power facilities, including flat panel designs, they are

“noting impacts to multiple avian species including waterbirds, passerines, and diurnal/ nocturnal raptors, involving various project features, including solar panels, mirrors, heliostats, evaporation ponds, fencing, distribution lines within the facility, gen-tie lines, and metal posts within the panel arrays before the panels are installed.”<sup>37</sup>

The USFWS continues by asserting that,

“Some species of birds, such as waterbirds, may perceive the solar field as a water body (commonly referred to as the Lake effect”).<sup>38</sup> Many avian species are attracted to permanent and ephemeral water sources, especially in arid environments. Based on information collected at existing solar facilities, solar panels and other project components are likely to present a collision hazard to migratory birds.”

In regards to mitigation, the USFWS states that

“migratory birds are an important component of our natural heritage...Birds are also important economic resources, given they prey on numerous species that are considered pests...and generate income to communities through bird-watching.”

As such, the USFWS recommends a project-specific Bird and Bat Conservation Strategy be developed. They go on to state that the Strategy include a detailed monitoring plan, one that should fully address and monitor construction and operation-related mortalities at all project features. They also recommend an adaptive management program to assist in mitigation efforts.

This recommendation is not only appropriate, but belatedly necessary in respect to this Project, especially given the IS not only avoids addressing significant impacts created by its presence as a collision hazard, but the lack of recommendation of such a mitigation program for the nearby Cascade solar plant leaves this region even more vulnerable to environmental degradation due to the **cumulative impacts** to birds and bats that would result from the combined impacts of these facilities that are located only a half of a mile apart.

Seabirds, shorebirds, and any other birds attracted to wetlands may actually be more prone to suffer collisions with the facility’s PV panels (due to the “lake effect”) as a direct result of being more attracted to the area as a stopover or destination habitat due to its appearance as a water body in the midst of an arid section of a flyway. Such a

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<sup>37</sup> Goebel, K. USFWS. Dec 2014. Comments to Final SOITEC Solar Development EIR. Retrieved from: [http://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/Commentletters/F1\\_RTC.pdf](http://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/Commentletters/F1_RTC.pdf)

<sup>38</sup> *Ibid.*

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stopover could be desirable and taken advantage of by many species; potentially more so than the area would be prior to Project construction as it would appear to serve as an important temporary or permanent destination for species searching for a place to rest, forage, or even find mates. It is also important to note that migrating residents with potential to incur injury or death from collision with the Project components, throughout the life of the Project, include all birds known to occur moving through the area, including rare, threatened, and endangered species.

## **2. Impacts to MBTA Protected Birds not Mitigated Below Significant**

The need for a mitigation monitoring program for this (and all solar industrial facilities) is underscored by the fact the data collection at solar facilities - that is essential in informing our understanding of impacts to wildlife caused by such facilities - is still in its infancy. For the agencies to ensure that impacts are mitigated to the best of the ability of project applicants including this one, data collection in the form a monitoring Program is not only important but essential for future project mitigation efforts as well.

I have witnessed one such example of a previously unknown impact during my field research (outlined above). I and my colleagues discovered that ground nesting birds that are attracted to areas dominated by bare or rocky ground, sand, or soils are attracted to the shaded microhabitats underneath and bordering the solar panel arrays. However they have not evolved to anticipate the hazards of these areas as nesting sites, which are primarily collision with utility vehicles and enhanced susceptibility to overheating due to the heat generated by the panels and related infrastructure. The birds choose these nest sites in the cooler weeks of spring, but as summer heats up they not only have to deal with the natural heat stress that increases as the season temperatures rise, but they also must deal with the unanticipated additional heat caused by the presence of the solar panels. The high heats can and do appear to exceed their limits of tolerance, indicated by an unusually high rate abandonment of nests (and scrapes) containing eggs.

In the Sonoran desert birds observed to be prone to this include species like lesser nighthawks, killdeer, black-necked stilts, and doves, among others; all are species protected during nesting season under the Migratory Bird Treaty Act (MBTA). Figures 11-12, 15-19, 25-27 exemplify just a few examples of birds using facility equipment, and altered habitat, to nest, resulting in higher than normal likelihood of hazards impacting breeding, including overheating and electrocution. Thus far this phenomenon has not been widely described in the literature, not surprisingly because so few studies have been conducted that include long term observations of industrial solar facilities' impacts to wildlife. This is one major reason why mitigation must include mitigation monitoring during the life of the Project.

Even the most rigorous scientific data collection on mortality and injury to birds and bats cannot actually mitigate the significant impacts that would incur as a result of birds killed by collision impacts, including impacts to protected species including those protected under the MBTA. The IS offers no adequate detailed mitigation strategies for direct and indirect long term and cumulative impacts imposed throughout the life of the Project.

What they do offer is generic, unclear, deferred, and/or, arbitrary, and sets few performance criteria for success, and relies on very little zero scientific rigor. The mitigation proposed for reducing impacts below significant is inadequate for MBTA birds in general, and thus fails to satisfy the requirements of CEQA that necessitate a clearly defined proposal describing methods to reduce impacts to less than significant.

### 3. Impacts to Reptiles not Mitigated Below Significant, Including Impacts to Special Status Lizards

The IS fails to identify or discuss potential impacts to reptiles other than tortoises, despite the fact that impacts to various reptile species could occur and would be significant. As discussed above, the Applicant biologists failed to conduct any focused or comprehensive surveys for wildlife other than tortoises and owls, thus risking underestimating the presence and diversity of species that occur at this site and its bordering habitats. This region, and the Western Mojave desert in general, is a hot spot for many species of reptiles. The BRA notes CNDDDB observations in the region of various sensitive species including the Mojave fringe-toed lizard, Coachella Valley fringe-toed lizard, coast horned lizard, flat-tailed horned lizard, and red diamond rattlesnake. The BRA's anecdotal observations of reptiles species onsite include the Western shovel-nosed snake, Mojave green rattlesnake, desert iguana, side-blotched lizard, the desert horned lizard, and tiger whiptail. The Joshua Tree National Park perimeter lies just 2 miles south of the site, and its list of reptile species that occur within the Park comprises 18 lizard and 25 snake species, including five Species of Special Concern. Several of these species are described as occurring in the northern sections of the park.<sup>39</sup>

By nature of their cryptic nature and difficulty to detect without conducting focused surveys for such, reptiles are historically underestimated in all aspects of conservation, including surveys, monitoring, and impact analysis. I was co-researcher on the world's most extensive study in the wild of the world's largest snake species, the green anaconda (*Eunectes murinus*). This species had not been studied to any extent previously due primarily to the false belief that they were not in high abundance anywhere and thus difficult to observe for research. Even expert herpetologists recommended against commencing the study, convinced we would find very few of the snakes in the wild. However, once we began focused surveys in their known habitat, as just two researchers we caught and released over 800 green anacondas within a small region (a few square kilometers) in the course of five years. We found the snakes primarily by tactile searching (walking the shallow wetlands until we stepped on them), due to the fact that visual searching of this cryptic predator would result in missing up to 90% of the individuals we encountered.<sup>40</sup> I mention this research to underscore the reality that even one of the largest reptile species in the world can be very difficult to detect if one is not conducting focused surveys with a protocol designed for species-specific detection.

<sup>39</sup> List of Reptile Species, Joshua Tree National Park.

<http://www.nps.gov/jotr/learn/nature/upload/Reptile-Checklist.pdf>

<sup>40</sup> Rivas, J. A. (1999). *The life history of the green anaconda (Eunectes murinus), with emphasis on its reproductive biology* (Order No. 9973496). Retrieved from: <http://www.anacondas.org/diss/disser.pdf>



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Even during my research on the Orinoco crocodile – a species that can get upwards of 800 pounds – our biggest research challenge was visually locating them in known occupied habitats.<sup>41</sup>

This Project’s underestimation of the impacts to reptiles falls within this sort of erroneous assumption that if individuals are not detected anecdotally, they are likely not abundant or not present. Reptiles have a wide range of preferences for heat tolerance, some being purely nocturnal, while many will retreat into shallow burrows or rapidly shuffle from side to side to burrow into the sand in order to avoid extreme heat and cold, including sensitive lizard species like the flat-tailed horned lizard, desert horned lizard, and fringe-toed lizard (Figures 22-24).

Desert habitats that reptiles use typically include more than those identified as preferred habitats or optimal foraging habitats, and as a result environmental impact analyses, including this IS, that estimate the “potential to occur” of reptiles species based only such assertions of “preferred habitat” in the literature, and not focused field reconnaissance, typically fall short of accurate site assessments regarding species presence and use.<sup>42,43,44,45</sup> For instance, I have observed flat-tailed horned lizards and fringe-toed lizards – both sensitive species that prefer small dunes and loose sandy soils, both known to occur in the region – in very rocky and disturbed habitats. The fact that the IS biologists also failed to conduct focused migratory bird or raptor surveys only reinforces the importance of reptiles surveys, as these provide an important prey item for many species of birds (as can be inferred by the presence of prairie falcon perched onsite).

Additionally, unexpected consequences of other practices on solar facility can negatively impact local species. On one such site I repeatedly observed workers spreading insecticide to kill Harvester ants under the solar panels, in areas proximal to critical habitat occupied by protected flat-tailed horned lizards whose primary prey species are harvester and related ant species (Figure 24).

Unexpected consequences of underestimating impacts to reptiles should not be overlooked as trivial. The construction process for this Project, including associated road construction and increased frequency of use of existing dirt roads, is known to result in significant physical disturbance including increased erosion, soil compaction, and large

<sup>41</sup> Rivas, J.A. and Owens, Renee Y. 2002. Orinoco crocodile (*Crocodylus intermedius*): Age at First Reproduction. *Herpetological Review*. 33 (3): 203.

<sup>42</sup> Gerson, M. M. 2004. *Aspects of the ecology of a desert lizard, Callisaurus draconoides (blainville 1835), in Joshua Tree National Park with an emphasis on home range and diet* (Order No. 3146172).

<sup>43</sup> Heaton, J. S. 2002. *The LizLand model: Geomorphic landform and surface composition analysis of lizard habitat in the California Mojave desert* (Order No. 3029564).

<sup>44</sup> Williams, A. K. 2004. *The influence of probability of detection when modeling species occurrence using GIS and survey data* (Order No. 3123715).

<sup>45</sup> Rosen, P. C. 2000. *A monitoring study of vertebrate community ecology in the northern Sonoran desert, Arizona* (Order No. 9965915).

amounts of dust.<sup>46</sup> Dust can negatively affect wildlife, including native plants, while also decreasing solar output. Because of the reduced solar output, and restrictions imposed by air quality standards and resultant required mitigation measures, a wide variety of dust suppressants are used during construction. The ecological implications of dust suppressants are unknown, but suppressants are known to be transported through runoff and thus likely have a far-reaching impact to a variety of species including lizards and small mammals.<sup>47</sup>

New roads and access driveways are constructed to create access to solar development sites, which increases the risk of direct mortality of lizards and snakes by vehicles, causes habitat fragmentation and potential barriers to gene flow, and makes previously inaccessible areas available to vehicles including off-road vehicles. As proposed by the mitigation measures for this site, construction sites are often surrounded by fences, which may serve to exclude some individual animals, but also serves to trap or funnel other small species (especially reptiles seeking shade) within a construction site. Additionally, industrial scale solar projects are known to alter the microclimate of a region.

“It has been estimated that a concentrating solar facility can increase the albedo of a desert environment by 30%–56%, which could influence local temperature and precipitation patterns through changes in wind speed and evapotranspiration. Depending on their design, large concentrating solar facilities may also have the ability to produce significant amounts of unused heat that could be carried downwind into adjacent wildlife habitat with the potential to create localized drought conditions.”<sup>48</sup>

In light of these realities, it is not surprising that I and my biologist colleagues have witnessed yet another important phenomenon on solar and wind energy project construction sites in arid regions where lizard species are present, and pre-construction surveys required focused searched for lizards and snakes along roads and within construction zones. Specifically, I and other biologists working on renewable energy projects (wind and industrial solar) have observed that lizards are directly and immediately attracted to roads on and around construction sites where trucks spraying water and other erosion control liquids are used to reduced airborne dust. We have observed that this practice serves to attract lizards of a variety of species to the higher moisture levels on the roads, resulting in increased lizard mortality and injury due to being hit by construction site traffic that use the roads subsequent to the water trucks passing. For instance, within the course of one month this phenomenon resulted in the mortality of over 20 flat-tailed horned lizards (*Phrynosoma mcallii*) (a Candidate State Endangered species) (FTHL) on one solar construction site in the southern Sonoran desert during the summer of 2014, and where an additional 100 or so FTHLs were relocated to avoid injury or mortality from vehicle impacts during several weeks of the

<sup>46</sup> Lovich, J. E., & Ennen, J. R. 2011. Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States. *BioScience*, 61(12), 982–992.  
 doi:10.1525/bio.2011.61.12.8 / <http://www.bioone.org/doi/abs/10.1525/bio.2011.61.12.8>

<sup>47</sup> *Ibid.*

<sup>48</sup> *Ibid.*, p. 987.

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construction phase.<sup>49</sup> During the construction of the Sunrise Powerlink gen-tie line in the Yuha Desert, from just April to November, 103 flat-tailed horned lizards were relocated and 25 mortalities were recorded.<sup>50</sup>

It is key to note that one solar industrial project failed to anticipate significant impacts to lizards (impacts due primarily to the phenomenon described above), and as a result their facility construction had to completely stop work for at least a week. One independent contractor reported losing an alleged \$146,000 a week due to the unexpected delay.<sup>51</sup>

In summary, observations during the construction phase of a solar industrial site and an industrial wind facility construction in Southern California desert reveal that lizards of varying species and sizes appear to be opportunistically attracted to the added moisture on the roads. Such behavior is not restricted to any lizard species in particular. When this phenomenon was officially noted as impacting sensitive species (i.e. the FTHL), additional on-site biologists and management practices were necessary to ensure complete coverage of all construction roadways and other areas where lizards were prone to death and injury from vehicle impacts. In order to adequately mitigate for such potential risks to the sensitive lizards species with high potential to occur on site, this phenomenon must be taken into consideration, and mitigation measures to reduce resultant impacts should include additional biologists, enhanced traffic restrictions, and a reptile relocation Plan and Monitoring Strategy during the construction phase.

#### **4. Impacts to Bat Sensitive Species Are Not Mitigated Below Significant**

The need for a Bird and Bat Monitoring Program is underscored by the fact that the IS makes no attempt to adequately survey or reduce potential impacts to bats, despite the BRA noting that bats were observed onsite. What is surprising is that despite the biologists' observations of bats, they did not conduct any focused bat surveys, neither did they employ any bat detecting equipment (i.e. Anabat, Sonobat) to confirm their observation to species. Instead the BRA states, "Not all rafters or roof tiles were accessible or safe to inspect because of structural instability and out of respect for privacy of the tenants....the buildings and trees were monitored at dusk for emerging bats. If bats had been found roosting on site, a bat expert would have been consulted to determine whether and what type of additional surveys would be necessary."<sup>52</sup> This statement is

<sup>49</sup> Wilton, Ben. Tenaska (Personal communication, March 19, 2015)

<sup>50</sup> [FTHLICC] Flat-tailed Horned Lizard Interagency Coordinating Committee. (2011). Annual Progress Report: Implementation of the Flat-tailed Horned Lizard Rangelwide Management Strategy, January 1, 2010 to December 31, 2010. Report prepared by the Flat-tailed Horned Lizard Interagency Coordinating Committee. Retrieved from: [https://webcache.googleusercontent.com/search?q=cache:swX3uX5D8OsJ:https://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/FTHL/FTHL\\_Annual\\_report\\_2010\\_Final.pdf+&cd=1&hl=en&ct=clnk&gl=us](https://webcache.googleusercontent.com/search?q=cache:swX3uX5D8OsJ:https://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/FTHL/FTHL_Annual_report_2010_Final.pdf+&cd=1&hl=en&ct=clnk&gl=us)

<sup>51</sup> Clarke, C. March 2015. Work on Solar Project Halted to Protect Lizard. KCET. Retrieved from: <http://www.kcet.org/news/define/rewire/solar/work-on-solar-project-halted-to-protect-lizard.html>

<sup>52</sup> Teta Tech, Inc. and A. Karl. June 2015. 2015 Desert tortoise survey and general biological resources assessment for the Joshua Tree Solar Farm.

nonsensical, given (a) the common logic that it does not require a bat expert to conclude that if bats are observed onsite, as they were, that a bat expert should be hired to conduct focused surveys, and (b) directly accessing roofs and rafters is hardly an expectation of biologists bat conducting surveys. This is why protocols, bat detecting equipment, and software have been developed by bat experts; to enable them to actually detect, survey, and monitor bats to the level of species, worldwide, in all kinds of habitats and structures, without requiring the agility or accessibility to structures as that of an actual bat.

The BRA then goes on to state, “Additionally, no bats were observed emerging from the on-site buildings or trees at dusk during focused monitoring. Up to six bats were observed flying north of the on-site structures... a canyon bat (*Parastrellus hesperus*) and probably *Myotis* sp. A swimming pool present on-site provides a water source for bats and a source of insect prey as well, which undoubtedly attracts bats to the area.” This analysis is contradictory, and inadequate, on several levels: According to other sections of their own BRA, the biologists did not conduct “focused monitoring” of bats whatsoever, in fact some of their reported survey dates coincide with their same focused desert tortoise/burrowing owl/kit fox surveys discussed previously. If they had, they would have utilized the equipment necessary to determine species (acoustic bat detectors, software, possibly mist nets), which they clearly did not do.

No bat expert would observe several bats while being satisfied with an indeterminate species detection, especially when there are abundant roosts and foraging habitat onsite and in the bordering areas, and especially knowing that the site and its perimeters indeed could provide suitable foraging and roosting habitat for most of the nine special status bat species known to occur in the area.<sup>53</sup> The USGS bat inventory for nearby Joshua Tree National park includes 14 species of bats detected.<sup>54</sup> One study in the Mojave desert found that “The existence of both native and nonnative habitat may elevate bat species richness and increase the degree of differential habitat use to levels higher than would be expected if only native habitat existed at the study site.”<sup>55</sup>

Given the high probability that a sensitive bat species could use this site for foraging and the lack of focused surveys, in addition to a species description amounting to an educated guess, the IS does not satisfy the need for clear data, and analyses of such data, for estimating degree of impacts to bats by the entire Project, and throughout the life of the Project. Based upon this one cannot claim impacts to bats have been demonstrated to be less than significant.

<sup>53</sup> *Ibid.*

<sup>54</sup> Drost, C. And Hart. J. 2008. Mammal Inventory Of The Mojave Network Parks: Death Valley And Joshua Tree National Parks, Lake Mead National Recreation Area, Manzanar National Historic Site, And Mojave National Preserve. Open-File Report 1167.p. 49. Retrieved from: <http://pubs.usgs.gov/of/2008/1167/of2008-1167.pdf>

<sup>55</sup> Williams, J. O Farrell M., Riddle B. 2006. Habitat Use By Bats In A Riparian Corridor Of The Mojave Desert In Southern Nevada. Journal of Mammalogy 87(6):1145-1153. doi: <http://dx.doi.org/10.1644/06-MAMM-A-085R2.1> Retrieved from: <http://www.bioone.org/doi/abs/10.1644/06-MAMM-A-085R2.1?journalCode=mamm>

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## **5. Weed Management Has Not been Clearly Assessed to Reduce Impacts Below Significant**

The IS correctly identifies the non-native weedy species introduced and spread by the Project actions as having the potential to “pose a major threat to biological resources”.<sup>56</sup> They propose generic weed management mitigation, and state that, “As a condition of project approval, the developer shall comply with San Bernardino County weed abatement regulations [SBCC§ 23.031-23.043] and periodically clear the site of all non-complying vegetation, including weeds such as Russian thistle (tumbleweed, *Salsola tragus*), London rocket (*Sisymbrium itio*), redstem filaree (*Erodium cicutarium*), foxtail chess (*Bromus madritensis*) and cheatgrass (*Bromus tectorum*).”<sup>57</sup>

The proliferation of invasive weedy species and the alternative removal of all native vegetation on solar facilities that contributes to accelerated erosion and concurrent dust pollution are a major problem regarding solar industrial facilities. Personal observation and communications with solar facility managers has revealed to that the sometimes opposing requirements of erosion control and weed elimination create uncertainty on the part of managers and their responsibilities and methodologies for weed abatement, often due to a lack of clear mitigation protocols and performance criteria on existing solar facility sites.

Likewise, this IS does not set or clarify any such criteria for weed abatement performance or success throughout the life of the Project. This is despite the evidence that the risk of weedy invasions is high, based on two factors: (a) The Desert Tortoise GIS database identifies major threats to the species in this region, and on their hazard analysis for this site they indicate the threat of exotic invasion as high, especially along the edges of the site footprint (Attachment E), and (b) the existing Cascade solar facility located only 0.52 miles from the Project site demonstrates how a facility in the same area, with the same habitats presiding in the vicinity, can fail to meet necessary weed abatement standards. Figures 22-23 show the high degree of invasive weed (tumbleweed/ Russian thistle) growth within the solar facility as of February this year (2016), clearly demonstrating how *not* to reduced impacts of weedy invasives. As such a detailed mitigation and monitoring program to reduce and eliminate the chance of enhanced weedy invasions must be developed and implemented in order to consider impacts to be reduced below that of significant.

## **6. Desert Kit Fox Impact Mitigation is Inadequate**

In 2012 the biologists detected an active kit fox den on site, with several inactive dens, indicating the likelihood of kit fox use of the Project site is high, especially given this species has demonstrated a high natal site fidelity, and have been observed denning

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<sup>56</sup> Initial Study p. 56

<sup>57</sup> *Ibid.*

within active solar facilities sites.<sup>58</sup> The IS requires pre-construction surveys for the desert kit fox “within” 30 days prior to initiation of construction activities.<sup>59</sup> Kit foxes may construct new burrows or immigrate onto the Project site immediately before construction activities.<sup>60,61</sup> As a result, surveys conducted several days or a weeks before ground disturbance are not sufficient to avoid take of kit foxes. Consequently, the IS must require pre-construction surveys for kit foxes immediately before all ground disturbance activities.

### **7. The Is Lacks Mitigation for Potentially Significant Impacts that May Occur to Biological Resources During Decommissioning**

Decommissioning activities may impact burrowing owls, nesting birds, rare plants, and other sensitive biological resources that colonize or re-colonize the Project site prior to decommissioning. The IS does not require focused surveys to identify the presence of sensitive biological resources on the Project site prior to decommissioning, nor does it require any mitigation for significant impacts that may occur during the decommissioning process. Such impacts may include, but certainly are not limited to, exposure of wildlife or bordering habitat to toxic chemicals (Figure 14), disruption of nesting birds and thus violations of the MBTA (Figures 8, 11, 12, 15-17, 18-19, 27-29). This issue is confounded because the IS does not establish standards for site conditions after decommissioning. As a result, the City has not established a mechanism for ensuring Project decommissioning activities would have a less than significant impact on sensitive biological resources. To ensure Project decommissioning activities would have a less than significant impact on sensitive biological resources, prior to decommissioning the Applicant must be required to: (a) conduct focused surveys of the Project site and vicinity; (b) provide an assessment to the resource agencies and City; and (c) comply with any and all CDFW and USFWS recommendations.

<sup>58</sup> Ironwood Consulting, 2012. Third Quarterly Report For Biological Resources Monitoring First Solar Desert Sunlight Solar Project, Riverside County BLM CASE FILE NUMBER CACA48649

<sup>59</sup> IS p. 40.

<sup>60</sup> Girard, I. A. 1998. *The physiological ecology of a small canid, the kit fox (vulpes macrotis), in the mojave desert* (Order No. 9905548).

<sup>61</sup> Arjo, W. M., Bennett, T. J., & Kozlowski, A. J. 2003. Characteristics of current and historical kit fox (*vulpes macrotis*) dens in the great basin desert. *Canadian Journal of Zoology*, 81(1), 96-102.

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**CONCLUSION**

Based on the issues described in this letter, it is my professional opinion that the obligations of CEQA have not been met, and that the Project would result in significant and unmitigated impacts to several sensitive biological resources.

Sincerely,



Renée Owens, M.S.  
Senior Biologist

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