

**M e m o r a n d u m**

To : Mr. John Kessler, Project Manager  
Siting, Transmission & Environmental Protection Division  
California Energy Commission

Date: October 27, 2009

From : Department of Fish and Game  
Kevin Hunting, Deputy Director, Ecosystem Conservation Division



Subject: Comments on the Preliminary Staff Assessment and Recommendations for the Final Staff Assessment for the Ivanpah Solar Electric Generating System (CEC Docket # 07-AFC-5)

Dear John:

This memo and attachments convey the recommendations of the Department of Fish and Game (Department) on the Final Staff Assessment/Final Environmental Impact Statement (FSA/FEIS) and California Endangered Species Act (CESA) recommendations to the California Energy Commission (Commission) for the Ivanpah Solar Electric Generating System. Our recommendations are consistent with guidance emerging through the joint effort to implement the Governor's Executive Order S-14-08 and are consistent with the commitment among the members of the Renewable Energy Action Team (REAT) to collaborate and cooperate on project and policy guidance to facilitate achieving renewable energy targets. The Department reserves the right to adjust these recommendations, comments and mitigation conditions as appropriate to the preservation, protection, and management measures to be developed for the Desert Renewable Energy Conservation Plan (DRECP) being created in furtherance of Executive Order S-14-08.

The Department typically serves as the permitting agency with regard to projects subject to CESA. However, for energy projects that fall within the scope of the Warren-Alquist Act ("the Act"), Public Resources Code section 25000 et seq., the Commission serves as the permitting agency under California law and is responsible for ensuring compliance with the California Environmental Quality Act (CEQA), CESA and other state environmental laws. As the designated trustee agency charged with protecting, preserving, and managing California's biological resources, the Department has significant expertise in assessing project impacts to such resources and in formulating appropriate measures to mitigate those impacts. For these reasons, and to better facilitate project coordination, Commission staff has requested the Department review energy projects within the Commission's jurisdiction and make recommendations to the Commission regarding impacts and mitigation under CEQA/CESA.

The Ivanpah Solar Electric Generating System (Project) will be located in the Mojave Desert approximately fifty miles northwest of the City of Needles. When constructed, the Project will be approximately 4,060 acres and will generate approximately 400 megawatts, enough to power roughly 140,000 homes. The Project will be built in three phases, consisting of two 100 megawatt facilities and one 200 megawatt facility. With regard to CESA, the impacts of this Project relate exclusively to desert tortoise (*Gopherus agassizii*) and its habitat.

## **Mitigation Under CESA and ESA**

The Department is providing comments and recommendations, here and via continued consultation with Commission staff, pursuant to Fish and Game Code section 2050 et seq. as it would relate to an Incidental Take Permit (ITP) for the Project. Compliance with CESA's incidental take provisions is required for any otherwise lawful activities which could result in the "take" (as defined in Section 86 of the Fish and Game Code) of any species listed under CESA. The Department is also providing comments and recommendations pursuant to its Lake and Streambed Alteration Agreement (LSAA) program under Fish and Game Code section 1600 et seq. in regard to any proposed activity that would divert, obstruct, or affect the natural flow or change the bed, channel, or bank of any waterway that could adversely affect any fish or wildlife resources. Jurisdiction under section 1600 et seq. may apply to all lands within the 100-year floodplain, including the numerous desert washes on site that will be affected by the Project, which will require LSAA permitting compliance via the FSA/FEIS. The Department continues to work with the Commission to clarify authorities and roles under Fish and Game Code section 1600 et seq. as it relates to the Warren-Alquist Act and intends to provide additional clarifying recommendations at a later date.

In regards to CESA, the FSA/FEIS must: 1) provide a full and complete analysis and disclosure of the impacts of the proposed taking; 2) provide an analysis of whether project certification will jeopardize the continued existence of desert tortoise (or any other State-listed species) for which "take" coverage is being sought; 3) provide a proposed plan for compliance and effectiveness monitoring for mitigation measures, inclusive of an adequate desert tortoise translocation/relocation plan; 4) provide measures that minimize and fully mitigate the impacts of the proposed taking; and 5) provide a description of funding source and level of funding available for implementation of the minimization and mitigation measures.

The Desert Tortoise Recovery Plan (Recovery Plan) previously had the Ivanpah Project location within the proposed Desert Wildlife Management Areas (DWMAs) in the eastern and northeastern Mojave recovery units (Figure 9 of the Recovery Plan and states, "These desert tortoises (tortoises outside of DWMAs) may be important in recovery of the Mojave population by providing a source of adult desert tortoises for repopulating extirpated populations in DWMAs once translocation techniques have been perfected. Habitat outside DWMAs may provide corridors for genetic exchange and dispersal of desert tortoises among DWMAs.") The Recovery Plan also states, "In addition, isolated populations of healthy desert tortoise found outside of DWMAs should be noted, but no active management is recommended for these populations unless it is needed to ensure their viability. These isolated populations may have a better chance of surviving the potentially catastrophic effects of URTD [upper respiratory tract disease] or other diseases than large, contiguous populations." The Department believes this known population of desert tortoise in its natural habitat within the northern portion of Ivanpah Valley, but outside of a DWMA, may be valuable to the recovery of the species for the same reasons stressed in the Recovery Plan.

The Recovery Plan also states, "The desert tortoise is also listed as a threatened species under the California Endangered Species Act of 1984. Similar to the Federal Act, this legislation requires State agencies to consult with the California Department of Fish and Game on activities that may affect a listed species. Compensation is required by the California Department of Fish and Game for projects which result in loss of desert tortoise habitat." As previously described, CESA requires full mitigation for take of endangered and threatened species. Full mitigation is based on habitat and population characteristics present at the site. This CESA mitigation standard is more restrictive than the federal Endangered Species Act (FESA) "mitigate to the maximum extent practicable" standard.

The Department, the Commission, the U.S. Bureau of Land Management (BLM), and the U.S. Fish and Wildlife Service (Service) are working toward establishing a process to provide

renewable energy applicants a combined mitigation standard meeting both state and federal obligations regarding FESA/CESA. The attached letter from the BLM demonstrates the progress made among the members of REAT to closely coordinate mitigation requirements for the Ivanpah Project and signals collaboration among the agencies to this end. In the interim, we recommend the Commission require mitigation sufficient to meet both the federal and state mitigation standards outlined above.

Also, in recognition of the landscape scale of renewable energy projects across the California desert and as part of the DRECP, work continues in an effort to identify mitigation and/or enhancement projects that directly meet the unique requirements of large-scale renewable energy projects in the California desert where conservation opportunities exist on both private and public lands. The vision for a completed Natural Community Conservation Plan (NCCP) for the California desert – as contemplated in the Desert Renewable Energy Conservation Plan (DRECP) – includes processes and mechanisms for pooling biological resource conservation funds and directing funding to the actions that most effectively produce conservation and recovery of target species. Early implementation of this conservation and renewable energy balance vision is a top priority for the REAT and is manifested through several actions currently underway for RPS projects. The NCCPA offers opportunities for consideration of early implementation through an “interim process” clause that provides for some flexibility in developing and directing project-level mitigation and conservation prior to approval of the DRECP.

The Department recommends consideration of an in-lieu fee program currently under development by the REAT to facilitate the processing and directing of impact compensation and conservation funding that may be provided by the applicant for the Ivanpah Project. The conceptual in-lieu fee program being developed for the DRECP would base habitat acquisition compensation on current land prices via appropriate appraisals and assign per-acre values for the purposes of habitat acquisition. Actual acquisition, through fee title, deed restriction, easements, or other mechanism, would then be carried out by a designated third-party and directed to areas identified through the DRECP process as supporting the highest conservation values. The REAT anticipates having a fully operational program in place early in 2010 that could accommodate an in-lieu fee from the applicant.

### **CEQA and LSAA Comments**

#### **Alternatives**

CEQA and NEPA require a meaningful range of alternatives to be analyzed in the FSA/FEIS. The PSA is lacking in specific information to support many of the statements regarding the limited alternatives evaluated for the Project. The conclusions in the FSA/FEIS should be supported with the best available data for impacts to desert tortoise and plant species of concern that clearly indicate a comparable or at least higher level of impact to those resources than they are being impacted by the Project. For example, Ivanpah and Broadwell Dry Lakes should be studied and fully analyzed in the FSA/FEIS regardless of existing recreational use vs. “take” of an endangered species (Ivanpah), or the reported “equal” mitigation requirement due to presence of desert tortoise when the FESA standard may not represent the state CESA requirement for the location, and a significant reduction in total combined desert tortoise compensation may apply (Broadwell).

The Department also recommends a full analysis of alternate siting locations and scenarios in relative proximity to the existing Project footprint given the fact the current Project area is excellent tortoise habitat, with a low level of disturbance and high plant species diversity, yet lower quality habitat is clearly within range to potentially reduce the overall Project impacts to endangered and sensitive species.

#### **Biological Resources Table 1**

State Regulations- Fish and Game Code section 3503.5 Birds of Prey or Eggs should be included in

this table. The code states it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes or to take possess, or destroy the nest or eggs of any such birds.

#### **Biological Resources Table 4**

Waters of the State- The mitigation includes "...implement terms and conditions of state and federal permits." This is not adequate since the Department may not be issuing a Lake & Streambed Alteration Agreement (LSAA). Thus, the FSA/FEIS must include all measures that would be required in a LSAA, including all modification to the Project scope and mitigation as required in an LSAA.

For sensitive plant species, seeds could be collected for redistribution on compensation lands or within the general area. Specific types of compensatory mitigation must be identified in the FSA/FEIS.

Banded Gila Monster- Stating "Compensatory mitigation for desert tortoise may also offset impacts to Gila monsters" is inadequate. There must be a plan in place to address impacts to Gila monster should desert tortoise mitigation be insufficient to reduce Gila monster impacts to less than significant levels.

#### **Construction Impacts and Mitigation**

##### **Impacts to Special-Status Plants**

Since the drainage report is not completed, rare plants adjacent to the Project site may also be indirectly impacted by the diversion of Waters of the State.

The FSA/FEIS must address the outstanding conditions (BIO-14 and BIO-17) in enough detail to determine if the impacts to the plants species will or will not be reduced to less-than-significant levels.

##### **Migratory/Special-Status Bird Species**

"...the compensatory mitigation plan could offset the significant loss of habitat for these species." This section should be updated to either show that the compensatory mitigation does offset the loss, or other measures may need to be developed that will reduce impacts to less-than-significant levels.

##### **Impacts to Special-Status Mammals**

###### ***American Badger (Taxidea taxus)***

The FSA/FEIS should include what will occur if a badger is found. Performing surveys for them does not avoid or minimize the impacts to the species. The process that will occur if a badger is found should be discussed in this section.

###### ***Nelson's Bighorn Sheep (Ovis Canadensis nelsoni)***

Historically, Nelson's Bighorn sheep utilized the site during wet seasons when foraging in this area would have been the best. Since potential impacts to the sheep are not known at this time, it would be advantageous to enlist some basic measures to minimize direct or indirect impacts to bighorn that may utilize the area; e.g. moving back the fence at the base of the mountain range, not using barbed wire fencing in this location, checking known big horn sheep springs data periodically to ensure the Project wells are not adversely impacting sheep watering locations, and ensuring invasive plants have not taken over the springs are valid minimization measures that should be evaluated.

###### ***Desert Tortoise (Gopherus agassizii)***

The draft translocation/relocation plan developed to date is inadequate to state that the desert tortoises are going to a "safe location". Based on past experiences, translocation in itself is not a "safe" process nor is it considered minimization or avoidance for the desert tortoises, but is a measure to salvage individuals on the site. Additional survey and biological assessment data and

information must be included in regards to translocation sites and identified in the FSA/FEIS.

### **Indirect Effects**

#### **Raven and Other Predators**

For the Raven and other predators section, coyotes should be included in the evaluation as a predator to desert tortoise. As experienced during the Ft. Irwin translocation/relocation effort, coyotes can cause significant predation to desert tortoise, especially around areas where there is human activity and translocations of desert tortoise.

#### **Increased Risk from Roads/Traffic**

Another potential measure to minimize predation in the area would be to require road kill, or other observed dead animals to be picked up and appropriately disposed of as soon as possible.

#### **Impacts to Waters of the State/United States**

The Department would like to stress that if waters are determined to have federal jurisdiction and/or permits which require modification of the drainage plan, those changes could directly or indirectly impact the Project scope and/or description, which could impact the final LSAA compliance conditions. The final jurisdictional requirements and conditions for federal and state agencies will need to be determined and disclosed in the FSA/FEIS.

#### **Operation Impacts and Mitigation**

In this section, it might be advantageous to mention the affect of night lighting on bats in the area. The bats may currently be using the site for foraging and will on occasion utilize the insect swarms that occur under bright lights. Monitoring of impacts to bats, including mortality found on-site, should be discussed with reduction of artificial lighting proposed as a potential mitigation measure.

### **Cumulative Impacts**

#### **Biological Resources Table 5**

The last sentence of this section states "This significant cumulative impact may be reduced to less than significant levels with appropriate levels of compensatory mitigation..." The Department believes that it is premature to determine if the levels can be reduced to a level of less than significant due to the limited information on the compensatory mitigation being implemented for this Project. Without more detailed information, the Department does not agree that this Project will reduce impacts to a level of less than significant as it pertains to biological issues.

#### **Permits/Consultations Required**

It should be noted that the Department will not be issuing an Incidental Take Permit for this Project, but will work with Commission staff to ensure all requirements and conditions for those permits will be integrated into the conditions of certification recommended in the FSA/FEIS.

#### **Proposed Conditions for Certification**

**Bio-1-** The PSA's description of the Designated Biologist should be more in line with the U.S. Fish and Wildlife Service (Service) definition of a desert tortoise authorized biologist. As written, the Designated Biologist is not required to have any knowledge or approval to handle or survey for desert tortoise, yet the biologist will be directing the monitors to complete those tasks. Also, the designated biologist or a monitor should have knowledge on burrowing owl, gila monsters and badgers. The Department recommends for a project this long in duration that more than one designated biologist be approved and/or there be a mechanism which states how a new designated biologist will be approved.

**Bio-3** – There are usually two classes of desert tortoise biologists; authorized biologist and biological monitor(s). In this condition, the description of the "biological monitor" is one the Department would use for the "authorized biologist". Some projects prefer to have what is normally considered a biological monitor, who is allowed to perform surveys, but does not have the

qualification to handle desert tortoise. In addition, all biologists and monitors must complete and submit the U.S. Fish and Wildlife Service Desert Tortoise Biologist Qualification form.

**Bio-4-** The PSA states: "Biological monitors shall be or any aspect of desert tortoise surveys or handling..." It is unclear what point or issue is being stated here.

**Bio-5-** This section gives the biological monitors the same exact level of authority as the designated biologist without the monitors having the same over all knowledge of the Project components.

**Bio-6-** It would be advantageous if the Worker Environmental Awareness Program (WEAP) specifically addressed the protected species in the area with pictures. Also, if applicable, this presentation may be required in a different language. The WEAP should discuss that a gila monster is venomous and should only be handled by the biological monitor(s) with specific knowledge on how to handle them for the safety and well being of the species and humans on the Project site. Finally, the WEAP should discuss that species such as snakes and reptiles should be allowed to leave the site or be relocated by the biologist/monitor instead of being killed.

The Department recommends the biological information within the WEAP be taught by a biologist so specific questions, if asked by the workers, can be correctly answered on-the-spot.

**Bio-7-** Number 4 states: "terms and conditions, such as those provided in the permits or agreements with the Department and RWQCB." Since the Department will not be issuing permits or agreements for this Project this information must be discussed in the FSA/FEIS and reflected in the Biological Resources Mitigation Implementation and Monitoring Plan.

**Bio-8** - Number 1 states for the clearance surveys, transects will be no more than 30 feet apart, but the Service guidelines for clearance surveys state transects are to be no more than 10 feet apart.

Number 2 states the permanent tortoise exclusionary fencing shall consist of galvanized hard wire cloth 1-cm mesh sunk 15 cm into the ground (USFWS 2008). The fencing would be buried approximately 6 inches. The Service's usual recommendations are that the fencing be a 1" X 2" mesh size and buried 12", but no less than 6 inches underground. In addition, this section should state the fence should be 24" above ground, but not less than 18".

Number 6 states "Any pre-activity tortoise surveys for other construction areas would be performed within 72 hours of ground disturbing activities." This should only be allowed if there is a temporary fence enclosing the area. Otherwise, surveys must be performed immediately prior to any work because desert tortoise could, in certain seasons, move into and establish pallets in an area within the 72-hour time frame.

**Bio-9-**This section states a translocation plan will be developed and then states at least 60 days prior to start of any Project-related ground disturbance activities a final version shall be provided. For CESA and CEQA compliance purposes, relocation site surveys and assessment should be completed and the final plan should be included in the FSA/FEIS. Although the translocation plan is considered for some measures to be a working document, the critical information requested to date for this plan is required to determine the level of impact to the species as a result of translocation/relocation, and should be disclosed in the FSA/FEIS.

**Bio-10-** Number 9 should have any compliance reports or incidents of tortoise injury and/or mortality submitted to the Service and Department. The Department also needs to be included in any discussion on the determination of the final disposition or further actions to be taken for the injured animal.

**Bio-11-** Number 12 should include coyotes. Coyotes will, much like ravens, be able to access the

site even with fencing, so the prevention of unnatural ponding water should be done both on and offsite.

Number 15 should state that the trash containers should be removed once full and removed or repaired if the self-closing mechanism breaks. Also, the WEAP should also stress that cigarettes and cigars are trash and should not be left on the ground within or outside the site, even if buried.

**Bio-14-** Until a revegetation and reclamation draft plan has been developed, the Department cannot make comments and recommendations necessary for implementation of revegetation and reclamation measures, but these measures should be in the FSA/FEIS.

**Bio-18-** The Department will not be issuing a separate LSA Agreement or ITP for this Project. All measures and mitigation that would normally be required in such permits will need to be included in the FSA/FEIS.

**Bio-19 -** The Department agrees the applicant should develop a facility closure plan addressing biological resource related mitigation measures. Any seed or plant mixtures used for revegetation of the Project site prior to closure will need to be approved by the Department and Commission.

Thanks again for all the effort to coordinate with the Department and agencies for this Project. Questions or comments regarding this letter may be directed to me at (916) 653-1070.

#### Attachments

cc: Mr. Terry O'Brien, Commission Deputy Director  
Mr. Rick York, Commission Staff Biologist  
Ms. Susan Sanders, CEC Staff Biologist  
Ms. Misa Milliron, Commission Staff Biologist

Mr. Bruce Kinney, Inland Deserts Region  
Mr. Scott Flint, CDFG, Habitat Conservation Branch  
Mr. Curt Taucher, CDFG, Inland Deserts Region  
Ms. Tonya Moore, CDFG, Inland Deserts Region  
Ms. Becky Jones, CDFG, Inland Deserts Region



# United States Department of the Interior



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JUL 23 2009

In Reply Refer To:  
2800 (CA930)P  
(CACA-48668)

Mr. Kevin Hunting  
California Department of Fish and Game  
1416 Ninth Street  
Sacramento, California 95814

Subject: Coordination of Mitigation for BrightSource Solar Development

Dear Mr. Hunting:

This letter confirms agreement between the Bureau of Land Management (BLM) and the California Department of Fish and Game (DFG) regarding mitigation measures for the BrightSource Energy solar development project near Ivanpah, California (CACA-48668).

The current per acre mitigation fee established by the California State Director should be updated to reflect current land value and recent purchase prices. BLM will work with DFG and the applicant to establish the updated value.

The BLM mitigation ratio of 1 to 1 will be applied within the mitigation ratio that DFG has determined for the BrightSource project. The BLM acknowledges and accepts that BLM's mitigation requirement will primarily fund implementation of recovery actions jointly recommended by BLM, DFG and the United States Fish and Wildlife Service (FWS) biologists, while the remaining mitigation requirement will fund land acquisition.

Deed restriction language approved by the Department of Justice will be included in the deeds for lands acquired for project mitigation and donated to BLM for long-term management.

For any land enhancement actions or recovery actions implemented on existing BLM-owned lands as part of mitigation for this project, BLM will develop a Memorandum of Understanding with DFG containing provisions for notification of any proposed projects affecting those lands. The BLM agrees that future projects that may degrade or diminish the recovery value of this mitigation action will be compensated at a higher rate.

Thank you and your staff for your effort in working with the BLM and the FWS in determining a solution that meets all of our agencies' goals and missions. We look forward to continuing our collaborative efforts to promote renewable energy while protecting a healthy and functional desert ecosystem.

Sincerely,

James W. Abbott  
Acting State Director