STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	
APPLICATION FOR CERTIFICATION FOR THE IVANPAH SOLAR ELECTRIC GENERATING SYSTEM	DOCKET NO. 07-AFC-5

OPENING BRIEF OF INTERVENOR CENTER FOR BIOLOGICAL DIVERSITY

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INTRODUCTION

The Center for Biological Diversity intervened in this proceeding in order to ensure the conservation of rare and imperiled species that may be affected by the proposed project including, but not limited to: the threatened desert tortoise and its habitat; other rare and imperiled wildlife species found in this area including migratory birds, golden eagles, desert bighorn; and native plants. Unfortunately, the proposed project is poorly sited in an area of excellent, occupied desert tortoise habitat on federal public lands that are also home to many other imperiled species and a suite of rare plants. These largely wild lands are situated adjacent to the Mojave National Preserve managed by the National Park Service and two wilderness areas. The proposed site covers approximately six square miles of federal public lands with very high biological richness in the Ivanpah Valley. This is quite simply the wrong place for an industrial-scale solar power plant.

Because there are feasible alternatives to the proposed project, including alternative project sites, that would substantially avoid many of the significant impacts of the proposed project to species and habitats and other resources, the proposed project application must be denied in order to comply with the most fundamental substantive requirements of the California Environmental Quality Act ("CEQA"). (Public Resources Code §§ 21002, 21002.1(b).) As detailed below, the environmental review provided to date is inadequate and cannot be relied on by the Commission in approving the proposed project. In addition, approval of the proposed project would violate other laws, ordinances, regulations, and statutes; on this basis as well the project application must be denied.

STANDARD OF REVIEW AND BURDEN OF PROOF

The Commission has exclusive power to certify sites and related facilities for thermal power plants in California. (Public Resources Code[1] § 25500.) A certificate issued by the

[1] All statutory references herein are to the Public Resources Code unless otherwise specified. Citations herein to "Siting Regs." refer to the Commission's Power Plant Site Certification Regulations, codified in Title 20 of the California Code of Regulations. Citations herein to

Commission may operate in lieu of other permits[2] and supersede most otherwise applicable ordinances, statutes, and regulations. (*Id.*) Accordingly, the Commission itself must determine whether the proposed project complies "other applicable local, regional, and state, . . . standards, ordinances, or laws," and whether the Commission believes the proposed project is consistent with Federal standards, ordinances, or laws. (§ 25523(d); *see also* Siting Regs. § 1752(a).) The Commission may not certify any project that does not comply with applicable LORS unless the Commission finds both (1) that the project "is required for public convenience and necessity" and (2) that "there are not more prudent and feasible means of achieving public convenience and necessity." (§ 25525; Siting Regs. § 1752(k).)

The Commission also serves as lead agency for purposes of CEQA. (§ 25519(c).) Under CEQA, the Commission may not certify the Project unless it specifically finds either (1) that changes or alterations have been incorporated into the Project that "mitigate or avoid" any significant effect on the environment, or (2) that mitigation measures or alternatives to lessen these impacts are infeasible, and specific overriding benefits of the Project outweigh its significant environmental effects. (§ 21081; Siting Regs. § 1755.) These findings must be supported by substantial evidence in the record. (§ 21081.5; CEQA Guidelines § 15091(b), 15093; *Sierra Club v. Contra Costa County* (1992) 10 Cal.App.4th 1212, 1222-23.)

The Applicant bears the burden of providing sufficient substantial evidence to support each of the findings and conclusions required for certification of the Project. (Siting Regs. § 1748(d).) The Commission must determine whether sufficient substantial evidence is in the

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"CEQA Guidelines" refer to regulations codified in Title 14 of the California Code of Regulations.

[2] As discussed below in section III. In past practice the Commission has not extended the operation of the certificate in lieu of all other permits and specifically, in past practice did not provide certificates that operated in lieu of CESA incidental take permits permits. However, the Commission has in this proceeding stated its intent that the certificate should also operate in lieu of any permit for CESA incidental take permit that would usually be issued by the California Department of Fish and Game. As detailed below, the Center believes that the Commission is mistaken regarding the legal basis for this change in policy and that the Commission cannot act in lieu of the Department to provide any exemptions for take of species listed under CESA.

record to support its findings and conclusions.

In this instance there is insufficient substantial evidence to support the required findings and, therefore, the Commission cannot certify the Project.

ARGUMENT

I. APPROVAL OF THE PROJECT WOULD VIOLATE CEQA

The Commission's power plant siting process is a certified regulatory program for purposes of CEQA. (See § 21080.5; CEQA Guidelines § 15251(j).) Although certification exempts the Commission from CEQA's environmental impact report requirement, the Commission still must comply with CEQA's substantive and procedural mandates. (Public Resources Code §§ 21000, 21002, 21080.5; *Sierra Club v. Bd. of Forestry* (1994) 7 Cal.4th 1215, 1236; *Joy Road Area Forest and Watershed Association v. Cal. Dept. of Forestry and Fire Protection* (2006) 142 Cal.App.4th 656, 667-68.) The Commission must ensure adequate environmental information is gathered and that the environmental impacts of a proposed project are fully identified and analyzed before it is approved. "To conclude otherwise would place the burden of producing relevant environmental data on the public rather than the agency and would allow the agency to avoid an attack on the adequacy of the information contained in the report simply by excluding such information." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 724.) Environmental review documentation

> is more than a set of technical hurdles for agencies and developers to overcome. [Its] function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been taken into account." (*Laurel Heights I, supra*, 47 Cal.3d at pp. 391-392.) For the [environmental review documentation] to serve these goals it must present information in such a manner that the foreseeable impacts of pursuing the project can actually be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made.

(*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449-450.) The environmental review documents must "contain facts and analysis,

not just the agency's bare conclusions or opinions." (*Laurel Heights Improvement Assn. v. Regents* (1989) 47 Cal. 3d 376, 404 [and cases cited therein].) The environmental review documents "must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Id.*)

Because the FSA is deficient as an informational document the Commission has failed to comply with CEQA. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717-718 [holding that a misleading impact analysis based on erroneous information rendered an EIR insufficient as an informational document]; *Environmental Planning & Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 357-58 [where baseline was inaccurate "comparisons utilized in the EIRs can only mislead the public as to the reality of the impacts and subvert full consideration of the actual environmental impacts which would result."].)

A. The Project Description in the FSA is Incomplete and Inaccurate

CEQA requires a statement of the objectives of the project and a description of the Project in sufficient detail so that the impacts of the project can be assessed. (CEQA Guidelines §15124.) CEQA requires an accurate, clear and stable description of the Project and its impacts:

> "[A]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 199.) However, "[a] curtailed, enigmatic or unstable project description draws a red herring across the path of public input." (Id. at p. 198.) "[O]nly through an accurate view of the project may the public and interested parties and public agencies balance the proposed project's benefits against its environmental cost, consider appropriate mitigation measures, assess the advantages of terminating the proposal and properly weigh other alternatives ... ." (*City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1454.)

(*San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 655; *see also Sacramento Old City Assn. v. City Council* (1991) 229 Cal. App. 3d 1011, 1023 [same]; *Stanislaus Natural Heritage Project v. County of Stanislaus* (1996) 48 Cal. App. 4th 182, 201

[same]; *Berkeley Keep Jets Over the Bay Com. v. Board of Port Comrs.* (2001) 91 Cal.App.4th 1344, 1358.)

1. Project Objectives

a. The Applicant's Objectives Show that the Proposed Project is Experimental

As the applicant admits the proposed project is experimental at the scale proposed: the applicant's objective is to "to demonstrate the technical and economic viability of Bright Source's Technology in a commercial-scale project." (FSA at 2-5; see also FSA at pp. 4-4[same].) While technical and economic demonstrations or experiments are important, the experimental nature of this venture should have been more clearly disclosed to the public. No where does the FSA describe the currently operating projects of similar design, the largest of which is only 10 MW (in Spain)—less than 3 percent as large as the proposed project. As with many technologies, scaling up by an order of magnitude is bound to present both anticipated and unanticipated problems but none of these issues are discussed in the FSA. At the hearing the applicant discussed the 6 MW "pilot" project in Israel which was described as a "slice" of the project that the applicant proposes here. (Reporter's Transcript of Evidentiary Hearing (January 13, 2010) [hereafter citations to the transcript will be in the format "1/13 Tr."] 1/13 Tr. at pp. at pp. 13 ["it's a first of a kind project. So, in spite of it, we are doing most sophisticated model and so on."], pp.18-21 [describing pilot project and receiver and "superheater" receiver].)

b. The Commission's Objectives Can Be Met Without Approving the Proposed Project

The Commission's objectives as stated in the FSA relate to fulfilling the goals for the California renewable energy portfolio in a timely manner. "The Project would allow California utilities to increase the percentage of renewable resources in their energy portfolio, and aid the utilities in reaching the goals set forth by the RPS." (FSA at 2-7.) The specific objectives are:

> 1. to safely and economically construct and operate a nominal 400-MW, renewable power generating facility in California capable of selling competitively priced renewable energy consistent with the needs of California utilities;

2. to locate the facility in areas of high solarity with ground slope of less than 5 percent;
3. to complete the impact analysis of the project by the first quarter of 2010 so that if approved, construction could be authorized in 2010 and beyond.

(FSA at 2-7.) The Commission has listed these same objectives for other fast track projects for which a Staff Assessment has been released to the public. (See, e.g., SES Solar Two Project (08-AFC-5) February 2010, CEC-700-2010-002-SA-DEIS p. A-11 [same for 750 MW] Solar Millenium Blythe (09-AFC-6) March 2010 CEC-700-2010-004 SA-DEIS at A-10 [same for 1,000 MW]; Solar Millennium Palen (09-AFC-7) March 2010 CEC-700-2010-004 SA-DEIS at A-10 [same for 484 MW]; Genesis Solar (09-AFC-8) March 2010, CEC-700-2010-006 SA-DEIS at A-12 [250 MW].)[3]

The FSA also states that "These objectives reflect the applicant's objectives and the BLM's stated purpose and need of the Project and *will be considered in the comparison of alternatives*, as required under both NEPA and CEQA." (FSA at 2-7 [emphasis added]; SES Solar Two Project (08-AFC-5) February 2010, CEC-700-2010-002-SA-DEIS p. A-11 [same for 750 MW]; Solar Millenium Blythe (09-AFC-6) March 2010 CEC-700-2010-004 SA-DEIS at A-10 [same for 1,000 MW]; Solar Millennium Palen (09-AFC-7) March 2010 CEC-700-2010-004 SA-DEIS at A-10 [same for 484 MW]; Genesis Solar (09-AFC-8) March 2010, CEC-700-2010-006 SA-DEIS at A-12 [250 MW].

For all of these projects the Commission has the same objectives and approval (or partial approval) of some number of these projects will further the Commission's goals and objectives. By the same token, however, the approval of *this* proposed project as envisioned by the applicant is not necessary to those goals and objectives. Moreover, no where in the FSA or other documents is any explanation provided of how the experimental nature of the proposed project at

[3] The first objective is also the same for several other projects. (See Beacon (08-AFC-02) October 2009 CEC-700-2009-005-FSA at p. 16, Project Description (PD) 3-1 [same for 250 MW]; Abengoa Mojave Solar Project (09-AFC-5) March 2010 CEC-700-2010-003 at pp. 18-19, PD 3-1, 3-2 [same for 250 MW].)

commercial-scale may affect the applicant's ability to *in fact* provide the expected renewable power and contribute to fulfilling the Commission's goals.[4]

Further, it is also clear that these projects (and others) are each reasonable alternatives to the other and should be considered as alternatives to fulfill the Commissions objectives. (See CEQA Guidelines § 15126.6 (f) [alternatives should be considered that could feasibly attain most of the basic objectives of the project].) Indeed, at hearing staff noted that they had discussed, but rejected, such comparative analysis of alternatives. (1/14 Tr. at p. 241-42). Therefore, the staff should not have rejected comparison of the pending applications as part of the alternatives analysis at the outset of the process. (FSA at pp. 4-11["an alternative site on BLM land with a pending application for a renewable project is not considered as a viable alternative unless the other application is rejected or withdrawn, or if the application is from BrightSource, the ISEGS applicant."]).

Moreover, staff's conclusion that the No Action/No Project alternative "would likely delay development of renewable resources or shift development to other similar areas, and would lead to increased operation of existing power plants that use non-renewable technologies" is both highly inaccurate and misleading. (FSA at p. 4-82.) While the No Project alternative would delay development of *this project*, there is no evidence it would delay development of other

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[4] Additionally, although the FSA rejected consideration of a phased alternative, a partial approval, for example of one phase or one unit of the proposed project, could provide multiple benefits by allowing the applicant to test its technology at commercial-scale as well as providing the applicant time to find an alternative, more appropriate site for the remainder of the units *if* the technology is viable at commercial scale and in fact able to contribute to fulfilling the Commissions goals and objectives. That such an alternative is reasonable clear and indeed a similar alternative is included in the staff assessment for the Solar Two project and a similar alternative should have been considered here.

> The 300 MW Alternative is evaluated in this SA/DEIS because it is reasonable and would substantially lessen all of the impacts of the project. Additionally, the 300 MW Alternative would allow the applicant to demonstrate the success of the Stirling engine technology and construction techniques, while resulting in reduced impacts to the desert environment.

(SES Solar Two Project (08-AFC-5) February 2010, CEC-700-2010-002-SA-DEIS at p. B.2-15.)

renewable energy resources or any of the other "fast track" projects so as to increase the operation of existing non-renewable technologies. Further, there is no evidence that the No Project alternative would *shift* development to *similar areas* because development may go forward in other areas where "fast track" projects are proposed *whether or not* this proposed project is approved. Rather, a denial of this application at this site should likely shift development to *dissimilar* areas that have less sensitive resources. Further, the degree to which the areas with current proposals for development are "similar" to this site in the Ivanpah Valley has not been established on this record. Indeed, to date none of the other proposed fast track projects for which an SA has been issued are in "similar" desert tortoise habitat identified for conservation in the 1994 Recovery Plan nor would any of the other "fast track" projects have "similar" impacts to birds due to the project design. Staff's conclusory statements in the FSA and rejection of any analysis of the other "fast track" projects as alternatives to the proposed project not only undermines the Commission's stated objectives but also violates CEQA.

2. *The description of the Proposed Project's Technical and Environmental Characteristics is Incomplete and Inadequate*

The project description was incomplete in many ways. The FSA did not accurately reflect the technical characteristics of the project in several relevant respects including (1) the amount and extent that the project would use natural gas boilers as a supplemental energy source and (2) the size and intensity of the zone of focused light and high temperatures created between the heliostat fields and the tower that may kill birds, butterflies, and other invertebrates including pollinators.

The amount and extent that the project proposes to use natural gas boiler to supplement the solar power is not accurately described in the FSA. While the FSA repeatedly states that the gas boilers would be used for up to 4 hours a day with an average of no more than one hour a day (FSA/DEIS at 3-8, 3-9, 6.1-64, 7.2-4), primarily "to provide additional heat for plant start-up and during temporary cloud cover." (FSA at pp. 1-4; see also *id.* at 3-8.) During the evidentiary hearing before the CEC it became clear that the project is designed to use the gas boilers far

more than one hour per day on average and would use the gas boilers to provide up to 5% of the total output of the power plant which could represent up to 4 hours of use per day depending on whether the boilers were at their full capacity or not. (See 1/13 Tr. at p. 66 ["Emissions are based on the amount of fuel burned, which is only very loosely correlated with the number of operating hours. The number of operating hours could be as much as four hours per day every day."].) The FSA's failure to clearly describe the project renders it "enigmatic" and sends "conflicting signals to decisionmakers and the public about the nature and scope of the activity being proposed," and as a result the FSA is inadequate and "insufficient as an informational document for purposes of CEQA, amounting to a prejudicial abuse of discretion." (*San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 655-56, 657.)

The FSA provides only a single statement regarding "the reflected sunlight between the heliostats and the power towers" in the context of potential impacts to birds (FSA at pp. 6.2-65) and nowhere describes the size or intensity of this area or zone within the proposed project site which is was originally proposed to cover over 4,000 acres with seven towers. (see FSA at p. 1-3).[5] This aspect of the proposed project's technical and environmental characteristics is conspicuously absent from the project description and other relevant discussions in the FSA although this "zone" where birds may be at risk of singeing, burning or collision with heliostats covers a vast area of nearly 6 square miles and rises to a height of over 450 feet near each of the towers. While the FSA is also glaringly inadequate in its identification and analysis of the potential for this design feature to impact birds and other wildlife,[6] the failure to describe this important design feature provides an incomplete and "curtailed" project description and renders the FSA inadequate. *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 198.

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[5] The new so-called MI3 Project descriptions also fails to provide detail about this aspect of the project which is now proposed to consist of three 459 foot towers with 173,000 heliostats in fields each covering approximately 3,300 acres (of permanent disturbance) or over 5 square miles. (FSA Addendum at pp. 2-5, 2-7.)

[6]These issues are discussed in detailed below and were raised throughout the process (See, e.g., Exh. 939 [opening testimony of I. Anderson at p. 3], Exh. 938 at p. 2-3[rebuttal] and Exh. 942 at p. 2-3 [additional testimony for 3/22 hearing]; 1/12 Tr. at pp. 18-24[testimony of I. Anderson]).

In addition, the project description fails to provide detailed information on many site-specific impacts including, for example, a grading plan and the desert tortoise translocation plan which are both deferred for development after approval of the proposed project by the Commission rendering the project description incomplete. Finally, the proposed project description changed multiple times during the environmental review process, most recently when the Staff submitted a new proposed project on March 16, 2010 to be reviewed at the hearing on March 22, 2010. (Exh 315 [FSA Addendum]; 3/22 Tr. at p. 161-163 [staff did not "offer any public comment period" for the FSA Addendum]). While the Center understands that changing project descriptions and conditions throughout the approval process is common practice before the Commission, in this case the failure to provide a reasonable public review period for the revised project description renders the project description unstable and also undermines public participation. (See *Joy Road Area Forest and Watershed Assoc. v. Cal. Dept. of Forestry* (2006) 142 Cal. App. 4th 656, 670-73.)

3. The Environmental Setting or "Baseline" Information Fails to Reflect Existing Physical Conditions

The baseline or environmental setting is critical to identification and analysis of impacts. In order to assess the impacts of a project the agency must have detailed and specific information regarding the resources of the project site and the baseline should reflect the project's real-world physical setting—"real conditions on the ground"—rather than "hypothetical situations." (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 121, 125; see also *Woodward Park Homeowner's Association v. City of Fresno* (2007) 150 Cal.App.4th 683, 708-09.) The environmental setting or baseline information must be fair and accurate and cannot understate the value of the environmental resources so as minimize the significance of the impacts of the proposed project. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal. App. 4th 713, 725 [finding that failure to adequately describe adjacent riparian habitat and potential for wetlands on the project site "understates the significance of" the river adjacent to the site and avoiding discussion of those resources

"precluded serious inquiry into or consideration of wetland areas adjacent to the site or whether the site contained wetland areas."].)

Here, the FSA both understated the value of the existing resources and also overstated the existing development in the area. The FSA does not provide a clear overall description of the environmental setting or baseline but rather discusses environmental setting separately in each section leaving the public and decisionmakers with no clear sense of the environmental setting. (FSA at p. 1-14.) The project description in the executive summary focuses solely on development in the area without any mention of the proximity to the Mojave National Preserve and wilderness areas:

> The proposed project site is located 4.5 miles southwest of Primm, Nevada and 0.5 mile west of the Primm Valley Golf Club which is located just west of the Ivanpah Dry Lake. Access to site is from the Yates Well Road Interchange on I-15 via Colosseum Road.

(FSA at pp. 1-2 to 1-3.) Elsewhere in the FSA, the biological richness of the area is acknowledged and development is called an "exception."

> The ISEGS site is *located on and surrounded by undisturbed, natural land*, with the *exception* of the Primm Valley Golf Club and I-15 to the east and a transmission line and associated unpaved roads. Vegetation on the site and in the immediate project area consists of primarily Mojave creosote bush scrub, with Mojave yucca – Nevada ephedra scrub, and Mojave wash scrub also represented. Plant communities at the ISEGS site are characterized by an *unusually high diversity and density of native succulents and relatively low levels of noxious weeds*. Elevations in the project area range from approximately 3,150 to 2,850 feet above mean sea level (BSE 2007a). The Clark Mountain Range occurs to the north and west of the project area, and the topography slopes gradually down to the east and southeast toward Ivanpah Dry Lake on the alluvial fans and bajada on the Clark Mountains' east and south flanks. Approximately 2,000 ephemeral washes, which form part of the regional bajada, occur throughout the project area. The northernmost phase of the project site is immediately flanked by two hills: a limestone hill to the west and a metamorphic hill to the east.

(FSA at p. 6.2-9 [emphasis added]; see also FSA at pp. 6.5-3 to 6.5-4 [setting description for land use section noting proximity to wildlands].) In the Staff's recent filing regarding overriding considerations, the environmental setting is now characterized as an area of "extensive

development." (Staff's Comments Regarding A Possible Energy Commission Finding of Overriding Considerations Dated March 16, 2010 ["the ISEGS project site is adjacent to, and in the vicinity of, extensive development"].) In that document the staff also states "staff believes renewable energy development should occur in areas proximate to 'existing transmission infrastructure and load centers'" (Id. at 2), but fails to explain the that in this instance the "existing transmission" does not have sufficient capacity for the proposed project or the other proposed projects in this area, and that the project is far from load center.

In contrast to the FSA's and Staff's contradictory statements, the evidence before the Commission shows that the environmental setting for the proposed project site is approximately six square miles of federal public lands with very high biological richness in a Valley that currently consists largely of wild lands. (See Exh. 800 [photo database]; The site is less than a mile and a half from the Mojave National Preserve managed by the National Park Service and within a few miles of two wilderness areas. (FSA at p. 6.5-3.) The site is home to a healthy breeding population of desert tortoise that are part of the Northeastern Mojave Recovery Unit, other wildlife including golden eagles and migratory birds, as well as many species of rare plants and has a remarkably low incidence of invasive weed species. (1/11 Tr. at 282-283 [Staff testimony "relatively undisturbed Mojave Desert habitat with unusual high diversity and density of native cacti and other succulents. And also not too many weeds. We describe as being good quality desert tortoise habitat. . . very valuable habitat for desert tortoise"]; Exh. 709 at p. 3 [DFG scoping letter, "the fact the current Project area is excellent tortoise habitat, with a low level of disturbance and high plant species diversity"].)

a. Biological Baseline

The FSA fails to provide adequate information regarding the baseline in order to analyze the impacts to the existing environment particularly information regarding fall blooming plants, birds, bighorn sheep, and other wildlife. The FSA provides no specific information on the baseline status of many environmental resources that may be significantly affected by the proposed project including birds, bighorn, and insects. (See detailed discussion below.) No

winter or spring focused bird surveys were done on the project site (1/11 Tr. at 104-105) although some special status bird species were encountered on site (FSA at pg. 6.2-17-18). Despite the fact that the proposed project site lies between two Important Bird Areas (IBA's) (Exh. 938 at p. 2-3 [rebuttal]; Exh. 936; Exh.937), no analysis to migratory birds was included in the FSA. In addition, no surveys for bighorn sign or use were undertaken and no summer/fall surveys for plants were conducted. (FSA at p. 6.2-37.) Indeed it was only after the Center and others raised these issues that the Staff provided some additional information on golden eagle nest sites that may be adversely impacted by the proposed project. However, the subsequent analysis did not consider the reduced foraging area used by golden eagles during the nesting season (Exh 305 at p. 20 [CEC's staff rebuttal].) As a result the description of the environmental setting is flawed and these deficiencies "tainted" the impacts analysis, alternatives, and mitigation findings throughout the environmental review. (*San Joaquin Raptor/Wildlife Rescure Center v. County of Stanislaus* (1994) 27 Cal. App. 4th 713, 742 n.13, 741-42 ["Beginning with an incomplete project description, continuing with an inaccurate and misleading description of the site followed by an inadequate discussion of alternatives and concluding with an incomplete and conclusionary discussion of the cumulative effects of the development project, the FEIR fails to comply with CEQA in all major respects."]; *Cadiz Land Co. v. Rail Cycle* (2000) 83 Cal. App. 4th 74, 95 [environmental resources in the project area must be quantified to the extent possible to provide accurate basis for analysis of relevant impacts; "failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals" of CEQA] .)

The FSA puts more weight on the CNDDB database as a tool than it can bear. The CNDDB database which is managed by the Department of Fish and Game provides evidence of sightings and survey information that is provided to the Department, however, the absence of data in the database for a particular species in a particular area is not evidence of absence of the species — absence of evidence is not the same as evidence of absence. (1/11 Tr at pp. 349-50

[S. Flint acknowledge that CNDDB database only reflects information put in the system, lack of data is not evidence that no species are in the area].)

While the FSA does include some information regarding desert tortoise and spring blooming plants, the FSA consistently downplays the importance of this area to desert tortoise. For example, the FSA does not explain that the Desert Tortoise Recovery Plan recommended this area of the northern Ivanpah Valley north of the Interstate 15 for inclusion within the Ivanpah Desert Wildlife Management Area for the conservation of the desert tortoise ("DWMA"). (USFWS, Desert Tortoise Recovery Plan (1994) at 41 [judicial notice was taken of this document, 1/14 Tr. at pp. 329-339].) Rather, the FSA focuses on the BLM's management designation of the area. (FSA at pp. 6.2-75 [discussion category 3 designation].) Not only was this area identified in the Recovery Plan for inclusion in the DWMA, the Department of Fish and Game also noted the site is "excellent tortoise habitat." (Exh. 709 at p. 3.)[7] Similarly, the value of this area for rare plants was well known as this area is identified as a "plant rarity hotspot" by the Department of Fish and Game. (Atlas of the Biodiversity of California (2003) at p. 27.) The failure to provide the most basic baseline information regarding these and other biological resources undermines the FSA's ability to provide a full and fair CEQA analysis.

b. Environmental Setting/Climatic Baseline

In addition, the FSA does not accurately reflect the climatic conditions of the area which include late-summer/early-fall clouds and rains and the accompanying loss of sunlight during

[7] Most recently, this area was also identified by the CEC and other agencies as a "conservation opportunity area." (*Renewable Energy Action Team (REAT) Starting Point Map* [available at http://www.energy.ca.gov/33by2020/documents/index.html].) As the narrative states:
"The REAT identified REAT Conservation Opportunity areas as those areas with high biological value. These areas support key populations or connections between key populations. As such, private land acquisition or habitat enhancement on public lands would be encouraged within these zones. The applicability of any one Conservation Opportunity to any specific project must be determined on a project-by-project basis. The identification of REAT Conservation Opportunity areas does not preclude development within these areas. However, developers should recognize that renewable energy projects within Conservation Opportunity areas will likely have higher mitigation ratios because of a higher impact to biological resources, and a longer permit process time."

those times. Even the Applicant stated they were unaware of the extent of cloud cover at the site (1/13 Tr. at pp. 13 ["I can tell you honestly that I was not expecting this type of cloud."]) Now the applicant estimates there to be up to 700 hours per year of clouds at the site out of the operating time 3400 hours per year, which is approximately 20 % of the year, and approximately 10% of the daylight operating time. (1/13 Tr. at pp. 7-8.) The Applicant estimated the clouds to impact energy production by approximately 10% but stated that amount could be lowered to less than 5% by using the gas boiler backup. (1/13 Tr. at pp. 7-11.) Given the experimental nature of the project at commercial scale the gas boilers are a critical component of the project – not merely a "start-up" or "back-up" system as the FSA described. When asked during the hearings whether "the 5 percent utilization of the boilers is a reasonable limit" the applicant responded "Honestly, on my side I wish we could have some more, because, you know, let us remember, it's a first of a kind project. So, in spite of it, we are doing most sophisticated model and so on. I still think that one of the advantages of the boiler is that it's all professional technology and you can trust it." (1/13 Tr. at p.13.)

In addition, with certain cloud configurations (which may be common in late summer) the applicant testified that heliostats would have to be turned to the "standby" position so as not to damage the superheater and during those times solar production would be lost. (1/13 Tr. at pp. 21-23.)[8] The applicant stated that at such times the heliostats would be focused 10-30 meters from the tower so that they could be quickly refocused on the tower. (1/13 Tr. at pp. 21-23.) The risks that creating a focal point in the air separate from the tower could cause additional harm to birds which is not discussed. (12/14 Tr. at pp. 130-131.)

As a result of these and other omissions, the assumptions regarding the amount of "solarity" of the site as stated in the FSA are inaccurate and the FSA's reliance on those assumptions is unlawful. Thus, any comparison of alternatives sites based on solarity was incomplete and flawed. (FSA/DEIS at 4-10 (discussing need for alternative sites to have

[8] No estimate was provided regarding the potential loss of solar production but apparently the applicant will likely use the gas boilers during this time. (FSA at p. 3-8.)

"appropriate solarity".) It is impossible to tell how many potentially viable alternative sites were rejected based on having lower "solarity" than the Ivanpah site but it is certain that such analysis was fatally flawed.

The FSA also failed to reveal that the site is shadowed in early morning and late afternoon by the surrounding mountains -- the Clark Mountains and the mountains in the Stateline Wilderness-- which cut off sunlight late in the day in both summer and winter. (See Exh. 940 (maps of shadowing); 1/13 Tr. at pp. 4 [stating that shadowing causes a loss of approximately a half a percent].) Even if the shadowing may result in only a small amount of lost capacity per day, it should have been disclosed as part of the discussion of the environmental setting and baseline.

Staff must do more than simply accept without any analysis an applicant's assumptions regarding environmental information including baseline information. Accurate baseline information is critical to any analysis of the suitability of this site for the proposed project and to a fair comparison of this site and other alternative sites particularly as to feasibility. (*San Joaquin Raptor/Wildlife Rescue Ctr v. Co. of Stanislaus* (1994) 27 Cal. App. 4th 713, 741-42.)

In general, the "environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant." (CEQA Guidelines § 15125 (a).) Although determination of what constitutes existing physical conditions will vary with the facts of each case, the baseline should reflect the project's real-world physical setting—"real conditions on the ground"—rather than "hypothetical situations." (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 121, 125; see also *Woodward Park Homeowner's Association v. City of Fresno* (2007) 150 Cal.App.4th 683, 708-09.) An agency must clearly and conspicuously identify the assumptions guiding its choice of a baseline, and must support that choice with substantial evidence. (*San Joaquin Raptor v. Co. of Merced* (2007) 149 Cal.App.4th 645, 659.)

B. The FSA Failed to Consider the Impacts of the Project as A Whole

From the outset the FSA failed to consider the "project as a whole" and instead has

unlawfully segmented environmental review by ignoring the impacts of the proposed powerline upgrade, communications line, and two new substations that make up the Eldorado-Ivanpah Transmission Project ("EITP") which is *necessary* for the power plant proposal. (12/14 Tr. at p. 42- 43.) The proposed power plant project and the Eldorado-Ivanpah transmission project are clearly interrelated and, indeed, the power plant project could not proceed without the transmission project upgrade.

The definition of "project" is "given a broad interpretation in order to maximize protection of the environment." *(Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1180 (internal quotation omitted); see also, *Muzzy Ranch Co. v. Solano County Airport Land Use Com.* (2007) 41 Cal.4th 372, 381-83; *Fullerton Joint Union High Sch. Dist. v. State Bd. of Educ.* (1982) 32 Cal.3d 779, 796-97; *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 277-81.) A "project" is "the whole of an action" directly undertaken, supported, or authorized by a public agency "which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Public Resources Code § 21065; CEQA Guidelines § 15378(a).) Under CEQA, "the term 'project' refers to the underlying activity and not the governmental approval process." (*California Unions for Reliable Energy v. Mojave Desert Air Quality Mgmt. Dist.* (2009) 178 Cal.App.4th 1225, 1241, (quoting *Orinda Assn v. Bd. of Supervisors* (1986) 182 Cal.App.3d 1145, 1171-72.) (CEQA Guidelines, § 15378(c) ["The term 'project' refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term 'project' does not mean each separate governmental approval."].) Thus, even assuming for the sake of argument alone that the regulatory structure may make it difficult for the CEC and CPUC to collaborate on a single coordinated environmental review, at minimum, the CEC should have provided for *coordinated* environmental analysis of the powerline upgrade and substations with the CPUC and BLM. Instead the projects are being reviewed piecemeal with the draft EIR/EIS for the EITP currently expected at the end of April. The cumulative impacts discussion of the EITP in the FSA cannot cure this omission. (FSA at pp. 5-19 to 5-30.)

It is well settled that CEQA forbids "piecemeal" review of the significant environmental impacts of a project. A public agency may not divide a single project into smaller individual projects in order to avoid its responsibility to consider the environmental impacts of the project as a whole. (*Orinda Assn. v. Board of Supervisors* (1986) 182 Cal. App. 3d 1145, 1171.) This rule derives, in part, from section 21002.1, subdivision (d), which requires the lead agency--in this case, the Commission--to "consider[] the effects, both individual and collective, *of all activities involved in [the] project.*" (Emphasis added.) Courts have considered separate activities as one CEQA project and required them to be reviewed together where, for example, the second activity is a reasonably foreseeable consequence of the first activity (*Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283-84); or both activities are integral parts of the same project (*Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 414-415).

Because the Commission failed to properly consider the whole of the action, including the impacts from the Eldorado-Ivanpah Transmission Project, the direct and indirect impacts of the proposed project were underestimated from the outset and the FSA and Addendum fail to provide adequate identification and analysis of environmental impacts of the project as a whole in violation of CEQA.

C. The FSA Fails to Disclose and Analyze the Project's Impacts

1. Environmental Review of Impacts to Biological Resources is Incomplete and Inadequate (Direct and Indirect Impacts)

CEQA grants all lead agencies the right to require a project applicant to submit "data and information" that may be necessary so that the agency can determine whether the proposed project may have a significant effect on the environment:

> Whenever any person applies to any public agency for a lease, permit, license, certificate, or other entitlement for use, the public agency may require that person to submit data and information which may be necessary to enable the public agency to determine whether the proposed project may have a significant effect on the environment . . . .

(Pub. Resources Code, § 21160; see also, *Sierra Club*, *supra*, 7 Cal.4th at p. 1220 (holding that

section 21160 vests agency operating under a certified regulatory program with authority to require applicant to submit of information, if such information is necessary to enable the agency to determine whether a proposed project will have significant adverse impacts on the environment].) In this matter, the Commission failed to obtain much of the information needed for a full and fair analysis of the impacts of the proposed project.

Unfortunately, for many significant impacts of the proposed project the FSA appears to have begun with the conclusion bypassing adequate identification of impacts or analysis, and in many cases, both.

a. Tortoise

The impacts to the desert tortoise from the proposed project were never fully identified and analyzed. The FSA appears to have begun with the conclusion that the primary impact from the proposed project on the tortoise would be direct loss to the species of the acreage of the project site—little more. (See FSA at p. 6.2-51.) As is evident throughout the FSA and again in reviewing the MI3 proposal, the staff appears to have simply jumped past analysis to a conclusion in violation of CEQA's substantive requirements. (See 3/22 Tr. at p. 64-65.)

The Staff never considered the edge effects, indirect effects, or habitat fragmentation impacts *to the remaining desert tortoises in the area*. Habitat loss and fragmentation are two related but different impacts to the species that are contributing to its decline. (Desert Tortoise Recovery Plan at 3, 8 [judicially noticed].) "Habitat fragmentation is a major contributor to population declines." (Id.) Keeping large blocks of intact habitat is one of the keys to recovery and, indeed, the project area was identified for protection in the Recovery Plan. (Id. at 41; see also Exh. 945 at pp. 39 ["siting of the energy projects is crucial, the first priority being to put them on lands already disturbed or where there is no tortoise habitat, and the second being to not fragment large areas that are a uniform block of habitat."].)

In addition to the failure to address habitat fragmentation, among the many other deficiencies in the FSA, is the failure to discuss how rerouting the ORV routes around the

proposed project footprint, increased traffic on Coliseum Road, and increased human presence and noise would affect the remaining tortoises and habitat.

Moreover, the FSA failed considered both the impacts to the tortoises that are moved and the impacts to the remaining tortoises in the area (also called "host" tortoises) from translocating the tortoises from the proposed project site into the remaining habitat. (Exh. 913 at pp. 6-10; Exh. 938 [Rebuttal Testimony of Ileene Anderson at pp. 3-4]; Exh. 942 [Additional Testimony of Ileene Anderson at p. 3 [noting new information on the deaths of translocated tortoises]; Exh. 945 at pp. 14-15 [same].) The staff also wrongly assumed and then concluded that impacts to individual tortoises now living on the proposed project site were not significant so long as "mitigation" was provided with habitat purchases and enhancement elsewhere. (See 1/14 Tr. at pp. 258-59 [discussing translocation as "salvage" of tortoises and focusing on the loss of the habitat for supporting future desert tortoise rather to the exclusion of impacts to existing animals].) This is clearly wrong, the impacts to individual tortoises that are moved will be significant and translocation may cause "take" under the CESA standard—that is death—of many individual tortoises both among those moved and the host tortoises. Because no analysis of this impact was provided and no effort was made to avoid these impacts, the environmental review fails to comply with CEQA. The proposed translocation plan is also deficient in many respects including failure to adequately address disease, the carrying capacity of the translocations sites, monitoring and other factors and the Commission cannot properly rely on it as a minimization or mitigation plan in this instance. The lack of analysis of the translocation impacts on both the tortoise that would be moved and the host tortoises is also a glaring omission and violates CEQA.

The Sierra Club came forward with additional information to assist the staff in considering an alternative that would reduce habitat fragmentation and other significant impacts to the tortoise and other biological resources. (See Exh. 600, Exh. 611.) However, staff refused to analyze this alternative in the FSA and staff's rejection of this alternative at hearing appeared to be little more than a series of conclusory statements rather than fair look at the evidence.

The FSA also failed to adequately describe the desert tortoise population in the area in the context of the Northeastern Mojave recovery unit (also discussed as an evolutionarily significant unit or ESU)[9] and the importance of this population to the recovery unit, the species in California, and the species as a whole. Cumulative impacts are also not analyzed in this context. (See Exh. 913 at pp. 12-13.) Dr. Connor discussed many of the significant impacts to tortoise that were not adequately addressed by staff in his written testimony and at the hearing. (Exhs. 516, 517, 519.)

Dr. Marlowe also provided testimony on many of these issues (Exh.713) and stressed that the FSA failed to adequately analyze the cumulative impacts to the desert tortoise in the Ivanpah Valley. (See 1/11 Tr. at pp. 410.)

b. Bighorn

The FSA also fails to identify or analyze impacts to bighorn from loss of alluvial fan habitat and movement corridors. The Center sponsored testimony from Mark Jorgensen former State Park Superintendent at Anza-Borrego Desert State Park who has worked with bighorn populations in Southern California for more than 30 years, and as member of the Recovery Team for the endangered Peninsular bighorn sheep population of desert bighorn worked on the development of the Recovery Plan and critical habitat designation. (Exh. 939, Testimony of Mark C. Jorgensen]; Exh. 938 [Rebuttal Testimony; Exh. 941 [Additional Testimony].) As Mr. Jorgensen stated:

> After my review of the bighorn sections of the FSA, my conclusion is that it does not comprehensively assess the impacts from of the proposed Project on the local bighorn population and the proposed mitigation measures do not address the impacts of the proposed Project on bighorn. In addition, there is no information provided in the document showing that there is a need for the proposed wildlife drinker as a mitigation measure. Is the Clark range lacking in

[9] The applicant's witness regarding desert tortoise issues stated that he was unaware of the genetic differentiation in the desert tortoise subpopulation found in the Northern Ivanpah Valley although he agreed that maintaining genetic differentiation among subpopulations is important to survival. (1/11 Tr. at pp. 196-197.) Thus it would appear that any conclusions from applicant regarding this issue failed to take this important issue into account and should be given little wieght.

> available water sources accessible to bighorn sheep? No information is documented in the FSA.
>
> There is a paucity of analysis or mitigation in regards to desert bighorn sheep. I find the review of bighorn impacts and suggested resolutions to be entirely unsatisfactory. Without this basic information about the use of the area by bighorn it is impossible to assess the extent of the impacts to the bighorn population in this area from the proposed Project.
>
> The documents seem to indicate that the staff believes that all the potential bighorn impacts can be resolved by simply constructing one wildlife drinker system in the Clark Mountains. This does absolutely nothing to mitigate for the loss of forage areas, movement corridors, or the fragmentation of the habitat by constructing a massive solar operation in a wildlife corridor.
>
> . . .
>
> The documents concentrate on construction high on the alluvial fan, against the Clark Mountains. I see little to no discussion of considering the project at the bottom of the alluvial fan, along Interstate 15, and further away from bighorn foraging habitat.

(Exh. 939 [Testimony of M. Jorgensen at 2].) At hearing, Mr. Jorgensen testified regarding the use of alluvial fan habitat by bighorn for forage and movement corridors the lack of analysis in the FSA and the failure to look at an alternative that would move the project down closer to the freeway. (1/11 Tr. at 442-447, 463-65.) Mr. Jorgensen also discussed the types of surveys that could have been conducted to provide information on bighorn use of the area such as surveys for sign or helicopter surveys for sheep and sign.[10] (1/11 Tr. at 447-48.) (See also 1/11 Tr. at p. 348 [S. Flint noted likely impacts to bighorn from loss of access to habitat although amount of use remained uncertain].)

It is clear from the evidence that the FSA failed to adequately identify impacts to the bighorn and therefore could not analyze those impacts or provide meaningful mitigation

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[10] In response to the new MI3 Proposal from the applicant (Exh. 88), Mr. Jorgensen re-adopted his early testimony and provided the following additional testimony: "This new proposal fails to address any issues regarding the lack of identification and analysis of potential impacts to bighorn sheep which I discussed in my early testimony regarding the FSA. Without that information it is impossible to assess the extent of the impacts to the bighorn population in this area from the proposed Project or this new proposal including the potential loss of foraging habitat on the alluvial fan and the loss of connectivity between the ranges.
The changes to the proposed project in this somewhat smaller project design do not make up for the failure to obtain and consider basic information about the use of the area by bighorn and the likely impacts to bighorn from the project." (Exh. 941 at 1.)

measures. As a result the environmental review is inadequate in its consideration of bighorn and fails to comply with CEQA.

c. Birds

Staff failed to gather adequate information regarding birds that reside in or use the proposed project area. The FSA states that "Mojave creosote bush scrub at the power plant site provides foraging, cover, and/or breeding habitat for migratory birds, including a number of special-status bird species confirmed to be present at the site (golden eagle, burrowing owl, loggerhead shrike, Crissal thrasher and Brewer's sparrow)." (FSA at pg. 6.2-45). Nonetheless, no surveys were undertaken for migratory birds, golden eagles, or other birds that may be affected by the proposed project. At hearing the applicant corrected its opening testimony because it had wrongly stated that "winter and spring bird surveys" had been conducted. (1/11 Tr. at pp. 104:26 -105:24 [correcting Exh. 65 pp. 40-41].). The FSA provides little more than an unsupported conclusion that the impacts to birds will be reduced below a level of significance. (FSA at p. 6.2-45.) CEQA requires more than mere conclusions.

The Center sponsored testimony regarding the FSA's failure to adequately identify and analyze impacts to birds from the proposed project and the likely impacts to migratory birds and golden eagles. (Exh. 939 [Opening Testimony of Ileene Anderson at 2-3]; Exh. 938 [Rebuttal Testimony of Ileene Anderson at pp. 3-4]; Exh. 942 [Additional Testimony of Ileene Anderson at pp.1-3].) One of the most significant and disturbing impacts of the proposed project is its potential to kill large numbers of birds by singeing or burning or collisions with mirrors. The FSA notes this only in passing and without analysis dismisses this significant impact based on a mis-reading of the cited literature. "Bird fatality studies at the Solar One facility near Daggett, San Bernardino County found that bird mortality observed on the site was associated with the large evaporation ponds at this solar plant rather than collisions or burns (McCrary 1986)." (FSA at 6.2-65.) In fact, the McCrary study (Exh. 912) does not conclude that bird mortality was only associated with the evaporation ponds but rather found the following:

> "The most frequent form of avian mortality was from collisions with Solar One structures. . . . From the location of birds in relation to structures, most (>75%) died from colliding with the mirrored heliostats. . . . Thirteen (19%) birds (7 species) died from burning . . . "

(Exh. 912 at pp. 136-37.) Although the study assumed birds were burned or singed by flying into the "standby" points, there were no direct observations of when or how the birds were burned or singed. (Exh. 912 at pp. 137-38.) Finally, the authors cautioned:

> Since Solar One is only a 10 megawatt pilot facility, future projects designed to produce hundreds of megawatts will require several thousand heliostats and much taller receiver towers. *The greater magnitude of these facilities may produce non-linear increases in the rate of avian mortality when compared to Solar One and extrapolations from this study should be made with caution.*

(Exh. 912 at pp. 140.)

To the extent that the McCrary observations noted that the presence of birds at the site was due in part to the evaporation ponds which attracted birds, the FSA should have noted that the golf course near the proposed project site has large ponds that also attract birds, the Clark Mountains are an Important Bird Area known to be used by many rare birds, and area is also know to be used by migratory birds and golden eagles. (See Exh. 939 [Testimony of I. Anderson at 3; Exh. 136; Exh. 137.)

Although the Center urges the Commission not to approve the project as currently proposed, if the project is approved, the conditions of certification should include monitoring for impacts to all bird species, monitoring for migratory birds during the migration seasons, and a requirement that operations be shut down when migratory birds are found to be in the project area.

Additional key excerpts from Ms. Anderson's testimony which is uncontroverted are provided below:

- The FSA recognizes the potential impact to diurnal birds from flying into the focused sun rays and getting burned (FSA at pg. 6.2-65). However the FSA fails to address the additional fatalities that have been documented to occur from birds running into mirrors (McCrary 1986) [Exh. 912]. It is clear from the McCrary study that the proposed project may lead to the "take" of migratory birds when they are found in the project area by burning, singeing and direct collision with heliostats.

- Adjacent to the proposed project site is the golf course, which includes several water features. This adjacent land use attracts migratory and resident birds based on the resources present – an oasis in the desert.
- The FSA does not quantify the number of birds (rare or otherwise) that use/traverse the project site (mean daily count). Nor does it evaluate the impact to birds based on the McCrary (1986) [Exh. 912] results, which estimated 1.7 birds deaths per week on a 32 ha site with one 86 m tower. The proposed project site is approximately 1644 ha (over 50 times larger) with seven 95m towers and five 140 m towers. Lacking baseline data of mean daily count on the project site, analysis of the impacts to birds is impossible, and the impact maybe significant.
- Migratory birds were noted to occur on the proposed site (FSA at pg. 6.2-15).
- Clark Mountain, which is directly adjacent to the site, is noted as an Important Bird Area [Exh. 936]. In fact, two very rare birds in California, the Whip-poor will (Arizona race) and the hepatic tanager are known to successfully nest on Clark Mountain. Birds migrate to Clark Mountain from the Colorado River Basin [Exh. 937] – a route that goes over the project site.
- Clearly the site is within a migratory pathway and the migratory elevation is a key issue that needs further analysis. Mirrors and towers within migratory elevations will create impacts to migratory birds.
- Golden eagles are documented to use proposed project site as a foraging (FSA at 6.2-22) and are thought to nest in the adjacent Clark Mountains (FSA at 6.2-23). The proposed mitigation measure BIO-17 proposes to reduce impacts to the species to less than significant levels, however the FSA fails to present exactly how it will mitigate the loss of the substantial amount of foraging habitat for the golden eagle. The fact still remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair. Because the golden eagle is a "fully protected" species under the California Endangered Species Act, the FSA fails to address this "take" issue. The individual birds may fly elsewhere, but the conversion of habitat to industrial development eliminates the ability of the eagles to use the area, forcing them into other eagles' already occupied ranges resulting in a cumulative lethal "take" for the species.
- Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest (Richardson and Miller 1997) [Exh. 933]. Regardless of distance, a straightline view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involved calculation of viewsheds using a three-dimensional GIS tool and development of buffers based on this (Camp et al. 1997 [Exh. 928]; Richardson and Miller 1997 [Exh. 933]). The FSA fails to discuss the potential impacts on nesting golden eagles in the Clark Mountains which is part of the Mojave National Preserve. The FSA does not analyze the impacts to and mitigations for the golden eagle under the Bald Eagle and Golden Eagle Protection Act.
- the project as proposed will impact foraging areas. Despite staff's assertion that golden eagle's "breeding season home range of 20-33 km2 (Kochert et al. 2002)" [Exh. 305 at p. 20] that citation [Exh. 943] relies on an earlier study, Marzluff et al. (1997) [Exh. 944] which identifies the breeding season home range between 190 to 8,330 ha (0.7 to 32.2 square miles) with core usage during the breeding season of 30 to 1,535 ha (0.12 to 6 square miles) in Idaho which, seasonally, is a more productive habitat than the Mojave desert. Staff's analysis

identifies two pairs of golden eagles nesting within 8 miles of the proposed project site. Therefore, the proposed project area, for both the initial proposal and the new so-called "mitigated" proposal, currently likely includes breeding season home ranges for both golden eagle pairs, and likely breeding season core area for at least one pair of golden eagles. Absent necessary surveys on the breeding season home range and core usage habitat for golden eagles on the site, I believe there will likely be an impact on the foraging of the adjacent golden eagles and therefore an impact on breeding success.

d. Insects and other wildlife

The FSA fails to address impacts to insects including pollinators. Testimony sponsored by the Center shows that there are potentially significant impacts to insects that should have been evaluated but were not.

> Based on the plants identified on site [Exh 35 [applicant's supplemental data response set 1D], I researched and consulted with entomologists about the rare insect species that could occur on site. Over twenty rare butterflies have host plants that occur on site including species of metalmarks, marble butterflies, skippers and small blue butterflies. Additionally the desert swallowtail (*Papilio polyxenes coloro*) and the Pahaska Skipper (*Hesperia pahaska martini*) have been documented in the general site vicinity. No surveys were done to evaluate the insects that occur on site and the no analysis of impact to those species of eliminating over 4,000 acres of habitat is provided. No analysis was done on the operation of the solar plant and its effects on the adjacent and migratory insects, some of which may be essential pollinators for rare and common plants. Forseeable impacts include attraction of the species to the mirrors and focusing beams, and subsequent insect collisions and incineration.

(Exh. 938 at p. 4.) Testimony sponsored by the Center also discusses the likely impacts to other wildlife species none of which were adequately identified or analyzed in the FSA. (Exh. 939 [Opening Testimony of Ileene Anderson at 2-3]; Exh. 938 [Rebuttal Testimony of Ileene Anderson at pp. 3-4]; Exh. 942 [Additional Testimony of Ileene Anderson at pp.1-3].)

e. Plants

As an initial matter, the Commission asked the parties to discuss the basis for protection of rare plants found on the proposed project site under California law. Under CEQA the terms "endangered," "rare" and "threatened" include species that have been formally listed under state or federal law. (CEQA Guidelilnes § 15380(c).) In addition, the CEQA Guidelines contain independent definitions of "rare" and "endangered" that expand the scope of species that fall

within those terms. (See CEQA Guidelines § 15380(b)(2) [rare] [11], (b)(1) [endangered] [12].) As a result, where a species meets CEQA's independent definitions for rarity or endangered, impacts to the species may be significant and avoidance, minimization and mitigation measures required for those species and, if the impacts remain significant, a mandatory finding of significance may be required pursuant to CEQA even for a species has no specific legal status under CESA or other laws. (See *San Bernardino Audubon Society v. Metropolitan Water Dist.* (1999) 71 Cal.App.4th 382, 391-392.)

For the four rare and imperiled plants found at the project site during spring surveys, the FSA properly identified impacts as significant. The Center does not believe that there is any question that the Commission should protect these plants under CEQA and other existing laws or that it has the discretion to protect the rare plant species found on the proposed project site even if such protections were not expressly required. However, given that the applicant has indicated that it intends to challenge some aspect of the way such plants are identified for protection, the Center reserves the right to respond to those arguments in the reply briefing.

The biological diversity and richness of the Ivanpah Valley is well established and no one seeking to develop a project in this area should have been surprised at the number and importance of the rare plant found there. Indeed, this area is mapped as a "plant rarity hotspot" by the Department of Fish and Game in the Atlas of the Biodiversity of California (2003) at page 27.

i. Failure to obtain information on late summer or fall blooming plants.

The FSA provides inadequate information on late summer and fall blooming plants at the

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[11] Defining a species to be "rare" when "either: (A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (B) The species is likely to become endangered within the foreseeable future throughout all or [a] significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act."

[12] Defines a species to be "endangered" when "its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors . . . ."

proposed project site (FSA at p. 6.2-37), and as a stop gap measure proposed only to require the applicant conduct pre-construction summer/fall surveys for plants as apart of BIO-18. (FSA at pg.6.2-126; see also 2010-03-29 Staff Compilation of Edits to Conditions TN-56058 at p. 32.)

The PSA also lacked this information and the omission was pointed out in public comments by the California Native Plant Society letter dated February 6, 2009 (TN 50560; FSA at pp. 6.2-77.) In response to the public comment the Staff consulted with desert experts but did not require the applicant to undertake these critical surveys in order to evaluate impacts, but instead relegated spring and summer/fall surveys to "pre-construction" surveys as part of BIO-18. (FSA at p. 6.2-126; see also 2010-03-29 Staff Compilation of Edits to Conditions TN-56058 at p. 32.). At hearing, it was made clear that the staff were not cognizant of fall blooming plants occurring at the project site or the need for late summer/fall surveys. (1/12 Tr. at 195.) However, the Applicant was aware at least as early as 2008 that fall plant surveys should be done in this area (1/12 Tr. at p. 110:12-15.) At hearing, the staff stated they believed late summer/early fall surveys should be done but that they became aware of this "late in the process." (1/12 Tr. at pp 195, 197-198.) Staff's statement that they were reluctant to require the applicant to conduct fall plant surveys and that it was "late in the process" is puzzling in light of the fact that Staff was made aware of this issue at the first stage of public review—in comments on the PSA when California Native Plant Society had identified this issue at the first opportunity for public input in their comment letter on the PSA dated February 6, 2009 (TN 50560 and FSA at pp. 6.2-77). Moreover, Staff was aware by February 2009 that inadequate surveys had been performed which provided sufficient time to require additional surveys in late summer or fall of 2009. (1/12 Tr. at pp. 194 – 196, 197-198.)

Unfortunately, Staff appears to have misunderstood both its duties and authority under CEQA. It is well established that section 21160 vests the agency operating under a certified regulatory program with authority to require an applicant to submit additional information throughout the process if such information is necessary to enable the agency to determine whether a proposed project will have significant adverse impacts on the environment. (*Sierra*

Club v. Board of Forestry (1994) 7 Cal.4th 1215, 1220-21 [holding that "[b]ecause the board approved the plans without having before it the data necessary to make an informed assessment of the environmental impact of the proposed timber harvest, that approval must be rescinded."].)

Further, Staff attempted to minimize the import of this omission in two ways. First by adding a condition that after approval of the project the applicant conduct surveys; clearly such *post hoc* surveys would do nothing to cure the lack of identification and analysis of these resources. (See FSA at p. 6.2-77 [response to comments, "Energy Commission staff consulted a regional botanical experts and confirmed that the applicant's surveys could have missed summer blooming special-status plants and staff has proposed pre-construction summer surveys in BIO-18 to address this concern (Andre 2009, Sanders 2009)."). Second, the Staff stated that because the impacts to the spring flowering rare plants were determined to be significant, the absence of late summer/fall blooming plant surveys would not change the determination (1/12 TR. at pp 196:10-14.) However, even assuming for the sake of argument alone that the impacts to *spring flowering* rare plants were reduced to a non-significant level based on project reconfiguration, which the Center does not concede, the impacts to late summer/fall rare plants remains unidentified and unanalyzed the mitigation measures for spring blooming plants may not fully mitigate for fall blooming plants if they were identified on this site.

ii. Spring blooming plants

While the adequate baseline data on the spring flowering plants is provided, the impact analysis remains inaccurate and incomplete. Staff's conclusion that the reduction of the proposed project size (eliminating approximately 433 acres from the proposed project under the MI3) reduces the impact to documented rare plants to non-significance is unsupported by the facts. As identified in CNPS' supplemental testimony (Exh. 1015 2010 at p. 1), the direct and indirect impacts to the on-site rare plants still remains substantial due to fragmentation, altered hydrology, altered soil nutrient chemistry and altered light regime. No evidence is provided in the FSA or subsequent documents that would provide assurances that the on-site plant mitigation, surrounding occurrences by "halos", will provide long-term benefits for species

survival. While the goal of off-site mitigation through land acquisition is to survey for Mojave milkweed and Rusby's desert mallow and acquire or otherwise conserve an equal number of plant populations that are proposed to be disturbed, the fact is that if equivalent populations numbers are not identified in 10 years, then no additional off-site mitigation is required, resulting in a net loss for the species (2010-03-29 Staff Compilation of Edits to Conditions TN-56058 at p. 35). Transplantion of rare plants has a poor track record as confirmed by the applicant's expert (1/12 Tr. at p.113 line 23-25). Relying upon transplantation (or salvage) of rare plants to augment failures of the on-site conservation "halos" provides no guarantees of species conservation.

Further, two key plans – the Special-Status Plant Protection and Monitoring Plan and the Special-Status Plant Remedial Action Plan are yet to be developed and not available for public review and comment, so the adequacy of the plans is uncertain. The proposed project size reduction does little to reduce impacts to the Mojave milkweed, a CNPS list 2 plant that is considered critically imperiled in California, meets the definition of rare under CEQA and therefore requires project impacts to be mitigated to a less than significant level.

iii. Restoration and Revegetation

The Closure Rehabiliation and Recovery Plan which was submitted as a draft plan is wholly inadequate. As explained in testimony sponsored by the Center, the plan fails to incorporate the Northern and Eastern Mojave Plan's rehabilitation strategies and success criteria (Exh. 939 [Opening Testimony of Ileene Anderson pp. 5-6]; Exh. 938 [Rebuttal at p. 3].) It also fails to require native annual species as a component of revegetation, despite the fact that native wildlife rely heavily on spring and fall annuals for survival (Exh 938 at p. 3 [rebuttal].) The plan also fails to incorporate Staff's comments. (FSA at p. 6.2-150 to 6.2-164, Appendix B.)

2. *Impacts to Soils are Not Adequately Identified or Analyzed.*

Impacts to soils from the proposed project are not clearly identified or analyzed. As a preliminary matter the FSA is entirely unclear regarding the extent of grading that will take place at the project site even under the so-called "low impact" design. While the FSA states that the

project proposal will "minimize" the amount of grading, the proposed grading would include at minimum 170 acres in the southwest of the site and 360 acres in the northern and western areas of the site[13] with additional grading for roads, "lay down" areas etc. (FSA/ at 3-15.) Figure 12 in the Project Description shows even more extensive grading and "potential grading" areas. Indeed, that the grading will be extensive is evidence by the fact that the FSA notes that grading is "[g]rading is expected to take approximately four to five months for Ivanpah 1 and the common area, three to four months for Ivanpah 2, and five months for Ivanpah 3 (Stewart 2009)." (FSA at p. 6.9-15.) Moreover, the grading figure in the FSA does not include the roads between the mirror fields which are not proposed to be heavily "graded" but which would also significantly disturb surface soils and affect soil erosion and dust across the site. On this basis as well the DEIS fails as an informational document.

In response to the MI3 proposal the FSA Addendum stated the "heavy" grading would be reduced, however no definition is provided of "heavy" grading and no analysis is provided. (Exh. 315 at p. 6-1; Exh. 88 at p. 3-12). The Addendum appears to simply restate the applicant's assertion regarding grading. The applicant's MI3 proposal also provided a new map that lists "rough" grading and shows that rough grading only to be near the towers for Ivanpah 1 and 2. (Exh. 88 at Figure 3-2 [showing "proposed limit of rough grading"; no page number].) Unfortunately, this figure is inconsistent with the figure in the FSA entitled "Overall Grading Plan" which showed far larger areas of "light grading and rock removal" and "potential grading under study." (FSA, Project Description, Figure 12 [no page number].) Once again the project description appears unstable and illusory.

The applicant included some estimates of grading under the new proposed MI3 project design specifically in the context of soil loss to erosion. (Exh. 88 at p. B-1, Table 5.11-3R2

[13] The MI3 proposal claims to reduce the "rough" grading in these areas but neither the FSA Addendum (Exh. 315) nor Applicant's supplemental documents (Exh. 88) provide clear information about the *total grading* proposed for the site nor any clear definition of "heavy" or "rough" grading versus any other grading and, more importantly, how any such distinction might relate to the analysis of the impacts to soils. (See 3/22 Tr. at pp. 122, 125-132)

Estimate of Soil Loss by Water Erosion Using Revised Universal Soil Loss Equation [Ivanpah 1, "690.28 acres to grade", Ivanpah 2, "1,088.31 acres to grade", Ivanpah 3, "917.67 acres to grade"]; see also p. B-2 ["Other Project Assumptions as follows: About 75.5% of the entire ISEGS site would be disturbed."]) When asked at the hearing about the grading, the applicant stated that the figures were "assumptions and estimates. There's no final design to determine the exact amount of grading." (3/22 Tr. at pp.124-125.) Even if the figures are only estimates, the FSA (and the FSA Addendum) should have provided analysis of the impacts to soil from the extensive grading on the site which will clearly be significant. Because the FSA appears to have made a false assumption that only "rough" grading would impact soils and failed to identify and analyze the significant impacts to soils from all grading that would occur under the project proposal, it fails as an informational document.

The FSA wholly fails to identify or analyze impacts to cryptobiotic or cryptogamic biological soil crusts which will be lost not only in the areas actively graded but in all areas that have impacts from vehicles traversing the site for construction and later maintenance. This omission is despite the fact that these soils are widely distributed on the proposed project site (see 1/12 Tr. at 254-256 [discussion of soil crusts]; Exh. 800 at p. 16 [photo of Cyanobacteria: Cryptogamic crust in soil at the site]) and the importance of such soil crusts was discussed in the context of the Staff's response to the revegetation plan. (FSA at pp. 6.2-150 [Biological Resources Appendix B: Issues to Address in the Closure], 6.2-158 [cryptogamic soils are part of soil characterization], 6.2-159 [top soil collection], 6.2-161 to 162 [Biological crust collection and storage].) Cryptobiotic soil crusts are an essential ecological component in arid lands. They are the "glue" that holds surface soil particles together precluding erosion, provide "safe sites" for seed germination, trap and slowly release soil moisture, and provide CO2 uptake through photosynthesis. The proposed project will disturb an unidentified portion of these soil crusts and cause them to lose their capacity to stabilize soils and trap soil moisture. The FSA fails to provide a map of the soil crusts over the project site, and to present any avoidance or minimization measures. Because no surveys were done regarding cryptobiotic soils (1/14 Tr. at

250), it is unclear how many acres of cryptobiotics soils will be affected by the project.[14] On this basis as well the FSA is inadequate as an informational document.

3. Air Quality

a. PM10 and Dust

The proposed project is located in the Mojave Desert Air Quality Management District area, and is already in non-attainment for PM-10 particulate matter. The construction of the proposed project will further increase emissions of PM10 particulates because of the disruption to soils and due to elimination of potentially thousands of acres of well-developed cryptobiotic soil crusts.

Moreover, because construction and operation of the proposed project would leave bare soils that will be more likely to be eroded by winds as well as introduced into the air by passing vehicles, the project will likely be a significant contributor of PM10 in the area. The notes that the impacts would be significant FSA (FSA at p. 1-16 to 1-17, 6.1-15) but concludes without analysis that: "This impact would be less than significant with the proposed construction and operation mitigation measures controlling fugitive dust." (FSA at p. 1-17.) There is no discussion of the difficulty of implementing fugitive dust control measures in the desert environment and scant details are provided regarding mitigation measures themselves – in fact, under the condition AQ-SC7 the plan is left to be developed by the applicant at a later time. (FSA at pp. 6.1-44.)

b. GHG Emissions

Recent amendments to the CEQA Guidelines require that the impacts of a proposed project's greenhouse gas emissions be determined and assessed. (CEQA Guidelines § 15064.4.) Any analysis regarding the Project's greenhouse gas emissions must be rigorous, site-specific,

[14] The applicant's witnesses statement that such soils are "rare" at the site (1/14 Tr. at 20) is completely unsupported by any evidence and his own admission that he did not gather any evidence on this resource at the site. (1/14 Tr. 250-252).

and inclusive of both short-term and long-term effects.[15] Greenhouse gases are currently pollutants "subject to regulation" under the Clean Air Act. (*See* 42 U.S.C. § 7475.) Accordingly, the proposed Project, which has the potential to emit significant amounts of greenhouse gases, already is subject to permitting under the Clean Air Act's Prevention of Significant Deterioration ("PSD") and Title V programs. The fact that the Air District has failed to address GHG emissions in the air permit (Exh. 307) does not relieve the Commission of the need to identify and analyze the significant GHG emissions from the project, alternatives that could avoid these emissions, and require that the impacts be minimized where possible. Unfortunately, the FSA's identification and analysis of GHG emissions that will be created by the proposed project falls far short of this standard and is both incomplete and misleading.[16] The FSA Addendum did not cure these defects.

First, although the FSA states repeatedly that the gas boilers (which are the primary source of GHG emissions) will only be used for up to 4 hours a day with an average of no more than one hour a day (*see, e.g.,* FSA/DEIS at 3-8, 3-9, 6.1-64, 7.2-4), during the evidentiary hearing before the CEC it was made clear that the calculations of GHG emissions were in fact not based on 365 hours per year as one would be lead to believe from reading the FSA, but rather was based on an entirely different calculation using a figure of 480,000 mmBtus per year. (1/13 Tr. at pp. 65-66.) This figure was provided by the applicant and apparently represents a calculation of using the gas boilers for up to 5% of the energy output which could translate to approximately 520 hours per year. (*Id.*[stating that the boilers may operate to augment production during the day and, therefore, the percent of output and time of use are not directly related].)

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[15] *See* Cal. Nat. Res. Agency, *Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97* (Dec. 2009) at 83-84 [available at www.ceres.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf].)

[16] The FSA Addendum did not cure these defects. The Center reserves discussion of additional information from the Addendum and the Transcript of the March 22, 2010 hearing for the reply brief.

In reviewing GHG emissions information in the FSA and the other documents it is impossible to tell what amount of boiler use was used in the estimate. FSA at 6.1-65 (Greenhouse gas table 2), 6.1-64 (page preceding the table again discussing the one our per day average limit). As a result the FSA is misleading and fails as an informational document. CEQA serves "to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." (*Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1988) 47 Cal. 3d 376, 392.) If CEQA is "scrupulously followed," the public will know the basis for the agency's action and "being duly informed, can respond accordingly to action with which it disagrees." (*Id.*) Thus, CEQA "protects not only the environment but also informed self-government." (*Id.*)

Second, assuming *arguendo* that the calculation for use of the gas boilers for up to 5% of energy production is accurate, the FSA also fails because it only provided information regarding use under the proposed 5% condition and did not analyze emissions or impacts for operating at the permit limit allowed by the Air District in the FDOC of 4 hours per day (for a total of 1460 hours per year) for each of the gas boilers.[17] (Exhibit 307 at 26, 28 (FDOC); FSA at 6.1-48, 6.1-50 [AQMD, AQ-11 and AQ-22].) Because the permit conditions are not yet determined, the public should be informed of the full potential impacts of the project under the air district permit.

Third, the FSA does not discuss any significance threshold or criteria for GHG emissions nor does the Commission provide any showing that a significance threshold could not be adopted. Indeed, the Commission could not make such a showing as significance thresholds have recently been adopted by other agencies including two air districts that adopted a 10,000 metric ton CO_2 equivalent threshold – one as a "screening threshold" for industrial projects and

[17] The Applicant recently asked the Air Board to revise the permit in response to changes it has proposed primarily to the Ivanpah 3 site. The Applicant has also apparently submitted new air quality data (Exh. 88 at 3-1 to 3-2). The FSA Addendum provides some updated information regarding the GHG emissions with the proposed reduction in the Ivanpah 3 turbine and boiler, CBD will address these issues more fully on reply.

the other as a significance threshold for stationary sources.[18] The emissions from the proposed project during operations would far exceed each of these thresholds at 27,444 MTCO2 equivalent, (with 25,458 MTCO2e from the gas boiler use). (FSA/DEIS, Appendix Air-1 Greenhouse gas emissions, Greenhouse Gas Table 3 at 6.1-65.)

These figures do not take into account the GHG emissions during the start-up phase "facility commissioning period" which the Applicant asked to be extended from 90 to 180 days and during which time the permit allows unlimited use of the gas boilers. (Exh. 307 at 40 -41 [FDOC, Attachment 3]; FSA at 6.1-48, 6.1-50 [AQ-11(a), AQ-22(a)].) The GHG emissions during start up and commissioning will be far higher but are not accounted for anywhere in the FSA.[19] To the extent that the Commission or the Air District assumed that any of the emissions standards need not be enforced during the 180 day start-up or commissioning period the proposed permit terms in the FDOC (see Exh. 307 at pp. 26, 28), those conditions may violate LORS. (*See Sierra Club v. Environmental Protection Agency*, 551 F.3d 1019, 1028 (D.C. Cir. 2008) cert. denied 2010 U.S. LEXIS 2265 (U.S., Mar. 8, 2010) [invalidating rules that provided exemption and relaxed standards during startups, shutdowns, and malfunctions (SSM)].)

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[18] (*See, e.g.*, Cal. Air Res. Bd., Preliminary Draft Staff Proposal, *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases Under the California Environmental Quality Act* (Oct. 24, 2008) at 10 [recommending a presumptive threshold of significance of 7,000 metric tons of CO_2 equivalent per year for industrial projects]; South Coast Air Quality Mgmt. Dist., *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (Oct. 2008) at 3-18 (Table 3-4) [adopting screening threshold of 10,000 metric tons of CO_2 equivalent for industrial projects]; Bay Area Air Quality Mgmt. Dist., *California Environmental Quality Act Guidelines Update: Proposed Thresholds of Significance* (Dec. 7, 2009) at 7 [adopting threshold of 10,000 metric tons of CO_2 equivalent for stationary sources] .)

[19] There will also be additional GHG emissions listed during the construction phase 17,779 metric tons CO2 equivalent (FSA/DEIS at p. 6.1-64 [Greenhouse gas table 2].) At hearing the Staff expert Dr. Walters stated that this amount was for the overall construction expected to take 4 years. (1/13 Tr. 13 at p. 77.) Notably, again there was no way to discern the timeframe for these emissions from the FSA itself nor sufficient information provided to for the public to review the proposed project impacts.

Although the FSA provides no information on the question of a significance threshold for GHG emissions, the Commission took judicial notice of the paper entitled: Committee Guidance on Fulfilling CEQA Responsibilities for Greenhouse Gas Impacts in Power Plant Siting Applications (March, 2009) (hereinafter "Committee Guidance"). The Committee Guidance discusses thresholds of significance (*id.* at 6-8) and as relevant here concludes:

> The principal GHG impact from power plants is their operation, not their construction. Even solar facilities apparently will have operation emissions associated with the necessary continual washing of the mirrors, and require a fleet of vehicles to operate continually to perform that task. Some solar facilities will also have gas-fired boilers to improve capacity factors and extend the hours of operation of the facility. While these projects may have a net GHG impact that is a benefit to the environment—by lowering the net amount of carbon emitted to generate electricity—the Energy Commission may want to examine these emissions and the benefits of the project to determine whether impacts are cumulatively significant, and if so, whether they might feasibly be reduced. For this reason, the Committee does not propose a threshold of significance for any category of facility, including renewables. *Our recommendation is that all power plant applicants are subject to CEQA analysis to determine the significance of their GHG impact, with no attempt to adopt numerical thresholds.*

(*Id.* at 18 [emphasis added]). While there is clearly some logic to the approach stated in the Committee Guidance, in this matter the Staff neither looked to a threshold in analyzing the significance of these emissions nor provided adequate CEQA analysis of the impacts of the GHG emissions from the proposed project (including lifecycle emissions) individually or in a cumulative scenario. As a result, there is a gaping hole in the CEQA analysis here.

Fourth, the FSA does not account for all GHG emissions and, specifically, does not provide any lifecycle analysis of GHG emissions from manufacture and transportation of the project components. At hearing, the Staff expert Dr. Walters stated that no lifecycle analysis was done. (1/13 Tr. at 78.) Thus, while some GHG calculations for construction and the operations of the gas boilers are provided, and there may have been some inclusion of transportation of materials from Las Vegas (*see id.* at 77-80) there is no lifecycle GHG analysis. However, given the number of heliostats and the distance they will be shipped, this is a significant impact that

should have been analyzed.[20] It is likely that a lifecycle analysis may reveal quite high emissions given that the proposed project requires 214,000 heliostats with each measuring 7.2 feet high by 10.5 feet wide (FSA/DEIS at 1-3) and the fact that the heliostats will likely be manufactured in Europe (*See* 1/13 Tr. at p. 80) and thus shipped very long distances.

Fifth, even for the GHG emissions that are identified the FSA provides no discussion regarding avoidance or minimization of these emissions by utilizing alternative technology or through operational measures using any Best Available Control Technologies (BACT) or other methods. The FSA does contain a proposed condition that would limit the use of the gas boilers to 5% of energy production. (FSA at 6.1-45 [Condition AQ-SC 10]), however this is not presented as a minimization or mitigation measure for the impacts from GHG emissions in the CEQA analysis and would provide no minimization or mitigation for other sources of GHG emissions during construction or those associated with operation of proposed project.

The lack of specific measures to minimize or mitigate GHG emissions from all sources is puzzling as the Commission's own Guidance calls for such measures:

> In the Committee's view, even relatively low construction emissions for power plant projects should be subject to "best practices" mitigation that seeks ways to reduce GHG construction emissions. Such mitigation will need to be considered by Energy Commission staff on a case-by-case basis at least for the initial set of cases heard before the Energy Commission, although measures may become more standardized over time, as the agency comes to understand what reasonable and feasible GHG-reducing construction measures can be taken for different kinds of projects.

(Committee Guidance (2009) at 18.)

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[20] *See* Cal. Nat. Res. Agency, *Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97* (Dec. 2009) at p. 72 [discussing lifecycle emissions calculations and noting that "projects may spur the manufacture of certain materials, and in such cases, consideration of the indirect effects of a project resulting from the manufacture of its components may be appropriate. A lead agency must determine whether certain effects are indirect effects of a project, and where substantial evidence supports a fair argument that such effects are attributable to a project, that evidence must be considered."].)

4. Fire Threats are Not Adequately Identified or Analyzed.

The FSA mentions the impacts of fire only in the context of proliferation of non-native weeds species that may occur due to the proposed project. (FSA at pg. 6.2-34 and pg. 6.2-63.) The FSA fails to adequately identify or analyze the risk of fire or the potential impacts to the surrounding lands if a fire escaped from the site and accordingly also failed to address the mitigation of this impact. Instead the FSA attempts to minimize the importance of this issue and defers to the Worker Environmental Awareness Program which would require "a discussion of fire prevention measures to be implemented by workers during project activities" (FSA at p. 6.2-102.)

As the Center's witness testified: "Fire in desert ecosystems is well documented to cause catastrophic landscape scale changes (Brown and Minnich 1986 [Exh. 915], Lovich and Bainbridge 1999 [Exh. 914], Brooks 2000 [Exh. 917], Brooks and Draper 2006 [Exh.918], Brooks and Minnich 2007 [Exh.919]) and impacts to the local species (Ducher 2009 [Exh. 920])." (Exh. 939, Testimony of Ileene Anderson, at p. 6.) "A fire prevention and protection plan needs to be required to preclude the escape of fire onto the adjacent landscape (avoidance), lay out clear guidelines for protocols if the fire does spread to adjacent wildlands (minimization) and a revegetation plan if fire does occur on adjacent lands originating from the project site (mitigation) or caused by any activities associated with construction or operation of the site even if the fire originates off of the project site." (*Id.*) Despite this uncontroverted testimony regarding fire impacts, the Staff failed to adequately address this critical issue in the FSA, Addendum, or at hearing. As a result the environmental review is inadequate.

5. Cumulative Impacts are Significant and Unmitigated

Cumulative impacts analysis is a critical part of any CEQA analysis.

> [t]he cumulative impact analysis must be substantively meaningful. "'A cumulative impact analysis which understates information concerning the severity and significance of cumulative impacts impedes meaningful public discussion and skews the decisionmaker's perspective concerning the environmental consequences of the project, the necessity for mitigation measures, and the appropriateness of project approval. [Citation.]' [Citation.] [¶] While technical

> perfection in a cumulative impact analysis is not required, courts have looked for 'adequacy, completeness, and a good faith effort at full disclosure.' (Cal. Code Regs., tit. 14, § 15151.) "A good faith effort to comply with a statute resulting in the production of information is not the same, however, as an absolute failure to comply resulting in the omission of relevant information." [Citation.]" (*Mountain Lion Coalition v. Fish & Game Comm.* (1989) 214 Cal. App. 3d 1043, 1051-52.)

(*Joy Road Area Forest and Watershed Assoc. v. Cal. Dept. of Forestry* (2006) 142 Cal. App. 4th 656, 676.) Where, as here, the impacts of a project are "cumulatively considerable" the agency must also examine alternatives that would avoid those impacts and mitigation measures for those impacts. (CEQA Guidelines §15130(b)(3).) In some cases the potential cumulative impacts will be best addressed by compliance with existing regulations (such as land use plans, conservation plans, or clean air act standards), in other cases avoidance and mitigation measures will be site specific, and in some cases new regulations or ordinances may be needed to address cumulative concerns.

a. Scale of cumulative impacts analysis

The Commissioners asked the parties to discuss at what scale cumulative impacts should be analyzed. (1/14 Tr. at p. 344.) It is clear that under CEQA cumulative impacts in each instance must be evaluated at the appropriate scale for the resource involved. Thus, for air quality impacts, air basins are generally the scale of the analysis and similarly for water quality and impacts to water resources. For impacts to listed species cumulative impacts is particularly important and should take into account both the survival and recovery of the species as a whole as well as within any recovery units or ESUs. Thus, for the desert tortoise which has a range across several states and has multiple recovery units or ESU's, the scale of the cumulative impacts analysis should take all these issues into account and should be done at multiple levels: local, statewide, ESU within California, ES-wide, and range-wide. Similarly for other protected species such as the golden eagle, migratory birds and rare plants, the scale of the cumulative impacts analysis should take into account the local, regional, statewide and range-wide impacts to the species of concern.

Moreover, the fast track projects are cumulative to each other within the state of California and more specifically, within the California desert. As such in considering the cumulative impacts of the proposed project, it is appropriate for the Commission to include analysis of the cumulative impacts of these projects across the scale of the California desert as a whole as well as other scales of analysis for cumulative impacts (as discussed below).

b. Cumulative analysis is inadequate

Cumulative impacts to the desert tortoise are cumulatively considerable in the North Ivanpah Valley, Ivanpah Valley as a whole, and for this recovery unit in California. For many environmental resources the cumulative effects analysis is inadequate including those resources where staff had not appropriately identified and analyzed the impacts to the species from the outset such as the bighorn and birds.

For the desert tortoise, the cumulative impacts analysis is inadequate in several ways. First, at the scale of the Northern Ivanpah Valley, the cumulative analysis for tortoises that remain in the North Ivanpah Valley to the west of the site fails to adequately identify or analyze how these tortoises will be impacted by this project and others. For example no information is provided on how tortoise populations will be affect by the habitat being further reduced and fragmented by the proposed DesertXpress and the fact that these remaining tortoises (along with the translocated tortoises moreover) will be virtually surrounded by industrial development between the proposed project site and rail line. The FSA should have identified these (and other) cumulative impacts to the desert tortoise as significant and unmitigated. Second, the FSA fails to analyze impacts to the desert tortoise across the Ivanpah Valley as a whole where several other large-scale solar projects are proposed in desert tortoise habitat. The FSA fails to analyze what will be the likely impacts to the tortoise populations in this area from sprawl development across the valley fragmenting the remaining habitat including the tortoise population within the DWMA and the Mojave National Preserve. None of these questions are asked, no less answered. Similarly, no analysis is provided of the impacts to the Northeastern Recovery Unit population as

a whole or to the desert tortoise populations within California or across the range. As a result the cumulative impacts analysis is fatally flawed.

For air quality, particularly PM10, the cumulative impacts analysis is flawed because it fails to look at the contribution of the proposed project to air quality exceedances and focuses solely on whether the proposed project itself would cause the exceedances. The project area is in nonattainment for PM10 and the proposed project along with other cumulative projects will increase PM10 emissions (see FSA at p. 6.1-31), however the FSA does not *analyze* the cumulative PM10 impacts or from other particulates, rather the FSA simply concludes overall that "while adverse cumulative impacts would likely occur, no CEQA significant cumulative air quality impacts are expected after implementation of staff's recommended project mitigation measures." (FSA at p. 6.1-33.) This is wholly inadequate. Moreover, the FSA attempts to minimize the importance of additional PM10 impacts to the air quality of the Ivanpah Valley because the area already has significant sources of PM10 causing exceedances. (FSA at p. 6.1-21 ["The modeling analysis shows that, after implementation of the recommended fugitive dust mitigation measures, *the project's operation is not predicted to cause violations of the NAAQS.* Therefore, no significant NEPA impacts would occur after implementation of the fugitive dust mitigation measures." Emphasis added].) This fundamentally misunderstands the basis for a cumulative impacts analysis which is arguably most important in cases such as this where additional contributions to an already serious problem are considerable even if they do not in and of themselves "cause" the exceedance. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 721 [concluding that "the standard for a cumulative impacts analysis is defined by the use of the term 'collectively significant' in Guidelines section 15355 and the analysis must assess the collective or combined effect of energy development. The EIR improperly focused upon the individual project's relative effects and omitted facts relevant to an analysis of the collective effect this and other sources will have upon air quality."].) The Commission cannot rely on an environmental review that "avoids analyzing the severity of the problem and allows the approval of projects which, when taken in isolation, appear insignificant,

but when viewed together, appear startling." (*Id.* [disapproving a "ratio" theory that would allow a conclusion that "the greater the over-all problem, the less significance a project has in a cumulative impacts analysis."].)[21]

Despite the lack of complete analysis, the FSA correctly states that the impacts to biological resources will be significant. (FSA 6.2-71 [Staff considers the 4,073 -acre ISEGS project to be a substantial contributor to the cumulative loss of Ivanpah Valley's native Mojave Desert plant and wildlife communities, including the threatened desert tortoise and other special-status species."].) The FSA then jumps to the conclusion that all significant cumulative impacts will be fully mitigated to a level of less than significance except for special status plants.[22] (FSA 6.2-71 to 6.2-73.) However, the mitigation measures cannot properly be said to reduce impacts that were never identified and, as detailed below, none of the mitigation measures regarding tortoise are designed to actually minimize or mitigate impacts to the desert tortoise in the Ivanpah Valley. Therefore, the conclusion that those impacts are mitigated to below a level of significance is entirely unsupported.

6. Growth inducing impacts

In addition to significant cumulative impacts, the proposed project will have significant growth inducing impacts. Environmental review documents "must discuss growth-inducing impacts even though those impacts are not themselves a part of the project under consideration, and even though the extent of the growth is difficult to calculate." (*Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 368.)

Growth inducing impacts include "ways in which the proposed project could foster economic or population growth . . . either directly or indirectly, in the surrounding environment"

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[21] To the extent that Staff appears to make such an argument in its discussion of overriding considerations, that resources of the Ivanpah Valley have already been impacted by other development and therefore the additional impacts of this proposed project are less important, its argument is also flawed and should not be adopted by the Commission. (See Staff's Comments Regarding A Possible Energy Commission Finding of Overriding Considerations Dated March 16, 2010 ["the ISEGS project site is adjacent to, and in the vicinity of, extensive development"].)

[22] In the FSA Addendum, the conclusion is extended to impacts to plants as well.

and environmental review should "[a]lso discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment." (CEQA Guidelines § 15126.2(d).) The proposed project "will foster growth in the surrounding environment" and in conjunction with the proposed powerline upgrade and 2 new substations will remove obstacles to industrial growth in this area; as a result, this project has "characteristic" "which may encourage and facilitate other activities that could significantly affect the environment." (Id.) Growth inducing impacts are distinct from and must be analyzed in addition to cumulative impacts of a project.

In determining if a project has growth-inducing impacts, the agency must assess whether the project sets in motion forces that can lead to pressure for growth. In *City of Antioch v. City Council*, the Court found that "the sole reason to construct the road and sewer project is to provide a catalyst for further development in the immediate area" and found that the agency "must analyze [] the road and utility impacts in relation to the most probable development patterns." (*City of Antioch v. City Council* (1986) 187 Cal. App. 3d 1325, 1337, 1336 [holding that environmental review for a proposed road and sewer project was inadequate where "[c]onstruction of the roadway and utilities cannot be considered in isolation from the development it presages. Although the environmental impacts of future development cannot be presently predicted, it is very likely these impacts will be substantial."].) As the court put it, "The size, location and configuration of the roadway and utilities will influence not only the fact but the nature of later development." (*Id.* at 1335.)

So too here, the project as a whole is clearly growth inducing because the sole reason for siting of the proposed project along with the substation and powerline upgrades it requires on the proposed timeline and in the proposed configuration is to provide a catalyst for *further* energy development in this area and on a short timeline driven by the RPS standards. As a result, the resulting size, location, and configuration of the substations and powerline upgrade in the EITP

(as well as the timing of its construction) will largely determine the siting of future development in the area. [23]

Unfortunately, the significant growth inducing impacts of the proposed project as a whole are unaddressed. Just like a new freeway and freeway exits steer development of businesses and homes, so too will the EITP, substations, and the proposed project taken together steer additional development to the Ivanpah Valley and into fragile desert lands and occupied habitat changing forever the quality of the valley from wildlands to an industrial zone. Although it is clear that the FSA should have analyzed the growth inducing impacts of the project on the environment and in the planning and land use context, it did not. The environmental review should have included an analysis of the environmental effects other reasonably foreseeable actions that will be the *consequence of* the proposed project and the EITP because those impacts will be significant and change the scope or nature of the environmental effects of the proposed project. The failure to undertake such analysis violates CEQA.

D. The Alternatives Analysis in the FSA Fails to Meet CEQA's Requirements

Under CEQA, a lead agency may not approve a project if there are feasible alternatives that would avoid or lessen its significant environmental effects. (Public Resources Code §§ 21002, 21002.1(b).) To this end, an EIR is required to consider a range of potentially feasible alternatives to a project, or to the location of a project, that would feasibly attain most of the project's basic objectives while avoiding or substantially lessening any of the project's significant environmental impacts. (*Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1456.)

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[23] Even assuming for the sake of argument alone that the EITP is not part of the "project as a whole" (which the Center does not concede), the construction of the EITP and the substations at minimum must be considered as indirect impacts of the proposed project and, therefore, a full consideration of the growth inducing impacts would still be required. (CEQA Guidelines § 15126.2(d) [growth inducing impacts include the ways in which the proposed project could foster growth "*either directly or indirectly*, in the surrounding environment." Emphasis added].)

Environmental review documents must provide "sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project." (CEQA Guidelines § 15126.6(d).) As the Supreme Court put it:

> The core of an EIR is the mitigation and alternatives sections. The Legislature has declared it the policy of the State to "consider alternatives to proposed actions affecting the environment." (Pub. Resources Code, § 21001(g); *Laurel Heights*, supra, 47 Cal.3d at p. 400.) Section 21002.1, subdivision (a) of the Public Resources Code provides: "The purpose of an environmental impact report is to identify the significant effects of a project on the environment, *to identify alternatives to the project*, and to indicate the manner in which those significant effects can be mitigated or avoided." (Italics added. See also Pub. Resources Code, § 21061 ["The purpose of an environmental impact report is . . . to list ways in which the significant effects of such a project might be minimized; *and to indicate alternatives to such a project.*"].)

(*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564-65 [italics in original].)

Environmental review documents must also contain sufficient detail to help "insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the rug." (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935 [citations omitted].) The discussion of alternatives must be sufficiently detailed to foster informed decision-making and public participation, not simply vague and conclusory. (*Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th at pp. 1456, 1460.) "Conclusory comments in support of environmental conclusions are generally inappropriate.[]" (*Laurel Heights Improvement Assn. v. Regents* (1989) 47 Cal. 3d 376, 404 [citations omitted].) "An EIR which does not produce adequate information regarding alternatives cannot achieve the dual purpose served by the EIR, which is to enable the reviewing agency to make an informed decision and to make the decisionmaker's reasoning accessible to the public, thereby protecting informed self-government." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 733 citing *Laurel Heights Improvement Assn. v. Regents of University of California, supra*, 47 Cal.3d at p. 392.)

The same requirements apply to an environmental document, like an FSA, prepared as part of a certified regulatory program. (See *Sierra Club v. State Bd. of Forestry* (1994) 7 Cal. 4th 1215, 1228-29.) Alternatives must be analyzed in such a document even if measures intended to mitigate a project's significant impacts also are proposed. (See *Friends of the Old Trees v. Dept. of Forestry & Fire Protection* (1997) 52 Cal.App.4th 1383, 1393-94.)

1. The FSA Failed to Provide Any Alternatives to the Proposed Project Except the No Action Alternative.

The PSA identified a number of potentially significant environmental impacts, and accordingly the FSA was required to analyze potentially feasible alternatives that would avoid or lessen those impacts. Contrary to these controlling principles, the FSA did not propose alternatives. After summarily rejecting 23 alternatives many of which would have avoided significant impacts to the environment, the FSA states:

> Since no other ROW application was brought forward by the applicant, the BLM will respond to the ROW application for the ISEGS project as proposed. Therefore, the only alternatives that are within the agency's jurisdiction, and that meet the purpose and need for the proposed project, are approval of the right-of-way (the Proposed Project Alternative) and denial of the right-of-way (No Project/No Action Alternative). A detailed analysis of these two alternatives is presented within the resource-specific sections of this FSA/DEIS.

(FSA at p. 4-1.) First, it is simply false that there were no other reasonable alternatives "within the agency's jurisdiction"— whether the agency in question is the BLM or the Commission. For example, a phased alternative, a reduced footprint alternative, or an alternative site on public lands would all be within the jurisdiction of both agencies.[24] Second, under CEQA, the agency is may need to consider at alternatives even if they are outside of the agency's jurisdiction. (See *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 575.) Thus, even if the BLM were correct as to its duties under NEPA, which it is not, the Commission would still be required to comply with its independent duty under CEQA to analyze a reasonable range of

[24] Notably, the Commission has not followed this same path in more recent staff assessments where it has provided alternatives beyond the no action alternative. (See, e.g., SES Solar Two Project (08-AFC-5) February 2010, CEC-700-2010-002-SA-DEIS at Section B.2.)

feasible alternatives in the FSA.

If the Commission does not remedy this omission in the environmental review by revising and re-circulating environmental documents with an adequate alternatives analysis, then it must reject the proposed project.

2. The Staff's Testimony Regarding Rejected Alternatives Did Not Cure the Violations of CEQA.

At hearing Staff stated that due to perceived procedural differences the alternatives were all rejected in the FSA and only the No Action alternative was considered but then attempted to resuscitate, and again reject, the previously rejected alternatives. (1/14 Tr. at p. 280-285.) Staff's conclusory assertions are not supported by specific facts and analysis in any meaningful detail and therefore are insufficient to support a finding that an alternative is infeasible. (See *Preservation Action Council v. City of San Jose* (2006) 141 Cal. App. 4th 1336, 1356-57.) Moreover, the reasons for the staff's rejection of the alternatives during the environmental review varied making any coherent comparison difficult. For example, the I-15 alternative which could avoid habitat fragmentation by leaving more contiguous areas of tortoise habitat intact was rejected because staff (wrongly) concluded it would not reduce or eliminate impacts of the proposed project (FSA at p. 4-49), while alternative siting on private lands was rejected variously because the applicant felt they were too expensive or too difficult to consolidate (FSA at p. 4-19 to 4-20), and review of alternative siting on BLM managed public lands was rejected where other applicants had ROW applications pending (FSA at p. 4-11) and also where Brightsource had pending applications (FSA at pp. 4-15 [Siberia East], 4-19 [Broadwell]), "because BrightSource maintains active applications with BLM and desires to develop both sites" (FSA at pp. 4-12 to 4-13).

Moreover, neither Staff nor the Applicant has provided any specific economic analysis demonstrating that any of the alternatives sites or configurations would so dramatically affect profitability as to render the Project impractical in an alternate configuration or at an alternative site. Indeed the only economic issues that are discussed are the applicant's desire to obtain DOE

loan-guarantees and ARRA grants—nothing has been disclosed as to the cost to the consumer of the energy that may ultimately be generated from the proposed project nor the cost to the consumer from the EITP upgrade which will be passed through to the consumer by the CPUC. As a result no meaningful economic comparison could be or was made between the proposed project and other alternatives such as conservation measures, distributed energy projects or moving the proposed project to alternative sites. Moreover, it appears that the proposed project is wholly dependent on federal loan guarantees and federal grant funding (see, e.g., FSA at 2-2 to 2-3; 1/12 Tr. at 144-145 [Applicant's testimony]; see also 1/14 Tr. at p. 170 [could not phase project due to financing concerns and loans]); this tends to show that the project itself is economically infeasible without public funding support. Moreover, it appears that consideration of a *phased* alternative[25] has been eliminated based on the applicant's statements regarding funding as well. (See 1/14 Tr. at 169-171.) Clearly, public funding should not drive decisionmaking regarding environmental impacts. In order to fairly compare economic feasibility of alternatives, the Staff should have provided some economic metric that would put the proposed project on a level playing field with other alternatives rather than only discussing funding in the context of the applicant's proposal.

For example, although the Staff stated it did not consider the cost of any alternative as a factor in the analysis (1/14 Tr. at p. 255), the FSA rejects Harper Dry Lake site which consisted of previously disturbed (farmed) lands that had largely been fallowed. The sole reason given for rejecting this alternative from consideration was a representation by the applicant that it would cost too much. (1/14 Tr. at p. 240-41; FSA at p. 4-20; ["Only one of the private sites, Harper Lake, had sufficient land for a 400 MW facility with the configuration of the proposed project; however, one of the major land owners at the site requested too much money to make the site economically feasible."].) Although the Staff testified at hearing that they dismissed the Harper

[25] Again, the Center notes that in more recent staff assessments the Commission has included phased alternatives for much the same reasons that such an alternative has been suggested here. (See, e.g., SES Solar Two Project (08-AFC-5) February 2010, CEC-700-2010-002-SA-DEIS at p. B.2-15.)

Dry Lake site and "went on to find what we thought was really a more viable private land alternative" (1/14 Tr. at p. 256), the Harper Dry Lake site is now a fast-track project for another applicant Abengoa and clearly feasible. (1/14 Tr. at p. 241.)

An applicant's mere assertion of a conflict with project objectives does not render an alternative economically infeasible. On the contrary, recent decisions have clarified that a finding of economic infeasibility must be based upon quantitative, comparative evidence showing that the alternative would render the project economically impractical. (See, e.g., *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1461-62 [holding that applicant's inability to achieve "the same economic objectives" under a proposed alternative does not render the alternative economically infeasible]; *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 600 [requiring evidence that comparative marginal costs would be so great that a "reasonably prudent property owner" would not proceed with the project]; *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336, 1356-57 [holding that evidence of economic infeasibility must consist of facts, independent analysis, and meaningful detail, not just the assertions of an interested party].) Thus, the agency's rejection of alternatives solely based on the applicant's statements without providing any actual comparative cost figures fails to adequately address feasibility of the alternatives.

The FSA also summarily rejected a distributed renewable alternative in the FSA. (FSA at pp. 462-66.) The Center sponsored testimony from Bill Powers on the treatment of the distributed energy alternative in the FSA showing that the discussion in the FSA of this alternative was inaccurate and inadequate and that these alternative energy sources are moving forward and provide a feasible alternative to the proposed project. (Exh. 939 [Testimony of Bill Powers]; Exh. 938 [Rebuttal]; 1/12 Tr. at pp. 266-301; 1/14 Tr. at 87-91, 110-113, 118-19 [discussion on panel].) Notably, the FSA did not find that this alternative was infeasible – as it could not—but rather appeared to reject it as an "alternative" because staff believe that even though distributed renewable energy production is feasible, utility scale solar thermal is "also necessary." (FSA at p. 4-66.) However, this conclusion fails to address the most important

criteria for a feasible alternative – that it avoids significant impacts on the environment of the proposed project. To allow the Staff's logic to control here would undermine *any* feasible alternative and thereby defeat any alternatives analysis in violation of CEQA. The question for the Commission in this matter is whether the impacts of *this* proposed project could be avoided by a feasible alternative. Unfortunately the environmental review failed to address this critical question.

The applicant's witness provided a virtual "parade of horrors" including his opinion that if the Commission finds that distributed renewables would be a viable alternative it would cause a "chilling effect" on the market for industrial scale renewable industry or that there would be no need for any energy planning in California (1/14 Tr. at 45-46), and discussing the perceived difficulties of bringing distributed PV into the system. 117-118 ["Is a gigantic engineering and logistical challenge. . . . The system, if we attempted to do this today, the system would fall apart."].) The applicant's statements on these issues should be given no weight.[26] If the Commission denies this proposed project because viable alternatives exist to avoid the significant environmental impacts of this project due to its poorly planned siting in the middle of excellent desert tortoise habitat in the Northern Ivanpah Valley, the only signal that will be sent is that the Commission is complying with CEQA and is able to discriminate between poorly sited projects and others that are more reasonably sited.

Similarly, the staff's identification of a private land alternative was extremely limited and did not look at the many other areas in California were large blocks of previously disturbed lands exist such as in the Central Valley where many thousands of acres of agricultural lands are not

[26] The applicant's witness also discussed the perceived difficulties of bringing distributed PV into the system. (See, e.g., 1/14 Tr. at pp 117-118 ["Is a gigantic engineering and logistical challenge. . . . The system, if we attempted to do this today, the system would fall apart."].) However, as Mr. Powers testified there are means to bring distributed PV on line and they are already being pursued, for example, by SCE and PG&E. (Exh. 939, Testimony of Bill Powers at pp. 4-5; 1/12 Tr. p. 269, *id.* at p. 119 [Powers' testimony regarding applicant's witness's statements; "So I take issue with Mr. Gray's kind of generic "you should be very afraid" presentation. Because I don't see any of that as being a substantive obstacle to moving forward at the German rate or faster in California."]).

only fallow but no longer suitable for agricultural production due to high selenium and salt content (See Exh. 937 [Supplemental Testimony of Bill Powers provided as "public comment" on the MI3 proposal].)

As to the so-called "reduced acreage" alternative that Staff raised for the first time during the hearings (1/14 Tr. at p. 62-69), and the new MI3 proposal from the applicant, these alone cannot provide a reasonable range of alternatives and were presented primarily to mitigate impacts to rare plants while failing completely to address habitat fragmentation, land use incompatibility, and many other significant impacts.

E. The Project Will Cause Significant Adverse Impacts that Have Not Been Avoided or Minimized or Mitigated to a Less that Significant Level.

The Project will have significant impacts that have not been mitigated including impacts to biological resources, soils, air quality and significant cumulative and growth inducing impacts. Because identification and analysis of many impacts of the proposed project is inadequate any proffered mitigation measures cannot rationally be found to address the impacts and mitigate for them. For example, the staff did not provide any alternative to avoid or any mitigation measures to lessen the likely impacts to birds which remain significant. Similarly, the staff did not provide adequate information or analysis for impacts to bighorn and the proposed mitigation measure in the FSA of adding a guzzler in the Clark Mountains had no connection to any identified impact. Further, the FSA failed to adequately identify and analyze the potential impacts to bighorn from the loss of alluvial fan habitat and therefore cannot conclude that the impact is not significant or show that the impacts have been mitigated below the level of significance.

Moreover, even where significant impacts are identified and mitigation measures provided, there is in many cases no showing that the mitigation measures will be effective. Accordingly, the Commission cannot find that these measures have mitigated the proposed project's impacts to a less than significant level. Conclusions regarding the effectiveness of mitigation measures must be supported by substantial evidence. (See, e.g., *Gray v. County of Madera* (2008) 167 Cal. App. 4th 1099 at p. 1116-119.)

The Staff's conclusory assertions that all direct, indirect and cumulative biological impacts will be fully mitigated are erroneous. For example, the staff provided no analysis of how the proffered mitigation measures for desert tortoise– purchasing habitat elsewhere and management actions in other habitat—will lessen the impact of habitat fragmentation in the North Ivanpah Valley, as indeed it will not. Moreover, the effectiveness of desert tortoise translocation as a mitigation (or minimization) measure is not analyzed and the impacts of translocation on other tortoises and the remaining habitat are unexamined.

Growth inducing impacts from the project along with the EITP (which is necessary for the proposed project and integrated with its footprint) will create a de facto industrial zone for energy production in the Ivanpah Valley that is inconsistent with existing BLM land use plans and local planning. The growth enabled by the proposed project taken together with the EITP will cause significant impacts to biological resources across the Ivanpah Valley including impacts to desert tortoise and its critical habitat, impacts to bighorn sheep, other wildlife and rare and imperiled plant species. These significant impacts were not address in the FSA or at hearing and no mitigation measures were proposed.

At minimum, the following issues have not been adequately addressed and the Commission cannot find that significant impacts to there resources have been mitigated:

- Direct and indirect impacts to desert tortoise from habitat fragmentation are not adequately address, significant and unmitigated
- Impacts of translocation on tortoises on are not adequately address, significant and unmitigated
- Impacts to birds are not adequately address, significant and unmitigated
- Impacts to soils are significant and unmitigated including significant loss of soils even if BMPs are followed
- Impacts to air quality from increased PM 10 emissions are significant and unmitigated
- Growth inducing impacts are not adequately address, significant and unmitigated
- Cumulative impacts of the proposed project are cumulatively considerable for many resources but were not adequately addressed and are unmitigated

Significant impacts that were identified have not been avoided, minimized and mitigated

below a level of significance and many impacts were not adequately identified and analyzed such that a finding of significance could be made, as a result, the environmental review for the proposed project fails to comply with CEQA's substantive requirements. As a result, on this record, the Commission cannot lawfully approve the proposed project or make the findings needed to override.

F. The Commission Cannot Make the Findings Necessary to "Override" the Project's Significant Impacts Under CEQA.

In order to approve the Project despite its significant environmental impacts, the Commission must find (1) that mitigation measures or alternatives to lessen these impacts are infeasible, and (2) specific overriding benefits of the Project outweigh its significant environmental effects. (§ 21081; Siting Regs. § 1755.) Here the Commission's objectives can be met without the proposed project—that is, under the No Action/No Project alternative. Even assuming for the sake of argument alone, that the identification and analysis of environmental impacts were adequate, which it is not, as explained above, the alternatives analysis fails to provide sufficient meaningful analysis of alternatives that could avoid the significant impacts of the project. As a result, the record does not contain substantial evidence to support either of the findings necessary to "override" a significant impact under CEQA.

Niether the Applicant nor Staff has demonstrated that all of the considered or rejected off-site alternatives or the distributed alternative are infeasible. Because several of the off-site alternatives and the distributed alternative are feasible—as all available evidence shows, the Commission cannot make the findings required to "override" the Project's significant impacts.

Nothing in CEQA states that an alternative may be found infeasible solely due to a conflict with the *applicant's* objectives. The statutory definition of "feasible" does not even mention the applicant's objectives. (Pub. Res. Code § 21061.1.) In fact, the CEQA Guidelines expressly provide that a feasible alternative may impede achievement of those objectives to some degree. (See CEQA Guidelines § 15126.6(a), (b).)

In any event, because the FSA failed to adequately identify and analyze a number of the proposed project's impacts as significant, as detailed above, the Commission has no basis to conclude that mitigation of these impacts is infeasible, because no mitigation has been proposed. Finally, there is inadequate evidence to support a finding that the proposed project's benefits outweigh its significant effects. Again, as previously discussed, the proposed project's benefits are exceedingly speculative because this technology has never been attempted at commercial-scale. In contrast, its impacts—to the desert tortoise, its occupied habitat, other species and habitats and other resources—are more than considerable. On this record, therefore, the Commission cannot make the findings necessary to "override" the Project's significant environmental impacts under CEQA.

II. THE PROJECT IS INCONSISTENT WITH FEDERAL AND STATE ENVIRONMENTAL LAWS AND EXISTING LAND USE PLANS.

A. State and Local LORS

1. Approval of the Proposed Project Would Violate CEQA

As detailed above, the CEQA review for the proposed project to date is inadequate and therefore the Commission's approval of this project would violate CEQA.

2. Approval of the Proposed Project Would Violate CESA

The purpose of the California Endangered Species Act (CESA) is "to conserve, protect, restore, and enhance any endangered species or threatened species and its habitat." (Fish & Game Code § 2052; see also *Department of Fish & Game v. Anderson-Cottonwood Irrigation Dist.* (1992) 8 Cal. App. 4th 1554, 1563.) CESA broadly prohibits the "take" of species designated as endangered, threatened, or candidate species. (Fish & Game Code §§ 2080.) "Take" is defined to prohibit killing, or attempting to kill, such endangered, threatened or candidate species. (Fish & Game Code § 86.) Under limited circumstances, the Department of Fish and Game may authorize take of species by issuance of an "incidental take permit." (Fish & Game Code §2081(b).) To do so, all of the following conditions must be met:

> (1) The take is incidental to an otherwise lawful activity.
> (2) The impacts of the authorized take shall be minimized and fully mitigated. The measures required to meet this obligation shall be roughly proportional in extent to the impact of the authorized taking on the species. Where various measures are available to meet this obligation, the measures required shall maintain the applicant's objectives to the greatest extent possible. All required measures shall be capable of successful implementation. For purposes of this section only, impacts of taking include all impacts on the species that result from any act that would cause the proposed taking.
> (3) The permit is consistent with any regulations adopted pursuant to Sections 2112 and 2114.
> (4) The applicant shall ensure adequate funding to implement the measures required by paragraph (2), and for monitoring compliance with, and effectiveness of, those measures.

(Fish & Game Code § 2081(b).) "Fully mitigate" is construed so as to remedy the evils of "extinction as a consequence of man's activities" and of "destruction of habitat" expressly recognized by the Legislature. (Fish & Game Code § 2051.) In addition, the Department must make a determination based on that the issuance of the permit will not "jeopardize the continued existence of the species." (Fish & Game Code § 2081(c).) "The department shall make this determination based on the best scientific and other information that is reasonably available, and shall include consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities." (*Id.*)

CESA requires that "that reasonable and prudent alternatives shall be developed by the department, together with the project proponent and the state lead agency, consistent with conserving the species, while at the same time maintaining the project purpose to the greatest extent possible." (Fish & Game Code § 2053.) Moreover, nothing in the CESA abrogates the need to fully comply with CEQA's requirement that no project may be approved if feasible alternatives or mitigation measures are available to avoid or lessen the impacts of the proposed project. (Public Res. Code § 21002.) As a result, to comply with CESA, the Commission (or more properly the Department) must first develop alternatives to the project that could avoid

impacts to covered species and still maintain the project objectives to the extent possible, and only after consideration of those alternatives, ensure that all remaining impacts are also minimized and fully mitigated. (Fish & Game Code §2081(b)(2).)

As the Center argues below, the Commission cannot approve this project without a valid incidental take permit issued by the Department of Fish and Game. Moreover, even if the Commission could act in lieu of the Department in such matters, which the Center does not concede, the Commission has failed to comply with CESA in its review of this project. Most importantly, the Commission failed to develop any alternatives that would conserve the desert tortoise and failed to provide measures to minimize impacts to the species as a result of the direct, indirect and cumulative impacts of the proposed project. The failure to minimize the site specific and cumulative impacts to the desert tortoise violates CESA.

3. The Proposed Project May also Violate Other State and Local Laws

Because the environmental review is incomplete it is impossible to determine the full impacts of the project. Nonetheless, it appears that the proposed project may also violate the following State laws. California Native Species Conservation and Enhancement Act, (Fish & Game Code, §1755), provides that it is the policy of the state to maintain sufficient populations of all species of wildlife and native plants and the habitat necessary to ensure their continued existence at optimum levels. Given the lack of information about many of the plant species that were found on the site and the lack of summer/fall surveys for other rare plants the Commission cannot find that approval of the proposed project would comply with this policy. Similarly, the Commission cannot find that the project complies with the Native Plant Protection Act (Fish & Game Code, § 1900 *et seq.*), which regulates the taking endangered or rare native plants.

Because impacts to birds were not adequately assessed, the Commission also cannot find that the proposed project would be consistent with the Fish and Game Code, section 3513, which prohibits take of any migratory nongame bird as designated in the Migratory Bird Treaty Act. As the FSA notes the proposed project is inconsistent with County planning and zoning ordinances as well.

C. Federal LORS

As detailed in the Center's comments on the DEIS provided to the BLM,[27] the proposed project would violated the National Environmental Policy Act (NEPA), the Federal Land Policy Management Act ("FLPMA") (43 U.S.C. §1701 *et seq.*), the Federal Endangered Species Act ("ESA") (16 U.S.C. § 1531 *et seq.*), the Migratory Bird Treaty Act (16 U.S.C. § 701 *et seq.*) , the Bald and Golden Eagle Protection Act (16 U.S.C. § 668 et seq.), and other federal laws, ordinances, regulations and standards.[28]

As part of FLPMA, Congress designated 25 million acres of southern California as the California Desert Conservation Area ("CDCA"). (43 U.S.C. § 1781(c).) Congress declared in FLPMA that the CDCA is a rich and unique environment teeming with "historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources." (43 U.S.C. § 1781(a)(2).) Congress found that this desert and its resources are "extremely fragile, easily scarred, and slowly healed." (Id.) For the CDCA and other public lands, Congress mandated that the BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." (43 U.S.C § 1732(b).) The proposed project will unnecessarily cause undue degradation of excellent desert tortoise habitat and, after 50 years of exclusive use, leave an enormous scar on the desert that not heal for centuries.

Under the CDCA Plan (1980 as amended), Multiple-use Class L (Limited Use) "protects sensitive, natural, scenic, ecological, and cultural resources values. Public lands designated as Class L are managed to provide for generally *lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.*" (CDCA Plan at 13 [emphasis added].) The CDCA Plan provides that a plan amendment is needed to site a large-scale industrial solar power plant in this area which is designated multiple use class "L". The

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[27] The Center's comments to the BLM were not entered into the CEC record, however, a copy of these comments is provided as Attachment A for the convenience of the Commission.

[28] Including as noted above air quality standards.

However, the BLM has to date failed to comply with the terms of the CDCA Plan which require, among other things, include determining "if alternative locations within the CDCA are available which would meet the applicant's needs without requiring a change in the Plan's classification, or an amendment to any Plan element" and evaluating "the effect of the proposed amendment on BLM management's desert-wide obligation to achieve and maintain a balance between resource use and resource protection." (CDCA Plan at 121.) As the staff also found, the siting of the proposed project's single use is inconsistent with federal land use planning.

Moreover, the BLM has begun, but not completed, a planning process that will consider many of the impacts of large-scale industrial solar power plants and look at the issue of appropriate siting across the southwestern states. Accordingly, piecemeal approvals of large-scale industrial solar power plant projects may undermine the ability of BLM to make rational planning decisions.

The environmental review for the proposed project also fails to meet the standards of NEPA and therefore BLM has also failed to comply with the NEPA. The inadequacies of the Biological Assessment, particularly as to the translocation plan, have been discussed above. The inadequacies in the Biological Assessment as well as the failure to fully consider reasonable alternatives that would avoid impacts to the threatened desert tortoise also show the BLM's failure to comply with the ESA's requirement that all federal agencies work to conserve listed species. Because ESA consultation has not yet been completed, the Center reserves the right to provide additional briefing to the Commission on the possible violations of the ESA until we have reviewed the biological opinion for the proposed project.

As discussed above, the environmental review does not adequately identify or analyze impacts to birds from the proposed project although the proposed project will likely have significant impacts to birds, including migratory birds and golden eagles. Therefore, it is impossible for the Commission to find that the project is consistent with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act both of which prohibit take.

C. The Commission Cannot "Override" the Project's Noncompliance with State and Federal LORS.

"[T]he Commission has consistently regarded a LORS override [as] an extraordinary measure which . . . must be done in as limited a manner as possible." (*Eastshore Energy Center, Final Commission Decision, October 2008 (06-AFC-6) CEC-800-2008-004-CMF*, at p. 453 [quotation omitted].) In order to approve a project that conflicts with LORS, the Commission must make two independent findings: (1) that public convenience and necessity require the project, and (2) that there are not more prudent and feasible means of achieving public convenience and necessity. (§ 25525; Siting Regs. §§ 1752(k), 1755(b).) Neither finding can be made on the record here.

1. Public Convenience and Necessity Do Not Require the Project.

The Applicant has not met its burden of presenting substantial evidence to support a finding that public convenience and necessity require this project. (*See* Siting Regs. § 1748(d).) The phrase "public convenience and necessity," depending on the facts presented, can mean anything from "indispensable" to "highly important" to "needful, requisite, or conducive." (*San Diego & Coronado Ferry Co. v. Railroad Com. of California* (1930) 210 Cal. 504, 511-12.) A more recent decision defines the phrase as meaning "a public matter, without which the public is inconvenienced to the extent of being handicapped in the practice of business or wholesome pleasure or both, and without which the people of the community are denied, to their detriment, that which is enjoyed by others similarly situated." (*Luxor Cab Co. v. Cahill* (1971) 21 Cal.App.3d 551, 557-58.) In *Eastshore*, the Commission stated that its practice is to balance the benefits of each project against the public purposes of the LORS with which it conflicts. (See *Eastshore* at p. 455.) Under any of these tests, public convenience and necessity do not require this Project, and as a result it cannot be certified.

2. There are more prudent and feasible means of achieving the Commission's goals

While it is undoubtedly true that California must move forward with the development of new sources of clean, renewable energy, there is no reason, and now showing on this record, that

such energy projects must be built in occupied habitat for listed species such as the desert tortoise. (See 1/11 Tr. at p. 391.) Moreover, there are other proposals proceeding through the approval process that provide feasible alternatives of achieving the Commission's goals without conflict with LORS particularly regarding impacts to listed species and habitats, violations of CESA and CEQA. Although the Commission has been pressing to rush this process forward, there is no showing that the public will be inconvenienced or handicapped in any way if the Commission takes the time so ensure that feasible alternatives are fully explored and renewable power plants are properly sited. To that end as well, the Commission could choose to supplement the existing environmental review to obtain additional information and provide adequate CEQA review of this application including feasible alternatives.

As the Commission is aware, there are many opportunities for development of renewable energy in closer proximity to urban load center where there are areas appropriately zoned for industrial development. (See Exh. 939 [Testimony of Bill Powers]; Exh. 938 [Rebuttal]; 1/12 Tr. at pp. 266-301; 1/14 Tr. at 87-91, 110-113, 118-19 [discussion on panel].) Moreover, additional opportunities are emerging every day for siting large-scale industrial renewable energy projects on previously damaged or disturbed lands. Indeed, approximately 30,000 acres of former agricultural lands in the Westlands Water District may soon be available to provide 5,000 MW of utility-scale solar development.[29] (Exh. 947 at pp. 1-3 [accepted as public comment on March 22, 2010, 3/22 Tr. at 193-94].)

Alternative renewable energy projects are being proposed, built, and brought on line in many areas beyond of the California desert as well. While clearly some solar development will go forward in the California desert, the Ivanpah Valley, should not bear a disproportionate

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[29] The potential of the Westlands Water District area to provide suitable sites for large-scale solar power plants was also discussed in the Washington Post on March 21, 2010 "Enviros, growers agree on farmland reuse for solar" (available at http://www.washingtonpost.com/wp-dyn/content/article/2010/03/21/AR2010032100968.html) and in an in depth article in the Fresno Bee on March 15, 2010 "Valley solar plant would be among world's largest" (available at http://www.fresnobee.com/2010/03/15/1859943/valley-solar-plant-would-be-among.html).

burden of the impacts of these industrial-scale solar facilities when other feasible alternatives exist and have not been adequately explored.

III. THE COMMISSION'S ISSUANCE OF A CERTIFICATE CANNOT ACT IN LIEU OF AN INCIDENTAL TAKE PERMIT PURSUANT TO CESA

A. The Plain Language of the CESA Shows that Only DFG Can Issue An Incidental Take Permit

The Commission's issuance of a certificate cannot act in lieu of an incidental take permit under the California ESA. The Warren-Alquist State Energy Resources Conservation and Development Act, Public Resources Code §§ 25000 *et seq.*, provides in relevant part:

> In accordance with the provisions of this division, the commission shall have the exclusive power to certify all sites and related facilities in the state, whether a new site and related facility or a change or addition to an existing facility. The issuance of a certificate by the commission shall be in lieu of any permit, certificate, or similar document required by any state, local or regional agency, or federal agency to the extent permitted by federal law, for such use of the site and related facilities, and shall supersede any applicable statute, ordinance, or regulation of any state, local, or regional agency, or federal agency to the extent permitted by federal law.

Public Resources Code § 25500 (Certification of sites and related facilities). This provision was adopted in 1975 amended in 1976 and has not been amended thereafter. At that time, the California Endangered Species Act ("CESA") had not yet been adopted. Fish & Game Code § 2050 *et seq.* (adopted 1984).

In 1984, the Legislature adopted CESA, Fish & Game Code § 2050 *et seq.* which clearly states that *only the Department of Fish and Game* may allow for exceptions to the prohibition on take. Fish & Game Code § 2081 (*"The department* may authorize acts that are otherwise prohibited pursuant to Section 2080, as follows:" emphasis added). In the CESA the legislature made no mention of exceptions wherein such authorization could be provided by any other agency or commission. Indeed, the CESA statutory scheme clearly contemplates the DFG will work in concert with other agencies and commissions and expressly includes commissions within the definition of "State lead agency". Fish & Game Code § 2065. Moreover, the

Legislature was clearly aware that other agencies and commissions might have some impact on species and to that end declared "it is the policy of this state that all state agencies, boards, and commissions shall seek to conserve endangered species and threatened species and shall utilize their authority in furtherance of the purposes of this chapter." Fish & Game Code § 2055. (Conservation efforts by state agencies, boards, and commissions). But nowhere does the CESA allow any other agency to authorize prohibited acts through incidental take statements. There is nothing ambiguous about the language of CESA which was adopted after the Warren-Alquist Act and therefore its terms must control.

The provision in CESA that only the Department may allow for exceptions to the prohibitions on take and issue incidental take permits is clear. Where a statute is clear on its face, no interpretation is needed. (Cal. Code Civ. Pro. § 1858; *NRDC v. Fish and Game Commission* (1994) 28 Cal. App. 4th 1104, 1111; *MacIsaac v. Waste Management Collection and Recycling, Inc.* (2005) 134 Cal.App.4th 1076, 1082-84; *Cal. Teachers Assn. v. Los Angeles Community College Dist.* (1981) 123 Cal.App.3d 947, 954 ["If the words of the statute are clear, the court should not add to or alter them to accomplish a purpose that does not appear on the face of the statute or from its legislative history." (*Citation*)].) This provision also comports with the purposes of the statute to conserve imperiled species.

> We begin with the basic premise that "[l]aws providing for the conservation of natural resources" such as the CESA "are of great remedial and public importance and thus should be construed liberally." *(San Bernardino Valley Audubon Society v. City of Moreno Valley* (1996) 44 Cal.App.4th 593, 601 [51 Cal. Rptr. 2d 897].) Within the CESA itself, the Legislature has "expressed the objects to be achieved and the evils to be remedied." (*San Bernardino Valley Audubon Society*, at p. 601, citing §§ 2051, 2052.) The evils to be remedied include the extinction of "[c]ertain species of fish, wildlife, and plants," and the danger or threat of extinction of "[o]ther species of fish, wildlife, and plants." (§ 2051, subds. (a), (b).) The objects to be achieved include the "conserv[ation], protect[ion], restor[ation], and enhance[ment] [of] any endangered species or any threatened species." (§ 2052.)

(*California Forestry Assn. v. California Fish & Game Comm.* (2007) 156 Cal.App.4th 1535, 1546 [finding the Fish & Game Commission acted properly in considering listing of coho salmon

under the CESA].)

B. To the Extent That the Statutes Conflict, the Terms of the CESA Control

Where there is an apparent conflict between two statutes courts first look to reconcile them. (*Schmidt v. Southern Cal. Rapid Transit Dist.* (1993) 14 Cal.App.4th 23, 27 [courts seek "to achieve harmony between conflicting laws [citation] and avoid an interpretation which would require that one statute be ignored."]); *see also Broughton v. Cigna Healthplans* (1999) 21 Cal.4th 1066, 1086 (the court's "duty is to harmonize [statutes] if reasonably possible"].) If the two statutes cannot be harmonized, the later act controls. (*Scofield v. White* (1857) 7 Cal. 400, 401 ["where there is an apparent conflict between two acts, it is the duty of the Court, if possible, to reconcile them; but if this cannot be done, then the last act must govern."]; see also *Schmidt v. Superior Court* (1989) 48 Cal.3d 370, 383; *Schmidt v. Southern Cal. Rapid Transit Dist.* (1993) 14 Cal.App.4th 23, 27.) To the extent that there is any conflict between the two statutes, because CESA is the later statute its terms must control.

This result also comports with other cannons of statutory construction that a more specific statute controls over a more general one. "It is true that a statute stating a more specific proposition takes precedence over one stating a more general, contrary proposition." (Code Civ. Proc, § 1859; see also *Sierra Club v. Cal. Coastal Comm'n* (2003) 107 Cal. App. 4th 1030, 1045- ["We give effect to a specific statute relating to a particular subject in preference to a general statute." citing *Murillo v. Fleetwood Enterprises*, Inc. (1998) 17 Cal.4th 985, 992]; *Collection Bureau of San Jose v. Rumsey* (2000) 24 Cal.4th 301, 310, 99 Cal.Rptr.2d 792, 6 P.3d 713.) Because CESA is the more specific statute pertaining solely to species preservation issues, and CESA provides that only the Department can provide exceptions to the take prohibiting, CESA should control.

Even if the language of CESA were not clear on its face (which the Center believes it is), this interpretation would give effect to the legislative intent by "'choos[ing] the construction that comports most closely with the apparent intent of the lawmakers, with a view to promoting rather than defeating the general purpose of the statute[s].'" (*State Water Resources Control Bd.*

Cases (2006) 136 Cal.App.4th 674, 738-739 quoting *Allen v. Sully-Miller Contracting Co.* (2002) 28 Cal.4th 222, 227; see also *Neighbors in Support of Appropriate Land Use v. County of Tuolumne* (2007) 157 Cal.App.4th 997, 1008 citing *People v. Woodhead* (1987) 43 Cal.3d 1002, 1007.)

C. The Commission's Past Policy and Practice

Despite the seemingly mandatory language of Section 25500 that the "issuance of a certificate by the commission shall be in lieu of any permit," past practice shows that the issuance of a certificate by the commission in most instances has not acted in lieu of an incidental take permit issued by the California Department of Fish and Game pursuant to CESA. In past proceedings the Commission has not attempted to exercise "in lieu" jurisdiction regarding CESA and instead worked with the DFG which issued an incidental take statement where such statement was required. (1/11 Tr. at p. 300 ["The department has issued incidental take permits in the past for energy projects."]; *see also, e,.g.,* Commission Decision for Blythe Energy Project Phase II (02-AFC-1) (December 2005, CEC-800-2005-005-CMF) at 63 (requiring that the mitigation implementation and monitoring plan identify "All biological resources mitigation, monitoring and compliance measures *required in other state agency terms and conditions, such as those provided in the CDFG Incidental Take Permit* and Streambed Alteration Agreement and Regional Water Quality Control Board permits"; emphasis added); Commission Decision for Sunrise Power Project (98-AFC-4) (December 2000, P 800-00-012) 159 ("The project will need a state incidental take permit, issued by CDFG."), 161, 162, 168; Commission Decision for High Desert Power Project (97-AFC-1) (May 2000, P800-00-003) at 138 (noting CDFG would incorporate certain revisions into its incidental take permit), 139.

As far as Intervenor Center for Biological Diversity can determine, the Commission for the first time in 2008 asserted that its in lieu jurisdiction encompassed the CESA incidental take permit requirements.[30] Indeed, the applicant in this matter submitted an application for an

[30] Final Commission Decision for Victorville 2 Hybrid Power Plant (07-AFC-1) (July 2008, CEC-800-2008-003-CMF) at 180.

incidental take permit to the Department in 2009. (Exh. 41; 1/11 Tr. at 293-95.) At hearing, Scott Flint noted that the Department had not processed the application in this case although its past practice had been to issue take permits for Energy Commission projects. (1/11 Tr. at 299-231.)

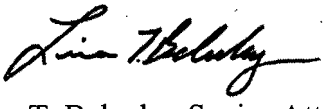
Although the Commission's recent change in its own practice (see below) appears to reflect a change in its interpretation of the statutes, the Commission's interpretation of the statutes will not be entitled to any deference by a court. (*Fonseca v. City of Gilroy* (2007) 148 Cal.App.4th 1174, 1192-93 *citing Yamaha Corp. v. State Board of Equalization* (1998)19 Cal.4th 1, 7 [interpretation of its own regulations is afforded deference but not agency interpretation of statute].)

CONCLUSION

In light of the above, the testimony, exhibits and public comment submitted in this matter, the Center urges the Commission to deny the application.

Dated: April 1, 2010

Respectfully submitted,



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STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	
APPLICATION FOR CERTIFICATION FOR THE IVANPAH SOLAR ELECTRIC GENERATING SYSTEM	DOCKET NO. 07-AFC-5

OPENING BRIEF OF
INTERVENOR CENTER FOR BIOLOGICAL DIVERSITY

Attachment A

CENTER *for* BIOLOGICAL DIVERSITY

VIA EMAIL AND FEDERAL EXPRESS OVERNIGHT DELIVERY (with 2 disks)

February 10, 2010

Bureau of Land Management
Needles Field Office
Attention: George R. Meckfessel
Planning and Environmental Coordinator
1303 South U.S. Highway 95
Needles, CA 92363
ca690@ca.blm.gov

Re: Comments on Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment for the Ivanpah Solar Electric Generating System (07-AFC-5)

Dear Mr. Meckfessel:

On behalf of the Center for Biological Diversity's 240,000 staff, members and on-line activists in California and throughout the western states, we submit these comments on the Draft Environmental Impact Statement And Draft California Desert Conservation Area Plan Amendment (the DEIS) - Ivanpah Solar Electric Generating System (hereinafter "proposed project" or "ISEGS").

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting emission reductions set by AB 32 and Executive Orders S-03-05 and S-21-09. The Center for Biological Diversity (the Center) strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitat, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

Unfortunately, the DEIS for the proposed plan amendment and right-of-way application fails to provide adequate identification and analysis of the significant impacts to the desert tortoise, rare plants, other biological resources, cumulative and growth inducing impacts of the

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project, and lacks consideration of a reasonable range of alternatives. In addition, BLM has failed to fully examine in impact of the proposed plan amendment (and other similar proposed plan amendments) that would result in industrial sites sprawling across the California Desert within habitat that should be protected to achieve the goals of the bioregional plan as a whole.

Nonetheless, even the inadequate information provided in the DEIS shows that the proposed plan amendment and right-of-way application should be denied because the proposed project will result in significant impacts to a healthy breeding population of desert tortoise in an area essential to the recovery of the species. Alternative siting, which the BLM failed to adequately address in the DEIS, would significantly reduce the impacts to this listed and still declining species, its occupied habitat, and other special status species including rare plants and desert bighorn sheep. The Center urges the BLM to revise the DEIS to adequately address these and other issues detailed below and re-circulate the DEIS for public comment.

As proposed the proposed project will cover approximately 4,073 acres (approximately 6.4 square miles) of Mojave desert scrub that is prime habitat for the federally and state threatened desert tortoise and a suite of other rare plant and animal species. In the sections that follow, the Center provides detailed comments on the ways in which the DEIS fails to adequately identify and analyze many of the impacts that could result from the proposed project, including but not limited to: impacts to biological resources, growth inducing impacts alternatives and cumulative impacts. In addition, if undertaken as proposed, this industrial project is inconsistent with local planning and zoning laws, the Endangered Species Act ("ESA"), the Federal Land Policy Management Act ("FLPMA"), the California Desert Conservation Act ("CDCA"), and other laws, ordinances, regulations and standards.

These comments incorporate by reference scoping comments submitted by the Center to BLM for this proposed project and all exhibits provided. In many ways, it appears that the BLM failed to properly consider the extensive comments provided during the scoping for the DEIS by the Center, other conservation groups, and other members of the public for example regarding the need for a robust alternatives analysis.[1]

In addition, the Center hereby incorporates by reference all of the materials before the California Energy Commission regarding the approval of this project. BLM is a party to the CEC process, which is being conducted in concert with the BLM approval process, and BLM has access to all of the documents (which are also readily accessible on the internet), therefore, BLM should incorporate all of the documents and materials from that process into the administrative record for the BLM decision as well.[2]

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[1] Although BLM failed to properly consider scoping comments in preparing the DEIS, we encourage the BLM to review those scoping comments as well as these comment regarding the DEIS in preparing a supplemental or revised DEIS which is clearly necessary in this instance.

[2] In addition to providing copies of the references for these comments on a disk to BLM, out of an abundance of caution, the Center is also providing copies of exhibits 900-937 submitted to the CEC to the BLM on a second disk (there is substantial overlap).

I. The BLM's Analysis of the Proposed Plan Amendment and Proposed Project Fail to Comply with FLPMA.

As part of FLPMA, Congress designated 25 million acres of southern California as the California Desert Conservation Area ("CDCA"). 43 U.S.C. § 1781(c). Congress declared in FLPMA that the CDCA is a rich and unique environment teeming with "historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources." 43 U.S.C. § 1781(a)(2). Congress found that this desert and its resources are "extremely fragile, easily scarred, and slowly healed." Id. For the CDCA and other public lands, Congress mandated that the BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C § 1732(b).

The sum total of the plan amendment to the CDCA plan is one sentence: "Permission granted to construct solar energy facility (proposed Ivanpah Solar Electric Generating System)." FSA/DEIS at 2-9. Given the impact of the proposed project on other multiple uses of these public lands at the proposed site as well as other aspects of the bioregional planning, it appears that BLM may also need to amend other parts of the plan as well and in addition should have looked at additional and/or different amendments as part of the alternatives analysis. For example, given the surveys which again confirm and provide new information on the biological richness of the area and the relatively robust tortoise population, the BLM should consider an alternative plan amendment that would designate this area as DWMA. A similar proposal was included in the NEMO plan alternatives that would have designated 29,110 acres in the Northern Ivanpah Valley as one of 4 ACECs to protect viable desert tortoise populations. *See* NEMO FEIS at 2-19 (Alternative 2 -- Desert Tortoise Recovery).

As discussed further below regarding FLPMA, and in the section on NEPA and segmentation, the BLM should have taken a more comprehensive look at the plan amendment to determine 1) whether industrial scale projects are appropriate for any of the public lands in this area, 2) if so, how much of the public lands are suitable for such industrial uses given the need to balance other management goals including tortoise recovery and recreational uses, and 3) the location of the public lands suitable for such uses, if any. Rather, BLM appears to have looked at this application and others in the area (both in California and Nevada) on BLM managed lands, as well as other proposed projects, in isolation. As a result, this piecemeal approach to project review threatens to undermine the "bioregional" approach in the NEMO Plan amendment and the CDCA Plan as a whole as well as violate the fundamental planning principles of FLPMA.

A. The FSA/DEIS Fails to Adequately Address the Plan Amendment in the Context of the CDCA Plan.

Unfortunately, the DEIS fails to adequately consider the impacts of the proposed project and plan amendment and reasonable alternatives in the context of FLPMA, the CDCA Plan as amended by the NEMO plan amendment. FLPMA requires that in developing and revising land use plans, the BLM consider many factors and "use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences . . . consider the relative scarcity of the values involved and the availability of alternative means

(including recycling) and sites for realization of those values." 43 U.S.C. § 1712(c). As stated clearly in the CDCA Plan:

> The goal of the Plan is to provide for the use of the public lands, and resources of the California Desert Conservation Area, including economic, educational, scientific, and recreational uses, in a manner which enhances wherever possible—and which does not diminish, on balance—the environmental, cultural, and aesthetic values of the Desert and its productivity.

CDCA Plan at 5-6. The CDCA Plan also provides several overarching management principles:

> MANAGEMENT PRINCIPLES
>
> The management principles contained in the law (FLPMA)—*multiple use, sustained yield, and the maintenance of environmental quality*—are not simple guides. Resolution of conflicts in the California Desert Plan requires innovative management approaches for everything from wilderness and wildlife to grazing and mineral development. These approaches include:
>
> —Seeking simplicity for management direction and public understanding, avoiding complication and confusing in detail which would make the Plan in comprehensive and unworkable.
>
> —Development of decision-making processes using appropriate guidelines and criteria which provide for public review and understanding. These processes are designed to help in allowing for the use of desert lands and resources while preventing their undue degradation or impairment.
>
> *—Responding to national priority needs for resource use and development, both today and in the future, including such paramount priorities as energy development and transmission, without compromising the basic desert resources of soil, air, water, and vegetation, or public values such as wildlife, cultural resources, or magnificent desert scenery. This means, in the face of unknowns, erring on the side of conservation in order not to risk today what we cannot replace tomorrow.*
>
> *—Recognizing that the natural patterns of the California Desert, its geological and biological systems, are the basis for planning*, and that human use patterns, from freeways to fence lines, define its boundaries. Only in this way can the public resources can be understood and protected by the Plan that can be publicly comprehended, accepted, and followed.

CDCA Plan 1980 at 6 (first emphasis in original, second emphasis added).

The CDCA Plan anticipated that there would be multiple plan amendments over the life of the plan and provides specific requirements for analysis of Plan amendments. Those requirements include determining "if alternative locations within the CDCA are available which would meet the applicant's needs without requiring a change in the Plan's classification, or an amendment to any Plan element" and evaluating "the effect of the proposed amendment on BLM

management's desert-wide obligation to achieve and maintain a balance between resource use and resource protection." CDCA Plan at 121. Thus, BLM should have, at minimum, analyzed in the DEIS whether alternative locations were available that would not require a plan amendment, and how the proposed amendment would affect desert-wide resource protection—it failed on both counts.

The CDCA Plan includes the Energy Production and Utility Corridors Element which is focused primarily on utility corridors with brief discussion of powerplant siting. Even in 1980 the CDCA Plan contemplated that alternative energy projects would likely be developed in the future but did not expressly provide planning direction for solar energy production. Nonetheless, the overarching principles expressed in the Decision Criteria are also applicable to the proposed project here including minimizing the number of separate rights-of-way, providing alternatives for consideration during the processing of applications, and "avoid[ing] sensitive resources wherever possible." CDCA Plan at 93.

In response to the listing of the desert tortoise and the need to conserve other listed species within the CDCA, BLM began the process of preparing management plans and plan amendments for six planning areas that together would "provide a landscape approach to managing desert ecosystems." NEMO Plan FEIS at ES-1. This so-called bioregional approach was intended to support species recovery for listed species, special status plants and animals and natural communities. *Id.* at ES-2. Nothing in the FSA/DEIS shows that BLM considered the landscape level issues and management objectives or meaningful alternatives to the proposed plan amendment—including an alternative that would designate this area as a DWMA.

In addition, BLM should have considered the impacts to existing land use plans for these public lands across several scales including, for example: in the Northern Ivanpah Valley; in the Ivanpah Valley as a whole (across stateliness); in the NEMO planning area; and in the CDCA as a whole.

B. Fails to Adequately Address Impacts to Multiple Use Class L Lands and Loss of Multiple Use in Favor of a Single Use for Industrial Purposes.

As FLPMA declares, public lands are to be managed for multiple uses "in a manner that will protect the quality of the scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." 43 U.S.C.§ 1701(a)(7) & (8). The CDCA Plan as amended provides for four distinct multiple use classes based on the sensitivity of resources in each area. The proposed project site is in MUC class L lands. FSA/DEIS at 6.5-11. *See also* CDCA Plan Map 1 (planning unit #65); NEMO FEIS at 2-19, Table 2.5 (N. Ivanpah Unit contains 23,281 acres of class L or C and 5,929 acres of class M lands). Under the CDCA Plan, Multiple-use Class L (Limited Use) "protects sensitive, natural, scenic, ecological, and cultural resources values. Public lands designated as Class L are managed to provide for generally *lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.*" CDCA Plan at 13 (emphasis added). The proposed project is a high-intensity, single use of resources that will displace all other uses and that will significantly diminish (indeed, completely destroy) of over 4,000 acres of high-quality occupied desert tortoise habitat among other impacts. On this basis as well as others the

proposed project is inappropriate for a Limited Use area such as this one and the terms of the proposed plan amendment are inconsistent with the CDCA Plan.

Although solar development is a potentially allowable use in this area, the BLM must take into account all of the relevant multiple uses of the area that could be displaced before making a decision including, for example, the displacement of desert tortoises, destruction and fragmentation of high quality habitat, destruction of sensitive plant species and plant communities, and impacts to water quality, cultural resources, and native American values.

The FSA/DEIS acknowledges that "The project would transform the Ivanpah Valley area from a mostly natural setting to a more industrial setting." FSA/DEIS at 6.18-6 (in the context of regional recreation). In the FSA/DEIS this issue is looked at solely in the context of recreation and visual resources, however, no where in the document does BLM look at the issue of industrialization in the context of biological resources, the CDCA Plan as a whole, or how transformation of this area will affect the overall landscape-wide bioregional planning approach. As discussed below, there is a significant growth inducing aspect to the transformation of this area to industrial uses as well that is not adequately addressed in the FSA/DEIS.

The adoption of the proposed plan amendment will change the multiple-use character of these lands which currently provides habitat for the threatened desert tortoise, grazing, and off-road vehicle routes in favor of a single use that will completely displace other uses on the proposed site and impact other uses significantly in the valley as a whole. For example, the proposal would require changes in the route network resulting in several routes which would need to be moved—those changes to the route network are not reflected clearly in the FSA/DEIS (nor are the likely direct, indirect and cumulative impacts of changing those route designations adequately identified or analyzed, as discussed in detail below). The FSA/DEIS simply concludes: "There will be no direct impacts because rerouting affected routes of travel would accommodate the limited amount of recreational use in the project location." FSA/DEIS at 6.18-10. However, BLM may need to amend the route designations in the area because these routes are part of a network and "rerouting" them along the fence line of a major industrial installation will undoubtedly change use of the previously existing routes and most likely cause increased use on other nearby routes, new unauthorized routes that will provide connections to the other routes, and/or entirely new unauthorized routes to be created to avoid the industrial site entirely. There is no evidence that recreational off-road vehicle users will be content to drive for miles along a fence adjoining an industrial site rather than striking off cross-country to connect with more scenic routes. Past experience shows that the latter is quite understandably a much more likely outcome and BLM should recognize this in analyzing the impacts of this project.

The maps for the route designation clearly color-code the routes in this area as "DWMA" routes (*See* Map Figure 2-1 NEMO Proposed Plan) which we believe should indicate that use of these routes should be limited as it is in the DWMAs. Oddly, however, the NEMO route designation FEIS fails to include these routes in table A-1 in Appendix A which presumably provided complete information on routes. As a result, it is impossible to discern whether these routes were designated open, closed or limited in the NEMO route designation or whether the proposed plan amendment is actually consistent or inconsistent with the route designations. The Center suggests that a reasonable alternative to the proposed plan amendment would be to

provide a plan amendment that would designate this area as a DWMA and/or also affirm the designation of the routes as limited to the extent that these routes should be treated the same as routes within DWMAs to protect the resident tortoise population.

As another example of the BLM's failure to adequately address multiple use principles, the proposed site is within an existing grazing allotment lease and the FSA/DEIS states that "Approval of the project would require a modification of the grazing lease, by reducing the total active AUMs as calculated from past range adjudication methods." FSA/DEIS at 6.16-4. First, the FSA/DEIS appears to be using the wrong baseline AUMs for this allotment. The NEMO plan clearly states that the Clark Mountain allotment includes 97,560 acres of public lands and 1,303 AUMs (NEMO Plan at 3-29, Table 3.5), in contrast the FSA/DEIS states that "There are currently 1,428 AUMs leased on the entire Clark Mountain Allotment." FSA/DEIS at 6.16-1.[3] Second, BLM estimates that the proposed project would require modification of the grazing lease to eliminate 70 AUM on the lands that would be removed from multiple use for the proposed project and proposes only this "temporary" reduction in grazing for the life of the project (which is expected to be 50 years), but does not propose to retire grazing from this area, and rather assumes that cattle will return "[f]ollowing the achievement of the objectives for rehabilitation" FSA/DEIS at 6.16-5. This statement completely ignores the need to provide NEPA analysis for the renewal of grazing allotments and simply assumes that even after 50 years the best use of the reclaimed site will be for grazing. More importantly, a 50-year reduction in grazing cannot truly be considered "temporary." Because the CDCA Plan as amended by the NEMO does not provide a mechanism for grazing retirement, in order for BLM to reduce the allotment size for 50 years, it should undertake a plan amendment. When BLM does so, it must consider a range of alternatives including a no action alternative (denying the ROW application and leaving the allotment in place), retirement of part of the allotment, and/or retirement of all of this allotment.

In addition, the fact that the DEIS fails to adequately identify or analyze many of the significant impacts to the tortoise population in the area from direct impacts (loss of habitat, fragmentation, take due to translocation, etc.) indirect impacts, and cumulative impacts is discussed in detail below. In addition, there is no meaningful analysis of how the actual use of the grazing allotment might change with a large 4,000 acre fenced industrial project site set into the middle of it and the potential for increased grazing in other areas due to this displacement. Nor there any discussion of the impacts of ongoing grazing on translocation sites or, more to the point, the need to reduce grazing in those areas of the allotment after tortoises are removed from the project site under the proposed translocation plan.[4] The DEIS for the proposed plan amendment should at minimum have included an alternative that would limit grazing in the translocation areas as well as reducing grazing on the project site itself.

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[3] There is no way to tell from the document whether this discrepancy is simply a mistake or if there is could be some rational basis such as, for example, if the higher number the AUMs includes AUMs on the non-BLM lands within the allotment. This and other basic problems with the DEIS mean that the document fails to provide its most essential function as a document of public disclosure.

[4] This is just one of the many oversights and failing associated with the analysis of the proposed translocation which is discussed in depth below.

D. Fails to Adequately Address Other Ongoing Planning Efforts

The FSA/DEIS fails to adequately address the proposed project in the context of other connected projects (including multiple solar projects, two substations and additional transmission lines) that if approved will create a *de facto* "solar zone" in this area undermining the ongoing PEIS planning process for solar development in six western states undertaken by BLM and DOE. As the BLM is well aware, the Ivanpah Valley area was *not* proposed as a solar development study area in that PEIS for either California or Nevada. Direct, indirect and cumulative impacts of the proposed project will convert the Northern Ivanpah Valley in California as well as Nevada into a *de facto* solar-industrial zone.

The cumulative impacts to species across the zone and even further across the state line into the eastern Ivanpah Valley are not adequately addressed in the planning context. Nor is the conversion of a largely natural area – the Ivanpah Valley and dry lake area as a whole—into a largely industrialized area with more than 6 large scale solar plants, the accompanying substations and power lines, glare and heat islands that will be created across the "zone" adequately addressed as in the environmental review. In fact, it is clear that piecemeal project approvals in this area will undermine the solar programmatic planning by federal agencies for the western states. This critical issue regarding planning on public lands is not adequately addressed in the FSA/DEIS which only mentions the PEIS process. FSA/DEIS at 4-11 to 4-12. The BLM does not analyze how the PEIS could be affected by piecemeal approval of this and other projects except to note in the alternatives section that: "the appropriateness of siting solar energy plants on various land use designations may be revisited in the PEIS." FSA/DEIS at 4-12. Such analysis *after the fact* is not consistent with the planning requirements of FLPMA or, indeed, any rational land use planning principles.

E. BLM Failed to Inventory the Resources of these Public Lands Before Making a Decision to Allow Destruction of those Resources

FLPMA states that "[t]he Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values," and this "[t]his inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values." 43 U.S.C. § 1711(a). FLPMA also requires that this inventory form the basis of the land use planning process. 43 U.S.C. § 1701(a)(2). *See Center for Biological Diversity v. Bureau of Land Management*, 422 F.Supp.2d 1115, 1166-67 (N.D. Cal. 2006) (discussing need for BLM to take into account known resources in making management decisions); *ONDA v. Rasmussen,* 451 F.Supp. 2d 1202, 1212-13 (D. Or. 2006) (finding that BLM did not take a hard look under NEPA by relying on outdated inventories and such reliance was inconsistent with BLM's statutory obligations to engage in a continuing inventory under FLPMA). It is clear that BLM should not approve a management plan amendment based on outdated and inadequate inventories of affected resources on public lands.

As detailed below in the NEPA sections, here BLM has failed to compile an adequate inventory of the resources of the public lands that could be affected by the proposed project (including, e.g., late-summer/early-fall flowering plants, bighorn movement and use, other biological resources, and cultural resources) which is necessary in order to adequately assess the

impacts to resources of these public lands in light of the proposed plan amendment and BLM has also failed to adequately analyze impacts on known resources.

F. The FSA/DEIS Fails to Provide Adequate Information to Ensure that the BLM will Prevent Unnecessary and Undue Degradation of Public lands

FLPMA requires BLM to "take any action necessary to prevent unnecessary or undue degradation of the lands" and "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. §§ 1732(b), 1732(d)(2)(a). Without adequate information and analysis of the current status of the resources of these public lands, BLM cannot fulfill its duty to prevent unnecessary or undue degradation of the public lands. Thus, the failure to provide an adequate current inventory of resources and environmental review undermines BLM's ability to protect and manage these lands in accordance with the statutory directive.

BLM has failed to properly identify and analyze impacts to the resources including the listed and sensitive species in the project area. As detailed below, the BLM's failure in this regard violates the most basic requirements of NEPA and in addition undermines the BLM's ability to ensure that the proposal does not cause unnecessary and undue degradation of public lands. *See Island Mountain Protectors*, 144 IBLA 168, 202 (1998) (holding that "[t]o the extent BLM failed to meet its obligations under NEPA, it also failed to protect public lands from unnecessary or undue degradation."); *National Wildlife Federation*, 140 IBLA 85, 101 (1997) (holding that "BLM violated FLPMA, because it failed to engage in any reasoned or informed decisionmaking process" or show that it had "balanced competing resource values").

II. The DEIS Fails to Comply with NEPA.

NEPA is the "basic charter for protection of the environment." 40 C.F.R. § 1500.1(a). In NEPA, Congress declared a national policy of "creat[ing] and maintain[ing] conditions under which man and nature can exist in productive harmony." *Or. Natural Desert Ass'n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting 42 U.S.C. § 4331(a)). NEPA is intended to "ensure that [federal agencies] ... will have detailed information concerning significant environmental impacts" and "guarantee[] that the relevant information will be made available to the larger [public] audience." *Blue Mountains Biodiversity Project v. Blackwood,* 161 F.3d 1208, 1212 (9th Cir. 1998).

Under NEPA, before a federal agency takes a "'major [f]ederal action[] significantly affecting the quality' of the environment," the agency must prepare an environmental impact statement (EIS). *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)). "An EIS is a thorough analysis of the potential environmental impact that 'provide[s] full and fair discussion of significant environmental impacts and ... inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.'" *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1). An EIS is NEPA's "chief tool" and is "designed as an 'action-forcing device to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs

and actions of the Federal Government.'" *Or. Natural Desert Ass'n,* 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

An EIS must identify and analyze the direct, indirect, and cumulative effects of the proposed action. This requires more than "general statements about possible effects and some risk" or simply conclusory statements regarding the impacts of a project. *Klamath Siskiyou Wildlands Center v. BLM,* 387 F.3d 989, 995 (9th Cir. 2004) (citation omitted); *Oregon Natural Resources Council v. BLM,* 470 F.3d 818, 822-23 (9th Cir. 2006). Conclusory statements alone "do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary's reasoning." *NRDC v. Hodel,* 865 F.2d 288, 298 (D.C. Cir. 1988).

NEPA also requires BLM to ensure the scientific integrity and accuracy of the information used in its decision-making. 40 CFR § 1502.24. The regulations specify that the agency "must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential." 40 C.F.R. § 1500.1(b). Where complete data is unavailable, the EIS also must contain an analysis of the worst-case scenario resulting from the proposed project. *Friends of Endangered Species v. Jantzen,* 760 F.3d 976, 988 (9th Cir. 1985) (NEPA requires a worst case analysis when information relevant to impacts is essential and not known and the costs of obtaining the information are exorbitant or the means of obtaining it are not known) *citing Save our Ecosystems v. Clark,* 747 F.2d 1240, 1243 (9th Cir. 1984); 40 C.F.R. § 1502.22.

As detailed below, the DEIS fails to comply with NEPA in several key areas. Overall, that the FSA/DEIS provides incomplete information and appears to have been prepared in a rush rather than to be the result of adequate analysis and research regarding impacts to the environment. Moreover, the DEIS fails to meet the requirements for sufficient information in many ways and fails to include any explanation for the missing information or analysis of why it could not be obtained.

As just one example, the citation to "San Bernardino County 2007" at 4.12-72 regarding identification of archeological sites is a reference to the following "San Bernardino County, 2007 [Citation from Aspen's canned cumulative analysis]" FSA/DEIS at 4.12-94 (highlighting in original). Indeed, the FSA/DEIS appears to rely heavily on "canned" analysis and conclusory statements and many critical issues have not been fully identified and analyzed in the FSA/DEIS. Moreover not all of the references are readily available and in several instances the FSA/DEIS relies on personal communications without any documentation for critical assumptions such as the success of desert tortoise translocation, ignoring other data and scientific evidence. For example, the FSA states "Mortality for translocated desert tortoise has been estimated at approximately 15 percent (Sullivan 2008)." FSA/DEIS 6.2-49. The reference given is "Sullivan, C. 2008. Personal communication between Susan Sanders and Charles Sullivan, Bureau of Land Management. Wildlife Biologist, Needles Office. Meeting on November 5, 2008." No other references are discussed or provided for this critical issue. In contrast, as the Center pointed out to the Staff in our comments dated July 8, 2009, the actual mortality data from the recent translocations at Fort Irwin was over 22% in just the first year. It does not appear that the BLM

had sufficient time or made sufficient effort to obtain current information or to accurately address the issue of mortality to the desert tortoise from translocation as well as many other issues. Similarly, the FSA/DEIS cites "Jaeger 2009" for several key conclusions regarding impacts to bighorn sheep (FSA/DEIS at 6.2-46, 6.2-89), however the is no listing in the references for this citation nor is there any other information provided as to the basis of these conclusions which are stated generally to be based on "a review of the literature." The FSA/DEIS does not describe whether any surveys were conducted for bighorn or sign, the methodology and results of such surveys if any, and if no surveys were conducted the reason for that omission. Moreover, for other statements and conclusions in the FSA/DEIS no references or source material is provided at all. *See, e.g.,* FSA/DEIS at 6.9-36 (conclusions with no references or analysis regarding impacts on seeps and springs in Clark Mountains), 6.9-45 (same).

These examples show a lack of attention to detail in preparing the DEIS and in consideration of the proposed project as well. When BLM revises the DEIS, as it must, the Center hopes and expects that BLM will remedy the errors noted as well as provide a more considered analysis of the impacts of the proposed project.

A. Purpose And Need and Project Description are Too Narrowly Construed and Unlawfully Segment the Analysis

1. Purpose and Need:

Agencies cannot narrow the purpose and need statement to fit only the proposed project and then shape their findings to approve that project without a "hard look" at the environmental consequences. To do so would allow an agency to circumvent environmental laws by simply "going-through-the-motions." It is well established that NEPA review cannot be "used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000) ("the comprehensive 'hard look' mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.") As Ninth Circuit noted an "agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Muckleshot Indian Tribe v. U.S. Forest Service*, 177 F. 3d 900, 812 (9th Cir. 1999). The statement of purpose and alternatives are closely linked since "the stated goal of a project necessarily dictates the range of 'reasonable' alternatives." *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit recently reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that "[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives" in violation of NEPA).

The purpose behind the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part, to "guarantee[ ] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The agency cannot camouflage its analysis or avoid robust public input, because "the very purpose of a draft and the ensuing comment period is to

elicit suggestions and criticisms to enhance the proposed project." *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agency cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives.

The BLM purpose and need states the "purpose of the proposed action is to approve, approve with modifications, or disapprove ROW applications" (referring to the three separate applications which make up the proposed project) and also states that the "need for the action has its basis in Federal orders and laws that require government agencies to evaluate energy generation projects and facilitate the development of renewable energy sources." FSA/DEIS at 2-7. The FSA/DEIS notes that an amendment to the CDCA Plan is needed in order to approve the project but does not clearly identify the plan amendment as a part of the project being evaluated. Rather, the DEIS states: "The BLM has determined that the proposed solar project and associated ROW would require an amendment to the CDCA Plan (Plan). The BLM will also consider the amendment of the CDCA Plan *to allow for the project.*" FSA/DEIS at 2-7 (emphasis added). As a result, BLM's purpose and need is very narrowly construed to the proposed project itself and an amendment to the Plan *for the project only*. The purpose and need provided in the DEIS is impermissibly narrow under NEPA for several reasons, most importantly because it foreclosed meaningful alternatives review in the DEIS. *See* FWS/DEIS at 4-1 and discussion below regarding alternatives. Because the purpose and need and the alternatives analysis are at the "heart" of NEPA review and affect nearly all other aspects of the EIS, on this basis and others, BLM must revise and re-circulate the DEIS.

The DOE purpose and need statement provides:

> The EPAct of 2005 established a Federal loan guarantee program for eligible energy projects that employ innovative technologies. Title XVII of the EPAct of 2005 authorizes the Secretary of Energy to make loan guarantees for a variety of types of projects, including those that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued".
>
> The two purposes of the loan guarantee program are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. The purpose and need for action by DOE is to comply with its mandate under EPAct by selecting eligible projects that meet the goals of the Act.

FSA/DEIS at 2-8. As the applicant admits the proposed project is experimental at the scale proposed: the applicant's objective is to "to demonstrate the technical and economic viability of Bright Source's Technology in a commercial-scale project." FSA/DEIS at 2-5. Thus, the proposed project appears to meet the DOE criteria because it is admittedly "new" — indeed, experimental — technology at the proposed scale, and the applicant hopes that it will be an improvement over other commercial technologies. However, by that same token, the FSA/DEIS fails to address the experimental nature of the project including the likelihood of success (or

failure) and the consequences of failure (including technological failures[5] and financial failures) and the full extent of the likely resulting impacts to public lands.

In discussing the cumulative scenario, the DOE loan guarantee program is also described as one of the incentive programs for funding renewable energy projects:

> Example[s] of incentives for developers to propose renewable energy projects on private and public lands in California, Nevada and Arizona, include the following:
>
> • U.S. Treasury Department's Payments for Specified Energy Property in Lieu of Tax Credits under §1603 of the American Recovery and Reinvestment Act of 2009 (Public Law 1115) - Offers a grant (in lieu of investment tax credit) to receive funding for 30% of their total capital cost at such time as a project achieves commercial operation (currently applies to projects that begin construction by December 31, 2010 and begin commercial operation before January 1, 2017).
>
> • U.S. Department of Energy (DOE) Loan Guarantee Program pursuant to §1703 of Title XVII of the Energy Policy Act of 2005 - Offers a loan guarantee that is also a low interest loan to finance up to 80% of the capital cost at an interest rate much lower than conventional financing. The lower interest rate can reduce the cost of financing and the gross project cost on the order of several hundred million dollars over the life of the project, depending on the capital cost of the project.

FSA/DEIS at 5-3 to 5-4.

The Center is well aware that deadlines for funding, particularly for the American Recovery and Reinvestment Act ("ARRA") funds, have driven the pace of the environmental review for this project and, while we support such funding mechanisms, deadlines cannot be used as an excuse for rushed and inadequate NEPA review. The BLM and DOE must be concerned with the adequate NEPA review and even if the agencies can properly have an objective of *timely* approval of projects they cannot properly have as purpose and need of the project a *rushed* inadequate environmental impact review.

Moreover, in its discussion of the need for renewable energy production the FSA/DEIS fails to address risks associated with global climate change in context of including both the need for climate change mitigation strategies (e.g., reducing greenhouse gas emissions) and the need for climate change adaptation strategies (e.g., conserving intact wild lands and the corridors that connect them). All climate change adaptation strategies underline the importance of protecting intact wild lands and associated wildlife corridors as a priority adaptation strategy measure.

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[5] As the BLM is aware, a fire at a solar facility in Daggett in 1999 did extensive damage. While that plant included some different features, technological failures, including those leading to fire, remain a concern *See, e.g.,* video at http://www.failure-analysis-consultant.com/assets/solarexplosion.html

As the FSA/DEIS admits, building the proposed project at the proposed location "would have major impacts to the biological resources of the Ivanpah Valley, substantially affecting many sensitive plant and wildlife species and eliminating a broad expanse of relatively undisturbed Mojave Desert habitat." (FSA/DEIS p. 1-17), including, "Permanent loss of 4,073+ acres of Mojave creosote scrub and other native plant communities, including approximately 6,400 barrel cacti; permanent loss of cover, foraging, breeding habitat for wildlife; habitat fragmentation and loss of connectivity for terrestrial wildlife; disturbance/dust to nearby vegetation and wildlife; increased predation due to increased raven/predator presence; spread of non-native invasive weeds; and direct, indirect, cumulative impacts to special status plant species." (FSA/DEIS p. 6.2-72)

The habitat fragmentation, loss of connectivity for terrestrial wildlife, and introduction of predators and invasive weed species associated with the proposed project in the proposed location are contrary to an effective climate change adaptation strategy that the agencies also claim to support. Siting the proposed project in the proposed location in Ivanpah Valley could undermine a meaningful climate change adaptation strategy with a poorly executed climate change mitigation strategy. The way to maintain healthy, vibrant ecosystems is not to fragment them and reduce their biodiversity.

2. *Project Description and Segmentation:*

NEPA's implementing regulations state that agencies should consider similar, reasonably foreseeable actions together in the same environmental review document when the actions "have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography," and the "best way to assess adequately [their] combined impacts [...] or reasonable alternatives" is to consider them together. 40 C.F.R. § 1508.25(a)(C). It is important for federal agencies to consider connected actions together in a single NEPA process as opposed to segmenting review. *Daly v. Volpe*, 514 F.2d 1106, 1110 (9th Cir. 1975) (where actions are interconnected in terms of fulfilling a joint purpose it may be necessary to conduct a single NEPA review).

Here, the BLM should not proceed any further in the NEPA process for the proposed project without an analysis the direct and indirect impacts of the proposed project in conjunction with the proposed Eldorado-Ivanpah transmission line upgrade and substations that are *necessary for this proposed project* as well as the other proposed projects that will also connect to the same transmission line upgrade and substations. At minimum, the BLM should consider all of the impacts of the proposed project, along with the transmission upgrade and substations, and the two Silver State projects that are also on the so called "fast track" as direct impacts of a connected project. Even if these significant impacts are described as indirect effects or "secondary" or "induced" effects attributable to the proposed project and the necessary transmission line upgrade, the need for adequate coordinated environmental review is no less. *See City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create). By failing to coordinate this NEPA process with the

approval process for all of the connected actions BLM may undermine full and fair public review of the impacts of the project in violation of NEPA. BLM must disclose and consider all of the related projects' significant impacts together. To do otherwise would be unlawful. Cumulative analysis is not sufficient where projects are connected actions.

In particular, the BLM should consider together the additive impacts to biological resources, including the desert tortoise and its habitat, from the proposed solar projects and the proposed transmission line and substations to ensure that the true extent of impacts are fully disclosed and analyzed. BLM should not treat this critical analysis as a cumulative impacts question alone. Because the currently proposed projects are linked and interdependent they should be evaluated together under NEPA. For example, each of these projects will have significant direct impacts on desert tortoise populations in the Northeastern Mojave Recovery Unit. BLM must look at those impacts in a comprehensive way that would allow it to formulate meaningful alternatives that could avoid many of the impacts of these linked projects and where impacts remain that cannot be avoided through alternatives, provide for comprehensive minimization and mitigation measures that will ensure that impacts to this recovery unit are appropriately mitigated. Ultimately, BLM must ensure that the approval of these linked projects does not impair the recovery of the desert tortoise populations in the Northeastern Mojave Recovery Unit.

The Project Description may also (perhaps inadvertently) mislead the public by its characterization of the project as a 400 MW "nameplate" or "nominal". While the DEIS admits that the project capacity is most likely to be 28%. FSA/DEIS at 6.1-65 (Greenhouse Gas Table 3, note c). This means that the actual output of energy from the project would likely be closer to 112 MW. Moreover, the Project Description and the DEIS as a whole fail to account for other power losses including line losses during hot days which can be significant. Because an accurate project description is vital to a fair comparison of alternatives, the DEIS should have more clearly discussed the capacity factor and other potential energy losses so that the actual output of this proposed project could be compared to similar projects.

B. The DEIS Does Not Adequately Describe Environmental Baseline

BLM is required to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 CFR § 1502.15. The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In *Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." Similarly, without a clear understanding of the current status of these public lands BLM cannot make a rational decision regarding proposed project. *See Center for Biological Diversity v. U.S. Bureau of Land Management, et al.*, 422 F. Supp. 2d 1115, 1166-68 (N.D. Cal. 2006) (holding that it was arbitrary and capricious for BLM to approve a project based on outdated and inaccurate information regarding biological resources found on public lands).

The DEIS fails to provide adequate baseline information and description of the

environmental setting in many areas including the status of the desert tortoise and other sensitive and rare plant and animal communities and even the most basic information regarding the climate of this area.

The desert tortoise is protected under the federal Endangered Species Act (55 Fed. Reg. 12178 (1990)) and the California Endangered Species Act (August 3, 1989), is the California State reptile, and is sorely in need of additional protections to stem population declines due to ongoing threats. These issues should have been fully explored in the baseline discussion. Although the DEIS admits that the "area provides high quality habitat for this species, with low levels of disturbance and high plant species diversity (CDFG 2008a). The desert tortoise population in this part of the Ivanpah Valley is also unique because it is the highest elevation at which this species is known to reside in the state (CDFG 2008)." The DEIS briefly mentions the current status of the species but does not clarify the need for additional protective measures to ensure recovery.

The DEIS also uses the land use designation as a way of minimizing the importance of this area for tortoise recovery but fails to explain the history of the current designation. Prior to the desert tortoise being listed as a threatened species, the BLM recognized the habitat in the project site as "Category 1" habitat, indicating it was the highest quality for desert tortoise. The on-the-ground habitat has not changed for the desert tortoise on the project site, substantiated by the relative density of the animals on the project site. Post listing in 1994, the Fish and Wildlife Service published a Recovery Plan for this threatened species that identified the Desert Wildlife Management Areas ("DWMA") that needed to be established as desert tortoise reserves and should be protected from known threats. The BLM codified a majority of the DWMA areas in the Northern and Eastern Recovery Unit in California through the establishment of DWMA's in the Northern and Eastern California Plan ("NEMO")[6]. However, the agency failed to include the recommendations of the Desert Tortoise Recovery Plan[7] for the Ivanpah DWMA, which included the northern Ivanpah Valley north of the Interstate 15. The proposed project is within the boundaries of this critical recovery area for the desert tortoise that, unfortunately, the BLM has to date failed to adequately protect.

The baseline descriptions in the DEIS are similarly inadequate for other species including birds, bighorn sheep, and late-summer and fall blooming plants. Indeed, the fact that there *are* significant late-summer and fall rains is almost completely absent from the document. *But see* FSA/DEIS at 6.2-27 (discussing gila monster activity after summer rains). Although there is much discussion of the high "solarity" of the area, nowhere in the DEIS does the BLM disclose that the area is subject to summer rain and has far more cloud cover than many other areas of the California desert due to its proximity to the Colorado river. Indeed, the project applicant was unaware of the extent of clouds at the site which they now estimate to be up to 700 hours per year, approximately 10% of the operating time, and estimate to impact energy production by approximately 5%.[8] Similarly, the DEIS fails to reveal that the site is shadowed by the Clark Mountains and the mountains in the Stateline Wilderness which cut off sunlight late in the day in

[6] Northern and Eastern Mojave Plan 2002
[7] Desert Tortoise Recovery Plan (1994) at pg. 41.
[8] *See* CEC Hearing Transcript January 14, 2010 at 7-11.

both summer and winter.[9] As a result, any comparison of alternatives sites based on solarity was incomplete and flawed. *See* FSA/DEIS at 4-10 (discussing need for alternative sites to have "appropriate solarity"). It is impossible to tell how many potentially viable alternative sites were rejected based on having lower "solarity" than the Ivanpah site but it is certain that such analysis was fatally flawed.

As discussed below, because of the deficiencies of the baseline data for the proposed project area, the DEIS fails to adequately describe the environmental baseline. Many of the rare and common but essential species and habitats have incomplete and/or vague on-site descriptions that make determining the proposed project's impacts difficult at best. Some of the rare species/habitats baseline conditions are totally absent, therefore no impact assessment is provided either. A supplemental document is required to fully identify the baseline conditions of the site, and that baseline needs to be used to evaluate the impacts of the proposed project.

C. Failure to Identify and Analyze Direct and Indirect Impacts to Biological Resources

The EIS fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed project on the environment. The Ninth Circuit has made clear that NEPA requires agencies to take a "hard look" at the effects of proposed actions; a cursory review of environmental impacts will not stand. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150-52, 1154 (9th Cir. 1998). Where the BLM has incomplete or insufficient information, NEPA requires the agency to do the necessary work to obtain it where possible. 40 C.F.R. §1502.22; *see National Parks & Conservation Ass'n v. Babbitt,* 241 F.3d 722, 733 (9 th Cir. 2001) ("lack of knowledge does not excuse the preparation of an EIS; rather it requires [the agency] to do the necessary work to obtain it.")

Moreover, BLM must look at reasonable mitigation measures to avoid impacts in the DEIS but failed to do so here. Even in those cases where the extent of impacts may be somewhat uncertain due to the complexity of the issues, BLM is not relieved of its responsibility under NEPA to discuss mitigation of reasonably likely impacts at the outset. Even if the discussion may of necessity be tentative or contingent, NEPA requires that the BLM provide some information regarding whether significant impacts could be avoided. *South Fork Band Council of Western Shoshone v. DOI* , 588 F.3d 718 , 727 (9th Cir. 2009).

1. Tortoise

The desert tortoise has lived in the western deserts for tens of thousands of years. In the 1970's their populations were noted to decline. Subsequently, as mentioned above, the species was listed as threatened by the State of California in 1989 and by the U.S. Fish and Wildlife Service in 1990, which then issued a Recovery Plan for the tortoise in 1994. The U.S. Fish and Wildlife Service is in the process of updating the Recovery Plan, and a Draft Updated Recovery

[9] Revised Testimony of Curtis Bradley, dated December 18, 2009 submitted to the CEC on December 22, 2009

Plan was issued in 2008, however it has not been finalized. Current data indicate a continued decline across the range of the listed species[10] despite its protected status and recovery actions.

The original and draft Updated Recovery Plans both recognize the uniqueness of the northern Ivanpah Valley population in California. This particular subpopulation of tortoise are part of the Northeastern Recovery unit. While the Northeastern Recovery Unit is located primarily in Nevada, a small but significant part of the Recovery Unit dips down into California in the Ivanpah Valley[11]. The Recovery Plan recognizes that the Northeastern Recovery Unit has "three mtDNA haplotypes are found in this recovery unit, but they exhibit low allozyme variability with relatively little local differentiation"[12] indicating that the tortoises within this Recovery Unit are genetically distinct from other Recovery Unit populations. Recent population genetics studies[13] have further confirmed that the desert tortoise population in the Ivanpah Valley on and adjacent to the project site are distinctly genetically different from tortoises elsewhere within the Northeastern Recovery Unit, and very genetically different from tortoises in other adjacent Recovery Units. This finding adds weight to the idea that a conservative approach needs to be applied to management of the desert tortoise in the Ivanpah Valley. While the population of the Northeastern Recovery Unit may be widespread through four states, the part of the population within the boundaries of the California Desert Conservation Area where this project is located is very limited and genetically unique. Yet, the DEIS fails to identify and consider the localized impact to this genetically rare portion of the population on the project site.

Moreover, as discussed in detail below, the proposed translocation plan is not sufficiently thought through and fails to consider all of the likely impacts to the tortoise that are proposed to be moved as well as the host tortoises, or how future projects in the area may also affect these same animals and the population in the area. NEPA mandates consideration of the relevant environmental factors and environmental review of "[b]oth *short- and long-term* effects" in order to determine the significance of the project's impacts. 40 C.F.R. § 1508.27(a) (emphasis added). BLM has clearly failed to do so in this instance with respect to the impact to the tortoise.

2. Bighorn

The DEIS fails to comprehensively assess the impacts from of the proposed project on the local desert bighorn sheep population. Without this basic information about the use of the proposed project site and adjacent areas by bighorn it is impossible to assess the extent of the impacts to the bighorn population in this area from the proposed project.[14]

The proposed project will clearly cause the loss of foraging habitat on alluvial fans and in washes which is known to be important to bighorn. Even if such habitat may only be used

[10] Doak et al. 1994, USFWS 2009
[11] Desert Tortoise Recovery Plan (1994) at pg. 41.
[12] Desert Tortoise Recovery Plan (1994) at pg. 21.
[13] Murphy et al. 2007
[14] The Center sponsored testimony from bighorn expert Mark Jorgensen as part of the CEC hearings. That testimony is attached and incorporated by reference herein. Testimony of Mark C. Jorgensen dated December 14, 2009 and at hearing on January 11, 2010.

during certain seasons it can be critical to survival of bighorn. Without site-specific data on the details of habitat use patterns of the bighorn in the area, the DEIS cannot properly assess the importance of the alluvial fan and wash habitat to the bighorn population or the impact of its loss on the population.

The proposed project may affect foraging areas and movement corridors for bighorn, as well as fragmenting currently intact habitat. The DEIS proposes a wildlife drinker as a mitigation measure. However, the DEIS provides no information documenting the need for the proposed wildlife drinker. Is the Clark range lacking in available water sources accessible to bighorn sheep? Moreover there is no discussion of how, if at all, this mitigation proposal could actually mitigate for the loss of forage and movement areas and fragmentation of habitat by the construction of the proposed solar project on over 4,000 acres.

For other rare species addressed in the document the mitigation involves the purchase and future protection of an equal amount of acreage or more that is being impacted. No such suggestion is listed for bighorn, although even the purchase of lands elsewhere will do nothing for the movement corridor between the Clarks and the State Line Hills.[15] The mitigation measure proposed does not relate to the loss of alluvial fan foraging habitat and movement corridor where the Project would be constructed.

Additional field study needs to be conducted by a knowledgeable researcher in the Clark Mountains and on the proposed solar site, and probably on the State Line range as well. Absent any real information in the field, any suggested mitigation or perceived impacts are pure conjecture.

We also note that similar concerns were raised in a letter dated October 27, 2009, where the California Department of Fish and Game[16] provided some proposed minimization measures which were not included in the DEIS. Although these measures may not be sufficient to mitigate the impacts to a less than significant level, they could help minimize and reduce some of the impacts to bighorn and it is hard to understand why they were not discussed in the DEIS. The measures include "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."

3. Plants and Plant Communities

Rare and Special Status Plants

Several rare plants were found on the proposed project site including the Rusby's mallow

[15] Epps et al. 2007; Epps et al. 2004.

[16] CDFG 2009 - Letter from Kevin Hunting 10/27/09 "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)

which is a BLM sensitive species.[17] Management of special status species (and indeed all rare species) on BLM lands should focus on ensuring long term survival and recovery in order to prevent the need for future listings. Nothing in the DEIS shows that the BLM took into consideration these critical management concerns. *See* BLM Maunal 6840.2.C (Implementation) ("BLM shall manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the condition of the species habitat, by . . . [e]nsuring that BLM activities affecting Bureau sensitive species are carried out in a way that is consistent with its objectives for managing those species and their habitats at the appropriate spatial scale . . . [and] [c]onsidering ecosystem management and the conservation of native biodiversity to reduce the likelihood that any native species will require Bureau sensitive species status").

The Center incorporates by reference here the comments and information submitted by the California Native Plant Society on issues related to rare and special status plants. As CNPS and others have shown, the DEIS failed to adequately analyze the impacts that the proposed project would have on rare and special status plant species including direct, indirect and cumulative impacts to these plants and failed to adequately identify and evaluate potential alternatives that would avoid or minimize the impacts of the project on these species.

Another major failure of the DEIS is the lack of late summer/early fall-flowering plant surveys on the proposed project site. Approximately 40% of the plant taxa in Ivanpah Valley flower in late summer/early fall due to its location and bimodal precipitation regime. Twenty to twenty-five special status plants that have potential to occur on the site flower in the summer/fall. The spring surveys would fail to document most of these summer/early fall-flowering rare plants on site.

While the spring surveys for rare plants were rigorous, as identified in the DEIS, absent adequate precipitation (as in the 2007 surveys) many fewer rare plants were documented than in the subsequent much moister year of 2008. Additionally because of the vagaries of precipitation in the Mojave desert, surveys should be performed over a number of years during both the spring and summer/fall flowering seasons in order to maximize the probability of identifying all special status species that occur on the project site. Projects of this size and potential impact typically include more than two years of surveys. Without an accurate inventory of plant taxa that occur on site, it is not possible to fully assess project impacts to special status plants and therefore meaningful mitigation cannot be developed.

The Eastern Mojave Desert is a botanical frontier where in the past few years alone, a number of very significant botanical finds have occurred and more are to be expected. For example, at least five species previously undocumented within the CDCA boundaries have been documented in the last few years directly on or adjacent to the project site. Additionally, these species that are found on the "edges" of their range are incredibly important for species

[17] Rusby's desert-mallow (*Sphaeralcea rusbyi var. eremicola*) is a 1B plant which is protected by BLM as a special status species. *See* BLM, Instruction Memorandum No. CA-2009-013, Clarification of 6840 With Respect to Special Status Plant Species dated March 18, 2009.

persistence[18] especially in light of global climate change.[19]

Because of the lack of comprehensive surveys, the impact analysis can not evaluate the true impacts to rare plants from the proposed project.

We are concerned that the impacts to the documented on-site rare plants have been determined to be significant, but no efforts have been made to further reduce these impacts by developing alternatives within and outside of the Ivanpah Valley. We believe there are additional sites for the proposed project that have far fewer impacts to rare plant species (and other species), yet they have not been fully evaluated (see discussion in Alternatives section).

Plant Communities

Several rare plant communities may be present on site including creosote bush-white bursage scrub associations occurring with *Pleuraphis rigida* (Big galleta grass), and "those with a diverse shrub layer are G1/S1" (DEIS at pg. 566). The G1/S1 (Global/ State) status rank means that the plant community is considered globally/state uncommon with "fewer than 6 viable occurrences worldwide/statewide, and/or up to 518 hectares" (DEIS at pg. 45). The Ivanpah site plant community has both galleta grass and a diverse shrub layer, suggesting that these rare plant communities do indeed occur on the proposed project site. However the DEIS fails to identify the presence of these plant communities, quantify the acreage on site, avoid impacts or analyze the impacts from the proposed project, and if impacts are unavoidable, mitigate for any impacts.

Additionally, the DEIS recognizes that the proposed project site supports very few non-native plant species (weeds) (DEIS at pg.6.2-9), indicating that the site has a very low level of disturbance (weed occurrence is directly correlated with disturbance[20]). While the proposed Weed Management Plan[21] will likely minimize the spread of weeds across the site and potentially beyond if implemented properly, the fact remains that due to the fragmentation of habitat from road and fence building and general site activities the project will likely be a seed source for weeds to disperse into the surrounding natural area. The relatively low occurrence of weeds is another factor that BLM should have more fully considered in the DEIS in the context of the planning area as a whole. Areas with low weed occurrence are increasingly rare in the California desert and the remaining areas should be protected.

4. Migratory and Other Birds , Golden Eagles, and Burrowing Owls

Birds

As the DEIS notes, the proposed project area is rich in bird resources. Clark Mountain, which is directly adjacent to the site, is noted as an Important Bird Area[22]. In fact, two very rare

[18] Leppig and White 2006
[19] Kelly and Goulden 2008
[20] Brooks 1999; Brooks and Berry 2006
[21] CH2MHill 2008a. 2008-08-12_DATA_RESPONSE_SET_1F_TN-47476
[22] Audubon IBA Desert Mountains

birds in California, the Whip-poor will (Arizona race) and the hepatic tanager are known to successfully nest on Clark Mountain. Birds migrate to Clark Mountain from the Colorado River Basin[23] – a route that goes over the project site. The DEIS fails to evaluate the impact to this migratory pathway from the proposed project.

The DEIS recognizes the potential impact to diurnal birds from flying into the focused sun rays and getting burned (DEIS at pg. 6.2-65). However the DEIS fails to address the additional fatalities that have been documented to occur from birds running into mirrors[24]. Adjacent to the proposed project site is the golf course, which includes several water features. This adjacent land use attracts migratory and resident birds based on the resources present – an oasis in the desert. The DEIS does not quantify the number of birds (rare, migratory or otherwise) that use/traverse the project site (for example a mean daily count), nor does it evaluate the impact to birds. McCrary[25] estimated 1.7 birds deaths per week on a 32 ha site with one 86 m tower. The proposed project site is approximately 1644 ha (over 50 times larger) with seven 95 m towers and five 140 m towers. Lacking baseline data of mean daily count of birds on the project site, analysis of the impacts to birds is impossible. Based on the existing literature, the impact may be significant.

Migratory birds were noted to occur on the proposed site (DEIS at pg. 6.2-15). Clearly the site is within a migratory pathway and the migratory elevation is a key issue that needs further analysis. Mirrors and towers within migratory elevations will create impacts to migratory birds. These impacts could be avoided or minimized if mirrors and towers are properly cited. NEPA requires that impacts be first avoided and minimized. These analyses needed to be done prior to the DEIS being produced and still need to be done, because detailed surveys and analyses are the basis for the evaluation of impacts to biological resources as required by NEPA. The failure to provide the baseline data on which to base impact assessment violates NEPA. Failure to be able to analyze impacts is not only a NEPA violation, but for migratory birds, may also lead to a violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 -711, because migratory birds may be "taken" if the proposed project is constructed.

Additionally, some kind of "holding basins" will be present on site. *See* FSA/DEIS at 6.13-5. The DEIS indicates that project site would include 2 holding pods at each of the 3 power blocks – or 6 in total —40 feet x 60 feet x 6 feet deep water "holding basins". Id. In contrast the Biological Assessment indicates that only two ponds will be constructed.[26] Moreover, it is unclear if the holding basins are the same as the as the "evaporation pits" noted on Figure 5 in the project description (#15) in the DEIS. These may also be an attractive nuisance to birds as they migrate through the area, attracting them onto the project site during any time that the basins retain water. The DEIS is unclear about the amount of time water may be retained in these basins and no discussion of this infrastructure is identified in the biological section of the

[23] Audubon IBA Desert Springs
[24] McCrary 1986
[25] Ibid
[26] CH2MHill 2009b. Biological Assessment at pg. 2-24

DEIS, nor are impacts analyzed or minimization measures identified.[27] Examples of minimization could include requiring covered or contained infrastructure, which would not only eliminate bird (and other wildlife) attraction, but would reduce evaporation and therefore water use in this arid environment. Alternatively, the pools could be required to be emptied in a less than 24 hour period so they would not be an attractant to birds (including ravens).

Golden eagle

Golden eagles are documented to use proposed project site as a foraging (DEIS at 6.2-22) and are thought to nest in the adjacent Clark Mountains (DEIS at 6.2-23). The proposed mitigation measure BIO-17 proposes to reduce impacts to the species to less than significant levels, however the DEIS fails to present exactly how it will mitigate the loss of a substantial amount of foraging habitat for the golden eagle. The fact still remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity.

The DEIS fails to disclose the number of pairs of golden eagles that could be affected by the proposed project. Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest[28]. Regardless of distance, a straightline view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of viewsheds using a three-dimensional GIS tool and development of buffers based on the modeling[29]. The DEIS fails to discuss the potential impacts on nesting golden eagles in the Clark Mountains which is part of the Mojave National Preserve. Golden eagles use only a small subset of their home territories during nesting for foraging. These essential areas may include the proposed project site, however the DEIS does not analyze this important factor of nesting success. Additionally, the DEIS does not actually clearly analyze the impacts to and mitigations for the golden eagle under the Bald Eagle and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the take, possession, and commerce of such birds.

5. Gila Monster

Mitigation measure "Bio-11" for the banded Gila monster proposes relocation as the mitigation strategy if the lizard is encountered. Relocation of banded Gila monster has been shown to be an ineffective strategy[30]. Similar to desert tortoises, the Gila monsters try to return to their original sites despite relocation distances. Effective mitigation for this species needs to include strategies that will minimize mortality, not ensure it.

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[27] During the CEC hearings the project applicant's witness stated that the basins would likely be filled infrequently. When the BLM revises the DEIS as it must it should also provide additional information about the planned and potential use of the holding basins and any limitations that could be imposed to minimize impacts.

[28] Richardson and Miller 1997

[29] Camp et al. 1997; Richardson and Miller 1997

[30] Sullivan et al. 2004

6. Badger

Badgers were identified in the project area during surveys in 2007 (DEIS at pg. 6.2-45). Literature on the highly territorial badger indicates that badger home territories range from 340 to 1,230 hectares[31]. Therefore, the proposed project could displace *at least* one badger territory. While surveys prior to construction are clearly essential since badgers have been located on the site, relocation of badgers into suitable habitat may result "take". Relocation is likely to move relocated badgers into existing badger's territory. Studies need to be provided on both on- and off-site badger territories if animals are to be relocated in order to increase chances of persistence. At a minimum, the EIS should identify suitable habitat.

7. Insects

No scientific literature is available that quantitatively documents the impact of concentrated solar facilities on insects. However, information from a biological surveyor on the Daggett Solar 1 site indicates that diurnal insects including butterflies were impacted from the focused sunlight[32]. The DEIS completely fails to identify or address this important issue. The DEIS does note that many of the sensitive bird species are insectivores and rely on ample amounts of insects in their diet. Additionally, many of the resident and adjacent plant species including rare plants rely on insects for pollination. Clearly the impacts to insects will need to be analyzed in the recirculated DEIS including the effects on the secondary consumers (birds) and plants.

Based on the plants identified on site[33] and research and consultation with an eentomologist familiar with desert insects, rare insect species could occur on site[34]. Over twenty rare butterflies have host plants that occur on site including species of metalmarks, marble butterflies, skippers and small blue butterflies. Additionally the desert swallowtail (*Papilio polyxenes coloro*) and the Pahaska Skipper (*Hesperia pahaska martini*) have been documented in the general site vicinity[35]. No surveys were done to evaluate the insects that occur on site and the no analysis of impacts to those species of eliminating over 4,000 acres of habitat is provided. No analysis was done on the operation of the solar plant and its effects on the adjacent and migratory insects, some of which may be essential pollinators for the rare plants on and off the project site. Forseeable impacts include attraction of the species to the mirrors and focusing beams, and subsequent insect collisions and incineration.

8. Cryptobiotic soil crusts

The proposed project is located in the Mojave Desert Air Quality Management District

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[31] Long 1973, Goodrich and Buskirk 1998
[32] P. Flanagan, personal communication
[33] CH2MHill 2008b. Botanical Resources 2008-10-08_SUPPLEMENTAL_DATA_RESPONSES_1D TN-48188
[34] G. Pratt, personal communication
[35] http://butterfliesofamerica.com

area, and is already in non-attainment for PM-10 particulate matter[36]. The construction of the proposed project further increase emissions of these types of particles because of the disruption and elimination of potentially thousands of acres of well-developed cryptobiotic soil crusts. Cryptobiotic soil crusts are an essential ecological component in arid lands. They are the "glue" that holds surface soil particles together precluding erosion, provide "safe sites" for seed germination, trap and slowly release soil moisture, and provide CO_2 uptake through photosynthesis[37].

The proposed project site has well developed cryptobiotic soil crusts, which currently hold soils in place. The proposed project will disturb an unidentified portion of these soil crusts and cause them to lose their capacity to stabilize soils and trap soil moisture. The DEIS fails to provide a map of the soil crusts over the project site, and to present any avoidance or minimization measures. It is unclear how many acres of cryptobiotics soils will be affected by the project. The FEIS must identify the extent of the cryptobiotic soils on site and analyze the potential impacts to these diminutive, but essential desert ecosystem component as a result of this project.

9. Closure, Revegetation and Rehabilitation Plan

Desert lands are notoriously hard to revegetate or rehabilitate[38] and revegetation never supports the same diversity that originally occurred in the plant community prior to disturbance[39]. The task of revegetating over six square miles will be a Herculean effort that will require significant financial resources. In order to assure that the ambitious goals of the revegetation effort is met post project closure, it will be necessary to bond the project, so that all revegetation obligations will met and assured. The bond needs to be structured so that it is tied to meeting the specific revegetation criteria.

The project will cause permanent impacts to the on-site plant communities and habitat for wildlife despite "revegetation", because the agency's regulations based on the Northern and Eastern Mojave Plan's rehabilitation strategies[40] only requires 40% of the original density of the "dominant" perennials, only 30% of the original cover. Dominant perennials are further defined as "any combination of perennial plants that originally accounted cumulatively for at least 80 percent of relative density".[41] These requirements fail to truly "revegetate" the plant communities to their former diversity and cover even over the long term. The Closure Rehabiliation and Recovery Plan revegetation criteria are even less robust, requiring after 10 years only 12% cover, 0.40 diversity and 10 species richness[42]. Neither the agency's or project revegetation criteria require native annual species as a component of revegetation, despite the

[36] http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=1982
[37] Belnap 2003, Belnap et al 2003, Belnap 2006, Belnap et al. 2007.
[38] Lovich and Bainbridge 1999
[39] Longcore 1997
[40] BLM 2002
[41] Ibid
[42] CH2MHill 2009a. Draft Closure and Revegetation Plan. Data Response, Set K, TN-52208 at pg. 7-32

fact that native wildlife rely heavily on spring and fall annuals for survival[43]. For all these reasons, permanent impacts will occur to the site despite revegetation.

The plant species list for the project site shows much greater diversity than the twelve species identified as Seeds Targeted for Collection in Support of Revegetation[44]. The seed list needs to be greatly increased to capture the original diversity of both perennial and annual species. Enabling an accelerated successional process is appropriate and desirable, however, the plan should not rely on dispersal of late successional propagules over the six square mile area, but should instead include sequential seeding, where later successional species are introduced by seed after early successional species establishment. This strategy would encourage quicker re-establishment of late successional species throughout the site.

Revegetation Criteria

Revegetation criteria are essential as a method for assessing success of revegetation efforts. The revegetation criteria (Table 7-6 at pg. 7-32 of the Closure, Revegetation and Rehabiliation Plan) are a good start to assessing the success of the proposed revegetation effort. One important absent component is the annual flora. Admittedly tricky to monitor but essential to the landscape level integrity of the revegetated area, revegetation criteria need to be developed and included for the annual flora, based on trends in the cover and diversity of species over the 10 year monitoring period.

Because the actual proposed project site data revealed an elevational cline in shrub cover, density and richness (greater cover, density and richness at higher elevations than lower), the revegetation criteria needs to also reflect that elevational effect. Clarifications should also be made in the revegetation criteria to preclude future interpretations that the percent cover is the *total cover* of the perennial species on the ground (as opposed to a percent of the original cover) and the same concept must be clarified with the species diversity and richness.

At a minimum, all of the issues in Biological Resources Appendix B (FSA/DEIS at pg. 6.2-150- 6.2-164), should be incorporated into the final Closure, Revegetation and Rehabilitation Plan to help insure a more successful revegetation effort.

10. Fire Plan

Fire in desert ecosystems is well documented to cause catastrophic landscape scale changes[45] and impacts to the local species[46]. While the DEIS mentions the impacts of fire via the proliferation of nonnative weeds (DEIS at pg. 6.2-34 and pg. 6.2-63), it fails to adequately analyze the impacts of this issue on adjacent natural desert habitat especially in light of the fact that the proposed project relies on superheated liquids.

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[43] Jennings 2002, Shoemaker et al. 1976

[44] CH2MHill 2009a. Table 7.1at pg. 7-10 of the Closure, Revegetation and Rehabilitation Plan

[45] Brown and Minnich 1986, Lovich and Bainbridge 1999, Brooks 2000, Brooks and Draper 2006, Brooks and Minnich 2007

[46] Ducher 2009

The DEIS fails to adequately analyze the impact that an escaped on-site-started fire could have on the natural lands adjacent to the project site if it escaped from the site. The DEIS also fails to address the mitigation of this potential impact. Instead it defers it to the Worker Environmental Awareness Program (WEAP) and only requires "a discussion of fire prevention measures to be implemented by workers during project activities" (DEIS at pg. 6.2-102). A fire prevention and protection plan needs to be developed and required to preclude the escape of fire onto the adjacent landscape (avoidance), lay out clear guidelines for protocols if the fire does spread to adjacent wildlands (minimization) and a revegetation plan if fire does occur on adjacent lands originating from the project site (mitigation) or caused by any activities associated with construction or operation of the site even if the fire originates off of the project site.

11. Failure to Identify Appropriate Mitigation

Because the DEIS fails to provide adequate identification and analysis of impacts, inevitably, it also fails to identify adequate mitigation measures for the project's environmental impacts. "Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that an EIS will discuss the extent to which adverse effects can be avoided." *Methow Valley*, 490 U.S. at 351-52. Because the DEIS does not adequately assess the project's direct, indirect, and cumulative impacts, its analysis of mitigation measures for those impacts is necessarily flawed. The DEIS must discuss mitigation in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Methow Valley*, 490 U.S. at 352; *see also Idaho Sporting Congress*, 137 F.3d at 1151 ("[w]ithout analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices"). As the Supreme Court clarified in *Robertson*, 490 U.S. at 352, the "requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of [NEPA] and, more expressly, from CEQ's implementing regulations" and the "omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action forcing' function of NEPA."

Although NEPA does not require that the harms identified actually be mitigated, NEPA does require that an EIS discuss mitigation measures, with "sufficient detail to ensure that environmental consequences have been fairly evaluated" and the purpose of the mitigation discussion is to evaluate whether anticipated environmental impacts *can be avoided. Methow Valley*, 490 U.S. at 351-52. As the Ninth Circuit recently noted: "[a] mitigation discussion without at least *some* evaluation of effectiveness is useless in making that determination." *South Fork Band Council of Western Shoshone v. DOI* , 588 F.3d 718 , 727 (9th Cir. 2009) (emphasis in original).

Here, the DEIS does not provide a full analysis of possible mitigation measures to avoid or lessen the impacts of the proposed project and therefore the BLM cannot properly assess the likelihood that such measures would actually avoid the impacts of the proposed project.

To the extent the DEIS discusses some mitigation measures, the proposal to "nest" mitigation measures undermines much of that discussion. The DEIS proposes to mitigate impacts

for desert tortoise by land acquisition and management, however, that same mitigation is proposed to also mitigate for several of the impacts to other rare species as well as impacts to surface waters (or waters of the State) through "nesting" of mitigation. While some of these mitigation issues pertain primarily to protections afforded by the State (i.e., for waters of the State) it is important to carefully analyze whether within that structure the BLM's proposed 1:1 mitigation for tortoise will adequately mitigate for other resources of these public lands that will be lost should the project be approved as proposed. It is possible that once the acquisition lands are identified and surveyed, this strategy could achieve mitigation for some aspects of the various impacts, however, it is unlikely that it will actually adequately mitigate for impacts to a number of the species, the loss of alluvial fan habitat, or all of the losses the waters of the State that will be potentially impacted by the proposed project. For example, if mitigation lands are acquired for conservation and they are good desert tortoise habitat, they still may not support the same suite of rare, sensitive plants, or similar alluvial fan habitat important to bighorn populations in order to effectively mitigate for the impacts of the proposed project on those resources. Very careful selection of mitigation lands will need to be done, and additional lands over and above the 1:1 ratio now proposed for desert tortoise by BLM maybe required in order to properly mitigate for the loss of other resources of these public lands that the proposed project will affect.

D. BLM Continues to Ignore the Best Available Science by Conflating Management Preferences with Requirements for Species Conservation and Recovery

The value of the habitat in the Northern Ivanpah Valley to the desert tortoise and its long term conservation and recovery is, unfortunately, not the same as BLM's preferred management strategy. The Desert Tortoise Recovery Plan identified this area as conservation habitat (*see* map at 41) and the Northern Ivanpah Valley Desert Tortoise Management Unit was classified as Category I in the CDCA plan and in the BLM's Desert Tortoise Habitat Management on Public Lands[47]. In adopting the NEMO Plan in 2002, the BLM excluded the Category I habitat in the Northern Ivanpah Valley from designation in a DWMA for management reasons having nothing to do with the quality of the habitat. According to the NEMO Plan:

> *Northern Ivanpah Valley Unit*
>
> The area located immediately north and west of Stateline (or Primm) was designated BLM Category I desert tortoise habitat but was not designated as critical habitat by USFWS. The area was not included in a DWMA because it is "relatively small" (29,110 acres), is separated from other desert tortoise populations in the NEMO Planning Area by I-15 and Ivanpah Dry Lake, and is undergoing substantial development pressures particularly adjacent to I-15. This recommendation was also consistent with the strategy for desert tortoise adopted by Federal agencies in Nevada. The Nevada strategy did not identify the northern Ivanpah Valley, as an area to be managed for desert tortoise recovery.

[47] BLM 1988

NEMO Plan FEIS, Appendix A, at A-4 (Note: "north" appears to be mistake as most of the area in questions is actually south of Primm). The BLM ignored the fact that although this population of tortoises is somewhat separated from those below I-15, it is not separated from the tortoise populations to the northeast within Nevada. In fact, connectivity has been maintained under I-15 through undercrossings and could be improved. Moreover, BLM ignored the fact that the tortoises in this area are part of a very small population of tortoises from the Northeastern Mojave Recovery Unit found in California.

Despite the scientific evidence based on genetics, morphology and behavior that the tortoise in this area are part of the Northeastern Mojave Recovery Unit[48], BLM in the NEMO Plan listed only recovery of the tortoise in the Eastern Mojave Recovery Unit as a goal of the Plan, at 1-3, and stated:

> The preferred alternative is to propose that USFWS modify recovery unit boundaries so that all of NEMO is part of the Eastern Mojave Recovery Unit. Currently a portion of the planning area is in the Northern and Eastern Mojave Recovery Unit, but it forms a cohesive unit with the rest of the Eastern Mojave Desert tortoise habitat. Strategies for the Northern and Eastern Mojave Recovery Unit are focused firstly in areas northeast of Las Vegas, and secondarily, in an area north of Nipton Road in an area of Nevada that is not adjacent to the state line.

NEMO Plan FEIS at 1-3, n. 6. However, the Recovery Unit boundaries are not based on adjacency but reflect distinct population segments of the desert tortoise that were determined based on "substantial geographic variation in genetic, morphological, ecological, physiological and behavioral traits." Recovery Plan at 19. These distinctions have been confirmed through genetic evidence as well.[49]

As a result of BLM's focus on management factors rather than tortoise recovery, after the adoption of the NEMO Plan the Northern Ivanpah Valley Unit area was reclassified the desert tortoise habitat "Category III" based on management considerations, not the quality of the habitat.

E. Impacts to Water Resources—Groundwater and Surface Water Impacts

1. Groundwater Impacts:

The FSA/DEIS fails to adequately address the hydrology of the groundwater basins that are proposed to be pumped by the applicant and the likely impacts to other area waters including surface waters. The estimate for groundwater recharge is not sufficiently supported in the FSA/DEIS and fails to take into account persistent drought as well as the likely effects of climate change in this area. The FSA/DEIS simply assumes there will be no impacts to springs utilized by wildlife in the surrounding mountains and wilderness areas, although no meaningful information regarding the basis of this conclusion is provided.

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[48] Desert Tortoise Recovery Plan, USFWS 1994

[49] Murphy et al. 2007

Although the FSA/DEIS does not provide meaningful baseline data on the groundwater regime in this area, the Center understands that this area may be connected to the Death Valley aquifer and others in Nevada which function in unique ways such that pumping down gradient can often cause impacts to springs and seeps in mountain areas far up stream, contrary to the conclusory statements in the FSA/DEIS.[50] Because the FSA/DEIS provides no basis for its statements and conclusions, it is impossible to discern whether staff has specific evidence regarding this aquifer and the connections between the area where the proposed ground water pumping would occur and the mountain springs were actually considered or whether staff is simply making assumptions about the functioning of the aquifer in this area. During the evidentiary hearings the CEC staff provided somewhat more information on the groundwater issues however there is still no evidence that the analysis in the FSA/DEIS adequately considered the impacts of long-term drought or climate change on the water resources in this area.

The FSA/DEIS also fails to adequately consider the cumulative impacts on water resources in this area – relying on assumptions regarding recharge that appear to be overstated—and failing to address long-term drought and climate change as well as the potential impacts to surface resources from cumulative groundwater extractions.

2. Surface Water Impacts:

The FSA/DEIS identifies impacts to surface drainages on the bajada/alluvial fan that would be destroyed by the project but fails to adequately address avoidance and minimization of these impacts. The FSA/DEIS also fails to provide any specific discussion of mitigation for these impacts—again deferring the plan to a later date. Moreover, the DEIS fails to adequately identify and assess the impacts that the loss of natural flow across the alluvial fan will have on downslope resources or ground dwelling animals and plants. While the DEIS states that the project proposal will "minimize" the amount of grading, the proposed grading would include at minimum 170 acres in the southwest of the site and 360 acres in the northern and western areas of the site with additional grading for roads, "lay down" areas etc. FSA/DEIS at 3-15. Figure 12 in the Project Description shows even more extensive grading and "potential grading" areas. Moreover, the grading figure does not include the roads between the mirror fields which are not proposed to be fully graded but which would also significantly disturb surface soils and hence water flow and water quality across the site. On this basis as well the DEIS fails as an informational document.

F. The FSA/DEIS Fails to Adequately Identify, Analyze and Off-set Significant Impacts to Air Quality and GHG Emissions.

1. Air Quality:

The FSA/DEIS fails to adequately address several air quality issues including but not

[50] *See* Deacon, James E., Williams, A.E., Williams, C.D., and Williams, J.E.; September 2007, Fueling Population Growth in Las Vegas: How Large-scale Groundwater Withdrawal Could Burn Regional Biodiversity, BioScience Vol. 57 No. 8 688-698 (map at 690 showing this area as part of the larger interconnected basins).

limited to PM 10. Of particular concern is that plans to minimize air quality impacts from construction, operations, and decommissioning are all deferred to later development with no clear standards.

2. GHG Emissions:

Federal courts have squarely held that NEPA requires federal agencies to analyze climate change impacts. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508 (9th Cir. 2007). As most relevant here, NEPA requires consideration of greenhouse gas emissions ("GHG emissions") associated with all projects and, in order to fulfill this requirement the agencies should look at all aspects of the project which may create greenhouse gas emissions including operations, construction, and life-cycle emissions from materials. Where a proposed project will have significant GHG emissions, the agency should identify alternatives and/or mitigation measures that will lessen such effects.

As part of the NEPA analysis federal agencies must assess and, wherever possible, quantify or estimate GHG emissions by type and source by analyzing the direct operational impacts of proposed actions. Assessment of direct emissions of GHG from on-site combustion sources is relatively straightforward. For many projects, as with the proposed project, energy consumption will be the major source of GHGs. The indirect effects of a project may be more far-reaching and will require careful analysis. Within this category, for example, the BLM should evaluate, GHG and GHG-precursor emissions associated with construction, electricity use, fossil fuel use, water consumption, waste disposal, transportation, the manufacture of building materials (lifecycle analysis), and land conversion. Moreover, because many project may undermine or destroy the value of carbon sinks, including desert soils, projects may have additional indirect effects from reduction in carbon sequestration, therefore both the direct and quantifiable GHG emissions as well as the GHG effects of destruction of carbon sinks should be analyzed.

The FSA/DEIS discussion of greenhouse gas emissions from the project operations (primarily from gas boilers substituting for solar energy), workers traveling long distances to the site, and construction is unclear and inadequate. The DEIS fails to explain how the calculations were made – particularly as to the key assumptions regarding the use of gas boilers that are the primary source of GHG emissions after construction and during ongoing operations. The GHG calculations for construction are provided but no lifecycle GHG analysis is provided to cover the manufacture and transportation of the project components. The lifecycle analysis may reveal quite high emissions given that the 214,000 heliostats for the proposed project (FSA/DEIS at 1-3 (each mirror would be 7.2 feet high by 10.5 feet wide)), will likely be manufactured in Europe.[51] Therefore, both manufacturing and shipping GHG emissions should have been estimated, and alternatives considered that would avoid the emissions where possible, and mitigation measures should have been considered to minimize and off-set and remaining GHG emissions. The DEIS also failed to mention, no less include, any calculation of the net loss of greenhouse gas sequestration from onsite soils and plants.

[51] *See* CEC Hearing Transcript January 13, 2010 at 80.

The greenhouse gas calculations in the DEIS are incomplete and the BLM has failed to provide clear and accurate information regarding this impact. *See generally* FSA/DEIS at 6.1-59 (Appendix Air-1 Greenhouse gas emissions). The proposed project will admittedly produce over 27,000 tons of CO_2 equivalent per year from operations alone with the primary source being gas boiler use. FSA/DEIS at 6.1-65 (Greenhouse Gas Table 3; 27,444 MTCO2E, with 25,458 MTCO2E from the gas boiler use). This level of emissions is significant in and of itself as it is more than twice the significance threshold recently adopted by the South Coast Air Quality Management District for greenhouse gas emissions and well above the threshold suggested by EPA of 25,000 tons for regulating CO_2 emissions under the proposed Tailoring Rule. *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Proposed Rule*, 74 Fed. Reg. 55292, (October 27, 2009) ("The first phase, which would last 6 years, would establish a temporary level for the PSD [Prevention of Significant Deterioration] and title V applicability thresholds at 25,000 tons per year (tpy), on a 'carbon dioxide equivalent' (CO2e) basis, and a temporary PSD significance level for GHG emissions of between 10,000 and 25,000 tpy CO2e.").

Despite the significant level of emissions from operations facts, the BLM does not provide any minimization measures or other alternatives measures that would reduce the operations GHG emissions (during the initial start up of the plant or in the long-term), analyze any alternative technologies in terms of their GHG emissions (*e.g.,* PV solar has no ongoing operational GHG emissions), provide any minimization measures for the GHG emissions, or consider any off-sets for these emissions.

Moreover, the DEIS is extremely unclear regarding the calculations used to obtain the GHG emissions rates and what the actual proposed limits will be on gas boiler use that would maintain this level of emissions. While the DEIS repeatedly states that the boilers would be used for up to 4 hours a day with an average of no more than one hour a day (*see, e.g.,* FSA/DEIS at 3-8, 3-9, 6.1-64, 7.2-4), during the evidentiary hearing before the CEC it was made clear that the calculations of GHG emissions were in fact *not* based on 365 hours per year but rather on 480,000 mmBtus per year which figure was provided by the applicant and apparently represents a calculation of using the gas boilers for up to 5% of the energy output which could translate to approximately 520 hours per year.[52] Clearly the figure used was higher than the 1 hour per day average discussed in the DEIS Indeed, the 5% condition is proposed by the CEC but the Air District permit would allow for up to 4 hours per day use or up to 1460 hours per year; no calculation of GHG emissions was provided for that amount of use. Moreover, the DEIS also ambiguously states: "The proposed project would be permitted, on an annual basis, to emit over 27,000 metric tons of CO2-equivalent per year *if operated at its maximum permitted level.*" Thus, it is unclear from the statements in the DEIS if the "maximum permitted level" is the 5% CEC limit or the 4 hour per day Air District Limit. Although the question of the proposed amount of gas boiler use and the basis for the GHG emissions calculations seems to have been resolved during the CEC hearings, the correct unambiguous information was not provided to the

[52] *See* CEC Hearing Transcript January 13, 2010 at 65-66 (also stating that the boilers may operate to augment production during the day and therefore the percent of output and time of use are not directly related).

public by the BLM in the DEIS. On this basis as well as others the DEIS is inaccurate and misleading and must be revised and re-circulated for full and fair public review.

There is no calculation of emissions provided during the start up phase of 180 days during which the CEC would allow unlimited use of the gas boilers. Moreover, it is entirely unclear whether or how the BLM will monitor and/or enforce the limit on the use of the gas boilers and hence ensure the limit of GHG emissions is as stated in the DEIS or whether it will rely solely on the CEC to perform that function.

The GHG emissions from the construction phase of the project are stated to be 17,779 metric tons CO2 equivalent (Greenhouse gas table 2, FSA/DEIS at 6.1-64).

Because BLM has failed to accurately and adequately identify the GHG emissions it has also failed to fairly look at alternatives that would avoid such emissions. Indeed, rather than attempt to analyze the impacts, alternatives and mitigation measures as it would with any other impact, BLM simply assumes that because the project is an industrial scale renewable energy project it "would result in a net cumulative reduction of energy and GHG emission from new and existing fossil resources." FSA/DEIS at 6.1-59. As a result of this assumption, BLM failed to adequately identify and analyze the GHG emissions flowing from the project approval including failure to even identify or quantify near-term CO_2 emissions from construction and manufacturing and emissions during the 6-month start-up period, as well as failure to analyze any alternatives to avoid or minimize the long-term emissions from operations that were identified.

BLM assumes that these significant GHG emissions will be mitigated by actions totally beyond its control, such as market-driven processes that will require that whatever renewable power is ultimately generated from the project *actually displaces* fossil fuel use. *See* FSA/DEIS at 6.1-59 to 6.1-60. This is not allowed under NEPA, and the BLM must analyze *the impacts of the project before it* and cannot minimize the analysis based on other factors and future off-sets or mitigation that is dependent on conditions outside of its control. *See, e.g. Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380-81 (9th Cir. 1998)("The Forest Service's broad generalizations and vague references to mitigation measures do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that the Forest Service is required to provide. Moreover, even if the mitigation (e.g. displacement of fossil fuels) turns out to be effective, it does nothing to actually prevent the CO_2 emissions resulting from the proposed project or the loss of carbon sequestration from soils. Moreover, it is undisputed that in the near-term GHG emissions will increase emissions during construction, manufacturing and transportation of the components, and during the initial phases of the project when the gas boilers may be used without any limitation. BLM fails to consider any alternatives to the project that would minimize such emissions or to require that these near-term emissions be off set in any way.

Although the proposed project's technology which requires significant use of natural gas is admittedly experimental and will cause significant GHG emissions, BLM completely fails to explore this aspect of the impacts of the project in the DEIS in violation of NEPA.

G. The Analysis of Cumulative Impacts and Growth Inducing Impacts in the DEIS Is Inadequate

While cumulative impacts and growth inducing impacts are related they must be independently analyzed. Moreover, in order to fairly assess the growth inducing impacts of a project the project description must be accurate and adequate, because an inadequate project description (as here) risks grossly understating the growth inducing impacts of the project.

1. Cumulative Impacts

A cumulative impact is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. The Ninth Circuit requires federal agencies to "catalogue" and provide useful analysis of past, present, and future projects. *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997); *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809-810 (9th Cir. 1999).

"In determining whether a proposed action will significantly impact the human environment, the agency must consider '[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.' 40 C.F.R. § 1508.27(b)(7)." *Oregon Natural Resources Council v. BLM,* 470 F.3d 818, 822-823 (9th Cir. 2006). NEPA requires that cumulative impacts analysis provide "some quantified or detailed information," because "[w]ithout such information, neither courts nor the public . . . can be assured that the Forest Service provided the hard look that it is required to provide." *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1379 (9th Cir. 1988); *see also id.* ("very general" cumulative impacts information was not hard look required by NEPA). The discussion of future foreseeable actions requires more than a list of the number of acres affected, which is a necessary but not sufficient component of a NEPA analysis; the agency must also consider the actual environmental effects that can be expected from the projects on those acres. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004) (finding that the environmental review documents "do not sufficiently identify or discuss the incremental impact that can be expected from each [project], or how those individual impacts might combine or synergistically interact with each other to affect the [] environment. As a result, they do not satisfy the requirements of the NEPA.") Finally, cumulative analysis must be done as early in the environmental review process as possible, it is not appropriate to "defer consideration of cumulative impacts to a future date. 'NEPA requires consideration of the potential impacts of an action *before* the action takes place.'" *Neighbors*, 137 F.3d at 1380 *quoting City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1313 (9th Cir. 1990) (emphasis in original).

The Cumulative Scenario in the FSA/DEIS fails to adequately identify and analyze the scope of the cumulative impacts to various resources across appropriate scales for each impact. While the FSA/DEIS looks at the Ivanpah Valley to some extent it ignores other scales of analysis. For example, the DEIS fails to look at cumulative impacts to the biological resources in

the CDCA as a whole from multiple proposed industrial scale projects particularly how sprawling industrial sites could fragment habitats and change the quality of the CDCA overall. In addition, the DEIS should have considered the cumulative impacts to the desert tortoise and its recovery at several different scales—for the Northeastern Mojave Desert Tortoise Recovery Unit in the North Ivanpah Valley within California, the Recovery Unit as a whole, the species within California, and/or the species as a whole. Each of these scales of analysis would likely reveal different information about the cumulative impacts of this project.

For example, the California population of the Northeastern Mojave Desert Tortoise Recovery Unit in the North Ivanpah Valley is unique in California and is at risk from the cumulative effects of this project, the Optisolar (now First Solar) power project adjacent to the proposed project site, the proposed DesertXpress High Speed Passenger Train, and the upgrade of the Eldorado-Ivanpah transmission line and substations in California alone.

National Park land resources will also be cumulatively impacted. The Clark Mountains, part of the Mojave National Preserve, rise to almost 8,000 feet from the Ivanpah Valley and are home to bighorn sheep and other species that may be directly, indirectly, and cumulatively impacted by the proposed project and other proposed projects in the area. As another example, migratory birds that frequent the Preserve, including raptors, may similarly be impacted by the project as well as other proposed projects in the area

With regards to the biological resources, the DEIS fails to accurately evaluate the cumulative impacts to rare species based from the projects proposed in the Ivanpah Valley or the CDCA. Because the scale of each of the different rare species' ranges vary, the cumulative impacts are not adequately analyzed. Cumulative impacts to special status plants are recognized (Executive Summary, FSA/DEIS, p. 1-15) but the FSA/DEIS has failed to adequately analyze these cumulative impacts across the range of these species and ways to avoid and minimize these impacts. For example, the analysis of the Mojave milkweed is much different than the cumulative impacts for the desert tortoise because the range of the Mojave milkweed within the CDCA is much more restricted than the desert tortoise. Cumulative impacts to the Mojave milkweed is likely to be much more substantial based on its limited range and the number of projects proposed within its range than the cumulative impacts to the badger, which is a more widely distributed species. Therefore, the DEIS fails to actually adequately analyze the cumulative impacts of the project on the various biological resources.

The DEIS also fails to consider all reasonably foreseeable impacts in the context of the cumulative impacts analysis. *See Native Ecosystems Council v. Dombek, et al,* 304 F.3d 886 (9th Cir. 2002) (finding future timber sales and related forest road restriction amendments were "reasonably foreseeable cumulative impacts"). The DEIS also fails to provide the needed analysis of how the impacts might combine or synergistically interact to affect the environment in this valley or region. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004).

In this case, the proposed project is just one of at least six right-of-way applications sprawling across the Ivanpah Valley on public lands all of which will depend on the Eldorado-Ivanpah transmission line upgrades and substations which are also currently under consideration.

The BLM notes the existence of the power line upgrade proposal, new substations, and the applications and acknowledges the possibility that they could *all* be approved but has, nonetheless, failed to provide meaningful analysis of the impacts of these projects in concert—for example, the reasonably foreseeable creation of a *de facto* solar zone sprawling across the public lands along the border of two states. For BLM to continue the approval processes for these projects piecemeal without looking at them together in the context of landscape level land use planning, cumulative impacts, and growth inducing impacts violates the most basic requirements of NEPA. The BLM cannot lawfully ignore the obvious cumulative impacts to this landscape.

2. Growth Inducing Impacts

The NEPA regulations also require that indirect effects including changes to land use patterns and induced growth be analyzed. "Indirect effects", include those that "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include *growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.*" 40 C.F.R. s.1508.8(b) (emphasis added). *See TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003) (finding NEPA review lacking where the agency failed to address secondary growth as it pertained to impacts to groundwater, prime farmland, floodplains and stormwater run-off, wetlands and wildlife and vegetation); *Friends of the Earth v. United States Army Corps of Eng'rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000) (finding NEPA required analysis of inevitable secondary development that would result from casinos, and the agency failed to adequately consider the cumulative impact of casino construction in the area); *see also Mullin v. Skinner*, 756 F. Supp. 904, 925 (E.D.N.C. 1990) (Agency enjoined from proceeding with bridge project which induced growth in island community until it prepared an adequate EIS identifying and discussing in detail the direct, indirect, and cumulative impacts of and alternatives to the proposed Project); *City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create).

The FSA/DEIS here fails to adequately identify and analyze both the cumulative impacts and the growth inducing impacts which in this instance are closely tied together. For example, within the Ivanpah Valley the high cost of the proposed Eldorado-Ivanpah upgrade and substations, which involves the construction of 35 miles of high voltage lines from California into Nevada and a separate telecommunications pathways could, if approved, provide a compelling economic incentive for approval of the proposed project and several other industrial scale solar projects in the same valley. In addition to proposed project and the proposed Optisolar (First Solar) project, both on the northeastern slopes of the Clark Mountains, two solar energy generation facilities are proposed by NextLight Renewable Power on 7,840 acres of public lands on the eastern side of the Ivanpah Valley (the Silver State projects) and a right of way application has also been filed for an additional solar project just north of the proposed airport site. Many of the affected lands within these proposals are also high quality desert tortoise habitat with intact and robust populations of desert tortoise all within the Northeastern

Recovery Unit. At minimum, these and any other significant growth that could be facilitated and/or induced by the proposed project and the necessary transmission line upgrade should have been fully considered as indirect effects (or "secondary" or "induced" effects) attributable to the proposed project.

This growth inducing effect of the transmission line *which is necessary for* the proposed ISEGS project is essentially ignored in the DEIS. In fact, the combined projects if approved will likely create a momentum that would virtually ensure approval of the Silver State projects as well as the Optisolar project and others in this area-- several additional solar power projects on prime desert tortoise habitat in the Ivanpah Valley. Arguably, the proposed project alone could not amortize the cost of the line upgrade. The cumulative impacts from these connected proposed projects on the North Ivanpah Valley are not adequately assessed and the growth inducing impacts from the approval of these projects on the Ivanpah Valley, the CDCA, and BLM's ongoing PEIS planning is not adequately identified, assessed or analyzed. Cumulative impacts and growth inducing impacts of the several proposed projects, if approved, would turn Ivanpah Valley into a *de facto* solar zone and industrial zone. The most obvious effect would be the conversion of a largely natural area – the Ivanpah Valley and dry lake area as a whole—into a largely industrialized area with more than 6 large scale solar plants, the accompanying substations and power lines, glare and heat islands that will be created across the "zone."

The DEIS limits discussion of growth inducing impacts to whether the proposed project will lead to an increase in local populations and local use of energy. FSA/DEIS at 8-4 to 8-5. This narrow view of the growth inducing impacts is grossly insufficient for a project that (along with the *necessary* upgrades to transmission which are also currently being proposed as a separate action and must be reviewed and approved by BLM as well) could make the Ivanpah Valley a magnet for other solar projects and convert the valley from primarily open lands and high-quality habitat into an industrial zone with the remaining habitat highly fragmented and of far less value to the tortoise and other species.

H. The EIS's Alternatives Analysis is Inadequate

NEPA requires that an EIS contain a discussion of the "alternatives to the proposed action." 42 U.S.C. §§ 4332(C)(iii),(E). The discussion of alternatives is at "the heart" of the NEPA process, and is intended to provide a "clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. §1502.14; *Idaho Sporting Congress*, 222 F.3d at 567 (compliance with NEPA's procedures "is not an end in itself . . . [but] it is through NEPA's action forcing procedures that the sweeping policy goals announced in § 101 of NEPA are realized.") (internal citations omitted). NEPA's regulations and Ninth Circuit caselaw require the agency to "rigorously explore" and objectively evaluate "all reasonable alternatives." 40 C.F.R. § 1502.14(a) (emphasis added); *Envtl. Prot. Info. Ctr. v. U.S. Forest Serv.*, 234 Fed. Appx. 440, 442 (9th Cir. 2007). "The purpose of NEPA's alternatives requirement is to ensure agencies do not undertake projects "without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means." *Envtl. Defense Fund, Inc. v. U.S. Army Corps of Engrs.*, 492 F.2d 1123, 1135 (5th Cir. 1974). An agency will be found in compliance with NEPA only when "all reasonable alternatives have been considered and an appropriate explanation is provided as

to why an alternative was eliminated." *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1246 (9th Cir. 2005); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-1229 (9th Cir. 1988). The courts, in the Ninth Circuit as elsewhere, have consistently held that an agency's failure to consider a reasonable alternative is fatal to an agency's NEPA analysis. *See, e.g., Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992) ("The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate.").

If BLM rejects an alternative from consideration, it must explain why a particular option is not feasible and was therefore eliminated from further consideration. 40 C.F.R. § 1502.14(a). The courts will scrutinize this explanation to ensure that the reasons given are adequately supported by the record. *See Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 813-15 (9th Cir. 1999); *Idaho Conserv. League*, 956 F.2d at 1522 (while agencies can use criteria to determine which options to fully evaluate, those criteria are subject to judicial review); *Citizens for a Better Henderson*, 768 F.2d at 1057.

Here, BLM so narrowly construed the project purpose and need (and ignored the requirements for NEPA analysis of a plan amendment) that the DEIS did not actually "consider" any alternatives to the proposed project. After summarily rejecting 23 alternatives many of which would have avoided significant impacts to the environment, the BLM stated:

> Since no other ROW application was brought forward by the applicant, the BLM will respond to the ROW application for the ISEGS project as proposed. Therefore, the only alternatives that are within the agency's jurisdiction, and that meet the purpose and need for the proposed project, are approval of the right-of-way (the Proposed Project Alternative) and denial of the right-of-way (No Project/No Action Alternative). A detailed analysis of these two alternatives is presented within the resource-specific sections of this FSA/DEIS.

FSA/DEIS at 4-1. However, BLM's "jurisdiction" is not so narrow; BLM can, and indeed must, undertake full consideration of alternatives under NEPA when reviewing a plan amendment and proposed project and (as discussed above regarding the plan amendment and below), there are several potential alternatives that would have fallen well within BLM's jurisdiction including a plan amendment to promote conservation of the desert tortoise and protect the high-quality tortoise habitat in the Northern Ivanpah Valley from industrial development.[53] Furthermore, even if an alternative is outside of BLM's jurisdiction that does not mean that it should not be

[53] Indeed, by letter dated June 25, 2009, while the DEIS preparation was underway, the San Gorgonio Chapter of the Sierra Club submitted a nomination for an ACEC in the North Ivanpah Valley to the BLM noting "the resources of the area include habitat for the Northeastern Mojave Desert Tortoise Recovery Unit, an outstanding assemblage of barrel cactus and other rare California plants, and inspiring views of and from the Mojave National Preserve" and concerns "that the California population of the Northeastern Desert Tortoise Recovery Unit is not adequately protected under the Northern and Eastern Mojave Desert Management Plan (NEMO)." That ACEC nomination could have been, and indeed should have been, included in the DEIS alternatives for the plan amendment. Instead, the BLM's Desert District Director simply rejected the ACEC nomination by letter dated July 2, 2009.

considered as the DEIS notes: "Section 1502.14(c) of the NEPA regulations requires that the agency develop and evaluate reasonable alternatives that are not within the jurisdiction of the agency, and which are outside of the capability of the applicant to implement." FSA/DEIS at 4-1.

Based on this DEIS, the BLM's decision must be to deny the project as proposed. Because BLM stated that it was only providing "detailed analysis" for the proposed project and the no project alternative in the DEIS, the DEIS must be revised and re-circulated to comply with NEPA. Rather than rigorously exploring all reasonable alternatives, including alternatives that could avoid significant impacts to the desert tortoise and other biological resources, the BLM framed the analysis in the DEIS as being simply about the acceptance or rejection of the project as proposed by the applicant—by insisting on such a binary analysis BLM failed to fulfill its duties under NEPA, and without a revised DEIS BLM cannot lawfully approve the project.

Moreover, among the more protective alternatives that BLM rejected with little to no analysis are many that could avoid significant impacts of the project. These alternatives should be reassessed in light of the known impacts of the project. However, BLM failed to *fully consider* feasible alternatives that would avoid significant impacts of the project particularly the significant impacts to desert tortoise, its habitat, and other biological resources.

The FSA/DEIS examines and rejects a series of project alternatives that BLM had already determined would not meet its narrow statement of the purpose and need of the project in what appears to be an elevation of form over substance. Because the alternatives analysis is the "heart" of any environmental review, the failure to provide meaningful alternatives is fatal to this FSA/DEIS. Indeed, even the CDFG noted that a "full analysis" of alternate sites was still lacking in the FSA/DEIS. CDFG Comments dated October 27, 2009 at 3. As CDFG noted the proposed site is "excellent tortoise habitat, with a low level of disturbance and high plant species diversity," and suggested that alternatives should be evaluated where "lower quality habitat is clearly within range to potentially reduce the overall Project impacts to endangered and sensitive species." *Id.*

Other alternatives are clearly available and should have been considered. Although the BLM rejected out of hand many of the alternatives discussed in the FSA/DEIS, it is clear that at least some of those alternatives are both feasible or could be with some additional modifications. At minimum, an alternative site outside of occupied desert tortoise habitat, a phased alternative, and a reduced size alternative, all could have been explored. For example, the FSA/DEIS fails to look at an alternative that would approve the project in phases in order to minimize impacts if unforeseen events occur or if the project fails to perform as hoped at this formerly untested "commercial-scale"—that is if the first phase demonstrates that this technology for some reason is not technically or economically viable in a commercial-scale project. *See* FSA/DEIS at 2-5 (Applicant's Objectives).

As another example, the discussion of a distributed solar alternative in the DEIS was inadequately explored. Rather than simply setting up a "straw man" alternative to be knocked down, the BLM should have more fully considered this alternative. The Center sponsored

testimony from Bill Powers[54] on the treatment of the distributed energy alternative in particular which shows that the discussion in the FSA/DEIS of this alternative was inaccurate and inadequate. The Sierra Club also sponsored testimony regarding the potential for a reconfigured alternative closer to the I-15 that might have less impacts on occupied desert tortoise habitat. None of these alternatives were fairly analyzed in the DEIS.

In addition, in order to meet the DOE's purpose and need to lend funds to projects that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued" (assuming for the sake of argument alone that this is a proper project objective), the DEIS should have considered alternatives that would provide funding to other types of projects. Such alternatives could include, for example, conservation measures that both avoid and reduce energy use within high-energy use load-centers including the Los Angeles Basin, San Diego, and the Bay Area.

Alternative measures could include funding community projects for training and implementation of conservation measures such as increased insulation, sealing and caulking, and new windows for older buildings and new or improved technologies for accomplishing these important goals. Conservation measures are an excellent and quick way of reducing demand in both the short- and long-term and reduce the need for additional power sources. In addition, these measures can provide immediate jobs and training in high population areas with significant unemployment (particularly among low skilled workers and youth).

The existence of these and other feasible but unexplored alternatives shows that the BLM's analysis of alternatives in the DEIS is inadequate.

I. The DEIS Fails to Adequately Consider Cultural Resources and Native American Values

The Center is informed and believes and based thereon alleges that several Native American tribes with interests in this area have not been properly notified of the proposed project concerning the impacts to cultural resources and Native American values. This is far more than a "procedural" issue; it is also a substantive failing by BLM that undermines the NEPA analysis.

Most importantly, without input from the affected tribes with interests in this area it is impossible to know if all of the issues regarding impacts to cultural resources and Native American values have been adequately identified or addressed. When BLM revises the DEIS as it must for many reasons, it should also reach out to the affected tribes and ensure full participation from them on the potential impacts to cultural resources and Native American values from the proposed project.

[54] Testimony of Bill Powers, P.E., Ivanpah Solar Electric Generating System, Docket 07-AFC-5, December 16, 2009, and at hearing on January 12 and 14, 2010.

III. Endangered Species Act: The Biological Assessment and Draft Translocation Plan BLM Provided to the Fish & Wildlife Service Fail to Adequately Identify and Analyze Impacts to the Desert Tortoise in Order to Insure Against Jeopardy and Support Recovery.

As discussed above, BLM's failure to adequately address impacts to the desert tortoise in the DEIS fails to comply with NEPA. In addition, the biological assessment and draft translocation plan provided to the Fish and Wildlife Service are grossly inadequate.

The ESA was enacted, in part, to provide a "means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...[and] a program for the conservation of such endangered species and threatened species..." 16 U.S.C. § 1531(b). The ESA "is the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). The Supreme Court's review of the ESA's "language, history, and structure" convinced the Court "beyond a doubt" that "Congress intended endangered species to be afforded the highest of priorities." *Id.* at 174. As the Court found, "the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost." *Id.* at 184.

Section 2(c) of the ESA establishes that it is "...the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. § 1531(c)(1). The ESA defines "conservation" to mean "...the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." 16 U.S.C. § 1532(3). Similarly, Section 7(a)(1) of the ESA directs that federal agencies to "utilize their authorities in furtherance of the purposes" of the ESA. 16 U.S.C. § 1536(a)(1)..

In order to fulfill the substantive purposes of the ESA, Federal agencies, such as BLM in this instance, are required to engage in consultation with the Fish and Wildlife Service to "insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of habitat of such species... determined...to be critical..." 16 U.S.C. § 1536(a)(2) (Section 7 consultation). Section 7 consultation is required for "any action [that] may affect listed species or critical habitat." 50 C.F.R. § 402.14. As part of the consultation, the action agency must first prepare a biological assessment. 16 U.S.C. § 1536(c)(1). Although procedural, consultation is the backbone of the ESA. As the Ninth Circuit recognized, "[o]nly by requiring substantial compliance with the act's procedures can we effectuate" Congressional intent to protect species. *Sierra Club v. Marsh*, 816 F.2d at 1384 (9th Cir. 1987).

As part of the proposed project BLM has initiated consultation with the Fish &Wildlife Service ("Service") regarding impacts to the threatened desert tortoise and its habitat in order to ensure against jeopardy and provide for the conservation of the species. *See Nat'l Wildlife Fed'n v. NMFS*, 524 F.3d 917, 933 (9th Cir. 2008) (holding that the ESA requires consideration of impacts to species' prospects for recovery in jeopardy analysis). In order to engage in meaningful consultation the agencies must have adequate information regarding the baseline

status of the species in the area of the proposed project as well as adequate identification and analysis of the likely impacts of the project on the species and its habitat and the long-term conservation of the species including direct, indirect and cumulative impacts. In this instance, the Service must be provided with sufficient information to determine the impacts of the proposed project on the tortoise including the degree to which the proposed project could undermine the species' ability to recover in light of direct, indirect and cumulative impacts of the proposed project as well as other threats (including climate change and the need to preserve healthy tortoise populations that will well suited and positioned to adapt to rapid changes.).

While the protocol level surveys for desert tortoise on the proposed project site identified 25 mature tortoises, the actual number of desert tortoises on site is likely much higher, based on the effectiveness of protocol level surveys on finding all onsite tortoises[55], especially given the vast number of acres of the proposed project site. Based *just* on the number of documented tortoises, the project site supports a similar population density of desert tortoise to the Northeastern Recovery Unit's documented density within the DWMAs.[56] Thus the survey data confirms that this area is high quality to excellent desert tortoise habitat with a population that is at least as robust as those within the DWMAs and should be protected as such.

As stated above, the Northeastern Recovery Unit only dips down into the CDCA in the general area of the proposed project site. This particular Recovery Unit is host to three different unique genetic types one of which occurs in the Ivanpah valley.

Of particular concern is the cursory and completely inadequate proposed translocation plan relied on by BLM. To date, translocation of desert tortoise always results in "take" of tortoises and certainly does not aide in the recovery of the threatened species. "Successful" relocation has been documented to have a 15-21% mortality[57]. Significant losses of tortoises through the most recent translocation effort in 2008 - the Fort Irwin translocation - resulted in over 20% mortality *within the first year*. Further monitoring has documented as of August 2009, over 250 desert tortoise (38%) have died in the translocation areas of Fort Irwin[58]. This translocation has resulted in further declines in the west Mojave recovery unit to the detriment of recovery of the species.

The Scientific Advisory Committee of the U.S. Fish and Wildlife Service's Desert Tortoise Recovery Office has recently concluded that "translocation is fraught with long-term uncertainties, notwithstanding recent research showing short-term successes, and should not be considered lightly as a management option. When considered, translocation should be part of a strategic population augmentation program, targeted toward depleted populations in areas containing "good" habitat. The SAC recognizes that quantitative measures of habitat quality relative to desert tortoise demographics or population status currently do not exist, and a specific measure of "depleted" (e.g., ratio of dead to live tortoises in surveys of the potential translocation

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[55] Anderson et al. 2001
[56] USFWS 2009a.
[57] Field et al. 2007, Nussear 2004
[58] USFWS 2009c. Draft Biological Opinion for the Proposed Addition of Maneuver Training Lands at Fort Irwin, California (8-8-09-F-43R) at pg. 48

area) was not identified.[59] The proposed project can hardly be considered a "strategic augmentation program".

These data and conclusions by desert tortoise experts negate any logical basis for presenting translocation as aiding in recovering the species. The risks associated with translocation in general are now well established and quite high[60]. Because of this, the agencies need to take seriously a full and honest evaluation of the need to site projects within essential, occupied desert tortoise habitat. Siting projects in areas that lack desert tortoise will preclude the need for translocation and the inevitable mortality that translocation and relocation causes.

If translocation must occur as part of the project implementation, the translocation/relocation plan needs to be substantially improved to increase success. We provided substantial comments on the Preliminary Staff Assessment and the Draft Desert Tortoise Translocation Plan to the California Energy Commission and we incorporate those comments here by reference[61].

Subsequent augmentation to the translocation/relocation plan by BLM before it was provided to the Service still fails to address a number of essential desert tortoise issues.

1. Disease issues

The health of the desert tortoises that are on the site and proposed for translocation as well as the "host" tortoises in areas into which the translocated tortoises will be moved are simply not addressed. Regardless of the proximity of the translocated and host tortoises, data still needs to be collected on the state of the population at a minimum to help inform the results of the translocation. If disease is present in either the translocated tortoises or "host" tortoises, concentrating tortoises into off-site areas may exacerbate disease transmission and outbreaks especially coupled with the stresses of translocation/relocation, competition for scarce resources, defense of existing territories (host population), establishment of new territories (relocated population), etc.

2. Carrying Capacity

Neither the Biological Assessment,[62] the DEIS or the translocation plan submitted to the Service by the BLM actually evaluates the carrying capacity of the translocation/relocation sites, and their ability to support greater tortoise densities over the long-term. While a die-off of tortoises is known from the Ivanpah Valley in the 1990's, there is no evidence presented in any of the documents that the habitat has the capacity to provide resources to sustain over the long-term a higher density population. In light of global climate change and its effects currently occurring on the desert[63], the habitat may simply not be able to support a more concentrated

[59] USFWS 2009b. SAC meeting summary.
[60] Dodd and Seigel 1991
[61] CBD comments to CEC on Preliminary Staff Assessment 7/6/09
[62] Biological Assessment (December 2009) Prepared for BLM by CH2MHill.
[63] Kelly and Goulden 2008

population now or into the future. The recirculated DEIS must evaluate the carrying capacity of the translocation/relocation sites to actually support both the host and translocated tortoises.

3. Monitoring

Not only should the translocated tortoises be monitored but it is essential that the "host" tortoises also be monitored, to truly evaluate the status of the translocation. One of the goals of the plan includes "Minimize impacts on resident desert tortoises outside fenced areas"[64]. However, no monitoring of this part of the population is proposed, so it would be impossible to evaluate the impacts on the resident population. Clearly much more rigorous monitoring needs to be included.

4. *Lack of Objectives and Analyses*

The goals of the translocation plan are proposed to 1) translocate/relocate all desert tortoises from the fenced sites to nearby suitable habitat; 2) minimize impacts on resident desert tortoises outside fenced areas; and 3) assess the success of the relocation effort through monitoring. As stated, none of the goals propose a successful translocation/relocation effort. The draft translocation/relocation plan completely fails to address goal 2. We could find no success criteria identified in the translocation/relocation plan. Despite monitoring being proposed, it is not tied to anything – triggers for action, adaptive management, or success critieria. Clearly much work remains to be done on the translocation/relocation plan in order to make it meaningful, responsive and a benefit to desert tortoise.

The draft translocation/relocation plan completely lacks any "adaptive management" and triggers for action if/when problems occur during the translocation/relocation or on the translocation/relocation sites. Benchmarks for success need to be identified and additional requirements put in place to mitigate failures of this experimental proposal. While we understand the pressures of finalizing permits to access funding from the American Recovery and Reinvestment Act of 2009 prior to the December 2010, the rushed timeline is no excuse for an inadequate plan.

5. Timing

Translocation of desert tortoise in the fall is not optimal especially if summer/fall rains do not occur. If translocation must occur, flexibility in timing is essential to help to assure successful translocation to help meet the minimization standard.

6. Lack of long-term assurances

No mechanism is included to assure the long-term protection of the desert tortoises that are moved and the habitat into which they are moved. As the BLM is well aware, multiple projects are proposed for this same area, including the Desert Xpress high-speed rail line and an

[64] CH2MHill 2009a Attachment D to the Biological Assessment: Translocation/Relocation Plan (May 2009).

adjacent large-scale photo-voltaic project. Assurances must be included so that the desert tortoise affected by this project are not impacted again by a subsequent project. We remain concerned however, that lacking a comprehensive strategy for tortoise conservation, tortoises could be translocated/relocated multiple times, which clearly will be detrimental to the species and its recovery. The recirculated DEIS must provide these essential assurances that if tortoises are moved, they will not be moved again and that this habitat will be protected from other habitat impacting activities.

IV. Conclusion

Thank you for your consideration of these comments. In light of the inadequacy of the environmental review to date, we urge the BLM to revise and re-circulate the DEIS before making any decision regarding the proposed plan amendment and right-of-way application. In the event BLM chooses not to revise the DEIS and provide adequate analysis, the BLM should reject the right-of-way application and the plan amendment. Please feel free to contact us if you have any questions about these comments or the documents provided.

Sincerely,

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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APPLICATION FOR CERTIFICATION
FOR THE *IVANPAH SOLAR ELECTRIC GENERATING SYSTEM*

DOCKET NO. 07-AFC-5
PROOF OF SERVICE
(Revised 3/11/10)

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DECLARATION OF SERVICE

I, Lisa Belenky, declare that on April 1, 2010, I served and filed copies of the attached, Opening Brief for CBD dated, April 1, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/ivanpah].

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

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

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

___ by personal delivery;

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

AND

FOR FILING WITH THE ENERGY COMMISSION:

✓ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***); 2 paper copies.

OR

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

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-5
1516 Ninth Street, MS-4
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docket@energy.state.ca.us

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

Lisa Belenky

*indicates change