CENTER *for* BIOLOGICAL DIVERSITY

VIA ELECTRONIC MAIL AND U.S. MAIL

June 1, 2010

Needles Field Office,
Bureau of Land Management
Attention: George R. Meckfessel
Planning and Environmental Coordinator
1301 South U.S. Highway 95
Needles, CA 92363
ca690@ca.blm.gov – SEGS DEIS Comments
George_Meckfessel@ca.blm.gov

RE: Comments on the Supplemental Draft EIS (SDEIS) for Ivanpah Solar Electric Generating System

Dear Mr. Meckfessel,

On behalf of the Center for Biological Diversity's 255,000 staff, members and on-line activists in California and throughout the western states, we submit these comments on the Supplemental Draft EIS ("SDEIS") for 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.

On February 10, 2010, the Center submitted detailed comments to the BLM on the Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment for the Ivanpah Solar Electric Generating System (07-AFC-5). We incorporate those comments herein in full. Moreover, many of the issues raised in those comments remain unaddressed in the SDEIS including the need to look at a full range of alternatives for the

Arizona • California • Nevada • New Mexico • Alaska • Oregon • Montana • Illinois • Minnesota • Vermont • Washington, DC
Lisa T. Belenky •Senior Attorney • 351 California St., Suite 600 •San Francisco, CA 94104
tel: (415) 436.9682 ext. 307 *fax:* (415) 436.9683 lbelenky@biologicaldiversity.org *www.BiologicalDiversity.org*

proposed project and alternative plan amendments. The Center also 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 (most of 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.

A. The Supplemental DEIS Fails to Cure the Shortcomings of the DEIS Regarding Alternatives

While the Supplemental DEIS provides two additional alternatives – the reduced acreage (or "Mitigated Ivanpah 3"), and the I-15 alternative, the Supplemental DEIS still 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 on disturbed lands or lands that have few rare species conflicts, which the BLM has still failed to adequately address in the Supplemental 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 adequately address these and other issues detailed below and re-circulate another Supplemental DEIS or a revised DEIS for public review and comment.

1. The Range of Alternatives Remains Too Narrow

As the Center pointed out in our comments on the DEIS, the purpose and need statement in the DEIS was unlawfully narrow and thereby cabined the choice of alternatives. Unfortunately, the Supplemental DEIS fails to cure this error.

The statement of purpose and need and the 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 reason for 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 should not attempt to limit its analysis or avoid robust public input but unduly narrowing the scope of the analysis, 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 is still relying on a faulty Purpose and Need description that unnecessarily narrows the range of alternatives (and still ignores the requirements for NEPA analysis of the proposed plan amendment). BLM can, and indeed must, undertake full consideration of alternatives under NEPA when reviewing a plan amendment and proposed project and (as discussed extensively in the Center's 2/10/2010 comments), there are several potential feasible alternatives (including several 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. The BLM still fails to consider any off site alternatives that could avoid impacts to the resources of these public lands.

While the Supplemental DEIS considers two additional alternatives it has ignored other feasible alternatives including off site alternatives and an alternative plan amendment that would consider this area for protection as an ACEC or an addition to the existing DWMA. Such alternatives are clearly feasible. Indeed, other recent draft EISs for solar projects included discussion of an alternate plan amendment to protect the area of a proposed project by making it unavailable for future solar development. DEIS for the SES Two Solar Project in Imperial County at B.2-18 (framed as one of several "no action" alternatives although it includes a plan amendment which is an action); DEIS for the Ridgecrest Solar Power Project at B.2-16 (same); DEIS for the Palen Solar Power Project at B.2-18 (same); DEIS for the Genesis Solar Energy Project at B.1-30 (same).

Although both the reduced footprint alternative and the I-15 alternative would reduce some on-site impacts to rare species, other alternatives are clearly available and feasible that would further and more significantly reduce the impacts and these alternatives were previously suggested to the BLM but are still not addressed in the SDEIS. Other configurations were not considered including relocating the project adjacent to I-15 on Ivanpah dry lake or a portion thereof closer to Primm, which is likely to significantly reduce or eliminate impacts to rare plant and tortoise habitat (pending surveys).

Other feasible alternatives include a phased alternative that could to minimize impacts of the project if unforeseen events occur during construction for example or if the project fails to perform as hoped by the applicant. *See* FSA/DEIS at 2-5 (Applicant's Objectives). Because the technology at issue has not previously been constructed at "commercial-scale" phasing is particularly appropriate. For example, if the first phase demonstrates that this technology for some reason is not technically or economically viable at a commercial-scale project, then changes could be made before approval of any subsequent phases and less environmental damage will occur. The approval could be phased and the applicant given a set of targets to meet for energy production as well as targets for mitigation success for the first phase before additional phases might be approved. A phased alternative would also, most importantly, provide the applicant additional time to find more appropriate sites for any remaining phases of the project.

As the testimony submitted in the CEC process and provided to the BLM with the Center's comments on the DEIS shows, a distributed solar energy alternative is also a feasible alternative. Recent data and information also shows that a distributed solar energy alternative

would be comparable in terms of cost and capacity factor —indeed it may be less costly than the proposed project. *See* RETI 2B Report (attached). 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. 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.[1]

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 burden of the impacts of these industrial-scale solar facilities when other feasible alternatives exist and have not been adequately explored. Importantly, analyzing a distributed PV alternative to this proposed project does not preclude cost-effective central station (industrial) solar projects being sited in any way. Indeed, proposed projects that are appropriately sited on disturbed or degraded lands served by existing transmission lines may very well be comparable to distributed PV when looked at in a robust alternatives analysis. The DEIS discussion of this alternative was inaccurate and inadequate and the Supplemental DEIS still fails to include an alternative of distributed solar.

2. "Mitigated Ivanpah 3" Alternative

The "reduced footprint" or "mitigated Ivanpah 3" alternative is proposed to reduce the impact to biological resources, however, it will still result the elimination of an extensive amount of currently undisturbed desert that provides habitat for desert tortoise, rare plants other rare organisms. Exactly how many acres remains unclear in the Supplemental DEIS. The project size is identified as 3,640 acres in the Table 3-1 Summary of Applicant's Updates to its ISEGS Development Plans (SDEIS at 10), however Table 3-2 Mitigated Ivanpah 3 Alternative, Acreage of BLM Right-of-Way indicates that 3,564.2 acres is required (SDEIS at 14). Both of these "reduced footprint" acreages are greater than the original ROW application of 3,400 acres (SDEIS at 9) - a 5-7% increase in project impact area and all in prime desert tortoise habitat.

Regardless, the "mitigated Ivanpah 3" alternative still leaves unresolved all of the same issues that plague the "proposed project" The Center submitted extensive comments on problematic issues with the DEIS, yet the addition of this alternative fails to address the majority of the issues raised in the Center's and others comments. Althoughsome acres have been removed under this alternative there is no showing that that area is of as high value to the tortoise as the habitat that remains within the project footprint, and the opposite is likely the case. Moreover, the minimal reduction in the project size without reconfiguration and does not lessen the habitat fragmentation caused by the proposed project.

3. I-15 Alternative

[1] *See* Sheehan, Tim "*Valley solar plant would be among world's largest" Monday*, Mar. 15, 2010, Fresno Bee (attached); Exh. 947 [Supplemental Testimony of Bill Powers from the CEC proceeding accepted as public comment] (attached).

Like the "mitigated Ivanpah 3" alternative, the I-15 alternative suffers from the same unclear potential acres of impacts. The project size is identified as 3,640 acres in the Table 3-1 Summary of Applicant's Updates to its ISEGS Development Plans (SDEIS at 11). Table 5-1 Modified I-15 Alternative, Acreage of BLM Right-of-Way indicates that 3,564.2 acres is required (SDEIS at 107), and the SDEIS (at 123 and 127) states this alternative would permanently impact approximately 4073 acres of occupied desert tortoise habitat – the same as the proposed project. In Bio 17 – desert tortoise compensatory mitigation is based on a 3,582 acre impact (SDEIS at 232). These varying impact acreages makes the Supplemental DEIS appear like it was not carefully written, and serves to confuse decision makers and the public. The varying acreages also shows that impacts have not been adequately evaluated. All of these stated acreages for this alternative exceeds the stated acreage in the original ROW application of 3,400 acres (SDEIS at 9) - a 5-7% increase in project impact area and all in desert tortoise habitat.

Unfortunately, the analysis of the I-15 alternative is sorely lacking. The analysis for biological resources relies on "reconnaissance- level surveys" and other general factors (SDEIS at 122). The SDEIS asserts that "there are fewer washes, and there are many dirt roads fragmenting the habitat." SDEIS at 122. No data are referenced in support of these statements. The comparative term of "fewer washes" assumes comparison with the proposed project's Ivanpah 3 site, but is not definitive. It fails to evaluate if the "fewer washes" result in less acres of waters of the State that would be impacted than the proposed project, and admits that the evaluation has simply not been done (SDEIS Table 6-9, Comparison of Soil and Water Impacts at 163).

The SDEIS also fails to quantify the "many dirt roads" acreage as disturbed lands. While we agree that dirt roads do cause landscape level fragmentation, BLM has demonstrated successful revegetation of dirt roads where routes are closed as part of designation of a route network, reduction of route proliferation, and conservation of resources. If additional roads are present on the proposed site above and beyond the designated routes as established in NEMO route designation, then those routes should be closed through rehabilitated or other measures to protect the resources and reduce further route proliferation.

The analysis also states that "There are fewer desert tortoises and burrows within this alternative site, compared to the proposed project site", but again no data are referenced in support of these statements. Additionally the SDEIS (at 122) states "Biological resources within approximately 25% of the revised Ivanpah Unit 3 location are already impacted by the proximity of the highway." However, no reference is provided on how that calculation was determined or what the impacts of the highway are for the various biological resources swept into that statement. The Center is only aware of one broad-brush, out-of-season survey that was done for in this general area which is apparently identified as "Recent anecdotal information" (SDEIS at 127). This report did document fewer desert tortoise burrows compared to areas of the proposed project site. However, as recognized in the SDEIS, the I-15 alternative site is topographically diverse, and absent in-season surveys for desert tortoise (and other biological resources), the impacts from this alternative can not be adequately documented and analyzed.

The SDEIS acknowledges that rare plants surveys were not done on the I-15 alternative (SDEIS at 137) in any season. Despite the absence of survey data, the SDEIS concludes that impacts to rare plants "Impacts could be mitigated" (SDEIS Table 6-2, Comparison of Biological Resources Impacts at 138). This is little more than a conclusion based on the lack of data and the SDEIS fails to meaningfully identify impacts, provides no analysis, and therefore is inadequate. Because this and other data relevant to reasonably foreseeable significant adverse effects could have been collected without undue expense, the failure to collect this data is inexcusable under NEPA. 40 C.F.R. §1502.22(a).

In addition, no other resource surveys were done in the previously unsurveyed alternative area. It is speculative that fewer rare resources (both biological and cultural) occur in this area absent surveys. Additionally, the SDEIS recognizes that the "stormwater modeling analysis has not been performed for the reconfigured Ivanpah 3 site" (SDEIS at 113). The lack of environmental review and basic data for this alternative suggest that this alternative is simply a "straw man" alternative, despite the fact that it has *potential* to reduce the environmental impacts. The I-15 alternative was originally identified by the Sierra Club (SDEIS at 104) before the DEIS was prepared, BLM could have done more to analyze this alternative or selected other nearby alternative sites with no known desert tortoise habitat and likely reduced the level of potential impacts even further. Because BLM failed to meaningfully analyze a reasonable range of alternatives and rejected consideration of feasible alternatives in both the DEIS and SDEIS, the environmental review is inadequate.

B. Additional Issues Regarding NEPA Compliance in the DEIS and Supplemental DEIS

1. Project Description is Inaccurate: Connected, Cumulative, and Similar Actions should be considered in the same environmental review to avoid unlawful Segmentation.

Although the Supplemental DEIS does provide a bit more detail on some aspects of the proposed project – now called the Mitigated Ivanpah 3 Alternative – than was provided in the DEIS, it does not cure many of the shortcomings of the DEIS. The Supplemental DEIS still ignores the fact that by analyzing connected projects piecemeal BLM is undermining rational planning and unlawfully segmenting the environmental review. Attached are two maps produced by the Center: the first shows the Ivanpah Valley as it is now and the second shows the Ivanpah Valley with the proposed solar, wind and transmission facilities primarily on public lands. The change that would occur from a largely natural area to a largely industrial zone is both significant and unexamined by the BLM.

NEPA's implementing regulations explain that agencies should consider connected, cumulative, and similar actions in the same impacts statement. "Connected actions" must "be considered together in a single EIS." *Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir. 1985); 40 C.F.R. § 1508.25(a)(1). Connected actions are those actions that:

i. Automatically trigger other actions which may require environmental impact statements.
ii. Cannot or will not proceed unless other actions are taken previously or simultaneously.

iii. Are interdependent parts of a larger action and depend on the larger action for their justification.

40 C.F.R. § 1508.25(a)(1). Where two actions are "inextricably intertwined" they are connected actions that must be considered together. *Thomas*, 753 F.2d at 759; *Save the Yaak Committee v. Block*, 840 F.2d 714, 720 (9th Cir. 1988). Likewise, cumulative actions "which when viewed with other proposed actions have cumulatively significant impacts [] should [] be discussed in the same impact statement." 40 C.F.R. § 1508.25(a)(2). Similar, reasonably foreseeable actions also should be considered 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)(3).

The requirements that connected actions, cumulative, and/or similar actions be evaluated together prevents an agency from dividing a single project into segments that individually seem to have limited environmental impact, but as a whole have considerable impact. *See Thomas v. Peterson*, 753 F.2d at 758. 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); *Sierra Club v. U.S. Dept. of Energy*, 255 F. 2d 1177, 1184 (D. Colo. 2002).

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 other proposed projects in this area, including at minimum the proposed Silver State solar project in Nevada and the proposed Eldorado-Ivanpah Transmission Project ("EITP") transmission line upgrade and substations that are currently also undergoing environmental review by BLM.

The EITP is necessary for this proposed project and it is clear that the EITP is both a cumulative and a connected project and should have been considered by BLM in a single environmental review. Indeed the stated purpose of the EITP is to facilitate access to the California energy market for the proposed Ivanpah project and solar projects in Southern Nevada. Although the purpose and need statement for BLM in the EITP is unreasonably narrow, it is clear that the purpose of the EITP project is to connect the proposed solar projects with the California market. As the EITP DEIS states, an objective of the project is "[t]o connect renewable energy sources in the Ivanpah Valley area." EITP DEIS at 1-11 (Joint State and Federal Objectives). Similarly, as the project proponent for the EITP, Southern California Edison ("SCE"), recently stated in a filing with the California Public Utilities Commission ("CPUC")

Project Overview
1. EITP, which primarily consists of a new substation and 35-mile transmission line upgrade, will interconnect up to 1,400 MW of new renewable generation (primarily solar) near the southern California-Nevada border, including Brightsource Energy's 400 MW Ivanpah Solar Energy Generating System

(ISEGS), which is currently under regulatory review at the California Energy Commission (07-AFC-05).
2. EITP will provide the electrical facilities and capacity to facilitate access and delivery of new solar generation in California and Nevada.
3. EITP will allow new solar projects in southwestern Nevada to interconnect into the western states market.

SCE, Eldorado-Ivanpah Transmission Project (EITP) Backgrounder - May 2010, Submitted as Appendix A to SCE's (U 338-E) Notice of Ex Parte Communication filed May 28, 2010.

The proposed Silver State solar project is a similar and cumulative action given the timing of the environmental review and its impacts on the same local biological resources in the Ivanpah Valley as the proposed Ivanpah project. Moreover, the Silver State solar project is also a connected project both literally and figuratively because it will also connect to the EITP lines and substations when they are upgraded and is depending on the EITP for access to the California markets.

In light of the CEQ guidelines and the case law, the proposed Silver State solar project and the proposed EITP should have been considered in conjunction with the proposed Ivanpah project in a single environmental review. Had BLM done so, it would have properly framed the questions before it and have fully considered the impacts to the Ivanpah Valley from the *de facto* solar zone that is being created in this area without any land use planning being undertaken and without consideration of the overall impacts of the proposed wide-spread, sprawling, large-scale industrialization of the Valley as a whole.

At minimum, the BLM should consider all of the impacts of the proposed project, along with impacts of the transmission upgrade and substations and the proposed Silver State project as direct impacts of connected projects. Even assuming for the sake of argument alone that the impacts could be described as indirect effects or "secondary" or "induced" effects attributable to the proposed project and the necessary transmission line upgrade and the projects that are facilitated by that upgrade such as the Silver State proposal, 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 combine or even coordinate this NEPA process with the approval process for all of the similar, cumulative, and connected actions BLM has undermined full and fair public review of the impacts of the project in violation of NEPA. BLM must disclose and consider all of the connected, cumulative and similar projects' significant impacts together. To do otherwise would be unlawful. Cumulative impacts analysis in an EIS alone is not sufficient where projects are so closely connected as here and will result in a new industrial zone being created on public lands that now serve multiple uses including providing high-quality occupied habitat for a threatened species.

2. Impacts to Resources Are Not Adequately Identified and Analyzed

As noted perviously, impacts to late summer and fall flowering plants are not adequately identified or analyzed in either the DEIS or Supplemental DEIS. The Supplemental DEIS also fails to provide the needed identification and analysis of impacts from proposed changes in grazing and road and route realignments that are contemplated as part of the proposed project. For example, regarding changes in grazing the Supplemental DEIS does not actually evaluate the changes but rather defers the issue to a future time in violation of NEPA. The Supplemental DEIS states:

> The procedures and regulations that would be used by BLM to modify allotment boundaries and reduce the animal unit months (AUMs) permitted in the grazing lease would be the same for the proposed project and the Mitigated Ivanpah 3 Alternative.
> . . .
> The proposed project would require that BLM modify the allotment boundaries, and reduce the number of AUMs available within the allotment, currently a total of 1,428 AUMs, by approximately 70 AUMs."

SDEIS at 95. However, the Supplemental DEIS, like the DEIS, does not explain how changes in the grazing AUMs this would impact the resources of these public lands or how ongoing or reduced grazing would impact the tortoises that are proposed to be translocated into the areas that would still be grazed. At minimum the BLM needed to consider an alternative that would protect translocated tortoises and host tortoise which will be under increased stress from forage competition and other impacts due to grazing. The Center raised this issue in our comments on the DEIS and it remains unaddressed.

Similarly, although the Supplemental DEIS provides a bit more discussion of the re-routed ORV trails, there is no *analysis* of the impacts the re-routed trails might have on biological resources including the translocated tortoises and host tortoises or the likelihood that these re-routed trails would be used as anticipated. That is, will ORV riders travel several miles along the fenceline of an industrial facility? Or are they more likely (as experience shows) to cut off cross-country to more scenic areas and avoid the industrial facility. If so, the re-route of the trails must be analyzed in more detail and alternatives provided that would designate a route that will actually be used rather than one that is likely to lead to additional cross-country travel and route proliferation by ORV riders who do not wish to travel for several miles along an industrial fenceline. The BLM designed a route network when it designated the NEMO routes through a plan amendment, moving routes piecemeal without analysis of the actual use and purpose undermines that planning effort. As BLM is well aware, route proliferation results in damage to soils, wildlife, and plants. These and other issues remain unaddressed in the Supplemental DEIS or the DEIS.

The identification and description of the amount of grading for the proposed project remains inadequate and this omission undermines the analysis of air quality impacts from PM10 as well as the analysis of impacts to soils and water. The Supplemental DEIS, as the DEIS did, grossly understates the amount of grading that will occur on the site and conflates so-called "heavy" grading with all grading. While the specific information about a grading plan may be

deferred to the construction plan in some instances (*see* SDEIS at 256), the likely *extent* of grading on the site must be disclosed as part of the NEPA review as it is a critical component needed to assess impacts to soils, water, and air quality. The BLM's failure to include this information undermines the NEPA analysis here.

Both the DEIS and the SDEIS fail to adequately address the issue of impacts to migratory birds as stated in the Center's previous comments. Pursuant to the Migratory Bird Treaty Act and Executive Order 13186 as well as NEPA, the BLM was required to evaluate the effects of the proposed project (and connected actions) on migratory birds but has failed to do so. Similarly, impacts to golden eagles are not adequately addressed. The Supplemental DEIS simply states that impacts would be reduced from the former proposed alternative--- however since those impacts were never adequately identified or analyzed there is little basis for these conclusory statements. Clearly, the next revised or supplemental DEIS needs to adequately identify the migratory bird issues on site as well as impacts to golden eagles and evaluate the impact to those species.

As noted by the Center, BLM did not address the value of the habitat that would potentially be lost and fragmented in a comprehensive way. There are several ways in which BLM could approach analyzing such impacts. One way to analyze impacts to habitat used by NOAA is to perform a Habitat Equivalency Analysis ("HEA"). This process is used to determine compensation for injuries to the public trust environmental resources including the lost services that the ecosystem provides. While the HEA was developed for determining compensation from impacts primarily from oil spills, this methodology has been used to determine compensation for other types of impacts including development projects. It is a useful method to determine compensation for impacts to the public trust resources including migratory birds, golden eagles, and other biological resources that would occur if the proposed project is implemented. It can also provide a basis for analyzing the equivalency of compensation lands at least from the resources services perspective. This analysis would be *in addition to* mitigation for the impacts to threatened and endangered species. We suggest that BLM consider utilizing this methodology to more accurately analyze and assess the impacts from the proposed project and the alternatives on the resources of our public lands.

3. The Comment Period for the Supplemental DEIS Was Unlawfully Truncated

On May 4, 2010, the Center and the Sierra Club provided a letter to the BLM requesting a full 90-day comment period for the Supplemental DEIS. To date, we have received no response. The BLM's regulations state that 90-days public review shall be provided for an environmental impact statement for a plan amendment.

> Ninety days shall be provided for review of the draft plan and draft environmental impact statement. The 90-day period shall begin when the Environmental Protection Agency publishes a notice of the filing of the draft environmental impact statement in the Federal Register.

43 C.F.R. §1610.2(e). Because the Supplemental DEIS is an environmental impact statement for the proposed plan amendment, a 90-day public review period should have been provided.

Moreover, the CEQ regulations for NEPA state that the agency must "prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft and final statement." 40 C.F.R. §1502.9(c)(4). Because the DEIS was required to be circulated for 90 days, the Supplemental DEIS should also have been circulated for 90 days as well. Despite this clear direction, the BLM provided only 45 days to review this Supplemental DEIS. Notice of Availability of the Supplemental Draft Environmental Impact Statement for the Proposed Ivanpah Solar Electric Generation System Project, San Bernardino County, CA, 75 Fed. Reg. 19992-19993 (April 16, 2010).

It appears that BLM attempted to justify the improperly short comment period for the Supplemental DEIS by concluding without explanation that "it does not add to the plan amendment analysis already contained in the DEIS." Supp. DEIS at 6. However, because the Supplemental DEIS provides environmental analysis for the "proposed project," it clearly provides environmental analysis for the plan amendment as well. BLM cannot separate the plan amendment from the proposed project – the plan amendment is necessary for the project approval and is an integral part of the proposed project. Further, the Supplemental DEIS states without any support that BLM made a determination that the DEIS alone "provides the environmental analysis necessary to support the consideration of the Plan amendment." Supp. DEIS at 56, 145 (same). Because the DEIS is not a decision document, this statement makes little sense. Moreover, the statement appears to imply that BLM has already made a determination regarding the plan amendment that must be informed by the environmental review as a whole. As BLM is well aware, 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.")

In addition, it is clear that the Supplemental DEIS does in fact provide additional environmental review relevant to the proposed plan amendment. For example, evaluation of alternatives is a focus of the Supplemental DEIS, and review of alternatives is expressly required for the proposed plan amendment pursuant to the California Desert Conservation Area ("CDCA") Plan 1980 as amended. The CDCA Plan 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. The information in the Supplemental DEIS is relevant to the review and consideration of all of these requirements for the proposed plan amendment and others.

Because the Supplemental DEIS is in fact part of the environmental review for the draft plan amendment, the full 90-day period should have been provided to the public to comment on the Supplemental DEIS.

Thank you for your consideration of these comments. In light of the inadequacy of the environmental review to date, we urge the BLM to again revise and re-circulate the DEIS and

provide 90-days for public review (or prepare another supplemental DEIS and provide an adequate period for public review) before making any decision regarding the proposed plan amendment and right-of-way application. In the event BLM chooses not to again supplement or revise the DEIS to provide adequate environmental review and the required time period for public review, the BLM should reject the right-of-way application and the proposed plan amendment.

Please feel free to contact us if you have any questions about these comments or the documents provided.

Respectfully submitted,

Lisa T. Belenky, Senior Attorney
Center for Biological Diversity
351 California St., Suite 600
San Francisco, CA 94104
Direct: 415-632-5307
Fax: 415-436-9683
lbelenky@biologicaldiversity.org

Ileene Anderson
Biologist/Desert Program Director
Center for Biological Diversity
PMB 447, 8033 Sunset Blvd.
Los Angeles, CA 90046
(323) 654-5943
ianderson@biologicaldiversity.org

CC:

John Kessler, Project Manager, California Energy Commission, jkessler@energy.state.ca.us
California Energy Commission Docket Unit, docket@energy.state.ca.us
Brian Croft, USFWS, brian_croft@fws.gov
Kevin Hunting, CDFG, khunting@dfg.ca.gov
Kathleen Goforth, EPA, goforth.kathleen@epa.gov

Attachments:

California's Renewable Energy Transmission Initiative (RETI) Phase 2B Draft Report (April 2010)

Center for Biological Diversity Maps: Ivanpah Valley and Ivanpah Valley Proposed Projects

Powers, Bill, Supplmental Testimony in CEC proceeding for ISEGS (Exh. 947)

Sheehan, Tim "Valley solar plant would be among world's largest" Monday, Mar. 15, 2010, Fresno Bee (attached)

RENEWABLE ENERGY TRANSMISSION INITIATIVE

PHASE 2B

DRAFT REPORT
April 2010

RETI Coordinating Committee

Prepared for

RETI Coordinating Committee
RETI Stakeholder Steering Committee

Table 4-5. Solar Thermal Assumptions – No Storage.			
	RETI 1B	**WREZ**	**RETI 2B**
Performance			
Capacity Factor (percent)	22 to 32*	20 to 28	20 to 28
Economics (2010 $)			
Total Project Cost ($/kW)	4,700 to 5,300*	5,350 to 5,550	5,350 to 5,550
Consolidated O&M ($/MWh)	30	30	30
Notes: Dry-cooled Parabolic Trough, no storage *Ranges include wet cooled projects, which typical have higher CF and lower capital cost			

Table 4-6. Solar Thermal Assumptions – 6 hours of storage.			
	RETI 1B	**WREZ**	**RETI 2B**
Performance			
Capacity Factor (percent)	NA	29 to 39	29 to 39
Economics (2010 $)			
Total Project Cost ($/kW)	NA	7,650 to 7,850	7,650 to 7,850
Consolidated O&M ($/MWh)	NA	22	22
Notes: Dry-cooled Parabolic Trough, with 6 hours of storage. Storage based on oversized field with 200 MW steam turbine output			

4.6.2 Solar Photovoltaic

The solar PV lifecycle costs have been adjusted based on new data which suggests that PV costs have dropped substantially since the assumptions used in RETI 1B were formed. Thin film solar PV was previously treated as a sensitivity study, but due to falling costs and the increased prevalence of thin film, it is now being considered as one of the available commercial technologies in addition to tracking crystalline PV. Previously, it was treated as a sensitivity study only. Table 4-7 and Table 4-8 show the updated cost and performance characteristics for tracking crystalline and thin film PV, respectively.

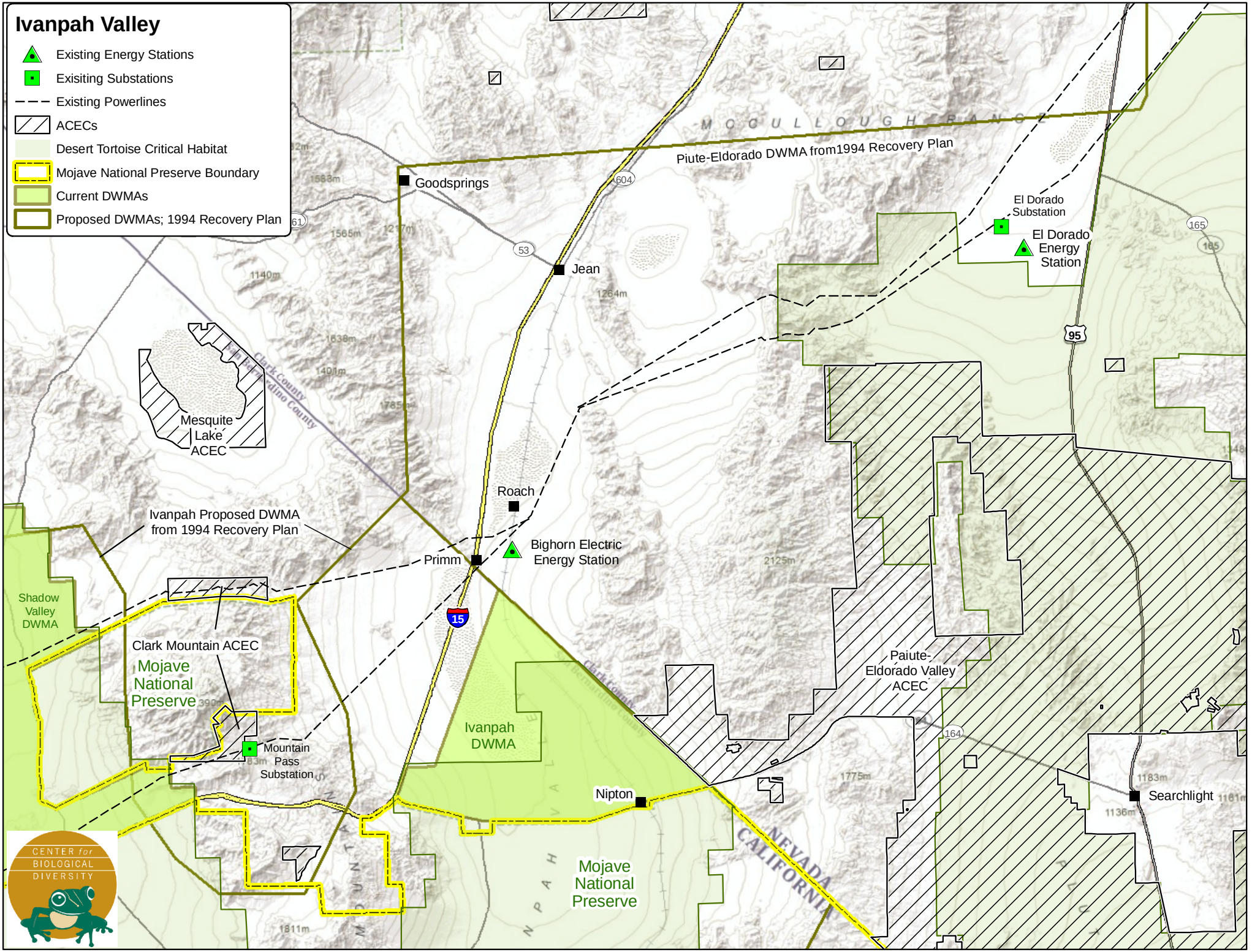
Table 4-7. Solar Photovoltaic, Single-Axis Tracking Crystalline Assumptions.			
	RETI 1B	**WREZ**	**RETI 2B**
Performance			
Capacity Factor (percent)	23 to 28	26 to 31	23 to 30
Degradation			0.75%/year
Economics (2010 $)			
Total Project Cost ($/kW)	7,040 to 7,150	5,750 to 5,950	4,000 to 5,000
Consolidated O&M ($/MWh)	19 to 23	26	20 to 27
Notes: Large Systems, 20 MW or larger			

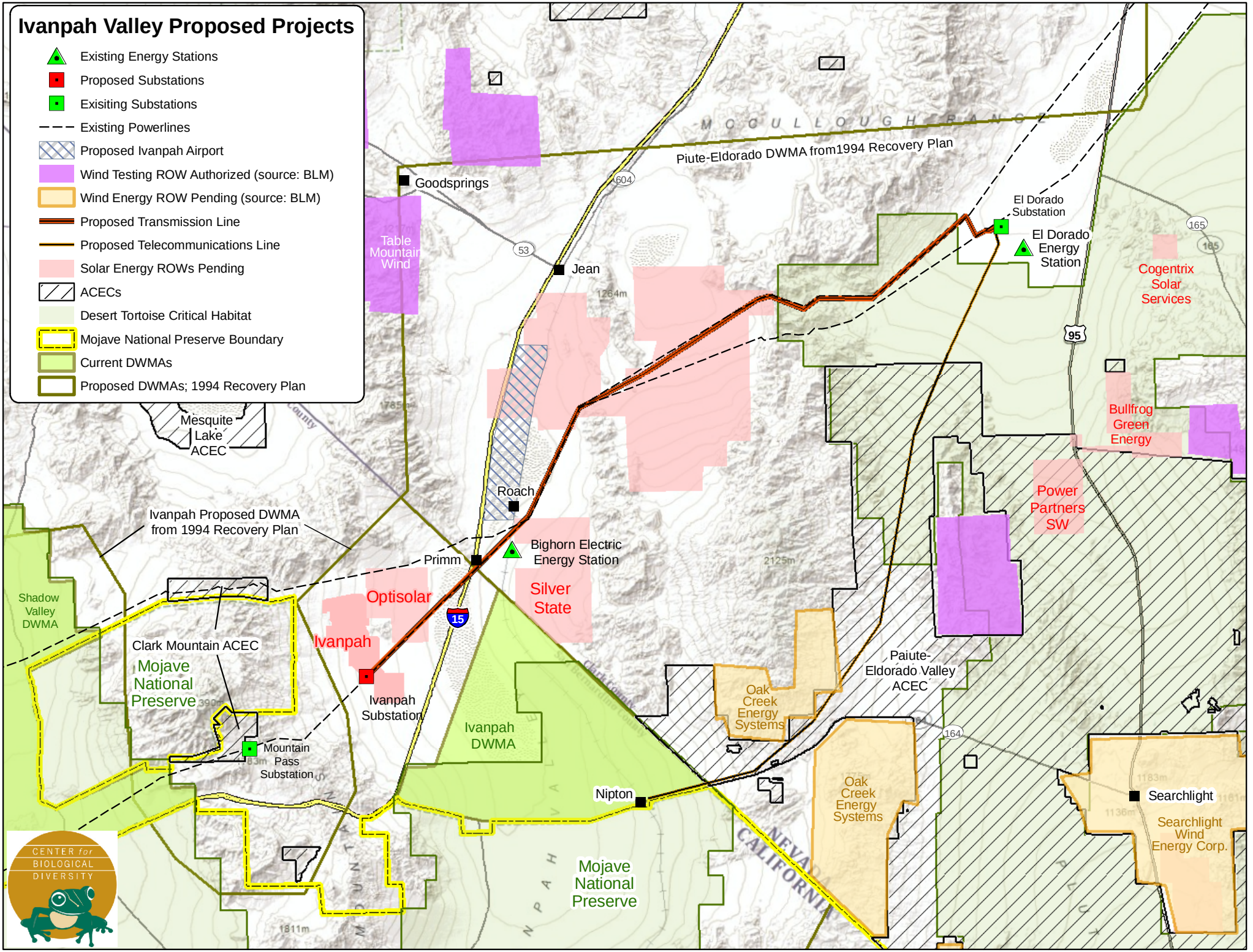
Table 4-8. Solar Photovoltaic, Fixed-tilt Thin Film Assumptions.			
	RETI 1B	**WREZ**	**RETI 2B**
Performance			
Capacity Factor (percent)	18 to 27	22 to 27	20 to 27
Degradation			1%/year
Economics (2010 $)			
Total Project Cost ($/kW)	3,700 to 4,000	4,550 to 4,750	3,600 to 4,000
Consolidated O&M ($/MWh)	13	24	17 to 25
Notes: Large Systems, 20 MW or larger. Thin film was only considered as a sensitivity study in Phase 1B of RETI.			

4.7 Cost of Generation Summary

Figure 4-1 shows the updated ranges of levelized cost of generation for the primary technologies included in RETI. The general estimates for RETI Phase 1B ("RETI 1") and the RETI Phase 2B ("RETI 2") are compared. It is important to note that the levelized cost of generation is only one component of the resource valuation process. The others include transmission cost, energy value, and capacity value (as presented in the Results section of this report). Except for solar thermal, the costs for technologies have generally dropped. The main drivers for the costs changes for each technology are summarized in Table 4-9.

Figure 4-1. Typical Cost of Generation Ranges.


Ivanpah Valley
Existing Energy Stations
Exisiting Substations
Existing Powerlines
ACECs
Desert Tortoise Critical Habitat
Mojave National Preserve Boundary
Current DWMAs
Proposed DWMAs; 1994 Recovery Plan
Piute-Eldorado DWMA from1994 Recovery Plan
Goodsprings
Jean
El Dorado Substation
El Dorado Energy Station
Mesquite Lake ACEC
Roach
Primm
Bighorn Electric Energy Station
Ivanpah Proposed DWMA from 1994 Recovery Plan
Shadow Valley DWMA
Clark Mountain ACEC
Mojave National Preserve
Mountain Pass Substation
Ivanpah DWMA
Paiute-Eldorado Valley ACEC
Nipton
Searchlight
Mojave National Preserve
NEVADA
CALIFORNIA
CENTER for BIOLOGICAL DIVERSITY


Ivanpah Valley Proposed Projects
Existing Energy Stations
Proposed Substations
Exisiting Substations
Existing Powerlines
Proposed Ivanpah Airport
Wind Testing ROW Authorized (source: BLM)
Wind Energy ROW Pending (source: BLM)
Proposed Transmission Line
Proposed Telecommunications Line
Solar Energy ROWs Pending
ACECs
Desert Tortoise Critical Habitat
Mojave National Preserve Boundary
Current DWMAs
Proposed DWMAs; 1994 Recovery Plan
Piute-Eldorado DWMA from1994 Recovery Plan
Goodsprings
Table Mountain Wind
Jean
El Dorado Substation
El Dorado Energy Station
Cogentrix Solar Services
Bullfrog Green Energy
Power Partners SW
Mesquite Lake ACEC
Roach
Ivanpah Proposed DWMA from 1994 Recovery Plan
Primm
Bighorn Electric Energy Station
Optisolar
Silver State
Shadow Valley DWMA
Clark Mountain ACEC
Mojave National Preserve
Ivanpah
Ivanpah Substation
Mountain Pass Substation
Ivanpah DWMA
Paiute-Eldorado Valley ACEC
Oak Creek Energy Systems
Nipton
Searchlight
Searchlight Wind Energy Corp.
Mojave National Preserve
CENTER for BIOLOGICAL DIVERSITY

STATE OF CALIFORNIA

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of: The Application for Certification for the IVANPAH SOLAR ELECTRIC GENERATING SYSTEM	Docket No. 07-AFC-5

Supplemental Testimony of Bill Powers, P.E.
Ivanpah Solar Electric Generating System
Docket 07-AFC-5

March 16, 2010

Bill Powers, P.E.
Powers Engineering
4452 Park Blvd., Suite 209
San Diego, CA 92116
(619) 295-2072
(619) 295-2073 Fax
bpowers@powersengineering.com

I. Introduction

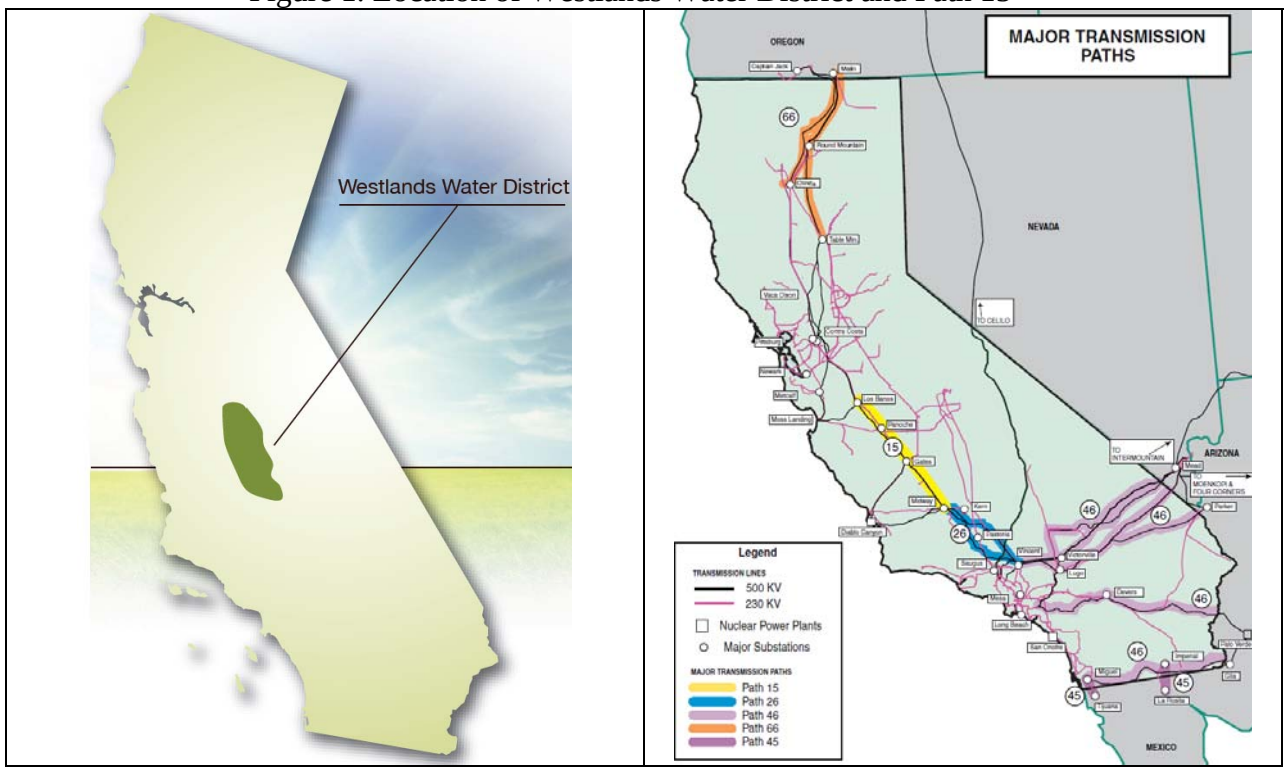
This testimony is offered as a supplement to my December 16, 2009 direct testimony.

II. Solar development in the proposed Westlands Water District CREZ would avoid the environmental problems of Ivanpah site

The Westlands Water District ("Westlands"), on the west side of the Central Valley, is undergoing study by the Renewable Energy Transmission Initiative (RETI) as a Competitive Renewable Energy Zone (CREZ) capable of providing 5,000 MW of utility-scale solar development. Westlands covers over 600,000 acres of farmland in western Fresno and Kings Counties. The proposed "Central California Renewable Master Plan" will utilize permanently retired farmlands in Westlands for solar development. An overview of this master plan is attached. As stated in the master plan overview, "Due to salinity contamination issues, a portion of this disturbed land has been set aside for retirement and will be taken out of production under an agreement between Westlands and the U.S. Department of Interior." Approximately 30,000 acres of disturbed Westlands land, equivalent to 5,000 MW of solar capacity, will be allocated for renewable energy development under the plan.

Transmission Pathway 15 passes through Westlands. Path 15 can transmit 5,400 MW from south-to-north.[1] The transmission capacity from north-to-south is 3,400 MW. The location of Westlands relative to Path 15 is shown in Figure 1.

Figure 1. Location of Westlands Water District and Path 15[2,3]



[1] Transmission & Distribution World, California bulks up to provide more transmission capacity, June 1, 2004.
[2] Anthem Group press release, Central California Renewable Master Plan, March 2010.
[3] CEC, Strategic Transmission Investment Plan, November 2005, p. 11.

5,000 MW of solar power can be developed in Westlands with potentially no expansion of the existing Path 15 high voltage transmission capacity that serves Westlands now.

5,000 MW is half of the total remote in-state utility-scale solar currently contemplated in the CPUC 33 percent reference case.[4] The remote in-state solar component of the reference case consists of 3,235 MW PV and 6,764 MW solar thermal.

Figure 2. Resource in CPUC 33 Percent RPS Reference Case

Resource Mix – 33% RPS Reference Case	In-State		Out-of-State		Total	
	MW	GWh	MW	GWh	MW	GWh
Biogas	279	2,078	-	-	279	2,078
Biomass	391	2,737	87	610	478	3,346
Geothermal	1,439	11,027	58	445	1,497	11,471
Hydro - Small	25	111	15	66	40	177
Solar PV	3,235	6,913	-	-	3,235	6,913
Solar Thermal	6,764	16,652	534	1,304	7,298	17,956
Wind	7,573	22,899	3,399	9,809	10,972	32,709
Total	**19,706**	**62,417**	**4,093**	**12,234**	**23,799**	**74,650**

However, RETI has gradually dropped the amount of new renewable energy resources necessary to reach 33 percent by 2020 from 74,650 gigawatt-hours (GWh) per year as shown in Figure 2 to a current "low load" net short of 36,926 MW.[5] The low load net short is one-half the net short used by the CPUC in June 2009 to estimate the cost of achieving 33 percent by 2020. The CPUC did not include either the 500 MW SCE urban PV project or the 500 MW PG&E distributed PV project in its reference case calculations.

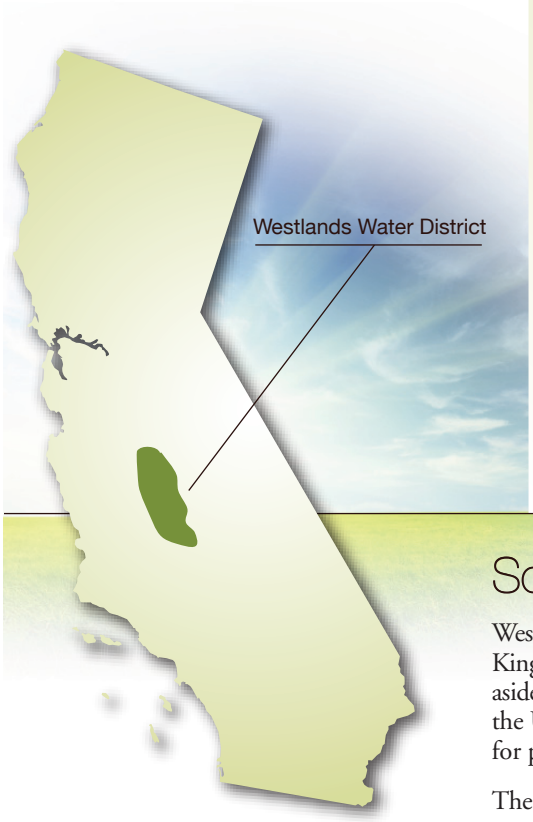
The anticipated energy output of 5,000 MW of fixed PV in Westlands would be about 10,000 GWh/yr.[6] 1,000 MW of urban and distributed PV from the SCE and PG&E projects would contribute another 2,000 GWh/yr. This is a total solar contribution of 12,000 GWh/yr. Substituting this 12,000 GWh/yr of solar for the 23,500 GWh/yr of remote in-state solar in Figure 2 results in the reference case results in a revised reference case production of 63,000 GWh/yr. 63,000 GWh/yr is far more rewable energy production than necessary to reach 33 percent by 2020. The entire in-state wind component could be deleted from the reference case and 40,000 GWh/yr would still be generated. 40,000 GWh/yr is greater than the low load net short of 36,926 MW. Prioritizing utility-scale solar projects like Ivanpah in Westlands, combined with utility-scale urban and distributed PV projects, would allow California to achieve its 33 percent by 2020 target with almost no environmental impacts related to the solar component.

[4] CPUC, 33% RPS Implementation Analysis Preliminary Results, June 2009, Appendix C, p. 87.
[5] RETI discussion draft, RETI Net Short Update - Evaluating the Need for Expanded Electric Transmission Capacity for Renewable Energy, February 22, 2010. Low load scenario, net short = 36,926 MW.
[6] The reference case assumes 3,235 MW of solar PV will generate 6,913 GWh per year under ideal Southern California desert solar insolation conditions. This is a production ratio of 2,137 GWh per MW(ac). However, solar insolation in the Central Valley and California urban areas will be approximately 10 less than ideal desert sites. See Powers December 16, 2009 Direct Testimony, p. 15. For this reason a production ratio of 2,000 GWh per year per MW(ac) is assumed for the Central Valley and urban areas.

III. Conclusion

The Westlands Water District is a low impact “shovel ready” alternative to the Ivanpah site for utility-scale solar projects. Westlands requires no new high voltage transmission to move up to 5,000 MW of solar power to California load centers. This means solar projects in Westlands will not face project delays due to lack of high voltage transmission capacity. The steadily declining renewable energy net short to achieve the 33 percent by 2020 target, now as low as 36,926 MW, means fewer renewable projects overall are necessary to meet the 33 percent target. The CEC should not approve solar projects with unmitigatable impacts like Ivanpah when 5,000 MW of otherwise unusable disturbed land with no environmental issues and 5,000 MW of high voltage transmission capacity sit idle.

CENTRAL CALIFORNIA RENEWABLE MASTER PLAN



Putting California At The Forefront Of Global Clean Energy Production & Economic Opportunity

- Approximately 30,000 acres of disturbed and contiguous farmland undergoing study as the Westlands Clean Renewable Energy Zone (CREZ) by the Renewable Transmission Initiative (RETI)
- Successful master planning sets the stage for California to meet its near and long term goals for the RPS, while providing certainty to future renewable development
- The broader Westlands area has an estimated potential of accommodating up to 5 GWs or more of renewable power by 2020
- Proximity to existing substations and transmission lines. The Westlands study area is strategically placed near a future planned foundation line corridor that will be designed to connect the different renewable zones in California.
- The Central California Renewable Master Plan is a more environmentally superior alternative to permit for large scale solar than constructing in protected lands in remote desert areas
- Allows large scale solar energy to be produced within California

Solution: The Central California Renewable Master Plan

Westlands Water District (Westlands) covers over 600,000 acres of farmland in western Fresno and Kings Counties. Due to salinity contamination issues, a portion of this disturbed land has been set aside for retirement and will be taken out of production under an agreement between Westlands and the US Department of Interior. This situation positions the Central California Renewable Master Plan for permitting success, solving permitting challenges that are hindering most California projects.

The Central California Renewable Master Plan includes approximately 30,000 acres of disturbed land for renewable development. This acreage is within close proximity to existing transmission corridors and substations, as well as future planned foundation line corridors. The master planning of thousands of acres for utility scale solar generation is a relatively new concept for energy developers but the environmental community and California policymakers are starting to see its benefits. This type of planning better aligns the generation and transmission planning for renewables, resulting in more efficiently developed projects with a better chance for long-term success.

↘ Garnering Major Environmental Support

The Central California Renewable Master Plan is undergoing study as a CREZ in the RETI Phase 2A updates. Westlands and the Anthem Group are working with environmental groups to identify the Westlands study area as a critical renewable energy zone in order to meet California's renewable goals.

↘ A Solution For Today… And Tomorrow

The far-reaching benefits of this project enables California to set up a process for planning transmission system upgrades and new corridors that will create billions in economic development for California. The template laid out in the Central California Renewable Master Plan provides regulatory and permitting confidence for developers and utilities to orderly construct transmission and generation over a 10-year horizon to meet the 33% by 2020 RPS goal.

↘ Linking California To A Greener Future And Economic Vitality

Led by the Anthem Group, the Central California Renewable Master Plan represents the most viable opportunity for California to advance its renewable energy goals. Over a 20-year horizon the potential estimates of total project investment for the 5 GW solar plant could reach well over $10 billion and will provide California with a much-needed economic boost.

CENTRAL CALIFORNIA RENEWABLE MASTER PLAN
Please contact the Anthem Group at (916) 709-9289, dan.anthem@gmail.com or PO Box 582844 Elk Grove, CA 95758-0051 for questions or inquiries on the this project.

Declaration of Bill Powers, P.E.

Re: Supplemental Testimony on Alternatives to the Proposed Ivanpah Solar Electric Generating System

Docket 07-AFC-5

I, Bill Powers, declare as follows:

1) I am a self-employed consulting engineer.

2) My relevant professional qualifications and experience are set forth in the attached resume and the attached testimony and are incorporated herein by reference.

3) I prepared the testimony attached hereto and incorporated herein by reference, relating to the Westlands Water District site alternative to the project.

4) I prepared the testimony attached hereto and incorporated herein by reference relating to the proposed Project in the Ivanpah Valley in San Bernardino County.

5) It is my professional opinion that the attached testimony is true and accurate with respect to the issues that it addresses.

6) I am personally familiar with the facts and conclusions described within the attached testimony and if called as a witness, I could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: March 16, 2010 Signed: Bill Powers, P.E.

At: San Diego, CA

http://www.fresnobee.com/2010/03/15/1859943/valley-solar-plant-would-be-among.html

Valley solar plant would be among world's largest

Posted at 11:45 AM on Monday, Mar. 15, 2010

By Tim Sheehan / The Fresno Bee

About 30,000 fallow acres in western Kings and Fresno counties could return to productivity as home to a massive installation of solar power panels.

Westlands Water District has a lease contract with Westside Holdings, a private investment group with plans for a 5,000-megawatt solar power plant.

If built, it would be one of the largest installations of solar photovoltaic panels in the world.

And it could help spur a “green energy” surge, diversifying the west-side economy from its historic reliance on agriculture.

Westlands Solar Park is one of a growing number of solar projects being pitched for sunny stretches of land in the western and southern San Joaquin Valley.

There are at least a dozen utility-scale projects, ranging from 5 to 250 megawatts, planned in Fresno, Kings and Tulare counties. Their development, however, can get bogged down by regulatory and environmental review and fundraising. Only one plant has been built — the 40-acre, 5-megawatt CalRenew-1 plant in Mendota. It awaits testing and connection to the power grid.

But the Westlands project stands out for several reasons: It dwarfs anything else on the drawing board in the region; it’s planned for farmland retired because of salt buildup and lack of water; and it’s making unlikely allies of farmers and environmentalists.

Westlands farmers have long been at odds with environmental groups over concerns including salt-tainted irrigation runoff and water allocations from the Sacramento/San Joaquin Delta. But the Sierra Club and others support the Westlands solar proposal.

“Nowhere else in the state will you see environmentalists of all stripes, as well as local government, developers and public interests all aligned to support a development of this size,” said Daniel Kim of Sacramento, a principal partner in Westside Holdings.

California’s utilities are striving to meet Gov. Arnold Schwarzenegger’s goal for one-third of the state’s electricity to come from renewable or alternative sources by 2020.

The area of Westlands district where Westside Holdings wants to plant its solar park has been identified by the California Energy Commission as one of more than 30 Commercial Renewable Energy Zones — areas where utility-scale alternative-energy projects such as solar, wind, geothermal and biomass can be developed for a combined capacity of more than 80,000 megawatts.

The designation comes as state energy officials downsize similar zones in the Mojave Desert. The sunshine in the desert is more intense, but there's also a greater potential for conflict with habitat for endangered desert species of plants and animals.

That's what attracted support from environmentalists, said Carl Zichella, the Sierra Club's director of western renewable-energy programs. Zichella called Westlands "one of the finest places" for a large, utility-scale solar installation.

"We're very interested in finding the least environmentally sensitive places to develop," he said. "And early on, we felt Westlands had a lot of potential in this regard."

Because it's been farmed for years, the Westlands acreage has little environmental significance. Putting solar panels out there "takes pressure off of other lands that are more ecologically sensitive," Zichella added.

"We can have arguments on the other stuff," Zichella said of water and other issues. "But obviously when we have a site like Westlands, we're obligated to pursue it. … This is a beautiful match of their interests and our interests."

Zichella and Kim both said the project has geographic advantages: Westlands is relatively close to cities needing electricity, to Central California's main north-south power transmission lines along Interstate 5, and to substations to distribute the electricity.

There are advantages for the Westlands district as well, by putting back to work some of the 100,000 acres of west-side farmland retired over the past decade because of a combination of water shortages and salt buildup that makes the soil toxic to crops.

Sarah Woolf, a spokeswoman for Westlands, said the district's board has fielded many proposals for solar installations on the fallow acreage, but this is the first one the district has joined.

"Our board is made up of farmers, and this is a learning process for us because it's not our natural business," Woolf said. "This is a new industry and a new use for this land, and it takes a little time because we're learning as we go."

Solar also appeals to Westlands because it doesn't rule out future reclamation of the farmland.

"We're not ruining the land by putting solar on top of it," Woolf said. There's no plan to return the acreage to farming, but it could happen "if there was a water supply and a need for the food supply."

It also opens the door for Westlands to consider other alternative-energy options. The district has a letter of intent with the Fresno Nuclear Energy Group to identify property in Westlands that might be suitable for a proposed 3,200-megawatt nuclear power plant.

"There are a lot of energy opportunities, whether it's solar, nuclear or something else," Woolf said. "We're open to discussing all of those." Looking for the fast track

Kim won't predict how long it might take for his proposal to get from the drawing board to production. There are plenty of hoops to jump through, including finding a developer to build and operate the solar farm; negotiating a power-purchase agreement with a utility, and myriad approvals from state and local officials.

But Kim hopes things can move forward quickly because of the environmental support and avoiding the cost of new transmission lines. “There are few places where one can actually site, permit and get transmission to bring this much power out,” Kim said. “This area is unique for that.”

One huge question mark is the price tag, which is unknown because no solar photovoltaic project of this size has ever been built. But developers of a 2,000 MW plant proposed in China have estimated it would cost between $5 billion and $6 billion to build it in the United States.

That suggests a 5,000-megawatt Westlands plant would be a considerable investment, one likely to be recouped over years from the sale of the electricity to utility companies such as Pacific Gas & Electric Co. It’s not clear whether federal stimulus funding, created last year to help underwrite major solar plants, or tax-credit financing will be available for the Westlands project.

If regulatory and cost obstacles can be overcome, Westlands Solar could potentially generate enough electricity during daylight hours to meet the demands of between 2.5 million and 4 million homes.

Beyond power production, however, there are hopes that such a large installation of solar panels could broaden the economic base of the west side beyond farming and farm labor.

“Not just the west side, but the entire Central Valley,” Kim said. “There’s always talk in the Valley about being a clean-tech corridor. This is a project that creates the opportunity for that to be realized.”

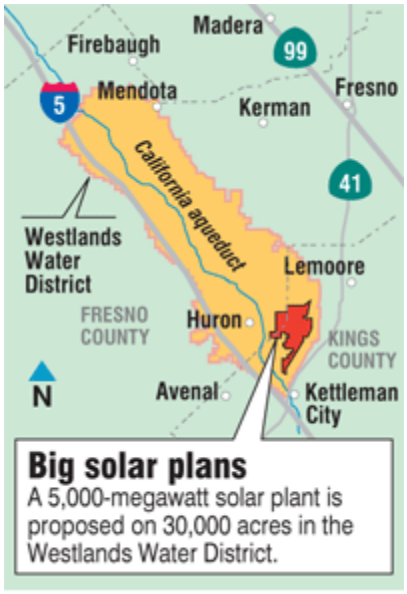
The Westlands project, and other proposed solar plants in and around the Valley with a combined capacity of more than 2,000 megawatts, could attract related industries.

“There could be the manufacture of the panels themselves, the inverters, the steel frames, or any number of widgets that go into a panel,” Kim said. “We’re talking about an economic base that is built off of the construction and operation of a project of this size.”

The Sierra Club’s Zichella said west-side communities hard-hit by labor reductions in farming can benefit greatly from solar and other green-energy efforts.

“Why should we ship solar panels from Indonesia or China or Japan when we can build them right here?” Zichella said. “How about in Mendota, where unemployment is 40%? I’d like to see some of that come to the Central Valley and employ people who have lost jobs.”

“We’re never going to have the same water resources for agriculture,” he added. “But we have a work force of great value to incoming industry. To the extent this can be of benefit to our communities, the support for green energy will be greater.”



THE FRESNO BEE

How solar works

The Westlands Solar Park is being planned as a solar photovoltaic installation, one of three types of solar plants proposed in the San Joaquin Valley.

* Solar photovoltaic plants use panels of solar cells that absorb sunlight and convert it directly into direct-current electricity. Inverters then convert the power into alternating current for distribution to customers.

* Solar thermal plants use mirrors to focus sunlight onto pipes, heating oil, water or other fluid that is used to spin turbines to generate electricity.

* Space-based solar proposes using satellites in space to collect the sun's energy and beam it as radio waves to a receiving station, where it would be converted into electricity.

How much juice?

One megawatt (MW) of electricity can typically meet the needs of between 500 and 800 homes. At a proposed 5,000 MW -- or 5 gigawatts -- Westlands Solar Park could produce enough electricity to serve between 2.5 million and 4 million households.

The reporter can be reached at tsheehan@fresnobee.com or (559) 441-6319.