Thank you for your comment, Elizabeth Merritt.

The comment tracking number that has been assigned to your comment is SolarD11812.

Comment Date: May 2, 2011 14:17:41PM
Solar Energy Development PEIS
Comment ID: SolarD11812

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Attachment: NTHP endorsement of CRPC comments on Solar PEIS_5.2.11.pdf

Comment Submitted:

Please see the attached letter.

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May 2, 2011

Linda J. Resseguie
Solar Energy Draft PEIS
Argonne National Laboratory
9700 South Cass Avenue
EVS/240
Argonne, IL 60439

Submitted electronically at http://solareis.anl.gov/involve/comments/index.cfm

Re: Endorsement of Cultural Resources Preservation Coalition Letter on Solar PEIS

Dear Ms. Resseguie:

The National Trust for Historic Preservation endorses the comments submitted by the Cultural Resources Preservation Coalition on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

Sincerely,

Elizabeth Merritt

Elizabeth S. Merritt
Deputy General Counsel

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Thank you for your comment, Michael Garabedian.

The comment tracking number that has been assigned to your comment is SolarD11813.

Comment Date: May 2, 2011 14:20:07PM
Solar Energy Development PEIS
Comment ID: SolarD11813

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Comment Submitted:

Committee on 245 Million Acres
7143 Gardenvine Avenue
Citrus Heights, California 95621

May 2, 2011

Director Bob Abbey, Bureau of Land Management
Secretary Steven Chu, Department of Energy
Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue - EVS/240
Argonne
Illinois 60439
Electronic Submission

Re: A NEPA EIS is no substitute for required FLPMA regulations

Dear Secretary Chu and Director Abbey:

Thank you for the opportunity to comment on the Draft Programmatic Solar Environmental Impact Statement.

Before solar energy project applications may be considered, the Federal Land Policy Management Act of 1976 (FLPMA), 43 USC 1701 et seq., requires the adoption of solar project including public involvement, and right-of-way regulations. It is not permissible to use a National Environmental Policy Act (NEPA) process as a substitute for, in the absence of, or in lieu of FLPMA regulations. In order for solar energy projects to go forward in the manner required by FLPMA, that is, in a responsible manner, the necessary regulations must be adopted.

The rush to desert solar is reminiscent of historic public domain disposal practices and mismanagement

The Bureau of Land Management (BLM) and Department of Energy (DOE) seem to us to be in a hurry to reinvent decades old mismanagement of public lands. Indeed, we seem to be in a rush to exceed past scandals since million acres of desert are now proposed to be eligible to be converted to solar energy, compared to 10 million acres sold under desert land laws by 1974. Dana and Fairfax, Forest and Range Policy, 2nd Ed. (1980), pages 24-26 ("Speculation was rife, and collusive entries were common."), and 28. We believe that the PEIS carries in it a blueprint for a new era of disgraceful management of the public's lands.

The PEIS project itself, and its dependency on federal policies and actions, would create project feeder and major high voltage corridor electric transmission grids making our national security vulnerable in a heretofore unsurpassed manner, and the security necessary to protect these corridors would severely impact the essence of desert aesthetic, visual, religious and recreational experiences

> Fear of further terrorist attacks has led many people to ask that Rocky Mountain Institute re-release the 1982 book Brittle Power: Energy Strategy for National Security, which has long been out of print. Unfortunately it is still very current. In the 20 years since we first prepared it as a Pentagon study, little has changed, and little of that change is for the better. Apparently those who read and understood it in the early 1980s are no longer making policy, and their institutional memory has been lost. A new generation of policymakers evidently believes that America's sole energy security problem is imported oil, and that any domestic supply that can replace it will improve energy security.
>
> In this sincere but misguided belief, Federal energy policy continues to promote the most centralized, unforgiving, and vulnerable sources and infrastructures, while ignoring or suppressing the more efficient, diverse, dispersed, localized, and renewable options that could in time make major supply failures impossible by design...
>
> Brittle Power: Energy Strategy for National Security (2001 Edition, preface)
> Amory B. Lovins and L. Hunter Lovins

The SEIS must analyze the environmental impacts and consequences of the various practices necessary to attempt to achieve security for each transmission facility component and the necessary high voltage grid to which they would connect. Impacts on natural resources and wildlife, on cultural resources, on religious practices, on recreational, aesthetic, and visual experience, and on the remoteness and isolation that are essential components of the multiple uses including the experience of BLM lands, must be included in sufficient detail to define and explain these impacts, the alternatives, and mitigation of the impacts.

FLPMA requires BLM to have an inventory of the affected lands that is suitable for the purposes of this project, but this inventory is incomplete and missing, and without this inventory and baseline description, it is impermissible for the project to proceed under both FLPMA and the National Environmental Policy Act

Absent the necessary inventory of the Solar Energy Zones and lands in the PEIS Preferred and any other project alternative, this project cannot proceed.

> The Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values (including, but not limited to, outdoor recreation and scenic values), giving priority to areas of critical environmental concern. This inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values. The preparation and maintenance of such inventory or the identification of such areas shall not, of itself, change or prevent change of the management or use of public lands. 43 USC 1711(a)

Past efforts to inventory BLM lands on the scale necessary have been broad surveys and are well known to be incomplete. It is quite literally true that we do not know what is on these lands, but we do know, for instance, that new plant species are being identified in the deserts on a regular basis.

FLPMA requires regulations that do not exist

BLM has not established rules and regulations regarding the criteria to be used for making determinations on solar project applications or for public involvement in solar, right-of-way and other application processes necessary for solar projects. 43 USC 1701(a)(5), 1702(d). 1712(f), 1739(e) "It also requires the Secretaries to issue regulations specifying criteria and procedures to be used." House Report No. 94-1163, 1976 U.S. Code Congress and Administrative News, page 6175 at page 6195.

Instead, BLM appears to rely on the NEPA process for public input into its decisions on solar projects, on project rights-of-way decisions, and so on. This is a misunderstanding of and abuse of NEPA. The purpose of a final NEPA document is to provide the public with information they need to make informed recommendations to decision makers on the decision to grant, deny or modify an application. "Plaintiffs correctly assert that Congress has mandated implementation of the public participation provisions by regulation, leaving no discretion to the agency." Natural Resources Defense Council v. Jamison (1992) 815 F. Supp. 454, 468. Further, without regulatory criteria for solar project decisions that are established through the Administrative Procedure Act, a

significant bases on which to base an appeal is absent.

BLM/Department of Interior and DOE need to adopt regulations setting forth principles of coordination between them with respect to solar projects and public involvement. For comparison, see Mountain States Legal Foundation v. Anrdus (1980) 499 F. Supp. 383, 395-396. "The confusion as to who exercises the real authority and discretion with respect to public lands and on what basis such discretion and authority are exercised could, to a large degree, have been avoided had the Secretaries enacted rules and regulations governing their policies in these regards." Id., 396.

"The regulations required by FLPMA are even more extensive than those required by NFMA…" Dana and Fairfax, Forest and Range Policy, page 341, referring to the National Forest Management Act of 1976.

Solar projects are per se impermissible uses not consistent with multiple use

Multiple uses must be protected on BLM managed lands unless a specific use conflicting non-multiple use is identified in statute. In its 1976 enactment of FLPMA, Congress specifically identified mining, grazing, and wilderness as uses that need not meet the multiple use standard. Congress did not energy production, and therefore all solar projects appear be illegal other than purely localized, such as those on farms and ranches.

Projects totally eliminating one or more designated uses must be reported to Congress

The PEIS project and all centralized Solar projects totally eliminate one or more of the principal or major uses that are defined as grazing, fish and wildlife development and utilization, mineral exploration and production, rights-of-way, outdoor recreation and timber production (43 USC 1702(l)), and must be reported to Congress. 43 USC 1712(e). "The conferees adopted the House provisions for referral to Congress and possible veto of certain management decisions excluding public lands from one or more principle uses." House Conference Report No. 94-1724, 1976 U.S. Code Congress and Administrative News, page 6175 at page 6229.

To the extent that The Solar Energy Zones, the PEIS Preferred Alternative, the proposed project itself and other projects are inconsistent with BLM plans or require amendment of BLM plan, they are impermissible

BLM management decisions must implement land use plans. 43 USC 1712(e).

The absence of necessary regulations means that each BLM field office will be inventing or reinventing the public involvement process in solar and right-of-way and other decisions, as well as the criteria to use in making solar project

decisions; fully adequate financial assurances must be mandated

With no common criteria for solar decision-making and for public input into the processes, the lowest common regulatory denominators and developer district shopping can be expected.

The proposal to establish a Solar Bond Review Team to advise Field Offices demonstrates BLM's awareness of the problems that stem from the absence of national regulations for public involvement and decision criteria. Bonding is an important area for some vehicle to maintain standards and assure uniformity, however, it is only one of many such problem of leaving Field Offices and the public on their own and in the dark. Pages A 20 to A 22 are too vague, and Solicitor review can mean nothing if a field office does not require bonds in the first place. Financial assurances including bonds must be mandated to cover all costs of clean up, dismantling, reclamation, restoration including for structures and entire sites, roads and transmission lines. If BLM has to intervene to take these actions, it must have full ability to recover its costs from the financial assurances and by other means.

There should be public members on the Solar Bond Review Team and its meetings should be open to the public.

The problem of individualized field office permit operation is currently demonstrated even within the same field office. In Nevada where the employee handling right-of-way permits in the Ely Field Office was switched to other duty, the new assigned staffer diligently went through the process of reinventing a process of that led to reduced public access and that was marked by conflicting statements from another staffer.

The PEIS must define, explain and review the applicability of federal public trust doctrine to the project

The Secretary of Interior is bound both by statutory duties and the public trust to protect public lands. Knight v. United States Land Association 1423 U.S. 161, 181 (1891).

The PEIS project and individual solar project and right-of-way permit actions cannot be approved by BLM until it has defined and used its public trust authority to protect the ground and surface water resources, and the resources, fish and wildlife, and other multiple uses that are dependent on the waters that are in the project areas and other areas that may be affected by projects.

A thoroughgoing analysis of the application of the public trust doctrine to federal lands is in Law Professor Hope Babcock's article, "Grotius, Ocean Fish Ranching, and the Public Trust Doctrine: Ride 'Em Charlie Tuna" 26 Stanford

Environmental Law Journal 3, at pages 54-65. (2007). Babcock refers to the analysis by Cathy Lewis in support of use of the federal public trust,

> [B]ecause federal statutes have not "wholly occupied" the field of water resources management and that "the finding of a duty on the part of a federal agency is entirely appropriate and a proper compliment to existing state law where the threatened harm is not addressed by a state resources protection statute. Babcock Footnote 272.

Felix Smtith, who has over 50 years of experience working on water management, fish and wildlife issues and who is retired from the U.S. Fish and Wildlife Service, has written to describe the public trust in water (including water quality) as a public trust in fish, other aquatic life and wildlife of those waters. He quotes the California Supreme Court in People v. Truckee Lumber Co. (116 Cal 397 -1897) regarding state ownership of wildlife resources, "The fish within our waters constitute the most important constituent of that species of property commonly designated as wild game, the general right and ownership of which is in the people of the state … and the right and power to protect and preserve such property for the common use and benefit..." Smith notes that while the state owns the fish resources in its waters in trust for the benefit of the people and future generations,

> Under the "Federal Endangered Species Act (FESA) - 1973, as amended, federal agencies are required to help restore and protect listed species/populations. Federal agencies are prohibited from carrying out activities or programs that would adversely affect critical habitat/ecosystems of endangered or threatened species. Preserving habitat/ecosystems for endangered species also benefits other species of that ecosystem. The conservation of endangered species requires the preservation, restoration and protection of suitable habitat for the long term. Felix E. Smith, Area of Origin Protection: Our Fisheries and Other Public Trust Interests May 10, 2010. Paper available on request.

BLM was first created by Executive Order in 1946 and gained statutory existence and authority for the first time in FLPMA in 1976. The project that the Solar PEIS addresses, and BLM management of earlier Solar and other right-of-way projects, suggests that BLM is operating the PEIS and existing solar projects by the seat of the pants. This is, of course, old news. "Most frustrating still, however, is the lack of support within the Department of Interior for the revitalization of BLM." Dana and Fairfax, Forest and Range Policy (1980), page 344.

The Solar PEIS reflects a laudable effort to implement NEPA, but this effort also highlights the need for BLM to become a mature organization that makes use of and fully implements its own authority under FLPMA.

The Solar PEIS is the impetus for formation of the Committee on 245 Million Acres (the amount BLM acreage). Its principal founders have many years of experience in the deserts of the west.

Sincerely,

/s/

Michael Garabedian
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Thank you for your comment, Gary Werner.

The comment tracking number that has been assigned to your comment is SolarD11814.

Comment Date: May 2, 2011 14:29:38PM
Solar Energy Development PEIS
Comment ID: SolarD11814

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Attachment: FINAL Draft_Solar_PEIS_comments_-PNTS_-2May2011.doc

Comment Submitted:

Partnership for the National Trails System

222 South Hamilton Street, Suite 1, Madison, WI 53703 ● (608) 249-7870

May 2, 2011

VIA ELECTRONIC SUBMISSION
(http://solareis.anl.gov/involve/comments/index.cfm)

Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: Comments on the Draft Solar Energy Programmatic Environmental Impact Statement

To Whom It May Concern:

The Partnership for the National Trails System (Partnership) commends the efforts of the Bureau of Land Management (BLM) to identify appropriate areas for solar energy development while limiting impacts to significant natural, historic, and cultural resources. We feel strongly that by guiding solar energy projects to locations with the fewest possible resource conflicts, the BLM can facilitate efficient and cost-effective renewable energy development while protecting the invaluable, nationally significant natural, historic, and cultural resources that are present on America's federal public lands. The BLM should use the Solar Programmatic Environmental Impact Statement (PEIS) to guide energy development – but not to circumvent existing natural, historic, and cultural resource laws – and ensure that impacts to significant natural, historic, and cultural resources are adequately and consistently avoided, minimized or mitigated.

We believe, as many others do, that all federal agencies, including the BLM, should work with other public and private entities to achieve significant reduction of energy use through greatly improved efficiency and conservation as a top national priority. Stabilization and reduction of energy use by government, corporations, and individuals -- as has been achieved in California for 30 years -- should be done before embarking on building vast new energy production systems on public lands. We also believe that BLM should play a role, with other federal agencies, in promoting and facilitating "distributed energy production" – the generation of energy through local technologies close to where the energy is used – rather than relying solely on large-scale energy production and transmission systems. Energy policy should seek the elegance of minimizing rather than maximizing energy use; should seek to conserve rather than to expend resources as a first operating principle.

In general, the Partnership supports the BLM's identification of specific **solar energy zones** (SEZs) that avoid an extensive list of natural, historic, and cultural resource lands and resources. We strongly applaud and support the decision <u>to exclude all units</u> of the National Landscape Conservation System (NLCS), including the national scenic and historic trails, from areas to be considered for solar energy development. Accordingly, we would generally support the PEIS' SEZ Program Alternative (SEZ Alternative), although

the near-absence of cultural resource inventories and tribal consultation for specific SEZs is problematic and the SEZs should continue to be refined. In contrast, **we find the Solar Energy Development Program Alternative (preferred alternative) to be completely unacceptable.** As outlined below, we believe that the preferred alternative leaves too many significant natural, historic, and cultural resources open to direct and indirect impacts from solar energy development and undermines the entire SEZ concept and process.

Once the SEZs are determined and refined BLM should limit solar energy planning and development to those areas and exclude it from the rest of the public lands it administers.

Interests of the Partnership

The Partnership for the National Trails System is a tax-exempt, non-profit federation of 34 non-profit organizations that work in direct partnership with Federal and state agencies to help sustain and manage America's 30 national scenic and historic trails. The Partnership exists to foster information exchange among the trail organizations, to provide skill-building training for volunteers and staff, to coordinate their public policy advocacy, and to advise Federal agency managers about issues relating to the National Trails System.

The Partnership was incorporated in 2001 and received tax-exempt 501(c)3 status from the Internal Revenue Service in 2003.

I. The SEZ Alternative, with some modifications, should be the preferred alternative.

The Partnership generally supports the identification of specific BLM lands for solar energy development and the closure of the rest of the public lands under its care from consideration for further energy development. As currently drawn, the 24 SEZs contain more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. The SEZs also generally represent lands that appear to have few conflicts with nationally known natural, historic, and cultural resources. We commend the BLM on excluding from the SEZs numerous categories of significant natural, historic, and cultural resources, such as national scenic trails (NSTs), national historic trails (NHTs), national historic landmarks (NHLs), and the other units of the National Landscape Conservation System. Still, the paucity of inventory and Tribal consultation conducted for the SEZs precludes us from wholeheartedly supporting the SEZ alternative as is and from presenting all of our potential concerns with the SEZs here. However, we propose adjustments to the boundaries of three SEZs and recommend elimination of three of them as well as additional steps for refining SEZs and for avoiding conflicts with significant natural, historic, and cultural resources.

Recommendations:

- **The BLM should adjust the boundaries of certain SEZs.**
    - *Dry Lake (NV):* As currently drawn, the southeastern portion of the SEZ encompasses a National Register-listed site associated with the Old Spanish NHT and comes close to the trail itself. We recommend that the BLM move the southeastern boundary of the SEZ to the west of I-15 to help reduce impacts to the trail and associated sites.

- *Fourmile East (CO):* As currently drawn, the eastern edge of the Fourmile East SEZ in Colorado comes within one mile of the Old Spanish NHT. Additionally, the SEZ overlays Los Caminos Antiguos Scenic Byway. The PEIS acknowledges that at least 12 miles of the NHT would be adversely affected by solar development. Furthermore, the PEIS recommends that solar development on the east side of the byway (in this area, State Highway [SH] 150) not be approved, in order to reduce adverse impacts to the byway's eastern viewshed and to the NHT. *PEIS at 10.3-28*. Accordingly, we recommend that the eastern boundary of the SEZ simply be moved to some distance (e.g., at least 0.5 miles) west of SH 150.

- *Riverside East (CA):* As currently drawn, the west end of the Riverside East SEZ in California nearly surrounds a portion of Joshua Tree National Park. This nationally significant landscape contains important cultural and natural resources, as well as high scenic values, all of which could be severely impacted by adjacent solar development. We recommend that the BLM redraw the western boundary of this SEZ so that, at a minimum, the SEZ is located completely east of SR 177. This will greatly reduce the potential visual impacts to Joshua Tree National Park's significant cultural and natural resources.

- *De Tilla Gulch (CO):* The southern boundary of this SEZ is located only 0.25 miles from the Old Spanish NHT and a segment of the trail may actually run through the SEZ. Of the portion of trail that runs immediately south of the SEZ, the PEIS states, "Pending completion of a study on the significance and definition of management needs (if any) of the trail, solar development should be restricted to areas that do not have the potential to adversely affect the setting of the trail." PEIS at 10.2-5. Given the small size of the SEZ and its proximity to the trail, however, it is doubtful whether the SEZ could be developed in a way that would avoid adversely affecting the tread and/or setting of the trail. Therefore, we recommend, at a minimum, that the BLM require a combination of mitigation measures to minimize impacts to high potential route segments located within the SEZ viewshed. Examples of mitigation measures could include, for example, restrictions on the height of solar development; painting of solar structures to reduce visibility; and contribution of educational or land purchase funds for off-site activities. This recommendation applies to both the known high potential route segment located southeast of the SEZ and to any additional segments the BLM may identify during its current inventory work close to the SEZ. Potential developers should be aware that there would likely be high mitigation costs for projects within this SEZ because adverse impacts to nationally significant trail resources could not be avoided. Given the large number of potential conflicts between solar development and NHT preservation in this area, ***we urge the BLM to remove this SEZ from development.***

- *Afton (NM):* Approximately 40 miles of El Camino Real de Tierra Adentro NHT, 48 miles of Camino Real Scenic Byway, and 15 miles of the Butterfield Trail Scenic Byway are within the SEZ viewshed. There are direct impacts on significant cultural resources especially in dune areas of this SEZ. There are also several cultural ACECs and SRMAs - habitation sites and petroglyphs - in the vicinity of the SEZ. To avoid destruction and other impacts to all these resources ***we urge the BLM to remove this SEZ from consideration.***

- *Red Sands (NM):* Sacred to various Native American groups, Lone Butte is actually encompassed by the proposed Red Sands SEZ. The same SEZ is surrounded by other

sacred mountains, including San Andrews (21 miles west), Sacramento (7 miles east), and White (39 miles north-northeast). *PEIS at 12.3-13*. The BLM should work closely with Tribes to determine if impacts to sacred viewsheds from solar energy development can be mitigated. If they cannot be, the BLM **should remove this SEZ from consideration.**

- **The BLM should describe the process for creating additional SEZs.**
  While the 24 currently proposed SEZs should provide far more land for solar energy development than will be needed over the next decades, we understand that other lands outside the current SEZs may be appropriate for SEZ designation and subsequent project development. Therefore, in the PEIS, the BLM should outline a process for designating new SEZs, as appropriate, in the future. This will ensure that only the lands with the best solar resources and the fewest conflicts with cultural and natural resources will be made available for utility-scale development. By creating a rigorous process for SEZ additions, the BLM will help to ensure that our nation can meet its future energy needs with projects guaranteed for success, without sacrificing our cultural and natural heritage. At a minimum, we request that the BLM conduct Class II surveys of potential future SEZs to help identify—and then avoid through SEZ boundary modifications—potential impacts to significant historic and cultural resources.

- **Prior to finalizing the PEIS, the BLM should minimally require Class II cultural resource inventories in portions of the SEZs for which no cultural resources information is known.**
  Given that considerably less than 5% of the land area of most SEZs has been previously inventoried for historic and cultural resources, the BLM should, at a minimum, conduct Class II reconnaissance surveys in un-inventoried areas of SEZs prior to finalization of the PEIS. For large areas of SEZs that may be impractical to survey completely at this level, the BLM should create predictive models of cultural resource sensitivity to help evaluate and refine the SEZs. By identifying areas of significant historic and cultural resources from the outset, and then directing projects to areas that do not contain them, the BLM can help to ensure that projects will be completed successfully and efficiently, with minimal impacts to significant historic and cultural resources.

II. <u>The preferred alternative is unacceptable because it will likely impact an exceedingly large number of significant natural, historic, and cultural resources.</u>

While we commend the BLM for excluding a long list of natural, historic, and cultural resources from areas that are open for solar energy development under the preferred alternative, we feel very strongly that leaving close to 22 million acres of land available for development would result in unacceptable direct and indirect impacts to significant cultural resources.

Despite the preferred alternative's exclusion of the highest profile historic and cultural resources (e.g., NHTs, NHLs, National Register-listed properties, traditional cultural properties [TCPs]), from direct impacts by solar energy development, these resources would remain vulnerable to visual and cumulative impacts. Non-excluded natural, historic, and cultural resources would be open to direct, indirect, and cumulative impacts. For example, under the SEZ alternative, only two SEZs (De Tilla Gulch and Fourmile East, both in Colorado) lie within one mile of a NHT (Old Spanish NHT) that is administered by the National Park Service (NPS). In contrast, under the preferred alternative, at least

26 parks and national trails managed by NPS could be affected. Specifically, 258 tracts of land in the preferred alternative are located within one mile of a NHT.

Exposing these and thousands of other nationally significant natural, historic, and cultural resources to adverse impacts from solar energy development is unacceptable, as well as inefficient and costly for developers. Therefore, if the preferred alternative is chosen, the BLM should, at a minimum, complete the activities below to protect significant natural, historic, and cultural resources.

Recommendations:

- **The BLM must consult with the NPS if NHTs, NSTs, and NHLs could potentially be impacted in any way.**
  While NHTs, NSTs, and NHLs are physically excluded from solar energy development under both action alternatives, they may still be visually, indirectly and/or cumulatively impacted by the development. Sections 106 and 110(f) of the NHPA require federal agencies, to the maximum extent possible; to undertake such planning and actions as may be necessary to minimize harm to NHLs. Given that the NPS administers the NHL program and the majority of the National Trails System, the BLM must consult with NPS any time there is the potential for NHLs, NHTs, and NSTs to be impacted.

- **The BLM should map and assess transmission line routes in the PEIS because those lines will be necessary for solar development outside of SEZs.**

In addition to the solar installations themselves, the transmission lines needed to carry the energy produced—particularly under the preferred alternative—would have great individual and cumulative impacts to significant natural, historic, and cultural resources and whole natural and cultural landscapes. Related access roads and other infrastructure could also cause significant impacts. The attempt to assess environmental impacts on areas open for solar energy development—particularly outside the SEZs—without also assessing the impact of the transmission lines (and other infrastructure) necessary to transport that energy is misleading and incomplete. Individual lines and related webs of lines and access roads would potentially impact far more cultural resources than would individual solar developments themselves, and would be particularly detrimental to NSTs, NHTs and TCPs, where viewsheds and settings are primary elements of their significance. Even if the individual transmission lines needed to carry the energy produced by utility-scale solar projects cannot be assessed specifically in the PEIS, the transmission infrastructure must be assessed concurrently with the projects that would require it. Future project-specific EISs for solar development should include evaluations of the projects' specific transmission line needs and routes. If these reviews are not done concurrently, the analysis of cumulative effects of solar energy development will be grossly inadequate.

- **The BLM should outline measures for directing projects to SEZs.**
  It is unclear why the BLM invested significant time, money and effort to identify and then refine SEZs if these will not be the primary areas for solar energy development. The SEZs were selected for their combination of excellent solar resources, flat land, proximity to existing roads and electrical transmission lines, and limited conflicts with important cultural, historic, and natural resources and values. These low-conflict areas are assumed to provide the best locations for successful projects and will lead to solar development that is faster,

cheaper and better for the environment, consumers and project developers. Accordingly, the BLM should create strong incentives for developing within SEZs and strong disincentives for developing outside them. Information about these incentives and disincentives should be included in the draft PEIS.

- **The BLM should identify characteristics of priority areas for development outside SEZs.**
  In addition to creating strong incentives for project development within SEZs, the BLM should guide the project development that does occur outside SEZs to the most appropriate lands. These could include previously disturbed places (e.g., brownfields), areas located close to existing transmission lines, and previously inventoried lands containing few or no significant conflicts. In the PEIS, the BLM should provide a list of characteristics of priority development areas.

III. <u>Several directives for cultural resources are missing from both action alternatives.</u>

As stated above, we generally support the SEZ alternative but do not support the preferred alternative. At the same time, we feel that both of these action alternatives should include the following additional directives pertaining to historic and cultural resources.

- **The BLM should specify exactly what "limited additional environmental review" is, in contrast with "in-depth environmental analysis."**
  In multiple locations, the PEIS states that because in-depth analyses have already been performed for the SEZs, or would be for future SEZs, project-specific resource analysis could or would be performed at a limited or lower level. *See PEIS at 1.17, 2.13.* In the PEIS, the BLM should outline what such limited environmental reviews would consist of and exactly when they would be used in lieu of more thorough analyses.

- **As part of the development of the PEIS, the BLM should conduct at least Class II surveys in areas for which no cultural resource inventories and/or tribal consultation have yet been completed.**
  BLM Manual 8100, which concerns managing cultural resources, cites the use of Class II reconnaissance surveys to "[develop] recommendations about further inventory needs in previously unsurveyed areas." *Glossary at 7.* Furthermore, BLM Manual 8110 provides great detail about the use of Class II field surveys to identify and evaluate cultural resources. It states, "A class II survey is most useful for improving cultural resource information in a large area, such as for planning or EIS purposes, where insufficient systematic identification work has been done in the past…Class II survey may be appropriate when comparing alternative locations for proposed undertakings…[and] when class I data are found to be biased or otherwise insufficient to allow for reasoned judgments during general land use planning or activity planning." *BLM Manual 8110 at .21B*. These situations are exactly those presented by the SEZs and outside areas open to solar energy development under the preferred alternative; most areas have not been surveyed for cultural resources, but knowledge of resource locations is vital for evaluating potentially appropriate locations for solar energy projects.

- **The PEIS should more thoroughly evaluate noise, light and cumulative impacts to natural, historic, and cultural resources.**
  Given that the significance of some natural, historic, and cultural resources, including NSTs, NHTs, and TCPs, depend in large part on viewshed integrity and historically appropriate setting, Chapter 5 of the PEIS should more explicitly acknowledge the potential impacts of noise and light on these and other natural, historic, and cultural resources.

  Likewise, potential cumulative impacts to significant natural, historic, and cultural resources should be outlined more thoroughly. The PEIS states that "Cumulative effects on cultural resources from foreseeable development in the six-state region are expected to be small because of the relatively small fraction of total land disturbed." *PEIS at 6-100*. However, this statement does not acknowledge (as other sections of the PEIS do) the potentially significant and far-ranging impacts that solar energy development, particularly outside the SEZs – through transmission lines and other infrastructure -- could have on linear resources such as NSTs, NHTs, and scenic byways.

- **The BLM should require, not just recommend, the use of specific measures for avoiding, minimizing, and/or mitigating impacts to significant natural, historic, and cultural resources.**
  The state-specific chapters of the PEIS propose some well developed design features for avoiding, minimizing, and/or mitigating impacts to specific kinds of historic and cultural resources, particularly NHTs. *See PEIS at 10.3-15 and 10.3-28*. In order to ensure that impacts truly are avoided, minimized, and/or mitigated, these design features **should be required**, not simply recommended. This would not only better protect the resources but provide greater certainty for project steps and ultimate success.

- **Prior to finalization of the PEIS, the BLM should systematically inventory all segments of NSTS, NHTs, and candidate NHTs that have not yet been inventoried and are located within 5 miles of approved solar development areas and SEZs.**
  Within the National Trails System Act [16 USCS § 1251 (12)], **high potential route segments** are "those segments of a [national historic] trail which would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of an historic route." **High potential sites** along NHTs are also recognized for their significance, the quality of their resources, and the opportunity they afford to interpret the historic events or activities for which the NHT was authorized by Congress.

  Because "high potential route segments" and "high potential sites" are identified as such precisely because of their greater than average scenic values, those values must be protected to maintain the integrity of these segments and sites. Segments and sites of NHTs that are eligible for or listed on the National Register of Historic Places (National Register) generally also feature significant viewsheds. Therefore, trail viewsheds and settings must be preserved. National Register Bulletin 30, "Guidelines for Evaluating and Documenting Rural Historic Landscapes," may enhance identifications of NHT landscapes and significances. See Bulletin 30 at 27.

The PEIS itself says, "Because the landscape setting observed from units of the National Park System, national historic sites, national trails, and Tribal cultural resources may be a part of the historic context contributing to the historic significance of the site or trail, project siting should avoid locating facilities that would alter the visual setting in a way that would reduce the historic significance or function, even if compliant with VRM objectives. This requirement does not supersede or amend national historic sites, national trails, and Tribal cultural resources requirements cited in other sections, but is in addition to and supportive of them." *PEIS at 5-193*.

Accordingly, in order to better avoid impacts to NHTs and to better ensure project success, the BLM should identify all "high potential route segments" and "high potential sites" of NHTs and National Register-eligible segments of NHTs and NSTs that could be visually or otherwise impacted by solar energy development.

- **The BLM should prescribe specific additional avoidance and/or mitigation measures for certain areas and historic, natural, cultural, and recreational resources.**
  We commend the BLM for establishing protective buffers around NHTs but feel that a standard 0.25 miles on either side of a trail corridor centerline is generally inadequate for protecting both the physical traces and settings of the trails. Some historic trail corridors are actually wider than 0.25 or even 0.5 miles so this minimal buffer is sometimes simply too narrow. In other cases, where trail segments have already been altered or damaged by development, a 0.25 mile buffer may not be necessary. Therefore, as an alternative, we urge the BLM to identify trail avoidance areas using viewshed analyses around "high potential route segments" and "high potential sites" and National Register-eligible and -listed sites and segments for NHTs and the entire length of NSTs, rather than relying only on a standard width linear zone. This approach first requires trail inventories and eligibility assessments to identify such segments. At an absolute minimum, viewshed analyses and visual simulations should be conducted as elements of NEPA analyses for all projects proposed within 5 miles of NHTs and NSTs, to guide project locations to the places that are least harmful to the trails.

  If viewshed analyses are not possible, we recommend the BLM exclude all areas located within 5 miles of NSTs and of "high potential route segments," "high potential sites," and National Register-eligible and -listed sites and segments of NHTs from development consisting of photovoltaic systems, parabolic troughs and dish engine technologies. If power towers are to be used, we recommend that lands located within 7 miles of these significant segments and sites of NHTs and of NSTs be excluded from development. At a minimum, development should be severely limited within NHT corridors—particularly for "high potential route segments" and "high potential sites" —and visual and other impacts should be stringently mitigated according to, for example, distance and level of impact. These measures will support preservation of the historic viewsheds and settings that are vital to the trails' national significance, while largely removing potential conflicts with and hurdles for development.

  In addition to the 0.25 mile exclusion corridor, the PEIS itself recommends development far from NHTs in order to minimize impacts to NHTs. *See PEIS at 10.1-6, 12.1-5*. Furthermore, the PEIS states that "Because the landscape setting observed from units of the National Park System, national historic sites, national trails, and Tribal cultural resources may be a part of

the historic context contributing to the historic significance of the site or trail, project siting shall avoid locating facilities that would alter the visual setting in a way that would reduce the historic significance or function, even if compliant with VRM objectives." *PEIS at A-79*. Therefore, it would seem that creating wider exclusion corridors for NHTs and NSTs would help to build more certainty into the solar development process, for both trail protection and project development.

Furthermore, as defined in the National Trails System Act (P.L. 90-543, as amended through P.L. 111-11, March 30, 2009), NHTs have a combination of historic and recreational elements. As such, trails should also be thought of in relation to sections of the PEIS that prescribe measures to avoid impacts to recreation areas. For example, in Appendix A regarding development policies and design, the PEIS specifically states that "Solar facilities shall not be placed in areas of unique or important recreation resources." *PEIS at A-39*. While the extent of these "areas" is undefined, NHTs should be considered in this context, as well as NSTs. The PEIS should also acknowledge that increases in ambient noise level could have a negative effect on all recreational uses, including people traveling in the vicinity on NSTs, NHTs and NHT auto tour routes. In addition, because trails generally run through terrain that's easiest to traverse, the PEIS should explicitly consider cumulative impacts to low elevation, not just high elevation, recreation areas.

Because NSTs and NHTs may still be affected by solar energy development, the PEIS should also include recommendations for off-site mitigations, including acquiring new trail easements not already on public lands, documenting pre-development landscapes through photographs and data collection as a form of "data recovery," developing interpretive sites, contributing to a trail land acquisition fund, and creating history and outdoor education curricula for schools. The PEIS should also acknowledge the potential need for the establishment of alternative (substitute) trail corridors to maintain the integrity of trail networks if recreation and visitation of sections of NHT are interrupted by solar development.

- **The BLM should conduct additional consultation with Native American tribes prior to finalization of the PEIS, to identify additional lands for exclusion.**
  We commend the BLM for identifying in the PEIS some TCPs and other areas that are sacred to Tribes. Still, we strongly encourage the BLM to continue to consult with Tribes to identify additional areas that should be excluded from solar energy development, particularly under the preferred alternative. Impacts to TCPs and sacred areas generally are very difficult to mitigate so avoidance of these areas will result in greater certainty for both project proponents and Tribes.

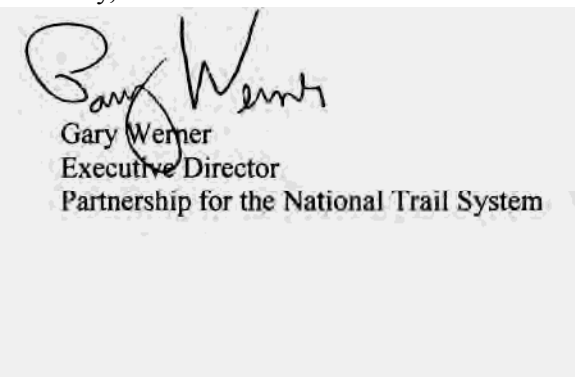
Conclusion

When planning for large-scale solar energy development on federal public lands, the BLM must prioritize the protection of outstanding natural, historic, and cultural resources, including significant concentrations of prehistoric and historic archaeological sites, historic trails, scenic trails, and Native American traditional cultural properties and sacred sites. **We urge the BLM to select the PEIS' SEZ alternative as the preferred alternative because it would likely result in far fewer impacts to significant natural, historic, and cultural resources than would the current preferred alternative.** Regardless of which

action alternative the BLM chooses, however, we encourage the BLM to thoroughly evaluate potential direct and indirect impacts to significant natural, historic, and cultural resources through the PEIS and prior to the initiation of specific projects. Methods for doing this may include, but not be limited to, conducting Class II sample surveys in areas previously unsurveyed and inventorying NHTs and NSTs near areas slated for solar development. Continued timely, meaningful, and thorough consultation with Tribes, State Historic Preservation Officers, local communities and other interested parties will support these efforts.

We appreciate the opportunity to provide these comments and we look forward to participating further in the PEIS process. Please include the Partnership on all announcements and all notifications associated with the PEIS process.

Sincerely,



Thank you for your comment, Bryan Faehner.

The comment tracking number that has been assigned to your comment is SolarD11815.

Comment Date: May 2, 2011 14:34:24PM
Solar Energy Development PEIS
Comment ID: SolarD11815

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May 2, 2011

Secretary Ken Salazar
Department of the Interior
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Secretary Stephen Chu
U.S. Department of Energy
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Washington, DC 20585

Re: Notice of Intent To Prepare a Programmatic Environmental Impact Statement To Evaluate Solar Energy Development, Develop and Implement Agency-Specific Programs, Conduct Public Scoping Meetings, Amend Relevant Agency Land Use Plans, and Provide Notice of Proposed Planning Criteria

Dear Secretaries Salazar and Chu:

On behalf of our more than 325,000 members, the National Parks Conservation Association (NPCA) would like to thank you for the opportunity to comment on the Solar Energy Development Draft Programmatic Environmental Impact Statement (Draft Solar PEIS). Our members care deeply about America's shared natural and cultural heritage that has been preserved by the National Park System and want future generations to inherit an even stronger and invigorated system of protected lands.

We applaud the Department of Interior (DOI) and Department of Energy (DOE) for their efforts to bolster solar energy generation in the United States and improve planning and evaluation of utility-scale solar energy development facilities on Bureau of Land Management (BLM) lands. Solar energy is one of our countries most promising energy sources in transitioning away from America's current reliance on coal-fired power plants that contribute to unhealthy air quality in many of our nation's national parks. NPCA believes that establishing smart environmental policies and mitigation strategies for solar energy projects will go a long way to bringing clean, renewable solar energy to market more quickly. Such policies need to focus on thoughtful planning and include early consideration of potential impacts on units of the National Park System and surrounding BLM lands. In order to be "smart from the start", the BLM must regularly consult the National Park Service (NPS) on issues pertaining to the preservation of park scenery, water resources, wildlife and wildlife corridors, and other park resources that may be impacted by new solar energy facilities.

NPCA supports the Solar Energy Zone (SEZ) Program Alternative if the following changes are made:
• the size of the Riverside East SEZ is reduced and its boundaries dramatically reconfigured further away from Joshua Tree National Park, where it is currently proposed on adjacent lands;
• the Iron Mountain SEZ is eliminated to protect endangered desert tortoises and preserve Joshua Tree National Park;

• the boundary of Amargosa Valley SEZ is reconfigured further away from Death Valley National Park, where it is currently proposed on adjacent lands; and
• the Red Sands SEZ must require dry solar technology to avoid damage to water resources within White Sands National Monument.

The Solar Energy Zone (SEZ) Program Alternative holds promise because it would focus solar development within identified SEZs that would help avoid needless conflicts with the 37 park units located in proximity to BLM lands identified in the PEIS. It would also bring solar energy facilities on-line faster, while better preserving broader ecological landscapes that are often anchored by our national parks. Furthermore, it would also allow for the creation of new SEZs as necessary and after an additional environmental review and public comment.

NPCA strongly opposes the preferred alternative, the Solar Energy Development Program Alternative, which would allow for 22 million acres of BLM lands to be made available for applicants to pursue construction of solar energy facilities. Making available contestable lands outside of the SEZs is unnecessary, and more importantly, contrary to the Administration's underlying goal of instituting a proactive planning framework to expedite solar energy development. Moreover, due to the increased potential for resource conflicts, there would be additional (and avoidable) administrative costs for the BLM, as well as additional costs, time, and uncertainty for companies in attempting to acquire permits. In other words, allowing for solar development within the 22 million acres of BLM lands is quite simply a distraction and would shift focus and resources away from instituting a process laid out under the SEZ Program Alternative, which holds so much potential.

Furthermore, while NPCA greatly appreciates the recent guidance provided to BLM staff regarding a new pre-application and screening process, we believe it fails to adequately clarify that the BLM will use its "discretion" to deny a project, even if the NPS voices strong concern. As an added precaution to protect park resources and the experience of park visitors, NPCA believes that new SEZs, or new solar development that could occur within the 22 million acres identified in the preferred alternative, should be located at least 15 miles from national parks unless the NPS determines that development does not unacceptably impact park resources.

We appreciate the hard work put into preparing the Draft Solar PEIS and corresponding BLM Instructional Memos and hope our concerns and suggestions, which are more broadly presented below, are carefully considered.

I. Once Amended to Avoid Damage to Park Resources, the SEZ Program Alternative Promises To Spur Solar Energy Development Without Unacceptably Impacting America's National Parks

With modification, NPCA supports the SEZ Program Alternative, which is intended to focus development within specific lands (SEZs) that the BLM has identified as having few impediments to utility-scale production and where BLM would prioritize and incentivize development. Lands outside SEZs would be excluded from solar development. Within SEZs, the BLM would prioritize solar energy development over other land uses; focus BLM resources to process applications; and prioritize associated electricity transmission projects and needs. While we support concentrating solar facilities within SEZs, it is vital that the boundaries of these areas are "smart from the start" to avoid unacceptable impacts to park resources, including endangered wildlife, near Joshua Tree National Park, Death Valley National Park, and White Sands National Monument.
Furthermore, due to the proximity of these SEZ to units of the National Park System, special mitigation to preserve park viewsheds and water resources must be utilized. Such mitigation must include low-profile designs and prohibit "power towers" that can scar park viewsheds over expansive landscapes. Required mitigation should also include no-water solar technologies to preserve sensitive desert ecosystems in which national parks are located.

NPCA believes there are four SEZs that must be either reconfigured or eliminated due to their unsuitable location near or adjacent to parks:

a. Iron Mountain SEZ Threatens Iconic Scenery and Wildlife Corridor Critical to Joshua Tree National Park

The Iron Mountain SEZ is the only SEZ that we believe should be totally removed from consideration. Iron Mountain would require significant infrastructure to become a viable alternative, including a right-of-way for the development of power lines. The SEZ would inhibit wildlife movements between Mojave National Preserve, several wilderness areas to the South (Stepladder, Sheephole, and Palen-McCoy Wilderness Areas), and Joshua Tree National Park. Development in the Iron Mountain SEZ would be visible from thousands of acres of wilderness within Joshua Tree National Park—8,931 acres of the park within a 15 mile viewshed and 14,606 acres of the park within a 25 mile viewshed. Night sky resources in Joshua Tree National Park would be damaged by artificial light from nighttime maintenance and security. This is suitable habitat for the red spotted toad and the area has 31 reptile species including the desert tortoise. In fact, full scale solar energy facilities in the SEZ may affect between several hundred to 1,000 tortoises. The affected area may provide important habitat for bighorn sheep traveling between the Old Woman Wilderness and the Turtle Mountains Wilderness area and may also serve as migratory habitat for bighorns between the Coxcomb and Old Woman Mountains. Furthermore, this SEZ has been identified as high-quality habitat for several state and federally listed species, including the desert tortoise. In sum, the proposed SEZ would produce permanent harm to Joshua Tree National Park through the reduction of visual resources, harm to wildlife, and habitat fragmentation.

b. Riverside East SEZ Threatens Scenery, Desert Tortoise, and Broader Ecological Integrity of Joshua Tree National Park

NPCA believes Riverside East should be reconfigured so that it is located further away from Joshua Tree National Park. Currently, the proposed SEZ parallels Joshua Tree National Park's southern and eastern border. Solar development adjacent to the park will diminish its wilderness characteristics, scenic viewshed, shared water resources, identified wildlife corridors (especially between the park and the Palen-McCoy Wilderness Area), and encourage further incompatible adjacent development in and around the park's boundary. The proposed Riverside East SEZ is clearly visible from much of Joshua Tree National Park. In fact, from 5 miles away, 53,426 acres of the park will be within the viewshed of the solar facilities. From 15 miles away, 111,416 acres of the park would be visible. Furthermore, while there is an inadequate examination and discussion of wildlife linkages between the park and adjacent protected lands in the Solar PEIS, we do know that the proposed SEZ area may support 2,865 tortoises and serves as a corridor for Nelson's bighorn sheep traveling between ranges. Unfortunately, solar development at the park boundary will inflate the population of ravens, a known predator of the desert tortoise.

c. Amargosa Valley SEZ Threatens Scenery and Fragile Water Resources at Death Valley National Park

NPCA believes Amargosa Valley SEZ should be reconfigured so that it is located further away from Death Valley National Park and include robust water mitigation measures. This SEZ is located in a region of Nevada that supports the highest concentration of endemic species in the continental United States. The Ash Meadows complex is the Mojave's largest wetland and surrounds Death Valley National Park's Devil's Hole. This unique aquatic feature is the single habitat for the Federally Endangered Devil's Hole Pupfish. The surface and ground water in the Amargosa Valley feeds the Amargosa River, which was protected as Wild and Scenic River in 2009. The Amargosa Valley SEZ is within close proximity to Death Valley National Park wilderness. Industrialization of the Amargosa Valley would negatively impact Death Valley National Park's viewshed, water resources, threatened and endangered species, and its eastern gateway communities. The cumulative impacts from this SEZ could reduce critical water levels in Ash Meadows, Devil's Hole, Amargosa River, and dependent seeps, springs, and surface flows in Death Valley National Park.

d. Red Sands SEZ Threatens Wildlife and Sensitive Water Resources Within White Sands National Monument

We believe the proposed Red Sands SEZ in New Mexico should be reconfigured so that it is located further away from the White Sands National Monument and includes serious and comprehensive water mitigation measures. The Red Sands SEZ could jeopardize groundwater at White Sands National Monument and lead to the collapse of the development and stability of the gypsum sand dunes. Even a decrease in 3 ft of water from the shallow aquifers could have far-reaching consequences and could harm the White Sands Pupfish, which is listed as threatened species in New Mexico. There is a population in a spring-fed section of the Lost River, which is recharged from groundwater sources in the Tularosa Basin. Additionally, White Sands National Monument is located only 4.1 miles west of the proposed SEZ. According to the viewshed analysis in the PEIS most of the 152,363 acres of the monument including the scenic drive will be within the viewshed of the SEZ. The PEIS in its visual resource analysis states that park visitors could see strong contrasts with the development of solar facilities due to the flat, open topography.

NPCA supports the creation of new SEZs as necessary, which is afforded in the SEZ Program Alternative. To help ensure that new SEZs are located appropriately, we believe they should be located at least 15 miles from national parks unless the NPS determines that development does not unacceptably impact park resources. In addition, we ask that the agencies provide inclusive steps to ensure that public dialogue is solicited and heard. Providing a low-pressure forum for questions, education, and sharing should be considered to encourage the participation of new voices in public process.

In evaluating the need to establish new SEZs, we believe that the DOI and DOE should also consider available private lands already disturbed that may meet the various requirements of companies seeking to expand their operations. In particular, we encourage the agencies to collaborate with the Environmental Protection Agency to utilize brown-fields and abandoned mine sites for re-development.

Moreover, we believe that the agencies need to reevaluate their assumption in the Solar PEIS that the majority of renewable energy should come from public lands. We encourage the agencies to consider that incentivizing renewable energy production on public lands may put private landowners and County and State Governments at an economic disadvantage. Disturbed private lands often have fewer resource conflicts, and consequently move solar projects forward with less cost and in a timelier manner.

Due to the long-term ecological impacts of SEZs on the landscape and the burgeoning development of advanced technologies with fewer ecological impacts, it is essential that the BLM proceed with a phased development approach within SEZs to take advantage of adaptive management principles. Within the adaptive management approach, we encourage the DOI and DOE to institute cost effective incentives for companies to utilize advanced solar technologies that do not use water, have a low vertical profile, and have reduced impacts on the desert landscape.

Already, projects like the Ivanpah Solar Project just east of Mojave National Preserve have broken ground and are expected to have negative impacts on park scenery and resources. We encourage the BLM to work with the NPS to monitor and mitigate impacts to the greatest extent possible. For the Ivanpah Valley, we ask that a new Resource Management Plan be developed that includes a two-state ecosystem analysis. Ivanpah Valley remains a high conflict zone due to the number of proposed solar installations, other industrial projects, and the presence of endemic and/or state and federally listed threatened and endangered species, including the desert tortoise. A detailed review of cumulative impacts and land management policy in Ivanpah Valley could inform decisions made in this location, and should inform larger efforts such as the Desert Renewable Energy Conservation

Plan and Solar PEIS.

II. The DOI Must Protect NPS Units and Their Resources that May Be Impaired from Inappropriate Solar Development Outside NPS Boundaries

We remind DOI that they have a duty to protect park resources from negative impacts that occur outside park boundaries. Importantly, the NPS has a special status and mission provided under the NPS Organic Act of 1916. It states:

"To promote and regulate the use of the...national parks...which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Furthermore, NPCA insists that the DOI consider the amendments to the Organic Act made in 1978 (i.e. the Redwoods Amendments) that offer additional sources of regulatory authority to prevent external threats from damaging park resources. The 1978 Amendments reassert the system-wide standard of protection:

Congress further reaffirms, declares, and directs the promotion and regulation of the various areas of the National Park System . . . shall be consistent with and founded in the purpose established by the first section of the Act of August 25, 1916, to the common benefit of all the people of the United States. The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.

In addition to the Organic Act and the Redwoods Amendments, there are other federal laws that mandate the preservation of park resources. For example, the Park System Resource Protection Act requires the Secretary through NPS to undertake necessary action to minimize loss or injury to park resources, the Endangered Species Act would require protection for endangered species and their habitats, and the Wild & Scenic Rivers Act requires preservation of selected rivers in their free-flowing condition. These and other laws exist to preserve park resources within and outside the boundaries of parks.

A Solicitor Memorandum from April 16, 1998 provides additional guidance to the Secretary of Interior regarding their "heavy responsibility to safeguard the National Park System." Importantly, the memo provides insight as to the application of the Redwoods Amendments to threats outside park boundaries stating, "The more the threat is direct, specific, and credible, and the more it relates to the fundamental value or purpose of the park in question, the more clearly the 1978 Amendment comes into play." Clearly, threats posed to park scenery, water, and wildlife from inappropriately located solar development on BLM lands can have dire consequences on parklands, and may impair park resources. Accordingly, it is imperative that sound environmental reviews, as required under the National Environmental Policy Act (NEPA), be properly developed and acted upon. The Solicitor's Memo goes on to state that the mere acknowledgement of a threat is not enough:

Where the administrative record reflects a credible threat of serious injury to park resources a Secretarial decision to authorize the activity posing the threat could be deemed arbitrary and capricious under the APA [the Administrative Procedures Act] review if the Secretary did nothing other than acknowledge the existence of the threat. The 1978 Amendment limits the breadth of Secretarial discretion at least to the point of requiring that some attention, beyond mere awareness, be paid to the threat. Any other conclusion marginalizes that legislation's concern with preserving park values and purposes resources from derogation.

In sum, we impress upon DOI that the approval of a solar development project is a discretionary action, while preserving park resources and avoiding impairment is not. It only follows that this unequivocal duty to protect the parks must necessarily include activities on lands outside park boundaries also under the Secretary of the Interior's control.

III. The BLM's Instructional Memorandum Regarding Pre-Application and Screening
Shows Progress, But More Must Be Done to Ensure the Protection of NPS Resources

NPCA is pleased with the increased collaboration demonstrated by the BLM with the NPS, US Fish and Wildlife Service (USFWS) and other federal agencies since the release of the Solar PEIS. In particular, it was encouraging to see the Instruction Memorandum (IM) No. 2011-061 regarding "Solar and Wind Energy Applications—Pre-Application and Screening" that was sent to BLM field offices February 7, 2011 emphasizing that the "smart from the start approach is consistent…with the Secretary's affirmative duty to protect areas and resources of national interest." We are especially happy to see that there will be two pre-application meetings with the BLM for the project proposals. As outlined in the IM, the first meeting will allow the BLM to "direct development away from lands with high conflict or sensitive resource values towards low conflict areas…" The second meeting is to "initiate and ensure early coordination with Federal [e.g. NPS], state, tribal and local government agencies…" and before "significant resources are committed to the processing of the application." We are hopeful that this early pre-application process will help avoid unnecessary negative impacts to park resources and related fragile desert water resources.

Although we greatly appreciate the thoughtful pre-application process established by the IM, it fails to ensure the public that the BLM will in fact deny a proposed project if the NPS objects. On this point, the IM states on page 4:

If a proposal does not avoid areas where development would cause significant impacts to sensitive resources and values that are the basis for special designations or protections, the BLM may exercise its discretion to not accept and to reject the application.

The IM also states on page 5 that:

The BLM may also exercise its discretion to not accept and to reject an application if a proposed project is determined, in consultation with other appropriate Federal land management agencies, to have the potential to cause unacceptable impacts to important resources and values, including impacts to specially designated areas.

Unfortunately, merely allowing the BLM to ”exercise its discretion” is insufficient to ensure protection of the important, irreplaceable resources and values contained in units of the National Park System. A more stringent standard is necessary. The BLM should be specifically directed to defer to the expertise of the NPS and the USFWS in making a determination as to the significance of a proposed project’s impact on the resources under their care and whether that impact is unacceptable. The BLM should accept or reject an application accordingly.

Overall, we are pleased with the screening criteria outlined in the IM and the inclusion of “sensitive viewsheds, resources, and values” of the National Park System that may be threatened in the “High Potential for Conflict” category. Again, NPCA is encouraged that sensitive park viewsheds will be considered high conflict areas for siting solar development.

However, tens of thousands of the 22 million acres identified in the preferred alternative are in direct conflict with lands proposed for conservation in the California Desert Protection Act of 2011. These include areas proposed for addition to Death Valley National Park and Mojave National Preserve, areas proposed for BLM wilderness designation-especially in the Amargosa River basin, and areas formerly purchased for conservation through LWCF funds and private funds that would be protected from industrial development within the boundary of the proposed Mojave Trails National Monument (including in and surrounding Amboy Crater National Natural Landmark). Clearly, permitting solar projects in the proposed Castle Mountains addition to Mojave National Preserve would be extremely controversial in nature and altogether inappropriate.

IV. The DOI’s Preferred Alternative, the Solar Energy Development Program Alternative, Undermines Efforts to Utilize SEZs by Opening Up 22 Million Acres of BLM lands for Solar Development

NPCA strongly opposes the Solar Energy Development Program Alternative, which would make 22 million acres of public land available for solar development. We believe this alternative will take the DOI’s focus off the objective of instituting a proactive planning process to bring well-designed projects on line faster, while avoiding needless environmental conflict. Allowing for development outside of SEZs will essentially create a situation that would keep DOI from driving the planning process from the outset. Instead, DOI would have to react individually to numerous proposals and explain on a case by case basis through the pre-application process whether the development is appropriate or not. Furthermore, limited resources available to the NPS, USFWS, BLM, and other Federal agencies could deter the effectiveness of processing applications for appropriate locations within SEZs.

If the Solar Energy Development Program Alternative were selected, stringent mitigation measures beyond the screening criteria outlined in the Instruction Memorandum (IM) No. 2011-061 regarding “Solar and Wind Energy Applications—Pre-Application and Screening would need to be put in place to help ensure park resources are not unacceptably impacted. Due to this piecemeal approach, which simply runs counter to the “smart from the start” principle, the BLM would need to conduct an additional study to fully consider the cumulative impacts of allowing for a scattering of solar projects across a 22 million acre landscape that could independently or collectively impair national park resources.

As with the designation of new SEZs, we believe that any new solar development within the 22 million acres identified in the preferred alternative would need to be sited 15 miles or more from park units, unless the NPS determines that development does not unacceptably impact park resources.

V. NPCA Supports the DOE’s Action Alternative, Which Would Provide Strong Economic Incentives for Well Designed Solar Energy Development Projects

NPCA supports DOE’s action alternative, which would require the development of “programmatic guidance to further integrate environmental considerations into its analysis and selection of solar projects that it will support. DOE would use the information about environmental impacts provided in this PEIS to appropriately amend its programmatic approaches to facilitate the advancement of solar energy development.”

Again, we appreciate the hard work put into preparing the Draft Solar PEIS and hope you find our concerns and suggestions helpful. If you have any questions regarding our comments, please contact Bryan Faehner at 202-419-3700 or at bfaehner@npca.org.

Sincerely,

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Tom Hill
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Program Manager, Nevada Field Office

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Kevin Dahl
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CC: Bob Abbey, Director of the Bureau of Land Management
Jon Jarvis, Director of the National Park Service

Thank you for your comment, Bryan Faehner.

The comment tracking number that has been assigned to your comment is SolarD11816.

Comment Date: May 2, 2011 14:39:27PM
Solar Energy Development PEIS
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NATIONAL PARKS CONSERVATION ASSOCIATION

Protecting Our National Parks for Future Generations

May 2, 2011

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Washington, DC 20585

Re: Notice of Intent To Prepare a Programmatic Environmental Impact Statement To Evaluate Solar Energy Development, Develop and Implement Agency-Specific Programs, Conduct Public Scoping Meetings, Amend Relevant Agency Land Use Plans, and Provide Notice of Proposed Planning Criteria

Dear Secretaries Salazar and Chu:

On behalf of our more than 325,000 members, the National Parks Conservation Association (NPCA) would like to thank you for the opportunity to comment on the Solar Energy Development Draft Programmatic Environmental Impact Statement (Draft Solar PEIS). Our members care deeply about America's shared natural and cultural heritage that has been preserved by the National Park System and want future generations to inherit an even stronger and invigorated system of protected lands.

We applaud the Department of Interior (DOI) and Department of Energy (DOE) for their efforts to bolster solar energy generation in the United States and improve planning and evaluation of utility-scale solar energy development facilities on Bureau of Land Management (BLM) lands. Solar energy is one of our countries most promising energy sources in transitioning away from America's current reliance on coal-fired power plants that contribute to unhealthy air quality in many of our nation's national parks. NPCA believes that establishing smart environmental policies and mitigation strategies for solar energy projects will go a long way to bringing clean, renewable solar energy to market more quickly. Such policies need to focus on thoughtful planning and include early consideration of potential impacts on units of the National Park System and surrounding BLM lands. In order to be "smart from the start", the BLM must regularly consult the National Park Service (NPS) on issues pertaining to the preservation of park scenery, water resources, wildlife and wildlife corridors, and other park resources that may be impacted by new solar energy facilities.

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NPCA supports the Solar Energy Zone (SEZ) Program Alternative if the following changes are made:

- the size of the Riverside East SEZ is reduced and its boundaries dramatically reconfigured further away from Joshua Tree National Park, where it is currently proposed on adjacent lands;
- the Iron Mountain SEZ is eliminated to protect endangered desert tortoises and preserve Joshua Tree National Park;
- the boundary of Amargosa Valley SEZ is reconfigured further away from Death Valley National Park, where it is currently proposed on adjacent lands; and
- the Red Sands SEZ must require dry solar technology to avoid damage to water resources within White Sands National Monument.

The Solar Energy Zone (SEZ) Program Alternative holds promise because it would focus solar development within identified SEZs that would help avoid needless conflicts with the 37 park units located in proximity to BLM lands identified in the PEIS. It would also bring solar energy facilities on-line faster, while better preserving broader ecological landscapes that are often anchored by our national parks. Furthermore, it would also allow for the creation of new SEZs as necessary and after an additional environmental review and public comment.

NPCA strongly opposes the preferred alternative, the Solar Energy Development Program Alternative, which would allow for 22 million acres of BLM lands to be made available for applicants to pursue construction of solar energy facilities. Making available contestable lands outside of the SEZs is unnecessary, and more importantly, contrary to the Administration's underlying goal of instituting a proactive planning framework to expedite solar energy development. Moreover, due to the increased potential for resource conflicts, there would be additional (and avoidable) administrative costs for the BLM, as well as additional costs, time, and uncertainty for companies in attempting to acquire permits. In other words, allowing for solar development within the 22 million acres of BLM lands is quite simply a distraction and would shift focus and resources away from instituting a process laid out under the SEZ Program Alternative, which holds so much potential.

Furthermore, while NPCA greatly appreciates the recent guidance provided to BLM staff regarding a new pre-application and screening process, we believe it fails to adequately clarify that the BLM will use its "discretion" to deny a project, even if the NPS voices strong concern. As an added precaution to protect park resources and the experience of park visitors, NPCA believes that new SEZs, or new solar development that could occur within the 22 million acres identified in the preferred alternative, should be located at least 15 miles from national parks unless the NPS determines that development does not unacceptably impact park resources.

We appreciate the hard work put into preparing the Draft Solar PEIS and corresponding BLM Instructional Memos and hope our concerns and suggestions, which are more broadly presented below, are carefully considered.

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I. Once Amended to Avoid Damage to Park Resources, the SEZ Program Alternative Promises To Spur Solar Energy Development Without Unacceptably Impacting America's National Parks

With modification, NPCA supports the SEZ Program Alternative, which is intended to focus development within specific lands (SEZs) that the BLM has identified as having few impediments to utility-scale production and where BLM would prioritize and incentivize development. Lands outside SEZs would be excluded from solar development. Within SEZs, the BLM would prioritize solar energy development over other land uses; focus BLM resources to process applications; and prioritize associated electricity transmission projects and needs. While we support concentrating solar facilities within SEZs, it is vital that the boundaries of these areas are "smart from the start" to avoid unacceptable impacts to park resources, including endangered wildlife, near Joshua Tree National Park, Death Valley National Park, and White Sands National Monument.

Furthermore, due to the proximity of these SEZ to units of the National Park System, special mitigation to preserve park viewsheds and water resources must be utilized. Such mitigation must include low-profile designs and prohibit "power towers" that can scar park viewsheds over expansive landscapes. Required mitigation should also include no-water solar technologies to preserve sensitive desert ecosystems in which national parks are located.

NPCA believes there are four SEZs that must be either reconfigured or eliminated due to their unsuitable location near or adjacent to parks:

a. Iron Mountain SEZ Threatens Iconic Scenery and Wildlife Corridor Critical to Joshua Tree National Park

The Iron Mountain SEZ is the only SEZ that we believe should be totally removed from consideration. Iron Mountain would require significant infrastructure to become a viable alternative, including a right-of-way for the development of power lines. The SEZ would inhibit wildlife movements between Mojave National Preserve, several wilderness areas to the South (Stepladder, Sheephole, and Palen-McCoy Wilderness Areas), and Joshua Tree National Park. Development in the Iron Mountain SEZ would be visible from thousands of acres of wilderness within Joshua Tree National Park—8,931 acres of the park within a 15 mile viewshed and 14,606 acres of the park within a 25 mile viewshed. Night sky resources in Joshua Tree National Park would be damaged by artificial light from nighttime maintenance and security. This is suitable habitat for the red spotted toad and the area has 31 reptile species including the desert tortoise. In fact, full scale solar energy facilities in the SEZ may affect between several hundred to 1,000 tortoises. The affected area may provide important habitat for bighorn sheep traveling between the Old Woman Wilderness and the Turtle Mountains Wilderness area and may also serve as migratory habitat for bighorns between the Coxcomb and Old Woman Mountains. Furthermore, this SEZ has been identified as high-quality habitat for several state and federally listed species, including the desert tortoise. In sum, the proposed SEZ would produce permanent

harm to Joshua Tree National Park through the reduction of visual resources, harm to wildlife, and habitat fragmentation.

b. Riverside East SEZ Threatens Scenery, Desert Tortoise, and Broader Ecological Integrity of Joshua Tree National Park

NPCA believes Riverside East should be reconfigured so that it is located further away from Joshua Tree National Park. Currently, the proposed SEZ parallels Joshua Tree National Park's southern and eastern border. Solar development adjacent to the park will diminish its wilderness characteristics, scenic viewshed, shared water resources, identified wildlife corridors (especially between the park and the Palen-McCoy Wilderness Area), and encourage further incompatible adjacent development in and around the park's boundary. The proposed Riverside East SEZ is clearly visible from much of Joshua Tree National Park. In fact, from 5 miles away, 53,426 acres of the park will be within the viewshed of the solar facilities. From 15 miles away, 111,416 acres of the park would be visible. Furthermore, while there is an inadequate examination and discussion of wildlife linkages between the park and adjacent protected lands in the Solar PEIS, we do know that the proposed SEZ area may support 2,865 tortoises and serves as a corridor for Nelson's bighorn sheep traveling between ranges. Unfortunately, solar development at the park boundary will inflate the population of ravens, a known predator of the desert tortoise.

c. Amargosa Valley SEZ Threatens Scenery and Fragile Water Resources at Death Valley National Park

NPCA believes Amargosa Valley SEZ should be reconfigured so that it is located further away from Death Valley National Park and include robust water mitigation measures. This SEZ is located in a region of Nevada that supports the highest concentration of endemic species in the continental United States. The Ash Meadows complex is the Mojave's largest wetland and surrounds Death Valley National Park's Devil's Hole. This unique aquatic feature is the single habitat for the Federally Endangered Devil's Hole Pupfish. The surface and ground water in the Amargosa Valley feeds the Amargosa River, which was protected as Wild and Scenic River in 2009. The Amargosa Valley SEZ is within close proximity to Death Valley National Park wilderness. Industrialization of the Amargosa Valley would negatively impact Death Valley National Park's viewshed, water resources, threatened and endangered species, and its eastern gateway communities. The cumulative impacts from this SEZ could reduce critical water levels in Ash Meadows, Devil's Hole, Amargosa River, and dependent seeps, springs, and surface flows in Death Valley National Park.

d. Red Sands SEZ Threatens Wildlife and Sensitive Water Resources Within White Sands National Monument

We believe the proposed Red Sands SEZ in New Mexico should be reconfigured so that it is located further away from the White Sands National Monument and includes serious and comprehensive water mitigation measures. The Red Sands SEZ could jeopardize groundwater at

White Sands National Monument and lead to the collapse of the development and stability of the gypsum sand dunes. Even a decrease in 3 ft of water from the shallow aquifers could have far-reaching consequences and could harm the White Sands Pupfish, which is listed as threatened species in New Mexico. There is a population in a spring-fed section of the Lost River, which is recharged from groundwater sources in the Tularosa Basin. Additionally, White Sands National Monument is located only 4.1 miles west of the proposed SEZ. According to the viewshed analysis in the PEIS most of the 152,363 acres of the monument including the scenic drive will be within the viewshed of the SEZ. The PEIS in its visual resource analysis states that park visitors could see strong contrasts with the development of solar facilities due to the flat, open topography.

NPCA supports the creation of new SEZs as necessary, which is afforded in the SEZ Program Alternative. To help ensure that new SEZs are located appropriately, we believe they should be located at least 15 miles from national parks unless the NPS determines that development does not unacceptably impact park resources. In addition, we ask that the agencies provide inclusive steps to ensure that public dialogue is solicited and heard. Providing a low-pressure forum for questions, education, and sharing should be considered to encourage the participation of new voices in public process.

In evaluating the need to establish new SEZs, we believe that the DOI and DOE should also consider available private lands already disturbed that may meet the various requirements of companies seeking to expand their operations. In particular, we encourage the agencies to collaborate with the Environmental Protection Agency to utilize brown-fields and abandoned mine sites for re-development.

Moreover, we believe that the agencies need to reevaluate their assumption in the Solar PEIS that the majority of renewable energy should come from public lands. We encourage the agencies to consider that incentivizing renewable energy production on public lands may put private landowners and County and State Governments at an economic disadvantage. Disturbed private lands often have fewer resource conflicts, and consequently move solar projects forward with less cost and in a timelier manner.

Due to the long-term ecological impacts of SEZs on the landscape and the burgeoning development of advanced technologies with fewer ecological impacts, it is essential that the BLM proceed with a phased development approach within SEZs to take advantage of adaptive management principles. Within the adaptive management approach, we encourage the DOI and DOE to institute cost effective incentives for companies to utilize advanced solar technologies that do not use water, have a low vertical profile, and have reduced impacts on the desert landscape.

Already, projects like the Ivanpah Solar Project just east of Mojave National Preserve have broken ground and are expected to have negative impacts on park scenery and resources. We encourage the BLM to work with the NPS to monitor and mitigate impacts to the greatest extent

possible. For the Ivanpah Valley, we ask that a new Resource Management Plan be developed that includes a two-state ecosystem analysis. Ivanpah Valley remains a high conflict zone due to the number of proposed solar installations, other industrial projects, and the presence of endemic and/or state and federally listed threatened and endangered species, including the desert tortoise. A detailed review of cumulative impacts and land management policy in Ivanpah Valley could inform decisions made in this location, and should inform larger efforts such as the Desert Renewable Energy Conservation Plan and Solar PEIS.

II. The DOI Must Protect NPS Units and Their Resources that May Be Impaired from Inappropriate Solar Development Outside NPS Boundaries

We remind DOI that they have a duty to protect park resources from negative impacts that occur outside park boundaries. Importantly, the NPS has a special status and mission provided under the NPS Organic Act of 1916. It states:

> "To promote and regulate the use of the...national parks...which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."[1]

Furthermore, NPCA insists that the DOI consider the amendments to the Organic Act made in 1978 (i.e. the Redwoods Amendments) that offer additional sources of regulatory authority to prevent external threats from damaging park resources. The 1978 Amendments reassert the system-wide standard of protection:

> Congress further reaffirms, declares, and directs the promotion and regulation of the various areas of the National Park System . . . shall be consistent with and founded in the purpose established by the first section of the Act of August 25, 1916, to the common benefit of all the people of the United States. The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.[2]

In addition to the Organic Act and the Redwoods Amendments, there are other federal laws that mandate the preservation of park resources. For example, the Park System Resource Protection Act requires the Secretary through NPS to undertake necessary action to minimize loss or injury to park resources, the Endangered Species Act would require protection for endangered species

[1] National Park Service Organic Act, 16 U.S.C.1
[2] Redwoods Act, 16 U.S.C. Sec. 1a-1

and their habitats, and the Wild & Scenic Rivers Act requires preservation of selected rivers in their free-flowing condition. These and other laws exist to preserve park resources within and outside the boundaries of parks.

A Solicitor Memorandum from April 16, 1998 provides additional guidance to the Secretary of Interior regarding their "heavy responsibility to safeguard the National Park System." Importantly, the memo provides insight as to the application of the Redwoods Amendments to threats outside park boundaries stating, "The more the threat is direct, specific, and credible, and the more it relates to the fundamental value or purpose of the park in question, the more clearly the 1978 Amendment comes into play." Clearly, threats posed to park scenery, water, and wildlife from inappropriately located solar development on BLM lands can have dire consequences on parklands, and may impair park resources. Accordingly, it is imperative that sound environmental reviews, as required under the National Environmental Policy Act (NEPA), be properly developed and acted upon. The Solicitor's Memo goes on to state that the mere acknowledgement of a threat is not enough:

> Where the administrative record reflects a credible threat of serious injury to park resources a Secretarial decision to authorize the activity posing the threat could be deemed arbitrary and capricious under the APA [the Administrative Procedures Act] review if the Secretary did nothing other than acknowledge the existence of the threat. The 1978 Amendment limits the breadth of Secretarial discretion at least to the point of requiring that some attention, beyond mere awareness, be paid to the threat. Any other conclusion marginalizes that legislation's concern with preserving park values and purposes resources from derogation.

In sum, we impress upon DOI that the approval of a solar development project is a discretionary action, while preserving park resources and avoiding impairment is not. It only follows that this unequivocal duty to protect the parks must necessarily include activities on lands outside park boundaries also under the Secretary of the Interior's control.

III. The BLM's Instructional Memorandum Regarding Pre-Application and Screening Shows Progress, But More Must Be Done to Ensure the Protection of NPS Resources

NPCA is pleased with the increased collaboration demonstrated by the BLM with the NPS, US Fish and Wildlife Service (USFWS) and other federal agencies since the release of the Solar PEIS. In particular, it was encouraging to see the Instruction Memorandum (IM) No. 2011-061 regarding "Solar and Wind Energy Applications—Pre-Application and Screening" that was sent to BLM field offices February 7, 2011 emphasizing that the "smart from the start approach is consistent…with the Secretary's affirmative duty to protect areas and resources of national interest." We are especially happy to see that there will be two pre-application meetings with the BLM for the project proposals. As outlined in the IM, the first meeting will allow the BLM to "direct development away from lands with high conflict or sensitive resource values towards low

conflict areas…" The second meeting is to "initiate and ensure early coordination with Federal [e.g. NPS], state, tribal and local government agencies…" and before "significant resources are committed to the processing of the application." We are hopeful that this early pre-application process will help avoid unnecessary negative impacts to park resources and related fragile desert water resources.

Although we greatly appreciate the thoughtful pre-application process established by the IM, it fails to ensure the public that the BLM will in fact deny a proposed project if the NPS objects. On this point, the IM states on page 4:

> If a proposal does not avoid areas where development would cause significant impacts to sensitive resources and values that are the basis for special designations or protections, *the BLM may exercise its discretion to not accept and to reject the application*.

The IM also states on page 5 that:

> *The BLM may also exercise its discretion to not accept and to reject an application* if a proposed project is determined, in consultation with other appropriate Federal land management agencies, to have the potential to cause unacceptable impacts to important resources and values, including impacts to specially designated areas.

Unfortunately, merely allowing the BLM to "exercise its discretion" is insufficient to ensure protection of the important, irreplaceable resources and values contained in units of the National Park System. A more stringent standard is necessary. The BLM should be specifically directed to defer to the expertise of the NPS and the USFWS in making a determination as to the significance of a proposed project's impact on the resources under their care and whether that impact is unacceptable. The BLM should accept or reject an application accordingly.

Overall, we are pleased with the screening criteria outlined in the IM and the inclusion of "sensitive viewsheds, resources, and values" of the National Park System that may be threatened in the "High Potential for Conflict" category. Again, NPCA is encouraged that sensitive park viewsheds will be considered high conflict areas for siting solar development.

However, tens of thousands of the 22 million acres identified in the preferred alternative are in direct conflict with lands proposed for conservation in the California Desert Protection Act of 2011. These include areas proposed for addition to Death Valley National Park and Mojave National Preserve, areas proposed for BLM wilderness designation-especially in the Amargosa River basin, and areas formerly purchased for conservation through LWCF funds and private funds that would be protected from industrial development within the boundary of the proposed Mojave Trails National Monument (including in and surrounding Amboy Crater National Natural Landmark). Clearly, permitting solar projects in the proposed Castle Mountains addition

to Mojave National Preserve would be extremely controversial in nature and altogether inappropriate.

IV. The DOI's Preferred Alternative, the Solar Energy Development Program Alternative, Undermines Efforts to Utilize SEZs by Opening Up 22 Million Acres of BLM lands for Solar Development

NPCA strongly opposes the Solar Energy Development Program Alternative, which would make 22 million acres of public land available for solar development. We believe this alternative will take the DOI's focus off the objective of instituting a proactive planning process to bring well-designed projects on line faster, while avoiding needless environmental conflict. Allowing for development outside of SEZs will essentially create a situation that would keep DOI from driving the planning process from the outset. Instead, DOI would have to react individually to numerous proposals and explain on a case by case basis through the pre-application process whether the development is appropriate or not. Furthermore, limited resources available to the NPS, USFWS, BLM, and other Federal agencies could deter the effectiveness of processing applications for appropriate locations within SEZs.

If the Solar Energy Development Program Alternative were selected, stringent mitigation measures beyond the screening criteria outlined in the Instruction Memorandum (IM) No. 2011-061 regarding "Solar and Wind Energy Applications—Pre-Application and Screening would need to be put in place to help ensure park resources are not unacceptably impacted. Due to this piecemeal approach, which simply runs counter to the "smart from the start" principle, the BLM would need to conduct an additional study to fully consider the cumulative impacts of allowing for a scattering of solar projects across a 22 million acre landscape that could independently or collectively impair national park resources.

As with the designation of new SEZs, we believe that any new solar development within the 22 million acres identified in the preferred alternative would need to be sited 15 miles or more from park units, unless the NPS determines that development does not unacceptably impact park resources.

V. NPCA Supports the DOE's Action Alternative, Which Would Provide Strong Economic Incentives for Well Designed Solar Energy Development Projects

NPCA supports DOE's action alternative, which would require the development of "programmatic guidance to further integrate environmental considerations into its analysis and selection of solar projects that it will support. DOE would use the information about environmental impacts provided in this PEIS to appropriately amend its programmatic approaches to facilitate the advancement of solar energy development."

Again, we appreciate the hard work put into preparing the Draft Solar PEIS and hope you find our concerns and suggestions helpful. If you have any questions regarding our comments, please contact Bryan Faehner at 202-419-3700 or at bfaehner@npca.org.

Sincerely,

Bryan Faehner
Associate Director for Park Uses

Tom Hill
Director for Special Projects

David Lamfrom
California Desert Program Manager

Seth Shteir
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Program Manager, Nevada Field Office

Karen Hevel-Mingo
Program Manager, Southwest Regional Office

Kevin Dahl
Program Manager, Arizona Field Representative

CC: Bob Abbey, Director of the Bureau of Land Management
Jon Jarvis, Director of the National Park Service

Thank you for your comment, Kendall Van Dyk.

The comment tracking number that has been assigned to your comment is SolarD11817.

Comment Date: May 2, 2011 14:41:09PM
Solar Energy Development PEIS
Comment ID: SolarD11817

First Name: Kendall
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Attachment: TUPEISFINALComments.pdf

Comment Submitted:

Attached

Sent via U.S. Mail and email:

May 2, 2011

Draft Solar Energy Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, IL 60439

RE: Comments on the Draft Solar PEIS for solar Energy Development in Six Southwestern States

Dear Solar PEIS Project Team,

Please accept the following comments from Trout Unlimited on the Bureau of Land Management's (BLM) and the Department of Energy's (DOE) Draft Solar Programmatic Environmental Impact Statement (PEIS). Trout Unlimited (TU) has participated in earlier public scoping comments to the 2009 **PEIS to Develop and Implement Agency-Specific Programs for Solar Energy Development; Bureau of Land Management Approach for Processing Existing and Future Solar Applications.** TU's comments will reflect our concerns on the impacts and potential harms from an expansive solar development effort to our nation's public lands and the numerous fish and wildlife resources these lands support. However, we support the BLM and the DOE in their extraordinary effort to develop a renewable energy program and policy document that will assist the future of the nation's energy independence.

Interest of Commenting Party

TU is one of the largest non-profit conservation organizations dedicated to conserving, protecting and restoring North America's trout and salmon fisheries and their watersheds. Established in 1959, TU has more than 140,000 members nationwide supporting the mission for the protection of coldwater fisheries. TU recognizes that the value of public land is unparalleled in providing habitat to coldwater fisheries, drinking water and wildlife habitat. As a conservation organization interested in clean energy solutions, TU is working for diverse and responsible energy development alternatives, and we support responsible traditional and conventional energy development on public lands. TU recognizes the importance of protecting public lands for the survival and restoration of wildlife and fisheries. And finally, TU believes that actions taken on public lands are ultimately reflected in the quality of fish and wildlife habitat and populations.

General Comments

As the push for renewable and nonrenewable energy development on our public lands continues, our public lands conceivably have the potential to be overrun with wind towers, solar panels, oil and gas rigs and tanks, transmission lines, pipelines, underground gasification plants, and carbon storage projects, among other types of development. The uniqueness that makes renewable energy development sustainable can also create permanent impacts upon the landscape. Unlike oil or gas development, where landscapes are impacted for a defined period of time dependent upon the life of a field and eventually reclaimed, renewable projects have infrastructure that must remain in place indefinitely. A 3,000-acre solar panel site will always remain a 3,000 acre solar panel site. The sensitive nature of solar panels and their stability also require restricted access to the public and, most likely wildlife populations, since fencing is often used to restrict access. For these reasons, TU suggests that the BLM and the DOE thoroughly analyze the solar energy zones plans and policies to make sure that a balanced and comprehensive process is in place which protects sensitive fish and wildlife populations and their habitats, big game habitat, groundwater resources, and outdoor recreation pursuits. In this comprehensive analysis, TU recommends that the BLM include a regional EIS which analyzes cumulative and landscape scale impacts from energy projects such as oil, natural gas, uranium, coal, and other extractive energy projects on western federal lands.

Specific Recommendations

1. ***Reconsider the choice of Alternatives****.* The BLM did a good job in developing a solar zone concept (Solar Energy Zones or SEZs) that restricts development to areas next to current infrastructure, identifies sensitive priority areas to avoid, and which is flexible enough to be reviewed through a land use planning process, adding or withdrawing lands as deemed necessary based on analysis and science. We are, however, concerned that the Preferred Alternative encourages close to 22 million acres (including high value sensitive wildlife habitats) to be available for Right-of-Way (ROW) applications and potential development. The Preferred Alternative lacks sufficient analysis that would allow opening this many acres for solar energy development and is far too general in its approach. Most of the approximately 22 million acres will require more detailed environmental analysis since the Preferred Alternative did not include such analysis and presented only broad and vague considerations.

Designated areas appropriate for development and identified through the analysis in the SEZs Program Alternative appear to be the responsible and more balanced approach. Rather than opening up millions of acres of public lands to solar development, we suggest the BLM take the SEZs Program Alternative approach and review project proposals using first a broad-scale footprint analysis such as illustrated in Figure 1) Concentrating energy development on lands within and immediately adjacent to highly altered landscapes rather than in the unprotected buffer zones around lands with high ecological integrity will help to contain the human footprint on the landscape and minimize detrimental effects to fish, wildlife and ecosystem services, such as the provision of clean water.

From that landscape footprint view, a more focused approach to the specific state's SEZs can be accomplished, working on each state's areas on a case by case basis through the land use planning process. The Preferred Alternative identified areas that should not be included in the development schematic; we recommend including those delineations into the SEZs Program Alternative. TU suggests that the BLM consider this their Preferred Alternative.

2. ***Groundwater resource analysis must be considered.*** While not all solar development projects involve the use of water, many do. In wet cooled solar development projects, large quantities of water are needed for cooling and other purposes (e.g., cleaning of solar reflectors or receivers, sanitary use, drilling, and makeup). The use of large quantities of water pumped from groundwater resources creates

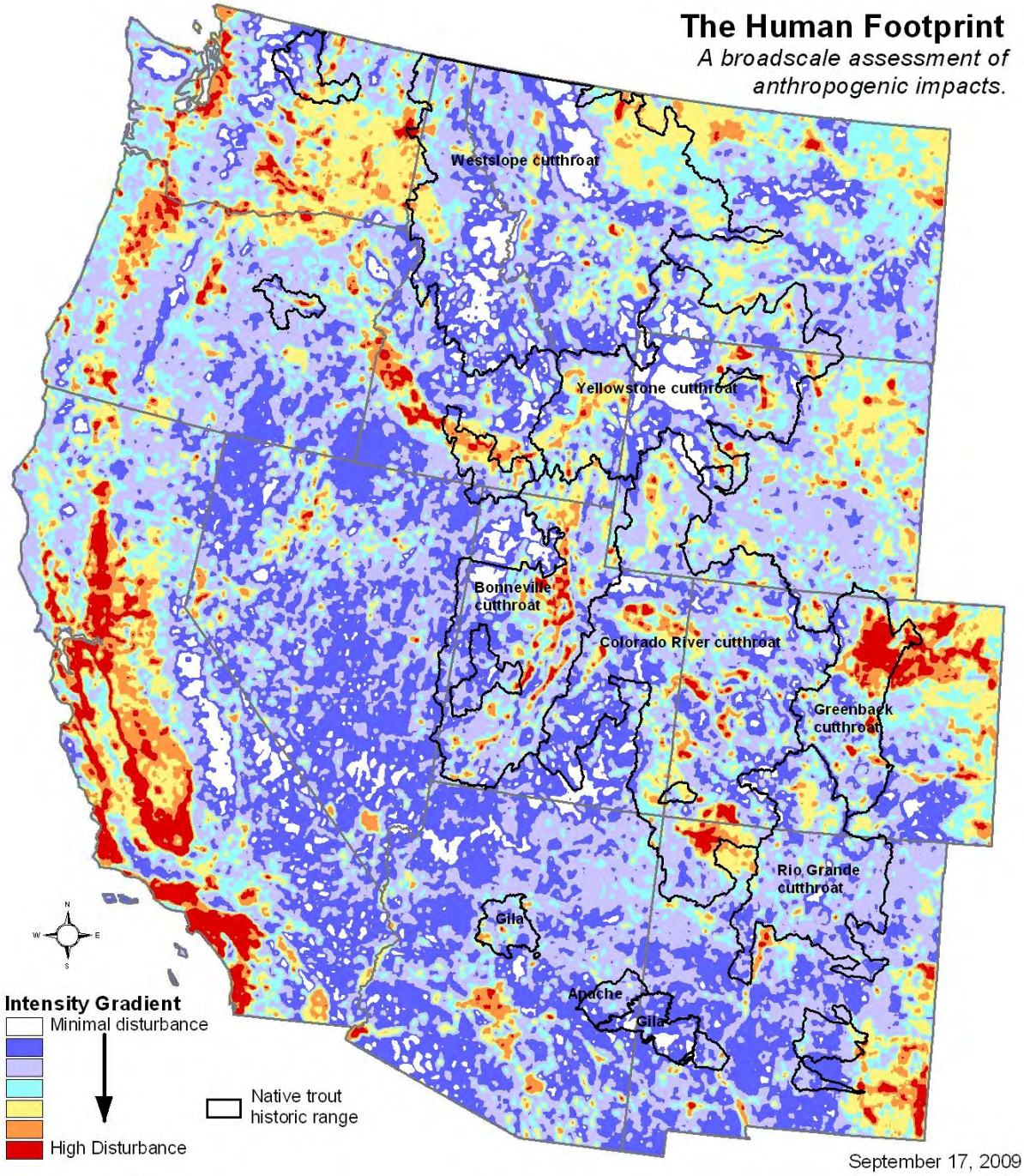

Figure 1. Assessment of areas containing important historic and current native trout habitat ranges overlapped with the human impact intensity gradients, based on remoteness, fragmentation, degradation and aquatic integrity (from "Broadscale Assessment of Renewable Energy Potential and the Human Footprint". Amy Haak, Trout Unlimited, 2010).

potential long term effects on the desert environment. Questions about the quantity, quality and recyclability of water are important considerations in the siting and development of large scale solar projects. TU recommends a thorough groundwater analysis be required as part of any solar development project. Any technology that supports the least amount of water use should be implemented and sufficient incentives developed that encourage such methods.

Water rights and water allocation issues are controversial in any arid environment. The provision of large quantities of water and its effects on water rights of surrounding communities and other large-scale users of water is unknown at this time and is of great concern to many. Though solar energy development and its impacts appear to be relatively benign in effects to the aquatic environment, surface disturbances associated with solar development can place a significant burden on upstream and downstream sources of water. Roads, water withdrawals, and loss of all vegetation will impact water resources. The potential discharge of liquids and effluents from solar power plants could have negative effects on (1) water quality in local streams and reservoirs and groundwater, (2) aquatic organisms, and (3) soil erosion. In particular, any chemicals released as part of boiler or cooling-tower blow down and storm water runoff are of concern. TU recommends the BLM provide a more in-depth analysis on the impacts and mitigation for groundwater resources.

3. *Develop a process for amending SEZs.* Both Alternatives provide the opportunity to amend SEZs but only the SEZs Alternative provides process details for amending actions. The Preferred Alternative only commits without offering explanation as to how amendments might be implemented. The SEZs Alternative extends the language to include amendments to currently affected land use plans, identifying lands in SEZs, identifying lands excluded from development and areas available for development, and further defining the process for expanding or designating new SEZs areas.

TU believes any process for refining or expanding the SEZs for development must require adequate analysis and public involvement. Further, we suggest that every five years, a review of each state's SEZs be conducted by the BLM Director's office. We recommend this review based on the rapid evolution of technological advances in solar development and the ability to assess the impacts this new energy development process may be having on public land resources.

4. *Halt all ROW applications pending Final PEIS.* In an effort to create a balanced and consistent approach in the development of a comprehensive and environmentally sensitive solar energy development process, TU suggest that all solar permit applications pending should be processed under the Final Solar PEIS, and specifically screened and reviewed under the SEZs Alternative. Any current applicant should have the option of withdrawing their application or submitting their application under the new SEZs Alternative Program. We feel the halting of current applications and subsequent submission under the new SEZs Program Alternative will actually benefit the solar energy developer based on the attributes of this Alternative, with amendments. Benefits may appear in the form of cost reductions to a developer, as any developer will potentially have the reassurance of development in an approved area and with little public opposition and litigation, once an approved Solar PEIS is complete. The criteria proposed in the SEZs Program Alternative follows the goals of BLM's land management process.

Furthermore, the current ROW process of non-competitive permitting used by the BLM is outdated and requires a thorough revamping. The current ROW process that has been in existence for pipelines and smaller transmission lines on public lands does not account nor is it

appropriate for the newer renewables program underway on our public lands. The current permitting process for ROW permits does not allow for public participation. Moreover, the size of these projects and the surface lands that will be impacted by solar development and the necessary ROW activities (including associated new high powered transmission lines) require a more detailed and critical approach when it comes to committing thousands of acres of public land to energy development.

5. ***The Final PEIS must include a Conservation Matrix process.*** While TU has suggested that the SEZs Program Alternative is the better of the two alternatives, it is not without flaws. Further detailed environmental analysis must be conducted based on the amount of wildlife habitat that potentially will be significantly impacted under the current proposal. Our concerns are based on the fact that any loss or fragmentation of habitat will eventually result in the displacement of wildlife on BLM public lands affecting adjacent private and/or protected resource areas such as National Landscape Conservation System units, Wilderness Areas, National Parks, Areas of Critical Environmental Concern, or all other areas that may be protected or committed to certain protection actions (including state protected areas). Features that fragment the landscape not only impede wildlife movement but also create an edge effect that reduces the functional size of the remaining patch. Analysis must be conducted as to the impacts likely to occur when increased populations begin to inhabit areas that might already have reached population objectives, where insufficient habitat may not be available, or competing domestic livestock use might be impacted.

The PEIS analysis suggests that more than 100 species could face a 10 percent loss in population size in the 6 state regions. Yet, lacking is any discussion which provides solutions for offsetting such losses. The PEIS does not adequately analyze nor incorporate big game migration corridors and habitat fragmentation that will most likely be impacted under the PEIS. Use of new GIS data coordination projects for wildlife habitats currently being undertaken by USGS and other federal and state cooperators should provide consistent and up-to-date analysis on solar projects and their level of impacts. By closely coordinating new spatial data analysis and monitoring results, real time spatial view of the visual landscape changes can assist in mitigating such changes. This review should also be completed for the 160 miles of access roads and associated transmission lines, both of which cause habitat fragmentation and displace big game and upland game birds. TU suggests the BLM develop a conservation mitigation plan that provides a monitoring and analysis process along with some proactive conservation measures that offset impacts to wildlife resources.

6. Outdoor recreation losses must be further analyzed. The Draft PEIS's SEZs Program Alternative discusses the loss of public access to more than 214,199 acres and the fragmentation of 677,384 acres of public lands as solar development becomes the single surface use in the designated solar zones. The Draft PEIS also recognizes the 57 million visitors that use the six state region for recreation and further states that solar facilities should not be placed in areas of unique or important recreation resources. Yet there lacks any further discussion on how these important or unique areas will be designated or identified, nor how the solar permitting process will avoid these special areas. Three big game species and numerous upland game birds provide significant economic value to each state's wildlife management agencies and local businesses. Further analysis on the potential loss of hunting expenditures to communities and state wildlife management agencies must be completed for a thorough understanding of the impact to recreation pursuits.

7. Additional alternatives should be analyzed. Basically, only two alternatives were presented in the Solar PEIS. Based on the size and duration of any solar development project, TU feels additional alternatives should be brought forth that include a modification to the SEZs Program Alternative or an entirely new conservation protection alternative. Other alternatives should include the evaluation of different levels of solar development, perhaps different types of leasing opportunities, the inclusion of various restrictive stipulation scenarios, or the implementation of smaller scale (acreages on public lands) projects. TU acknowledges that the SEZs Program Alternative comes close to meeting the goals of the PEIS and the BLM's Solar Energy Program and by including some of the above alternative suggestions into the creation of a new third alternative, a more durable plan would emerge.

Summary

We thank the BLM and DOE for the opportunity to participate in this new and evolving renewable energy development process in the West. TU remains committed to helping in that planning process and looks forward to further dialogue for responsible renewable energy development.

Sincerely,

/S/

Kendall Van Dyk, SCP Renewable Energy Coordinator, Trout Unlimited

kvandyk@tu.org; 406.690.1728

Thank you for your comment, Ileene Anderson.

The comment tracking number that has been assigned to your comment is SolarD11818.

Comment Date: May 2, 2011 14:42:05PM
Solar Energy Development PEIS
Comment ID: SolarD11818

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Attachment: CBD comments DSPEIS 5-2-11final.pdf

Comment Submitted:

Please find the attached pdf document which is the Center for Biological Diversity's comments on the Draft Solar PEIS. I will also be sending a hardcopy via snail mail. Please feel free to contact me with any questions.

CENTER *for* BIOLOGICAL DIVERSITY *Because life is good.*

protecting and restoring natural ecosystems and imperiled species through science, education, policy, and environmental law

Submitted Electronically and by USPS Mail

May 2, 2011

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RE: Comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (75 FR 78980)

To whom it concerns:

These comments are submitted on behalf of the Center for Biological Diversity's 320,000 staff, members and on-line activists throughout the western states, regarding the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (75 FR 78980), jointly issued by the Bureau of Land Management ("BLM") and the Department of Energy ("DOE"). The Center is also submitting comments regarding Nevada in a separate letter.

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, comply with Section 211 of the Energy Policy Act of 2005, as well as Executive Order 13212, and to assist California in meeting emission reductions set by the recently signed law requiring 33% of energy be renewable by 2020. 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 habitats, 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 lines 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.

The Center strongly supports thoughtful planning for implementing solar technologies on public lands and appreciates the efforts that the BLM has made to date towards that goal. The Draft Programmatic Environmental Impact Statement (DPEIS) is a step in the right direction but, unfortunately, fails to provide the information and analysis needed for this critical planning effort. We urge the BLM to move swiftly to adopt a policy where all solar development occurs in

areas expressly zoned for industrial use. BLM's current approach and the approach of the preferred alternative in the DPEIS has lead to nothing but conflicts over siting of solar projects. The PEIS provides the perfect proactive opportunity to shift to a different paradigm that actually plans for solar development in appropriate places. In addition, the DPEIS fails to provide adequate information on the resources that may be affected in the planning areas – especially on rare, imperiled and irreplaceable resources.

The preferred alternative in the DPEIS is an unacceptable because it would retain the helter-skelter approach that has resulted in applications and projects sprawling over public lands often in places that are essential for rare species and resources, even in many areas that have been previously identified as essential habitat for rare species and well known to be more appropriate for conservation than industrial development.

The Center supports an alternative that would result in establishing development zones for industrial solar projects and steering projects to those areas – similar to the "SEZ Program alternative" (DPEIS at 2-14). However, the "SEZ program alternative" provided in the PEIS needs revisions in order to minimize impacts to species and habitats. The BLM should also prioritize siting industrial scale solar development on previously disturbed lands that host few or no resources for imperiled species. We are concerned that the DPEIS failed to incorporate this beneficial strategy of prioritizing previously disturbed lands for development as an analyzed alternative or as part of the SEZ program alternative, and dismisses it without tangible reason (DPEIS at 2-26 through 27). As part of a "zone only" approach BLM must provide a process for designating additional zones in the future—as needed. Further, the BLM must not only ensure all new project applications are limited to SEZs or other areas that have been determined to be appropriate through a land use planning process, but BLM must also reject the applications any applications outside of the final adopted SEZ or other development zone that may later be adopted by the BLM—including applications now on file. This is the only way to ensure that the benefits of a zone only approach are realized.

The Center agrees with many of the specific the issues raised in group comments from the Natural Resources Defense Council, the Wilderness Society and others and will not repeat them here. In addition, the Center provides the following comments on issues of concern:

- **The DPEIS fails to adequately analyze the "lands available for application"**. The DPEIS fails to provide baseline information on the environmental resources outside of the SEZ but within the "lands available for application" in the preferred alternative (mapped in light blue), nor does it provide any environmental analysis of the effects of the proposed action on those resources. Therefore, DPEIS fails to comply with NEPA.

- **The Iron Mountain and Pisgah SEZ in California should be eliminated**: Both of these SEZs are poorly sited and could undermine conservation goals in the California Desert; therefore, they should be eliminated entirely. The remaining SEZs in California should be adopted with some boundary adjustments including removing all Wildlife Habitat Management Areas (WHMAs) and the sand transport corridor from the Riverside East SEZ. The BLM should also move

forward with consideration of a new zone in the Chocolate Mountains area (for which a scoping notice was issued in 2010) and one of more new zones in the West Mojave.

- **Future solar development in the California desert should be closely coordinated with the Desert Renewable Energy Conservation Plan (DRECP) process**. While still in its formative stages, the DRECP, a proposed Habitat Conservation Plan (HCP) under the federal Endangered Species Act and a Natural Communities Conservation Plan (NCCP) under the State NCCP Act, that is being developed in tandem with BLM's efforts to develop a DRECP amendment to the California Desert Conservation Area Plan (74 Fed. Reg. 60291-92), will identify areas essential for conservation of California's irreplaceable desert flora and fauna while providing for renewable energy development opportunities. The PEIS is likely to be finalized prior to the DRECP being finalized, so we urge the BLM and DOE to not preclude optimum conservation opportunities that will result from the DRECP, including protection of key habitat connectivity areas. The PEIS should adopt a "no-regrets" strategy as recommended by the DRECP's Independent Science Advisors Report[1], by avoiding known key habitats in California's deserts pending completion of the DRECP.

- **The DPEIS fails to address how the existing applications will be dealt with under the PEIS**. Many of the existing applications fall outside of the SEZ and some also are outside of the "lands available for application". The DPEIS is mute on how these projects will be treated. If the PEIS is to be a useful planning document, it must have the flexibility to discard any or all existing applications that fall outside the areas where development will be allowed under any chosen alternative. We urge the BLM to select a SEZ only approach and reject all applications outside of those areas. Because there are already many applications within the proposed SEZs, if BLM adopts some of the SEZs and rejects all other applications there will be no "gap" in moving forward with industrial scale solar development on the appropriately zoned BLM lands.

- **The DPEIS fails to identify areas that are necessary for conservation outside of lands that are not available for solar development**. While the DPEIS proposes a land use plan amendment to establish SEZs and other areas for development, it fails to propose a land use plan amendment to establish areas for conservation. Instead it proposes a land use plan amendment "to establish design features (i.e., mitigation requirements) for solar energy development on public lands …" (DPEIS at 1-8). The DPEIS needs to take the opportunity to provide clear conservation benefits in the form of land use plan amendments to establish conservation lands. The development of industrial solar facilities is a single-use proposal, in order to minimize conflicts with other multiple use activities, conservation areas need to also be established as part of this process, where their priority mandate is conservation as many of these public lands are currently refugia for rare and endangered species,. This is particularly critical if BLM

1 http://www.energy.ca.gov/2010publications/DRECP-1000-2010-008/DRECP-1000-2010-008-F.PDF

adopts any alternative other than a SEZ only approach. The BLM must ensure that industrial scale development does not fragment key conservation areas, block movement corridors that are essential for rare and TES species, and undermine natural surface hydrology and other landscape scale processes such as eolian transport that are critical to the desert ecosystem.

- **The DEIS Does Not Adequately Describe Environmental Baseline**. The broad-brush stroke of environmental review incorporates misinformation in the existing conditions that is the basis for the environmental review, which results in a faulty environmental review. As just one example, the proposed Imperial East SEZ affected environment section for special status species identifies that saguaro cactus (*Carnegiea gigantea*) has "4,631 acres of potentially suitable habitat lost (0.4% of available potentially suitable habitat)" and "35,943 acres of potentially suitable habitat (3.1% of available potentially suitable habitat)" occurs within the SEZ. We agree that saguaros are very rare in California – in fact so rare that only a few cacti have ever been documented, despite dedicated surveying over the decades. The analysis suggests that saguaros and the species that depend on them will be impacted, when in fact, no saguaros are known from that area of California's deserts. The DPEIS' analysis has little basis in environmental reality. Our concern is that these types of misinformation could get codified in the PEIS and become the basis for future faulty analyses.

- **The DPEIS fails to identify the Multiple Use Classes of the land proposed for SEZ or "lands available for application" in California and the impacts of 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 SEZs and "lands available for application" fall into each of the four classes including Multiple-use Class M (Moderate Use) "is based upon a *controlled balance* between higher intensity use and protection of public lands. This class provides for a wide variety o[f] present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is *also* designed to conserve desert resources and to mitigate damage to those resources which permitted uses may cause." CDCA Plan at 13 (emphasis added). 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 DPEIS fails to accurately identify exactly how many acres of each MUC Class will be included in the SEZ and/or "lands available for application". Moreover, the proposed land use change is a high-intensity, single use of

resources that will displace all other uses and that will significantly diminish (indeed, likely destroy) approximately 21,581,154 acres of primarily undisturbed habitat under the preferred alternative (DPEIS at Table 2.2-1) and approximately 677,384 acres under the SEZ only alternative (DPEIS at Table 2.2-1). The DPEIS does not address how the loss of multiple uses in such a large area might affect other nearby public lands regarding creating greater pressures on those land for the remaining multiple uses.

- **The DPEIS should also exclude all Wildlife Habitat Management Areas (WHMAs) from solar development:** The planning overlay of the WHMAs are essential in providing connectivity for numerous species including in California, desert bighorn sheep and desert tortoise. Other WHMAs were established to conserve other rare and imperiled plants and animals to prevent the need for Endangered Species Act protections. Numerous WHMAs are located within not only the SEZ but the Solar Development proposal areas. The PEIS needs to remove the WHMAs from solar development.

- **The DPEIS fails to clearly describe the areas eliminated from solar development within Special Recreation Management Areas (SRMAs):** We have several comments regarding the PEIS discussion of the SRMAs, particularly in California and Nevada. While we generally support eliminating the areas within SRMAs from the SEZs, "areas available for application", and any other large-scale solar development, we have the following concerns regarding the details provided in the PEIS:

  - the BLM layer for "SRMA" appears to be inaccurate. For example, it does not include the Meccacopia SRMA which was designated in the Coachella Valley Plan Amendment (ROD page 1) but includes a very large area called the "Palm Springs Coachella Valley SRMA" (which we have been unable to locate in the CDCA Plan or any other plan amendment).
  - the PEIS seems to imply that all of the lands within all of the SRMAs are expressly set aside to promote recreation when in fact the SRMA designation is in most areas to be more analogous to a "zoning overlay". It is our understanding that many of the SRMAs were adopted to provide active management of recreation in order to balance multiple uses of these lands and to protect other resources (for example Yuha SRMA overlaps the Yuha Basin ACEC and FTHL MA and limits some motorized vehicle use to protect other resources).
  - the PEIS and maps do not clearly distinguish between off road vehicle "open areas" with high-intensity use and cross-country travel and the broader "special recreation management areas" where all vehicles must remain on designated routes and other limitations may apply.
  - the PEIS does not provide any reference to the actual current planning designation and/or and limitations on various types of activities in each of the different SRMAs. Current land use plans allow many types of activities to occur in some of the SRMAs – for example, some activities associated with solar development (such as ROWs for gen-tie lines or other transmission) may be

allowed in these areas under current planning. The PEIS must clarify these questions.

- Where there are overlapping areas between SRMAs and ACECs, the PEIS does not make it clear that the lands at issue would be excluded from development because of the ACEC designation regardless of the SRMA designation (or that in fact some of the SRMAs are there to support the values of the ACEC).
- along those same lines, we are concerned that the statement that solar development would be precluded on "3,213,151 acres" within SRMAs (PEIS ES-16) may include some double counting because is unclear if that figure includes lands would be eliminated for other reasons (ACEC, etc) even if those lands were not also within an SRMA.

In light of the issues identified above, we urge the BLM to revise the PEIS discussion of SRMAs and to review the GIS layer used in preparing the PEIS to ensure the PEIS: 1) accurately indicates the current designated SRMAs, 2) distinguishes ORV "open areas" from other SRMAs, 3) clarifies areas of overlap between SRMAs and other designations such as ACECs, 4) ensures that there is no "double counting" of areas that are eliminated which have multiple designations (e.g. ACEC and SRMA), and 5) clearly references the current underlying plan designation for each of the SRMAs so that the public fully informed of what activities are currently authorized under the land use plan designations in each SRMA.

- **The DPEIS fails to consider the effects of the disturbance of desert pavement and air quality issues.** Many of the areas proposed in the DPEIS are located in air quality basins that are already in non-attainment for PM-10 particulate matter[2]. The construction of projects further increases emissions of these types of particles because of the disruption and elimination of potentially thousands of acres of cryptobiotic soil crusts (see discussion in NRDC/DOW et al's California specific comments) and desert pavements. Desert pavements, like cryptobiotic crusts, stabilize the soil surface. Once disturbed, the underlying small soil particles are exposed to winds and become airborne. Desert pavements are estimated to take centuries to restore[3].

- **The DPEIS fails to evaluate the effects of the proposal on Reserved Water Rights in the California Desert*:*** As BLM is well aware, the California Desert Protection Act ("CDPA") expressly reserved water rights for wilderness areas that were created under the act. 16 U.S.C. §410aaa-76.[4] The CDPA reserved sufficient water to fulfill the purposes of the Act which include to "preserve unrivaled scenic, geologic, and wildlife values associated with these unique natural landscapes," "perpetuate in their natural state significant and diverse

2 http://www.mdaqmd.ca.gov/index.aspx?page=214

3 http://www.informaworld.com/smpp/content~db=all~content=a713936067

4 The reservation excluded two wilderness areas with regard to Colorado River water. See 103 P.L. 433; 108 Stat. 4471; 1994 Enacted S. 21; 103 Enacted S. 21, SEC. 204. COLORADO RIVER. ("With respect to the Havasu and Imperial wilderness areas designated by subsection 201(a) of this title, no rights to water of the Colorado River are reserved, either expressly, impliedly, or otherwise.")

ecosystems of the California desert," and "retain and enhance opportunities for scientific research in undisturbed ecosystems." 103 P.L. 433, Sec. 2. The priority date of such reserved water rights is 1994 when the CDPA was enacted. Therefore, at minimum, the DPEIS must ensure that by designating development acreage in the arid southwest will not impair those values in the wilderness that depend on water resources (including perennial, seasonal, and ephemeral creeks, springs and seeps as well as any riparian dependent plants and wildlife).

Although no *express* reservation of rights has been made for many of the other public lands in the CDCA, the DPEIS should have addressed the federal reserved water rights afforded to the public to protect surface water sources on all public lands affected by the proposed project. Pursuant to Public Water Reserve 107 ("PWR 107"), established by Executive Order in 1926, government agencies cannot authorize activities that will impair the public use of federal reserved water rights.

PWR 107 creates a federal reserved water right in water flows that must be maintained to protect public water uses. *U.S. v. Idaho*, 959 P.2d 449,453 (Idaho, 1998) *cert. denied; Idaho v._U.S.* 526 U.S. 1012 (1999); *Cappaert v. U.S.*, 426 U.S. 128, 145 (1976). PWR 107 applies to reserve water that supports riparian areas, reserve water that provides flow to adjacent creeks and isolated springs that are "nontributary" or which form the headwaters of streams. *U.S. v. City & County of Denver*, 656 P.2d 1, 32 (Colo., 1982). Accordingly, DPEIS cannot authorize activities that will impair the public use of reserved waters covered by PWR 107.

The DPEIS must examine the federal reserved water rights within the area affected by the proposal. While all the solar thermal projects going into the SEZ must be "dry cooled" projects, these projects still use a substantial amount of water and there will still be water needed for operation and maintenance. Even for PV projects, water is needed during construction and for panel washing. The PEIS must ensure that any springs, seeps, creeks or other water sources on public land and particularly within the wilderness areas are not degraded by the proposed action and continue meet the needs of the existing wildlife and native vegetation that depend on those water resources. The PEIS must consider the cumulative impact on the water basins under and adjacent to the SEZ, and the "lands available for application".

PWR 107 also protects the public lands on which protected water sources exist. Accordingly, BLM should not only consider the impact of projects on water sources present on public lands, but also the direct and indirect impacts of the proposed project on the surrounding lands as well as impacts to the ecosystem as a whole.

The PEIS must provide a mechanism to insure that in no case will the use of water for the future projects on these public lands result in water rights accruing

to the project applicant that it could arguably convey to any third party. Therefore, any water rights *arguably* created by groundwater pumping on these public lands for the proposed project must not ultimately accrue to any third party for use *off-site or on-site* in the future for any other project. Moreover, BLM should ensure that the applicant will not use the groundwater associated with the project off-site for any purpose.

- **The Analysis of Cumulative Impacts in the DEIS Is Inadequate.** 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 DPEIS identifies many cumulative projects but does not meaningfully analyze the cumulative impacts to resources in the planning area from the many proposed projects (including renewable energy projects, transmission, and others) or other proposed projects on BLM lands. Moreover, because the initial identification and analysis of impacts is at the programmatic level, the cumulative impacts analysis is simply not complete.

- **The DPEIS' 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 case law 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, DPEIS too narrowly construed the proposed action purpose and need such that the DPEIS did not consider an adequate range of alternatives to the proposed project. The alternatives analysis is inadequate even with the inclusion

of the alternative site configuration and a reduced acreage alternative. Additional feasible alternatives should be considered for example which would avoid all of occupied rare species habitat, to eliminate the challenges and delays that some of the fast- track projects are currently grappling with in California.

Conclusion

Thank you for your consideration of these comments. In light of the many omissions in the environmental review to date, we urge the BLM to revise and re-circulate the DPEIS or prepare a supplemental DPEIS before making any decision regarding the proposed plan amendments. In the event BLM chooses not to revise the DPEIS and provide adequate analysis, the BLM should reject the preferred alternative. Please feel free to contact us if you have any questions about these comments or the documents provided.

Sincerely,

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Thank you for your comment, Courtney Coyle.

The comment tracking number that has been assigned to your comment is SolarD11819.

Comment Date: May 2, 2011 15:20:31PM
Solar Energy Development PEIS
Comment ID: SolarD11819

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Comment Submitted:

Please see attached.

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May 2, 2011

Re: Quechan Indian Nation Culture Committee Comments on Draft Solar PEIS Relative to the Indian Pass Area, a Tribal Sacred Place

Dear Solar Energy PEIS:

This comment letter on the Solar PEIS is sent on behalf of our client, the Quechan Indian Nation, through its Culture Committee. It is intended to supplement any other letters or comments submitted by the Quechan Indian Nation relative to this Project. The Culture Committee has been the tribal governmental entity given authority to watch over the Indian Pass Area in Imperial County California for nearly fifteen years, to ensure that this important sacred area is being protected.

The Indian Pass Area is within the Quechan Indian Nation's traditional territory. It is north of the current reservation boundaries. This Area contains some of the most important tribal cultural places and landscapes to the Quechan, other Lower Colorado River Indian Tribes and Yuman Peoples. These places are all linked by trails and belief to other sacred places to the north, near what is now Hoover Dam, and to the south, below what is now the international border with Mexico.

We were surprised and disappointed to see that the Indian Pass Area (defined as more than just the physical pass itself known as Indian Pass) appears to be included in the Solar PEIS at Figure ES2-3 as "Lands Available for Application." Even though this area is not in one of the proposed "Solar Energy Zone Program" lands, being shown in the proposed "Solar Development Program" lands *will send the wrong message* to investors and applicants, ignore federal requirements for the protection of tribal religious properties and create protracted and unnecessary land use conflicts.

As a general proposition, the Solar PEIS has not adequately addressed Native American Concerns. And, specific to the Indian Pass Area, the Solar PEIS is clearly inconsistent with both the many actions taken over the last thirty years to better protect this area and more recent developments in legislation, politics and global standards.

Over the last thirty years, several steps have been taken to protect and acknowledge the unique and important tribal cultural values of the Indian Pass Area. Some of these include:

- Area was designated Class L ("Limited Use" - favoring protection) in the California Desert Conservation Area Plan (1980), in part based upon tribal informants;

- Area of Critical Environmental Concern (ACEC) was adopted relative to the actual "pass" at the Indian Pass ACEC (1980);

- Larger area around Indian Pass was withdrawn from mineral entry to protect tribal cultural values (1998);

- An historic district, including some of the physical "pass" and larger area, was designated the "Indian Pass - Running Man Area of Traditional Cultural Concern" (ATCC) and determined eligible for the National Register of Historic Places under Criteria A, C and D, by the California SHPO and BLM (1998)(see attached BLM graphic);[1]

- Also, approximately fifty-five recorded archaeological "sites" within the larger area (including Native American trails, geoglyphs, scratched petroglyphs, ceramic scatters, lithic scatters and rock circles) were determined eligible for the National Register of Historic Places by SHPO and BLM (1998);

- The Advisory Council on Historic Presentation held field hearings and site visits and formally recommended to BLM that it deny the proposed Glamis Gold Mine to protect the larger Indian Pass Area (1999) <http://www.achp.gov/casearchive/cases3-00CA1.html>;

- Includes area where the Glamis Gold Mine was denied by DOI (2001), the only large-scale open pit mine to have been denied in United States' history;

- The protection of the larger Indian Pass Area has been the subject of several Resolutions adopted by the National Congress of American Indians (NCAI) urging its protection (2001);

- The larger area has been listed for nearly ten years on the National Trust for Historic Preservation's 11 Most Endangered Historic Places list (2002) <http://www.preservationnation.org/travel-and-sites/sites/western-region/kwstan-sacred-sites-at-indian-pass.html>;

- The Tribe's epic battle to protect the Indian Pass Area inspired the State of California's complete backfill hard rock mining regulations (2004) and California's land use planning legislation (commonly known as "SB 18") relative to tribal sacred places (2004); and

[1] The BLM determination letter to the ACHP stated that BLM requested that the ultimate boundaries of the Traditional Cultural Property ("TCP") be left open at that time, relative to a much larger TCP, and to allow for additional information to be gathered and considered.

- Includes the area related to the NAFTA Tribunal's denial of Glamis' claim for compensation against the United States (2009).

In addition to the above historical reasons to exclude the larger Indian Pass Area from any type of development in the Solar PEIS, including all forms of renewable energy, there are other reasons to do so. Any development in this area would:

- Be noncompliant with United Nations' Declaration on Rights of Indigenous People approved by the United States (2010) <http://www.un.org/esa/socdev/unpfii/en/drip.html>;

- Be inconsistent with the findings and recommendations from the Tribal Summit on Renewable Energy: Protecting Tribal Cultural Resources (2011); and

- Interfere with operation of the introduced California Desert Protection Act of 2011 (Feinstein, 2011) <http://e-lobbyist.com/gaits/US/SB138>.

The apparent mistreatment of the Indian Pass Area in the Solar PEIS, in which a long-fought over property is potentially handed over to solar development, is the poster child for BLM's need to *get in front of development* and *declare certain areas permanently off limits for development, including renewable energy*, to ensure that the unique tribal and other values found there may be protected in perpetuity consistent with BLM's multiple-use mandates - which include heritage resource preservation. A failure to do this will have the effect of "inviting" investment in areas that are certain to be the subject of protracted legislative, legal and political battles.

We respectfully request that: 1) The lands East of Ogilby Road in Imperial County, California, be taken off of all Solar PEIS maps for any type of renewable energy application or zone; 2) Meaningful consultation occur between the federal government and the Quechan Indian Nation, prior to any Record of Decision on the Solar PEIS, including as to whether and which areas west of Ogilby Road *may be* appropriate *to study* for renewable development; and 3)The Federal Government take appropriate steps to protect the Indian Pass Area in perpetuity.

Should you have any questions about these comments, please contact my office, or Pauline P. Jose, Culture Committee Chair, at 760.572.0661. Thank you for your consideration.

Very truly yours,

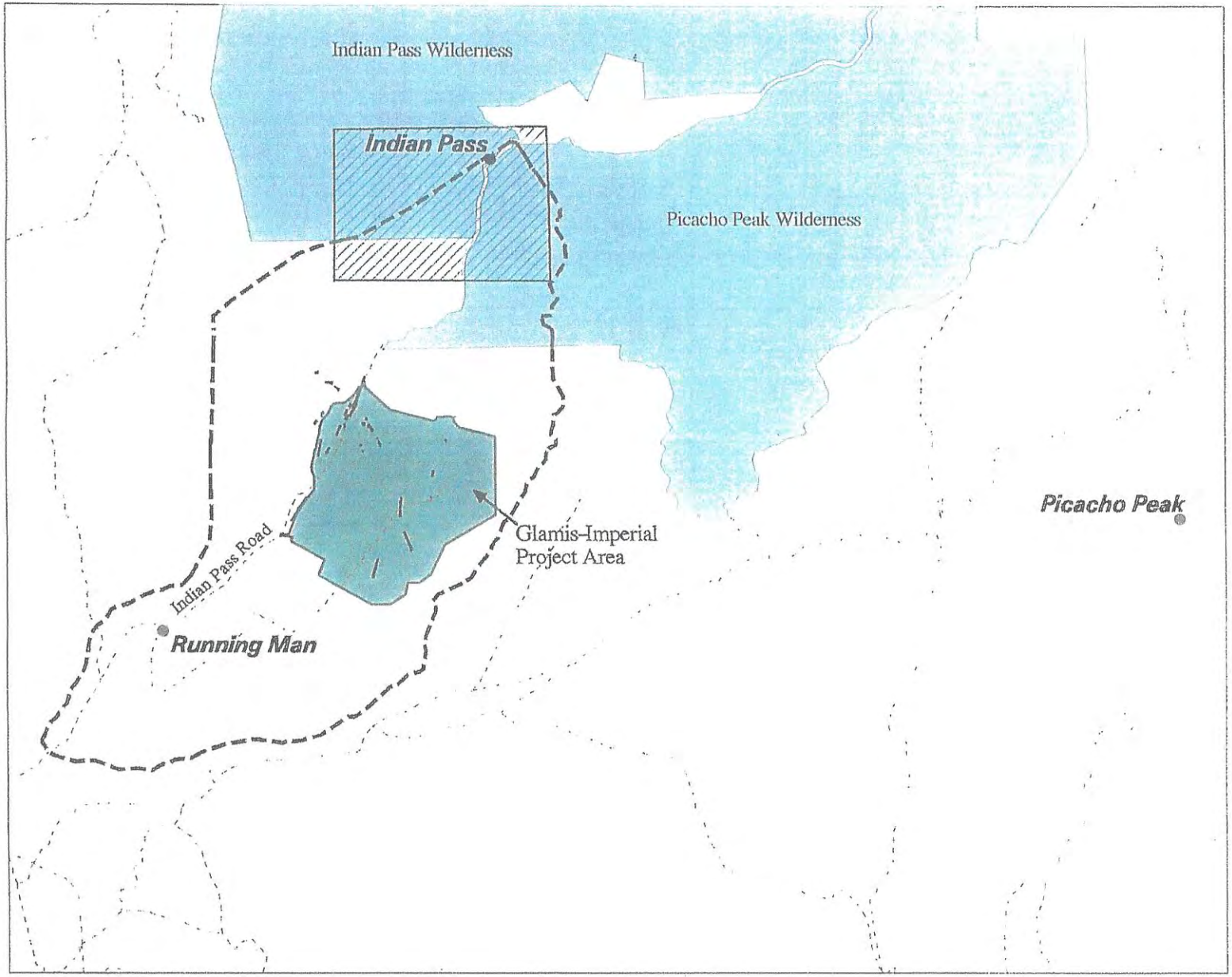
Courtney Ann Coyle

Courtney Ann Coyle
Attorney at Law

attach: 1 graphic
copies on following page

cc: Hon. Senator Dianne Feinstein
Hon. Senator Barbara Boxer
Marcilynn A. Burke, BLM Deputy Director, Programs and Policy
Jerry J. Cordova, BLM Native American Liaison
Margaret Goodro, BLM El Centro Field Manager
John Fowler, Executive Director, Advisory Council on Historic Preservation
Wayne Donaldson, California State Historic Preservation Officer
Michael D. McGuirt, California Energy Commission, Heritage Resource Analyst
Betsy Merritt, Deputy General Counsel, National Trust for Historic Preservation
Pauline P. Jose, Quechan Culture Committee Chair
Client file

Proposed Imperial Project Area



Legend

- Mining Project Area
- Wilderness Areas
- Area of Critical Environmental Concern
- Area of Traditional Cultural Concern
- Ancient trails
- Roads
- Points of Interest

N
W E
S

December 2000

Locator Map

Map Area

Imperial County

Mapscale 1:85000

Figure 1

Thank you for your comment, Denis Trafecanty.

The comment tracking number that has been assigned to your comment is SolarD11820.

Comment Date: May 2, 2011 15:24:20PM
Solar Energy Development PEIS
Comment ID: SolarD11820

First Name: Denis
Middle Initial:
Last Name: Trafecanty
Organization: Protect Our Communities Foundation
Address: PO Box 305
Address 2: Santa Ysabel, CA 92070
Address 3:
City: Santa Ysabel
State: CA
Zip: 92070
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Letter_Comments Solar PEIS_5-2-2011.pdf

Comment Submitted:

The Protect Our Communities Foundation
PO Box 305
Santa Ysabel, CA 92070
760-703-1149
info@protectourcommunities.org
www.protectourcommunities.org

May 2, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: Solar Energy Development Programmatic Environmental Impact Statement

To whom it may concern:

Thank you for the opportunity to comment on federal direction for solar development on western public lands. The Protect Our Communities Foundation and our partners Backcountry Against Dumps and East County Community Action Coalition, are deeply opposed to the harmful and entirely unnecessary proposed emphasis on large, remote, industrial solar energy development as identified in the Solar Energy Development Programmatic Environmental Impact Statement (Solar PEIS). Conservation and preservation, not industrialization, should remain the leading considerations for management of natural arid western lands and precious resources. Government agencies should reject the unfounded direction of the Solar PEIS and instead emphasize and facilitate practical and proven models of generating renewable energy from distributed sources where people live rather than remote natural deserts.

Several crucial alternatives are missing from the Solar PEIS including conservation, distributed generation, and solar development in the built environment. First and foremost the Solar PEIS should include an "Energy Conservation" alternative that seriously considers methods to increase energy conservation, including increased energy efficiency requirements, to the extent that the need for new harmful energy development is significantly reduced or even eliminated.

The Solar PEIS should include a "Distributed Photovoltaic" alternative that directs solar development to the built environment where people live and consume the most energy. When all costs are factored in including new transmission infrastructure and transmission line losses, local

distributed solar PV is comparable in efficiency, faster to bring online, and more cost-effective than remote utility-scale solar plants. Aside from energy conservation, distributed solar PV generation is the most practical, inexpensive, and positive alternative to the harmful, remote, industrial solar development emphasized in the Solar PEIS. POC urges you to seriously consider the direction and principles for development of distributed solar energy facilities described in the report, San Diego Smart Energy 2020: The 21st Century Alternative (http://www.etechinternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf). This report is obviously focused on just San Diego County in California; However, most principles and recommendations in this report are applicable to any sunny western city and should be incorporated as a serious alternative in the Solar PEIS.

The Solar PEIS should also include a "Disturbed Lands" alternative. Large-scale centralized solar plants should only be built on the millions of acres of abandoned mine lands, brownfields, and federal and non-federal Superfund sites identified by EPA and others as suitable for solar and other non-fossil-fuel energy projects with access to existing and under-utilized transmission infrastructure. New and firm binding regulations should direct solar development to these areas instead of natural lands. Criteria for the location of new energy developments has been prepared and presented to you by several environmental organizations in a letter dated June 29, 2009 to Interior Secretary Salazar and California's Governor Schwarzenegger and includes the following recommendations for siting developments on the following disturbed lands:

- Lands that have been mechanically disturbed, such as lands that have been “type-converted” from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).
- Public lands of comparatively low resource value, particularly lands located adjacent to degraded and impacted private lands Brownfields.
- Locations adjacent to urbanized areas including rural communities that welcome local industrial development, but not communities that are dependent on tourism for their economic survival.
- Locations that are served by existing infrastructure, such as existing roads, substations, or sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.

We urge you to present and consider these criteria as a part of a serious Disturbed Lands alternative in the Solar PEIS.

Please consider the following additional points:

- Large-scale, centralized renewable energy generation on public lands is an agency choice, not a federal mandate. The Energy Act of 2005 does not order the administration to site renewable energy facilities on public lands.

- The draft Solar PEIS promotes massive subsidies to a few irresponsible corporations for centralized solar development rather than alternative subsidies to homeowners and small businesses for distributed rooftop solar among other legitimate and far less harmful alternatives.

- The draft Solar PEIS elevates industry interests and profit motives over the public good and fails to adequately consider more cost-effective and environmentally responsible approaches to renewable energy development.

- The draft Solar PEIS promotes industrial development over hundreds of square miles of fragile desert and other western lands with long-term, irreversible, cumulative ecological impacts as well as economic impacts to small rural communities that often rely on tourism to support their local economy

- Proposed mitigation measures are inadequate to address unresolved, deferred, and poorly understood impacts from large-scale solar development.

- Impacts will affect up to 100% of each site and endure for decades or even centuries, with the little prospect for restoration. Natural arid land ecosystems can never be fully restored.

- Assessments of visual, economic and environmental impacts are inadequate in all three proposed alternatives.

- The draft Solar PEIS fails to assess cumulative impacts from related infrastructure upgrades that will be required by the projects including transmission lines and substations.

- The draft Solar PEIS cannot ensure protection and enhancement of the Nation's water, wildlife, and other natural resources under any of the PEIS alternatives.

- The draft Solar PEIS provides no scientific evidence that large-scale solar will reduce net greenhouse gas emissions once construction, transmission, and the disruption of carbon-sequestering ecosystems are taken into account. Nor does it take into account the cost and GHG impacts from backup generation that is needed to support intermittent solar energy production.

- BLM planning documents never contemplated this scale of development and have no relevant guidelines that limit acceptable change.

Thank you for your consideration.

Sincerely,

David Hogan
FOR: Denis Trafecanty, President

Thank you for your comment, patrick gloeckner.

The comment tracking number that has been assigned to your comment is SolarD11821.

Comment Date: May 2, 2011 15:25:54PM
Solar Energy Development PEIS
Comment ID: SolarD11821

First Name: patrick
Middle Initial: j
Last Name: gloeckner
Organization: lytle ranches
Address: hc-74 box 237
Address 2:
Address 3:
City: pioche
State: NV
Zip: 89043
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My name is Patrick J Gloeckner, I was born and rasied in Lincoln County, Nevada. I would like to submit my commit on the proposed solar sites in upper Dry Lake Valley, Lincoln Co. Nevada.
Upper Dry Lake is a use area within the Wilson Creek allotment, this use area is 42% of our range, we use this range in the winter months from November 1st to May 1st. We put 85% of our whole herd there for these winter months. This upper Dry Lake is extrmely inportant to our operation, a operation that has been in existence starting at about the early 1900's.
We are not against these solar energy plants just some of thier locations within this use area of ours. We have discussed with local BLM and County officals and have come up with alternate locations.
As you can see Upper Dry Lake Valley, Nevada is a very vital part of our livestock operation without it , a operation that has been in existence for over 100 years will be lost. We are not the only user of this Valley. Just in this use area five families will be greatly affected and our local economy would rather have those families and the economy gained from one of these solar projects.
I hope you will take another look at this Upper Dry Lake area and work with us locals to find a location that will be best for all.
Thanks
Lytle Ranches
Pat Gloeckner
hc-74 box 237
Pioche, Nevada 89043
775-962-1011
flyinghranch@yahoo.com

Thank you for your comment, William Cox.

The comment tracking number that has been assigned to your comment is SolarD11822.

Comment Date: May 2, 2011 15:33:20PM
Solar Energy Development PEIS
Comment ID: SolarD11822

First Name: William
Middle Initial: L
Last Name: Cox
Organization: Zion National Park
Address: State Route 9
Address 2:
Address 3:
City: Springdale
State: UT
Zip: 84780
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We understand that some of the BLM parcels that may be under consideration for locating large photovoltaic array systems, or other renewable energy systesm, could be within the viewshed of National Parks such as Zion. We recommend that close coordination should occur with parks and monuments whose viewshed may be potentially impacted by such systems. Every attempt should be made to avoid such impacts.

Thank you for your comment, Peter Weiner.

The comment tracking number that has been assigned to your comment is SolarD11823.

Comment Date: May 2, 2011 15:43:19PM
Solar Energy Development PEIS
Comment ID: SolarD11823

First Name: Peter
Middle Initial: H
Last Name: Weiner
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: Final DPEIS Comment Letter.pdf

Comment Submitted:

Paul Hastings

Paul, Hastings, Janofsky & Walker LLP
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May 2, 2011 76145.00002

VIA OVERNIGHT UPS & INTERNET

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue, EVS/900
Argonne, IL 60439

Re: Comments of LSA, CEERT and SEIA on Draft Solar PEIS

To whom it may concern:

We live at a time of unique opportunity. Solar energy developers, conservation organizations, utilities, and all levels of Federal and State governments have united as never before to address our need for environmentally responsible clean energy. That need must be met in part through the development of utility-scale solar energy, and reasonable standards must be put into place to encourage that development. Every step we take will be watched by those who come after us.

In that spirit of urgent necessity and collaborative problem-solving, we offer the following comments on behalf of the Large-scale Solar Association (LSA), the Center for Energy Efficiency and Renewable Technologies (CEERT), and the Solar Energy Industries Association (SEIA) on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Draft PEIS), published by the Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE) on December 17, 2010. These comments have been submitted via overnight UPS and the form at http://solareis.anl.gov/involve/comments/index.cfm.

LSA and SEIA are coalitions of solar companies. CEERT is a coalition of renewable energy companies and environmental organizations. All three seek to promote the environmentally responsible development of solar energy and associated transmission. LSA, CEERT, and SEIA are committed to working with the Departments of the Interior (DOI), Energy (DOE), and other federal agencies, environmental and conservation organizations, Native American tribes, state agencies, and other stakeholders to achieve this goal.

The PEIS represents an unprecedented and commendable effort to promote the responsible development of utility-scale solar energy, which will be key to securing our nation's energy independence and reducing greenhouse gas emissions. In particular, the PEIS will guide the development of utility-scale solar projects on BLM-managed lands for

the foreseeable future, as well as establish programmatic environmental guidance for evaluating utility-scale solar projects for DOE's financing decisions. However, unlike some other planning efforts, because BLM and DOE are preparing the PEIS at a time when solar power projects on public lands are being (and must be) developed, the PEIS must adapt to and account for these existing realities. Planning for the future without supporting current efforts could result in a net loss of solar energy development.

As we explain further below, the goals of the PEIS are salutary. BLM's recent Instruction Memoranda regarding screening criteria, due diligence, and NEPA review[1] also further the universal goal of providing direction and clarity to developers trying to site utility-scale solar projects on public lands, such as by identifying high-conflict areas and eliminating speculative applications.

However, the Draft PEIS needs much more work to make it a useful tool that (a) ensures that developers are able to maintain their forward momentum with existing applications, and (b) establishes a roadmap for environmentally responsible and technically and economically feasible utility-scale solar siting and permitting over the long-term. That program should facilitate environmentally-responsible permitting.

Our comments can be summarized very briefly as follows:

1. BLM should continue to process existing applications. BLM should reject applications that are in high-conflict areas (as defined below in Section II.A) *and* do not have a Notice of Intent when BLM and DOE issue a Record of Decision (ROD) for the Final PEIS. (Applications already far along in the NEPA process will be resolved through that process.) BLM should process the remaining applications according to the criteria set forth in BLM's February 7, 2011 Instruction Memorandum.[2] These combined criteria are sufficient to prioritize and reject projects, as appropriate.

2. BLM should not adopt the Solar Energy Zone (SEZ)-only alternative analyzed in the Draft PEIS. The SEZs suffer from the problems identified above and below, fail to sufficiently address the nation's urgent need to reduce greenhouse gas emissions, and provide little or no added environmental benefit over alternatives that provide more flexibility. Because the SEZ-only alternative does not fulfill the purpose and need of the PEIS, comply with applicable laws and mandates, and has not been adequately analyzed, it is not legally defensible.

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[1] *See* IM No. 2011-059, National Environmental Policy Act Compliance for Utility-Scale Renewable Energy Right-of-Way Authorizations (Feb. 7, 2011); IM No. 2011-060, Solar and Wind Energy Applications – Due Diligence (Feb. 7, 2011); IM No. 2011-061, Solar and Wind Energy Applications - Pre-Application and Screening (Feb. 7, 2011).

[2] IM No. 2011-061, Solar and Wind Energy Applications - Pre-Application and Screening (Feb. 7, 2011).

3. BLM should take action to eliminate speculative applications. Specifically, BLM should subject all existing applications, as of the date of the Final PEIS, to the technical and financial screening criteria in BLM's February 7, 2011 Instruction Memorandum.[3] This will ensure that all viable projects can proceed to a Notice of Intent within a reasonable period of time and that any non-viable projects will be eliminated.

4. Limiting applications to the currently proposed SEZs after a certain date does not make sense because they are already insufficient and will be subject to additional culling in the next phase of environmental review. The currently proposed SEZs will be reduced in number and acreage in the Final PEIS for a variety of reasons (e.g. visual impacts and wildlife corridors). The SEZs that are near load and transmission already are full with applications; there is little or no space for new applications. A date cutoff would serve as a two- to three-year moratorium while BLM identifies, studies, and designates new areas for development. Although utility-scale solar development is also occurring on private lands where available, the utility-scale solar industry will fail if there is a moratorium on new development on public lands. There must be some acceptance of new applications (other than in high conflict areas) outside of the currently proposed SEZs.

5. The proposed SEZs in the Draft PEISs are inadequate. The SEZs are not sufficiently close to load or transmission; they have not been studied to assure that conflicts are low and development prospects are high; they are too few and too small; and they do not provide real incentives for development within their boundaries. Stated positively, BLM should propose and designate SEZs based on technical criteria (insolation, slope); known, low conflicts with biological, cultural, and other resources; and known access to transmission and proximity to load. SEZs would provide real incentives for development within their boundaries, such as project-specific Environmental Assessments (EAs) instead of EISs and assurance of transmission interconnection. BLM should also work with the Federal Energy Regulatory Commission (FERC) to encourage expedited deployment of new or upgraded transmission facilities serving SEZs. SEZs also would be large enough to allow for siting flexibility, and BLM would establish a clear process for expanding SEZs and adding new ones.

6. BLM should not adopt its proposed non-environmental exclusions as currently mapped. The excluded areas (in pink on maps provided in the PEIS) are overly broad, include some existing viable applications, do not have an evidentiary basis for their exclusion, and are not explained transparently in the document. Further work is necessary to understand and discuss which lands should be excluded. Specifically, the non-environmental exclusion criteria need to be modified.

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[3] *Id.*

7. BLM should subject new project applications (i.e., those filed after BLM and DOE issue the PEIS ROD) to the agreed upon screening criteria that BLM adopts in the ROD.

8. BLM should determine the criteria for additional SEZs, and specify conditions under which it would restrict new applications outside of SEZs. There are a number of circumstances under which extra-SEZ applications will make sense. These include applications where adjacent private land, combined with non-SEZ federal land, provides sufficient acreage for a project, where the inclusion of federal land adjacent to a SEZ would avoid unacceptable impacts in the SEZ or where the land outside the SEZ is determined to have fewer conflicts. When BLM provides well-crafted incentives for well-sited SEZs, these incentives will steer most development within the SEZs. All new applications that are not in high conflict areas should be timely processed.

In setting forth our recommendations for improvements to the PEIS, we are cognizant of BLM's and DOE's staffing and resource constraints. The industry is ready to assist BLM and DOE with ensuring that they have the resources they need to effectively perform the many tasks before them. However, we urge the agencies to ensure that no resources are re-allocated away from the processing of existing solar energy development applications. Such action would strain existing investments and likely would cause capital currently devoted to solar energy projects to be shifted into other investments. This shift would adversely affect the solar energy industry and undermine critical efforts to meet renewable energy goals and mandates.

I. Background

On May 29, 2008, DOE and BLM published in the Federal Register a Notice of Intent to prepare the Solar Energy PEIS to develop and implement agency-specific solar energy development programs and to evaluate solar energy development on BLM-administered public lands. *See* 73 Fed. Reg. 30,908 (May 29, 2008); *see also* 74 Fed. Reg. 31,307 (June 30, 2009) (announcing BLM's intention to designate SEZs as part of PEIS process).

The goals of the PEIS are to "create a more efficient process for authorizing solar energy development on public lands." 74 Fed. Reg. at 31,308. This process also is intended to:

- *Facilitate* near-term utility-scale solar energy development on public lands;
- *Minimize* potential environmental, social, and economic impacts;
- Provide the solar industry *flexibility* in proposing and developing solar energy projects (location, facility size, technology, etc.);
- Optimize existing *transmission* infrastructure and corridors; and

- *Standardize* the authorization process for solar energy development on BLM-administered lands.

Draft PEIS at ES-3; 74 Fed. Reg. at 31,308. As stated in more detail in our comments below, we are concerned that the Draft PEIS does not meet these intended goals because it:

- Does not *facilitate* development due to its failure to propose sufficient SEZs near load and transmission and its failure to sufficiently analyze biological and cultural constraints within the proposed SEZs;

- Does not avoid or *minimize* environmental and cultural impacts due to its failure to analyze these impacts prior to determining SEZ boundaries and locations;

- Would not provide *flexibility* under the SEZ-only alternative and would appear to constrain flexibility arbitrarily under some of the Preferred Alternative maps, unless further explanations are forthcoming;

- Does not optimize existing *transmission* infrastructure because of inadequate study of transmission as related to SEZs and to projected development on private lands; and

- Does not *standardize* the authorization process or streamline the environmental review process for projects on public lands because so much analysis is left for individual projects.

We appreciate the monumental efforts that have gone into preparing the Draft PEIS. However, these and the other issues we discuss below must be addressed if the Final PEIS is to be as useful as it can and needs to be.

Finally, we recognize the difficulty of writing a long-term planning document at the same time that the agency and all stakeholders are engaged in intensive short-term decision-making regarding the same lands, technologies, and resources that are addressed in the PEIS. In some states, such as California, other long-term planning activities such as the Desert Renewable Energy Conservation Plan (DRECP) should further inform BLM's planning. The solar industry would be severely handicapped to the detriment of the public and all stakeholders if these current activities are not accounted for and prioritized. Our comments and suggestions are designed to provide a roadmap for developing a long-term and sustainable siting and permitting program while giving due attention to existing project applications.

II. Comments on the Draft PEIS (BLM)

A. BLM should commit to the timely processing of existing applications.

The Draft PEIS states that pending "applications are being processed in accordance with the BLM's current Solar Energy Policies (BLM 2007, 2010a,b)." The PEIS also cites BLM's June 30, 2009 Federal Register notice (74 Fed. Reg. 31,307), in which BLM stated that:

- Any entity with an existing application for lands within the [proposed SEZs] received by the BLM prior to June 30, 2009 will continue to be processed under the BLM's current procedures.
- Applications received after June 30, 2009 for lands inside the [SEZs] will be subject to the [ROD] for the Solar PEIS and any alternative procedures developed by BLM for non-competitive and competitive processes.
- All applications received for lands outside of the [SEZs] will be processed under the BLM's current procedures.
- Any right-of-way (ROW) grant for a solar energy application issued after the BLM's ROD for the Solar PEIS may be issued subject to the requirements adopted in the ROD.

BLM should commit to processing existing applications under existing procedures and guidance (including BLM's February 7, 2011 Instruction Memoranda) in a timely manner, regardless of where the applications are located. To adequately protect biological, cultural, recreational, visual, and other resources, BLM should reject applications[4] that do not have a Notice of Intent as of the date that BLM and DOE issue the ROD for the Final PEIS, and that are in high-conflict areas, which we would define as:

- Designated critical habitat for federally threatened and/or endangered species, in accordance with the language of IM 2011-061.
- Areas of Critical Environmental Concern (ACECs) and Desert Wildlife Habitat Management Areas (DWMAs).

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[4] By "applications" we refer to applications for utility-scale solar projects, not applications for associated transmission infrastructure and linear facilities. BLM should not automatically exclude such infrastructure and facilities from areas that present high conflicts for projects, and should review and permit applications for such facilities according to standard procedures.

- Lands that have been formally proposed by federal agencies for designation as wilderness, or proposed for a national monument or wilderness designation in S.2921 (111th Congress).

- Lands that were originally part of a renewable energy ROW application and were eliminated from that application by BLM or the applicant due to resource conflicts. For example, where the final project represents a smaller or different footprint to avoid wildlife habitat, rare vegetation or desert washes, the excluded portion of the ROW should no longer be available for development. This category includes projects that BLM rejected because they were located within areas subject to a 1% development cap in applicable land use plans.

- Lands that have conservation value and were purchased with federal, state, or private funds, and donated or transferred to the BLM for conservation purposes.

- Lands purchased with federal, state or private funds, and donated or transferred to BLM expressly as mitigation for project impacts.

We raise the need to process existing applications first because it applies regardless of what the Final PEIS says. Many pending applications are far along in the environmental review and permitting process, and already have PPAs and priority in the transmission interconnection process. These projects are the most viable given their commercial value and investment, and are necessary to maintain the utility-scale solar industry's forward momentum. Those applications that are not as far along still represent substantial investment by developers and should also be processed. In addition, we urge BLM to avoid delaying or imposing new requirements on any project that is well into the NEPA process but does not have a ROD by the time BLM adopts a ROD for the Final PEIS. The critical point is that failing to timely process existing applications is the same as denying them. Put another way, the PEIS not only must provide an improved program for siting and permitting utility-scale solar projects on public lands, it must provide an immediate and reasonable path forward for the existing projects that are crucial to the industry's continued viability.

Finally, new project applications filed after BLM and DOE issue the ROD for the PEIS should be subject to the screening criteria BLM adopts in the ROD and processed according to queue position. As with existing applications, new high conflict applications outside well-sited and adequate SEZs should be rejected.

B. The proposed SEZs need substantial work if they are to be a useful component of a solar energy program for public lands.

BLM should focus on facilitating rather than restricting solar development on public lands. By carefully studying and designating SEZs, BLM can provide real incentives for developers to locate their projects within SEZs and away from areas with high conflicts.

1. Characteristics of useful SEZs

BLM would propose and designate SEZs based on the following criteria:

- *Adequate insolation and maximum slope.* In the Draft PEIS, BLM excluded lands with greater than 5% slope and/or solar insolation levels below 6.5 $kWh/m^2/day$. These are suitable initial thresholds, but the lands they exclude may become more attractive over the 20-year life of the PEIS.[5] BLM should allow for the designation of SEZs that include lands that do not meet these thresholds.

- *Minimal species or cultural resource conflicts.* SEZs can and should be chosen only *after* detailed studies indicate good places for development. Identifying SEZs before these studies are complete does not assist solar development or environmental or cultural resources; instead of creating "go" zones, BLM risks creating "we don't know" zones that are not effective in meeting the goals BLM has set for the PEIS. If SEZs have resource conflicts that have not been analyzed, they create the false perception that sufficient land is being provided when it is not. Based on the collective experiences of developers, we estimate that 60-90% of the proposed SEZs will turn out to be unavailable for development due to (as-yet) unknown conflicts.

- *Close to load and transmission infrastructure and capacity.* Many of the proposed SEZs face severe transmission constraints, and those that do not already are full of applications. Again, if SEZs are located far from load and transmission, they create the false perception that there is sufficient land for development.

- *Large and numerous enough to allow for flexibility and industry growth.* The Draft PEIS contemplates that additional or expanded SEZs can be proposed, evaluated, and designated, but there is no concrete process for doing that on a timeframe that is meaningful. Initial SEZs will be necessary but not sufficient, especially since many lands (especially in California) already are the subject of applications. In the Final PEIS, BLM must have a workable process in place and underway for expanding and adding SEZs.[6] We provide specific suggestions for new SEZs below.

- *Ability to support real incentives for development.* The Draft PEIS identifies potentially helpful but vague incentives to develop in SEZs. These incentives are key to

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[5] In just a few short years, many photovoltaic (PV) systems have evolved and can now utilize slopes in the 8-10% range.

[6] BLM should allow for increases in renewable portfolio standards, at least for the six states covered by the PEIS. As renewables become more prevalent, there will be incentives to export the power they generate to other states where solar resources are not as abundant.

the word "facilitated" in "Area for Facilitated Development," and they must be more concrete. For example, BLM should provide for streamlined environmental review in the form of EAs instead of EISs; provide concrete assurances that projects in SEZs will be able to connect to the grid;[7] and withdraw SEZs from other uses including mining and oil and gas development (or at least prioritize solar over those uses).[8]

Below we discuss a few of these criteria in more detail, focusing on where the proposed SEZs fall short so that BLM can develop better ones.[9]

2. The proposed SEZs require substantial additional analysis and thought if they are to be useful.

Areas in which BLM chooses to promote solar development can and should be chosen only *after* detailed biological, cultural, and transmission studies indicate that they are good places for development. Identifying SEZs before these studies are complete does not assist solar development or protect environmental or cultural resources; instead of creating "go" zones, BLM risks creating "we don't know" zones that are not effective in meeting the goals BLM has set for the PEIS. In addition, if SEZs are located far from load and transmission, or have resource conflicts that have not been analyzed, they create the false perception that sufficient land is being provided when it is not. Finally, the SEZs also need to be larger and more numerous. Much of the area of the proposed SEZs already is covered by existing applications, particularly in California, and there are no SEZs proposed in the West Mojave, Chocolate Mountains, or other high-value areas.

a. The SEZs are not informed by ground-level biological surveys or analysis or allow for the future incorporation of the DRECP.

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[7] For example, BLM could work with FERC, Independent System Operators, Public Utility Commissions (PUCs), and utilities on joint transmission planning to accomplish these results.

[8] For this reason, we support BLM's recent interim and proposed final rules to segregate lands for utility-scale solar development to prevent conflicts with new mining claims. *See* 76 Fed. Reg. 23,198 (Apr. 26, 2011) (codified at 43 C.F.R. § 2091.3-1(e); 43 C.F.R. § 2804.25(e)); 76 Fed. Reg. 23,230 (Apr. 26, 2011).

[9] Our aspiration is that BLM develops SEZs that are, in fact, areas of *facilitated* development (AFDs), with an emphasis on incentives to develop projects within zones rather than on restrictions on projects outside of zones. The characteristics we describe above—thorough biological and cultural studies, access to adequate transmission infrastructure and load, and direct development incentives—would underscore this carrot-based approach. A stick-based approach would impede solar development with little environmental benefit. *See* Section II.C below.

Key to siting utility-scale solar projects is the relative presence of sensitive species and their habitats. If the SEZs are to minimize the impacts of solar projects on these species and habitats, including habitat connectivity, and provide incentives for development within their boundaries, they must be located in areas with (a) known and (b) relatively few biological resource conflicts. BLM also must know that the ecosystems within SEZs are capable of accommodating a certain level of development (i.e., that they have adequate carrying capacity), and establish workable mitigation measures to avoid, minimize, and mitigate the impacts of that development.

BLM has not undertaken the "in-depth environmental analyses" that underlie such informed decisionmaking, and that BLM promised when it announced the solar zone concept. *See* 74 Fed. Reg. 31,307, 31,308 (June 30, 2009). Specifically, BLM has not conducted detailed, ground-level biological surveys or engaged in a detailed consultation with the U.S. Fish & Wildlife Agency (FWS) under Section 7(a)(2) of the Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1544. Instead, it appears that BLM relied on existing, gross data and undertook a much less detailed consultation under Section 7(a)(1) of the ESA to generalize about biological resources, decide where to locate SEZs, and develop mitigation measures. As a result, developers still must conduct protocol-level surveys of sites proposed for development within SEZs and engage in first-in-time Section 7(a)(2) consultation with FWS—the opposite of the "streamlined environmental process" and "very limited additional environmental analysis" that the Draft PEIS promises. *See* Draft PEIS at 2-11, 6-33. Moreover, we fully expect that detailed biological surveys will reveal significant biological resources (and therefore conflicts) within much of the proposed SEZs, making that area unavailable for development. This is not a useful outcome.

Aside from biological considerations, the PEIS fails to quantify indirect impacts to lands in the SEZs, except in specifically designated areas. The PEIS does not analyze National Heritage Areas, scenic byways, un-inventoried portions of historic trails, state parks and wildlife areas, and other locally significant areas or attractions. Without this analysis, it is difficult to determine whether the SEZs will be viable since impacts to these areas could require significant mitigation.

In addition, BLM did not base its SEZ designations or energy policies and design features on the California Desert Renewable Energy Conservation Plan (DRECP). The DRECP, which is still under development, will be a Habitat Conservation Plan under the ESA and a National Communities Conservation Plan under the California Endangered Species Act (CESA), Cal. Fish & Game Code § 2050 *et seq.*, and is being developed by the Renewable Energy Action Team, of which BLM is a member. Once it is complete, the DRECP will: (a) identify and map areas for renewable energy development; (b) identify and map areas intended for long-term natural resource conservation; and (c) establish best management practices and guidance. Unless the PEIS accounts for the DRECP's final recommendations (or provides for their incorporation) regarding areas for development and conservation, as well as design features, the PEIS may not cohere with those well-

studied recommendations. *See* LSA/SEIA/CEERT SESA Comments, at 13 (Sept. 14, 2009). This is not a useful outcome.

Solution: The Final PEIS, including the designation of any SEZs, should incorporate a mechanism for adjustment of SEZ boundaries in light of the final DRECP. BLM can bolster both the DRECP and the SEZs by engaging in full Section 7(a)(2) consultation with FWS and gathering (or have FWS gather) detailed biological resource information on the acreage within designated SEZs.[10] The SEZs then can become truly noncontroversial "go" areas for solar energy projects.

If BLM cannot perform these tasks prior to finalizing the PEIS, it should expressly recognize that the designated SEZs are shells or outlines of possible development zones to be studied further, not actual development areas themselves, and should not claim that the entire area (or any percentage of it) is available for development until there is more information about these issues.[11]

b. The SEZs are not informed by ground-level cultural surveys or analysis or even landscape-level consultation under Section 106.

Equally key to siting utility-scale solar energy projects is the relative presence of cultural resources, including resources that are or may be sacred to Native American tribes. Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 370f, requires agencies to evaluate the potential impacts of their decisions on certain eligible cultural and historic resources before making those decisions.

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[10] The Draft PEIS states that, "for all proposed SEZs, government-to-government consultation and inter-agency consultation are still ongoing and could result in the identification of additional concerns." Draft PEIS at 6-33 n.7; *see also* Draft PEIS at 6-100. We are hopeful that this consultation includes ESA Section 7(a)(2) consultation with FWS.

[11] By way of further example, the Draft PEIS states that BLM used the following tools to evaluate areas for designation as SEZs: site-specific GIS; Google Earth; BLM GeoCommunicator website (BLM and USFA 2010); BLM LR 2000 system (BLM2010b); local BLM staff; BLM's 1:100,000 Surface Management Status maps; visits by assessment teams; and BLM Rangeland Administration System web site. Draft PEIS App. M at M-4 to M-7. A typical developer will usually conduct a far more in-depth investigation of a prospective site, relying on protocol-level biological and cultural surveys and detailed record reviews, investigations of onsite and offsite rainfall and natural drainage conveyances, preliminary evaluations of soil characteristics, and analyses of proximity to existing pipelines, rail unloading facilities, access roads, telephones and cell towers, industrial services, fire districts, and, of course, transmission infrastructure.

Recognizing this obligation, BLM has undertaken Section 106 consultations for individual solar energy projects. Yet BLM has not done so for the Draft PEIS.[12] A programmatic Section 106 consultation would assist BLM in evaluating the potential impacts of the PEIS on cultural resources, and in avoiding or minimizing those impacts. BLM cannot designate SEZs or develop programmatic mitigation measures without the information that such consultation would generate.

Similarly, BLM did not perform detailed surveys of cultural resources before designating SEZs, so that developers could avoid conducting, or at least minimize, such surveys.

Solution: BLM should gather detailed information about cultural resources before designating SEZs. At a minimum, BLM should conduct a programmatic Section 106 consultation for the PEIS and conduct detailed cultural resource surveys of proposed SEZs. As with biological resource studies, if BLM cannot perform these tasks prior to finalizing the PEIS, it should expressly recognize that the designated SEZs are shells or outlines of possible development zones to be studied further, not actual development areas themselves, and should not claim that the entire area (or any percentage of it) is available for development until there is more information about these issues.

c. The proposed SEZs do not facilitate development on already-disturbed private lands because BLM failed to designate SEZs near such private lands.

The Draft PEIS states that BLM tried to integrate information about private lands into the Draft but was unable to do so due to time constraints. *See* Draft PEIS at 1-14. Appendix E, for example, assumes that much, if not the majority, of near-term utility-scale solar energy development will be on private lands, but the PEIS does not locate zones to achieve synchronicity with opportunities for development on private lands. These opportunities are publicly identified through filed permit applications or designated through a state and local land use and transmission planning processes, and the PEIS must undertake this effort or refrain from drawing conclusions in the PEIS based on incomplete assessments..

The assumptions in the PEIS, which are based on the absence of critical information about, and consideration of, private lands, have three consequences. First, future transmission likely will not be planned based on the availability of and constraints associated with public *and* private lands. Federal efforts to site future transmission may be particularly susceptible to this oversight by focusing only on public lands. Second, the

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[12] The Draft PEIS states that, "for all proposed SEZs, government-to-government consultation and inter-agency consultation are still ongoing and could result in the identification of additional concerns." Draft PEIS at 6-33 n.7. We are hopeful that this consultation includes Section 106 consultation with federally-recognized tribes, their designated representatives, and any other appropriate stakeholders.

SEZs are not planned to capitalize on private land opportunities, and do not optimize land use and environmental planning benefits by mixing and matching public and private lands or by being adjacent to what may become disturbed private lands as a result of solar projects located on public lands. Third, environmental impact assessment on both the public and private side of the review will not take the sum of public and private lands into account and there likely will be little effort to coordinate using public and private lands for compensatory mitigation. Many nongovernmental organizations (NGOs) and local governments favor such coordination.

Solution: Consider the addition of SEZs with these private land considerations in mind. Utility-scale solar projects proposed on private lands should be easy to identify based on pending conditional use permit applications. Specifically, if BLM previously rejected certain public lands near degraded private lands for SEZ designation because of small size, BLM should reconsider that decision in issuing the Final PEIS.

d. Many of the SEZs are in areas where utility-scale solar projects are less likely to be built because transmission access and/or proximity to load are absent.

A SEZ that lacks adequate access to existing or planned transmission is a cemetery for utility-scale solar projects. Similarly, a SEZ that is located too far from where electricity is needed may never be developed because the cost of transporting electricity to the load centers is too high. Many of the proposed SEZs suffer from one or both of these problems.

Consider the following factors, which dictate where solar developers will site their projects. First, the target development for SEZs is large projects (likely 50 MW or greater), and the market for large projects is in California (an overwhelming majority of the RPS requirement in the Western Interconnection is in California). This fact favors larger or more (or both) SEZs in California and Arizona.

Second, in areas with very large wind energy potential, the market for solar energy is constrained because of economics. Thus, for the eastern front of the Rocky Mountains (Wyoming, Colorado, New Mexico), wind projects will be favored in certain RPS markets, with minimal set asides for solar projects. California, Arizona, and Nevada may provide better markets for solar power, at least as compared to certain areas in other states.

Third, large interregional transmission lines in the West primarily were built to move baseload resources from east to west. The existing interstate transmission grid was developed and sized according to these baseload resources (usually coal-based electricity but also some nuclear and hydropower) in the east, and was designed to move this energy to the load centers in California and, to a lesser extent, Phoenix and Tucson. There may be some small spare capacity on these lines during certain times of the day and year, but

little of the firm capacity needed to service a solar facility with predictable and daily output.

Fourth, it is difficult for utility-scale solar projects to competitively support large transmission costs. A transmission system wheel[13] creates a major obstacle to a solar project's economics, and two wheels destroy it. In addition, it is difficult to economically carry large transmission costs on a resource with a 25-30% capacity factor (it is difficult enough for a baseload resource with a 90-100% capacity factor), and many power purchase agreements with the major California utilities do not allow wheeling over multiple transmission systems, thus creating an insurmountable hurdle. Finally, many existing and proposed transmission lines have capacity divided or reserved by several utilities. Some of the capacity is reserved for specific use by a utility. In the majority of cases, a project must tie into a California Independent System Operator (CAISO) interconnection point to qualify for inclusion in the California RPS. This restriction eliminates the use of many existing or proposed transmission lines for delivery of power into California.

As a result of these factors, and as developers understand, solar power is best generated as close as possible to its retail market and in areas with ready access to existing or planned transmission with adequate capacity. With the exception of the Riverside East and Imperial East SEZs in California, and in general the Arizona SEZs, BLM did not adequately account for this calculus in designating the proposed SEZs.[14]

As the table below discusses in more detail, too much total area of the proposed SEZs is too far from load, and many SEZs lack adequate transmission access. Indeed, of the 18 proposed SEZs, 5 (comprising 112,955 acres) are more than 20 miles from existing transmission, a distance past which it is often economically infeasible to build interconnection lines. Although some SEZs are in areas where new transmission capacity is proposed, developers have no certainty about when transmission lines will be built in

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[13] A transmission "wheel" is transmission service over a single transmission provider's system. To move power to a distant location, a project may need to piece together several transmission wheels, or segments. For example, a project may need to deliver electricity over a transmission line to get the terminus of a proposed major inter-regional transmission line, then over the inter-regional transmission line, then over a line from a distant terminus of the inter-regional line to a distribution station. If a single transmission provider owns all three lines, there is only one wheel; if two or three providers own those lines, there are two or three wheels.

[14] The Draft PEIS admits that, in evaluating whether to designate additional transmission corridors, BLM "only considered the locations of existing transmission lines and designated corridors and did not look at the available capacity on existing lines." Draft PEIS at 1-14. We submit that BLM did not adequately consider the locations or capacity of existing or planned transmission lines in proposing SEZs.

those corridors.[15] As for the remaining 13 SEZs, BLM has not performed any type of impact study to determine whether or not there will be capacity available on these lines.[16]

State	SEZ / BLM Field/District Office	Acres	% of Total SEZ Acres
Colorado	Antonito Southeast (La Jara/Conejos)	9,729	
	De Tilla Gulch (Saguache/Saguache)	1,522	
	Fourmile East (La Jara/Alamosa)	3,882	
	Los Mogotes East (La Jara/Conejos)	5,918	
	Total :	**21,051**	**3.1%**
New Mexico	Afton (Las Cruces/Dona Ana)	77,623	
	Mason Draw (Las Cruces/Dona Ana)	12,909	
	Red Sands (Las Cruces/Otero)	22,520	
	Total:	**113,052**	**16.7%**
Utah	Escalante Valley (Cedar City/Iron)	6,614	
	Milford Flats South (Cedar City/Beaver)	6,480	
	Wah Wah Valley (Cedar City/Beaver)	6,097	
	Total:	**19,191**	**2.8%**
	The SEZs designated in Colorado, New Mexico, and Utah collectively comprise 21.9% of the total SEZ acreage. We are skeptical that much of this land will be developed with solar energy.		
Arizona	Brenda (Lake Havasu/La Paz)	3,878	
	Bullard Wash (Hassayampa/Yavapai)	7,239	
	Gillespie (Lower Sonoran/Maricopa)	2,618	
	Total:	**13,735**	**2.0%**

[15] This concern is heightened by the recent vacatur and remand of DOE's National Interest Electric Transmission (NIETC) Corridors and associated NEPA review. *See Cal. Wilderness Coal. v. DOE*, 631 F.3d 1072 (9th Cir. 2011).

[16] We are happy to provide more detail about these constraints by meeting with BLM.

State	SEZ / BLM Field/District Office	Acres	% of Total SEZ Acres
	It is unclear why such a solar resource-rich state has the smallest percentage of SEZ-designated acres. The solar market in Arizona is emerging and there is much more potential in that state than the Draft PEIS recognizes. (Indeed, BLM recognizes that "development could be constrained in Arizona and Colorado by the amount of land available under the SEZ program alternative." Draft PEIS at 2-23.) Indeed, the Draft PEIS has just touched the surface of suitable sites in Arizona. For example, Arlington West, Dendora, Hassayampa, Harquahala, Yuma, La Paz, and sites near Palo Verde are not included. Moreover, the limited amount of reconnaissance performed for the existing recommended sites on biological and cultural resources will leave the proposed SEZs open to duplicative and costly analysis. Supplemental locations, along with the existing locations, should be studied more carefully. In addition, the selection of SEZs should reflect the existing lines that will interface with known reconductoring for increased capacity.		
Nevada	Amargosa Valley (Southern Nevada/Nye)	31,625	
	Delamar Valley (Ely/Lincoln)	16,552	
	Dry Lake (Southern Nevada/Clark)	15,649	
	Dry Lake Valley North (Ely/Lincoln)	76,874	
	East Mormon Mountain (Ely/Lincoln)	8,968	
	Gold Point (Battle Mountain/Esmeralda)	4,810	
	Millers (Battle Mountain/Esmeralda)	16,787	
	Total:	**171,265**	**25.3%**
	Nevada is a relatively small market, but it has significant potential. BLM manages roughly 68% of the land within Nevada's boundaries and yet the Draft PEIS proposes to make very little of that land available for solar development under the Preferred Alternative (only a miniscule amount would be available under the SEZ Alternative), including areas in Clarke and Nye Counties. In addition, there is a disconnect between new generation capacity and transmission projects proposed for southern Nevada and the destination for the electricity those projects would generate and carry. Additional SEZs would address these two concerns.		
California	Imperial East (El Centro/Imperial)	5,722	
	Iron Mountain (Needles/San Bernardino)	106,522	

State	SEZ / BLM Field/District Office	Acres	% of Total SEZ Acres
	Pisgah (Barstow/San Bernardino)	23,950	
	Riverside East (Palm Springs/Riverside)	202,896	
	Total:	**339,090**	**50.1%**
	The most promising proposed SEZ is the Riverside East SEZ, which already has seen significant development interest. However, we understand that BLM will sharply reduce the developable acreage in this SEZ because of visual and wildlife corridor concerns. Iron Mountain is remote from any significant transmission. Iron Mountain also is of concern to the conservation community. The Pisgah SEZ has suitable planned transmission access but portions of the SEZ have biological resources which create high litigation risk, limiting the prospects for development that could utilize the planned transmission. As a practical matter, we believe that Iron Mountain should be removed from the SEZ list, not count toward needed acreage, and be replaced by other SEZs in California.		

In sum, too few of the proposed SEZs are in California and Arizona, where the load centers are. In addition, many of the proposed SEZs lack adequate access to transmission and/or have other constraints that would threaten their utility as useful development zones. *See* Section II.B.6 below (recommending that additional zones be developed in promising areas).

Solution: Re-evaluate potential SEZs to better account for proximity to load centers and transmission access. BLM should consult with the CAISO, as well as other transmission authorities, to generate better assessments of transmission proximity and capacity, and factor those assessments into any SEZ designations. Again, BLM should also work with the FERC to encourage expedited deployment of new or upgraded transmission facilities to serve SEZs.

e. A significant portion of the total zoned acreage within California is in areas that are controversial.

As the table above makes clear, nearly 130,000 acres (20%) of the proposed California SEZs are in two SEZs (Iron Mountain and Pisgah), portions of which have important biological resources. Conservation organizations have sharply opposed Iron Mountain and some have also opposed Pisgah. As a practical matter, we believe that the Iron Mountain SEZ should be eliminated given its distance from transmission and resource conflicts. For these reasons, it is imperative that other California SEZs be studied and designated in the very near term. Our concern with the PEIS is that BLM may "declare victory and leave" the field, leaving inadequate SEZs and a perception that siting issues have been resolved.

Solution: Remove Iron Mountain from the SEZ list and designate new SEZs in California to replace it. See Section II.B.6 below (proposing specific areas for further study as SEZs).

f. The SEZs need to be larger and more numerous.

(i) Many of the proposed SEZs, particularly in California, already are the subject of pending applications.

According to data obtained from BLM public database for California,[17] of the 339,090 acres currently proposed as SEZs, pending ROW applications already cover 108,864 acres. These applications reduce the supposed 677,384 acres available under the SEZs by 16% overall and by 32% in California. *See* Figure 1 and Table 1 below.

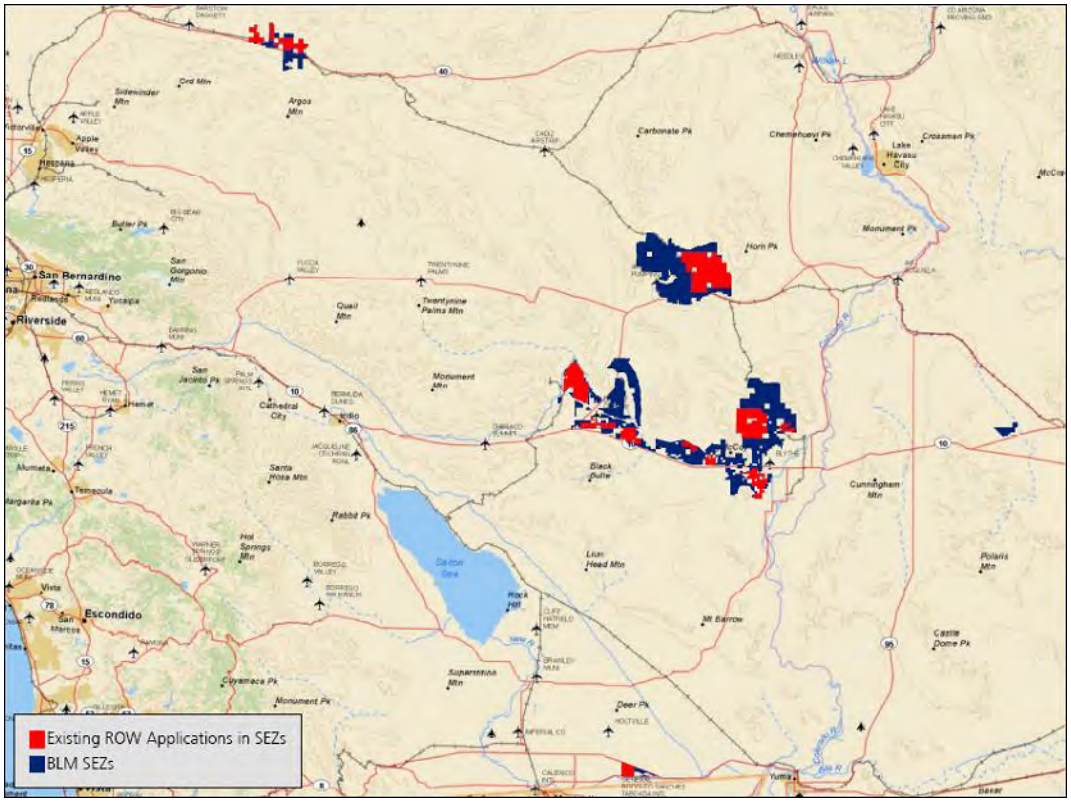

Figure 1. Existing ROW applications in proposed California SEZs.

[17] BLM, RenewEnergyROW (shape file) (available at ftp://ftp.blm.gov/pub/CA/gis/ca_sync/geodatabasesZIP (last visited Mar. 10, 2011)).

Proposed SEZ	Acreage of SEZ	Existing ROW Acreage	Proposed SEZ	Acreage of SEZ	Existing ROW Acreage
Imperial East			Riverside East		
SolarReserve		3,822	Cuckwalla Solar 1		4,090
Total	5,722	3,822	Palen Solar I, LLC		5,080
Iron Mountain			Desert Sunlight Holdings, LLC		14,800
Leopold Companies- Ward Valley		35,304	Ridgeline Energy, LLC		1,820
Total	106,522	35,304	enXco-McCoy		12,830
Pisgah			enXco-Eagle Mountain Soleil		1,055
enXco TroyLake Solar		3,532	FPL Energy-McCoy		7,040
enXco Caboose		3,518	enXco-Mule Mountain		1,990
Calico Solar, LLC-Calico		4,488	Genesis Solar, LLC-Genesis Solar		1,950
Total	23,950	11,538	First Solar-Desert Quartzite		7,290
			Ridgeline Energy-Desert Center II		255
			Total	202,896	58,200
			Total	339,090	108,864

Table 1. Acreages of proposed SEZs in California vs. Acreage of existing ROW applications in SEZs.

(ii) BLM should evaluate and propose SEZs within the West Mojave and the Chocolate Mountains of California, and additional SEZs in Nevada and/or Arizona.

The Draft PEIS does not propose designating any SEZs in the West Mojave and/or the Chocolate Mountains. Yet the West Mojave region in Eastern Kern County and West San Bernardino County, along with parts of the counties of Inyo and Los Angeles, is considered by many to be the most important and valuable solar resource area in California—and for good reason. This area is strategically located near two electric transmission corridors owned by Southern California Edison and the Los Angeles Department of Water and Power. It is also adjacent to the Tehachapi Wind resource area, which would allow complimentary development of wind and solar resources, significantly reducing integration costs.

The West Mojave region additionally offers some of the world's highest quality solar radiation levels. Because of higher elevation and clearer skies, the solar radiation levels in the West Mojave are, in some locations, more than 10% higher than in the Eastern Mojave. As a result, the amount of land needed to generate the same amount of electricity is 10% less. The quality and nature of the radiation in the West Mojave also make it the single best area for development of concentrating solar power plants within the state of California. Moreover, the area is located in between two large military installations, Edwards Air Force Base and China Lake Naval Air Weapons Station, and much of the land is disturbed and made up of many small, private parcels. The lands in the West Mojave thus offer conditions that make siting solar energy generation projects there attractive for both developers *and* environmental stakeholders, as evidence by the fact

that many in the conservation community have joined with us in calling for the BLM to include the West Mojave as one of the first additional SEZs.

This area may have been excluded from the initial list of SEZs because it is already subject to a Habitat Conservation Plan and federal land use plan amendment known as the West Mojave ("WEMO") Plan. Finalized in 2005, the WEMO Plan presents a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel, and nearly 100 other sensitive plants and animals and the natural communities of which they are a part. The Plan set aside 1.5 million acres of prime solar development land for a state protected species (the Mohave ground squirrel), lands for expansion of military reservations, as well as tens of thousands of acres for off road vehicle use. Unfortunately, the Plan failed to take account of the region's extraordinary solar resources and did not identify any land for renewable energy development. The Plan generically designated 1% of the certain restricted areas for all remaining uses, including renewable energy, but even this carve-out is unhelpful because BLM failed to include a process for identifying which lands would be acceptable for solar development.

Although the WEMO Plan aims to provide a comprehensive strategy to conserve and protect sensitive wildlife and their natural communities, the underlying science upon which vast amounts of land were set aside was not robust. For example, in the case of the Mohave ground squirrel, the available biological data was extremely weak, and relied upon outdated research from a single investigator. Based on this questionable evidence, the Plan reserved 1.5 million acres to protect core and non- core habitat (the Plan does not distinguish between the two) for a single state-only listed species.

Whether or not intentional, BLM's refusal to plan for renewable energy development in the WEMO Plan area has encouraged, and will continue to encourage, solar developers to seek to develop projects in less advantageous areas. In some instances, projects have been and will be sited in areas with significantly greater potential for environmental conflict because developers cannot overcome the severe restrictions of the WEMO Plan. In light of these circumstances, and questions surrounding the development of the WEMO Plan noted above, we suggest that BLM revisit the Plan as part of these PEIS proceedings to consider the creation of one or more SEZs in the West Mojave.

Admittedly, BLM's planning and review of the West Mojave will require significant resources. Efforts being undertaken in other contexts may be leveraged to save some time. For example, the State of California, through the California Energy Commission, has recently launched an extensive vegetation mapping exercise, the results of which should provide important and timely information for the BLM's review of the WEMO Plan, and for the California DRECP. In addition, CEERT, as part of its coordination of California's Renewable Energy Transmission Initiative (RETI) planning effort, has developed a map of the West Mojave which identifies the recommended areas which should be evaluated by BLM as part of its analysis of the West Mojave as a new SEZ. Even with these resources, there is still much work to be done to identify SEZs, but it will

be worthwhile to provide for development opportunities in this region with unparalleled solar resources.

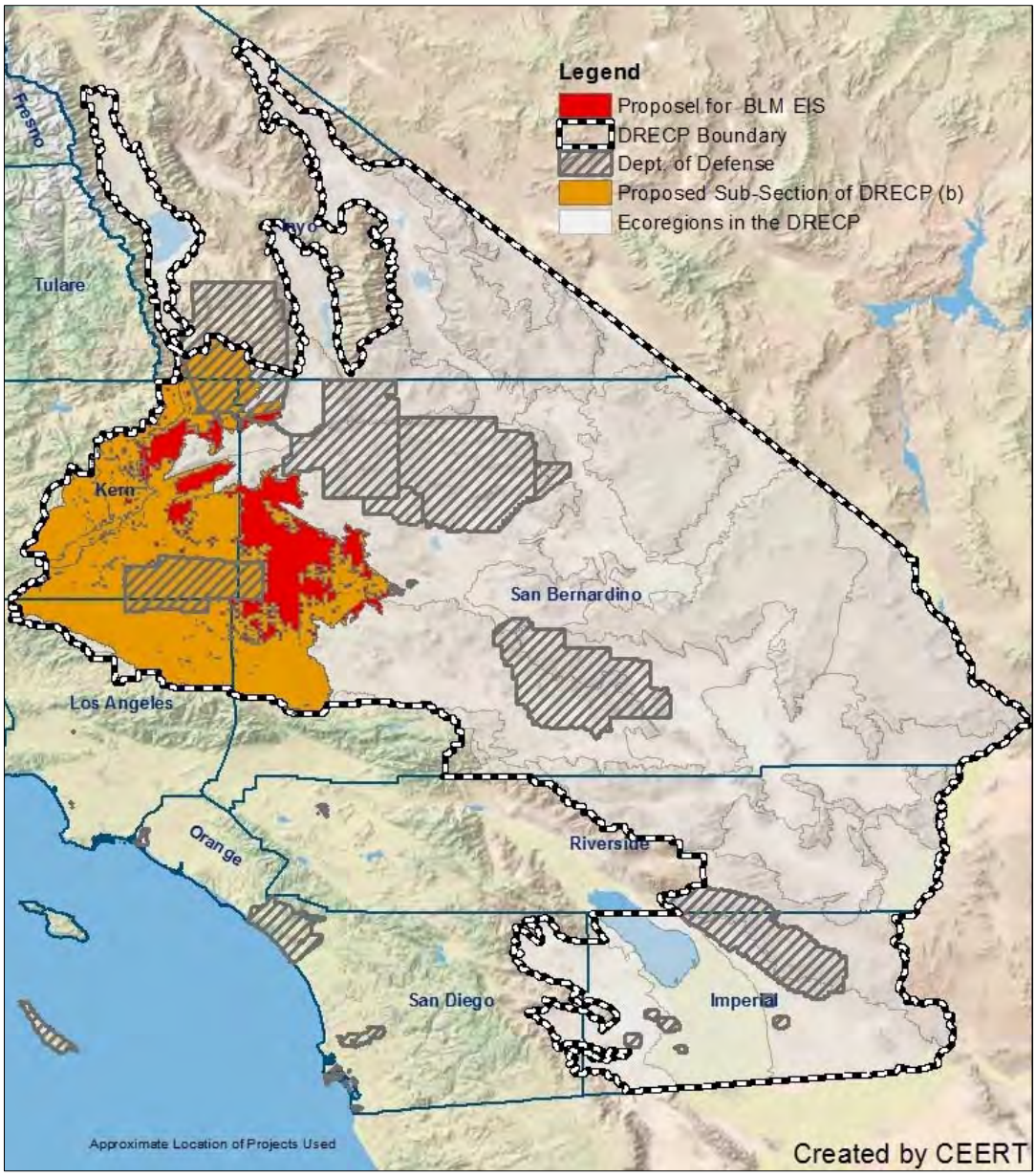

Figure 2. Suggested zone for studying the possibility of SEZs in the West Mojave.

Regarding the Chocolate Mountains, BLM has already indicated some intention to designate a SEZ in that area. We think it wise for BLM to consider SEZs in the

Chocolate Mountains and the area of the WEMO Plan. BLM should act with alacrity if these are new areas that it believes would accommodate significant solar development.

Consistent with the comments above, BLM should also consider designating more lands in Nevada and Arizona for solar development. In Arizona, we are informed that the BLM State Director excluded any acreage from SEZ consideration that is subject to a pending application. As a result, there were no applications in the areas that BLM identified as proposed SEZs, but many applications in other areas—thereby producing the opposite outcome intended for the PEIS; BLM should consider including those other areas. It is unclear how the proposed SEZs in Nevada were identified, or why there are not more SEZs in a state in which BLM manages 67% of the available land. These states have more and better areas with regard to insolation, load, and transmission, and the Draft PEIS unfairly ignores or minimizes the viability of their promising areas.

Solution: As stated above, BLM should establish a consistent process for identifying and approving new SEZs or SEZ expansions (assuming, of course, that those SEZs follow the recommendations we have laid out above). Such process will be important if BLM designates SEZs, and BLM should identify that process in the Final PEIS. BLM also should begin evaluating new potential SEZs in the West Mojave, Chocolate Mountains, lands identified in the Arizona Restoration Design Energy Project, and other areas. Figure 3 below depicts one possible area for West Mojave utility-scale solar development.

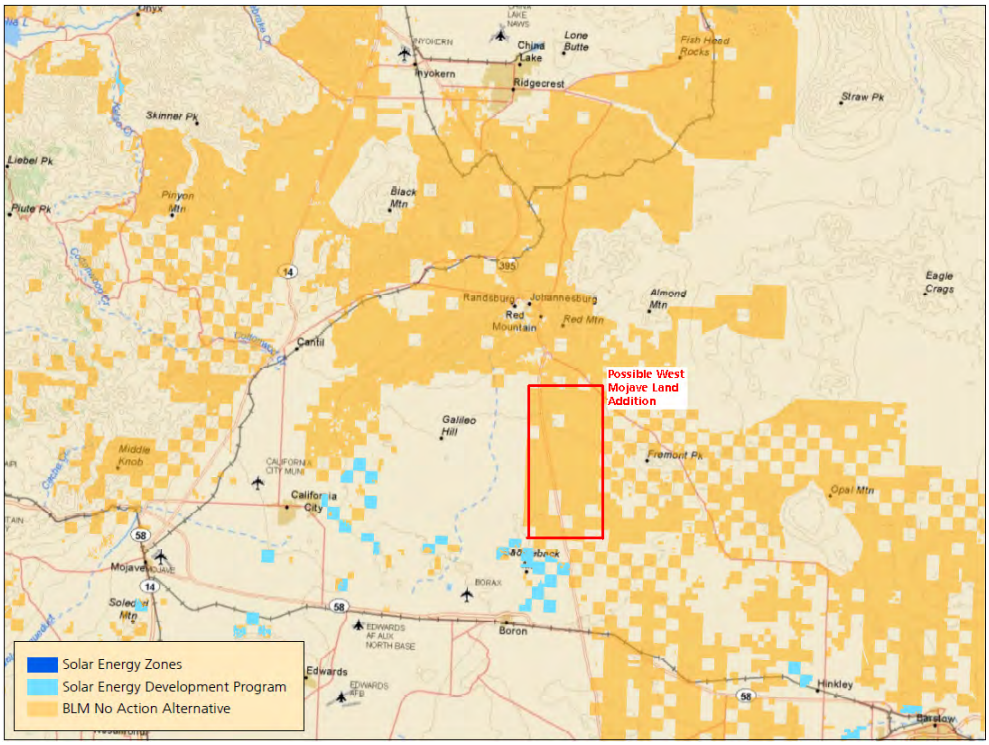

Figure 3. Proposed starting point for SEZ evaluations in the West Mojave.

3. The proposed SEZs do not adequately account for aviation, seismic, and state and local government considerations.

a. Aviation

The Draft PEIS notes that the locations of the proposed SEZs were developed considering all military and civilian airfields within five miles of the SEZ boundary. The Draft PEIS notes that the military also provided information that was used to identify potential area-wide impacts. In many instances, the military identified specific potential issues and concerns with SEZs that have been incorporated into the analysis. Because of the potential for differential impacts caused by different solar technologies and the various types of military uses, specific impact analysis and definition of impacts were not possible. Where military or civilian airfields are within 25 mi (40 km) of a SEZ, this was noted as a potential conflict.

The Draft PEIS states, however, that since FAA regulations would control activities near these facilities, no additional analysis was performed. Because of the site-specific nature of the potential impact on military airspace, no assessments of the potential level of impact could be made.

At least four of the SEZs are in known Special Use Airspace (SUA) zones: Bullard Wash in Arizona; Iron Mountain and Riverside East in California; and Red Sands in New Mexico. While SUA-related height restrictions are not likely to cause an impact to trough, PV or dish technologies, they could serve as a constraint on power tower technology. The lengthy FAA process for removing height restrictions could take up to one year to complete. In addition, determining the impact of FAA and military altitude restrictions must be done in the initial stages of a project, and obtaining an official position from the military on its aviation concerns can take up to one year from the time the request is made.

b. Seismic considerations

Seismic information for the Draft PEIS was determined from the USGS, state of California and literature reviews. Data included USGS Quaternary Fault and Fold database of the USA class A fault search, National Earthquake Information Center Database. This information was reviewed within a 100 km radius of the center of each SEZ. While these are excellent sources of information, project seismic requirements are defined by local or state codes and are usually subject to the International Building Code (IBC). The seismic investigation used for the Draft PEIS apparently did not consider the IBC, which is the defining requirement for projects.

c. Water resources

Regardless of whether a plant employs dry or air cooling, PV or dish technology, a small amount of water may be required for potable, sanitary, mirror cleaning, and other routine

maintenance activities. The Draft PEIS does not provide sufficient analysis of water resources. Determination of the adequacy of water resources is typically performed by a hydrology study, evaluation of nearby wells or by drilling test wells and having consultations with state or local water agencies. At this point, there is no way to determine if the proposed SEZs can provide enough water for the potential projects that could be placed in that SEZ.

If the PEIS requires multiple projects to be situated on a given site, then there is a high likelihood that a number of projects could exceed the ability of the underground reservoir and associated recharge system to provide water over the lifetime of the project or projects. Only a detailed assessment prior to designating a SEZ would provide enough information to make the determination of adequate water resources.

d. State and local considerations

In the selection of the SEZs, BLM staff was asked to identify areas near existing transmission or designated corridors. These areas also needed to be near existing roads, have slope of 1 to 2% or less with 5% slope as the maximum slope considered feasible, and contain a minimum of 2500 acres. Additionally, the preliminary results from the Western Governors Association Western Renewable Energy Zone Initiative were taken into consideration. Draft PEIS at App. D-1. Criteria from the Arizona Renewable Resource and Transmission Identification subcommittee also were used. Draft PEIS at App. D-21. BLM then selected the potential SEZs as being areas of low sensitivity.

In addition, BLM has not consulted with state or local authorities to determine significant issues that may arise in those arenas. BLM should engage state and local authorities to identify any potential issues in advance.

Solution: BLM should account for potential aviation, seismic, and water resources considerations when designating, or adjusting the boundaries of, SEZs. BLM also should engage in interagency cooperation with state and local governments to identify and mitigate any concerns, as well as with the FAA and the Department of Defense to identify and mitigate any concerns. *See also* Section II.F ("Miscellaneous issues").

4. BLM should prescribe a process for applying for land within designated SEZs, and only after it provides for public comment on that process.

The Draft PEIS does not specify a process for developers to apply for and secure parcels within designated SEZs, other than to suggest that BLM might use competitive bidding. As we explain below in Section II.F, we do not support a competitive bidding system because of the added costs such a system would impose on projects.

Whatever process BLM develops, BLM should not adopt that process without providing for public review and comment, including hearings. To be specific, BLM should not adopt a SEZ application process in the Final PEIS (unless BLM provides another public comment period, including on the proposed process) or in an Instruction Memorandum or other document that is not accompanied by a public comment period. The manner in which any SEZs will be made available for development will be vitally important to many developers and they should be given the opportunity to submit their views.

C. BLM should select the Solar Energy Development Program (Preferred) Alternative over the SEZ Alternative, but the Preferred Alternative also needs clarification and modification.

BLM should select the alternative that strikes the best balance between promoting utility-scale solar energy development and avoiding and minimizing the impacts of such development. The Solar Energy Development Program Alternative achieves that goal so long as BLM (a) *is able to designate SEZs in accordance with our comments above*, and (b) *modifies or clarifies the lands it would exclude from development* under the Preferred Alternative.

If BLM is unable to evaluate and designate SEZs that meet the criteria we have set forth above, we respectfully request that BLM evaluate and consider selecting a fourth alternative. Under this alternative, BLM would (1) finalize siting criteria and "comprehensive program administration and authorization policies and design features" (*see* Section II.D & Attachment A (discussing necessary modifications to policies and design features)); (2) clarify that the SEZs are interim pending further work and that they do not indicate that the entire acreage will be available or suitable for development; (3) conduct the additional work required to make the SEZs useful and publish a supplemental EIS and ROD once that work is complete.

However, we believe that BLM is capable of taking the actions we have recommended and issuing a Final PEIS in a timely manner. Whatever alternative BLM adopts, BLM must provide a clear and timely path forward for existing applications.

Among the two action alternatives considered, BLM is right to identify the Solar Energy Development Program Alternative as the agency's Preferred Alternative. As BLM explains, the Preferred Alternative "would likely result in the highest pace of development at lowest cost to the government, developers, and stakeholders," in part by providing the greatest siting flexibility. At the same time, the Preferred Alternative would "provide a comprehensive approach for ensuring the potential adverse impacts would be minimized to the greatest extent possible." Draft PEIS at ES-29. The Preferred Alternative would exclude solar development in the most sensitive areas, encourage development within the SEZs, and provide the greatest degree of flexibility in siting and designing projects—flexibility that is crucial to the long-term success of the utility-scale solar industry. *See*

generally Draft PEIS at 6-31 to 6-40, 6-48 to 6-53 (discussing benefits of Preferred Alternative).[18]

Our support of the Preferred Alternative—and in particular truly useful SEZs—is subject to several important caveats, discussed in Sections II.C.1 and II.C.2 immediately below.

1. Designation and incentives for SEZs

As we discuss above in Section II.B, the SEZs need substantial additional work if they are to be useful SEZs.

Policies to encourage development in fully-vetted SEZs make sense—indeed, they are crucial if SEZs are to have any value. These include, among other things, providing for streamlined environmental review in the form of EAs, providing expedited transmission interconnection assurances, and withdrawing SEZs from other uses including mining, oil and gas development, and grazing.[19] However, these incentives should not result in unreasonable delays in the processing of applications for projects outside SEZs. Such a result would yield a de facto SEZ-only alternative, which is untenable for the reasons we discuss below.

2. Modification of excluded lands criteria

In calculating which lands to exclude from solar development under the Preferred Alternative, BLM excluded lands that failed to meet basic criteria (greater than 5% slope and/or solar insolation levels below 6.5 $kWh/m^2/day$) or that fell within a special designation or contained special characteristics (e.g., ACECs, designated critical habitat, wilderness characteristics). The result is the exclusion of roughly 70 million acres of BLM-managed lands, as shown in pink on the state-by-state maps reproduced in the Executive Summary and throughout the PEIS. It is difficult to tell which screen or screens—slope, insolation, ACEC, etc.—was or were used to exclude any given acre. BLM should provide easy access to GIS data and shape files to make this screening process more transparent.[20] This is of particular concern to developers with existing projects located within the pink (excluded) areas—not only do they want to know what

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[18] We note below that no other energy industry is limited to zones, whether in addition to other development or solely in zones.

[19] We urge BLM to describe with particularity the incentives for development within SEZs, which the Draft PEIS describes only generally.

[20] In addition, BLM should not adopt blanket exclusions based on assumed conflicts with preexisting, approved human uses. Solar development is not inherently incompatible with all other uses and, through negotiations with preexisting users of a site, developers may be able to design facilities that allow for multiple uses to coexist. This is particularly true in instances where a proposed solar facility might conflict with existing recreational uses.

screen or screens BLM has applied to the lands that are the subject of their ROW applications, they want to work with BLM to address any concerns that those screens raise.[21] In accordance with our comments in Section II.A above, BLM should commit to timely processing these existing applications during the preparation of the Final PEIS and regardless of what the PEIS says.

Finally, certain of BLM's screening criteria for the Preferred Alternative are overly restrictive. Subject to the third caveat immediately above, we refer not to areas with special designations or certain sensitive resources (e.g., wilderness characteristics) but to basic land characteristics, including lands that have greater than 5% slope and/or solar insolation levels below 6.5 $kWh/m^2/day$, or which are located in special recreation areas. While these lands are unlikely to be the subject of initial development potential and interest, they may become more attractive over the 20-year life of the PEIS.[22] Certainly some of the private lands which solar companies are being urged to develop have lower insolation or greater slope, and as technologies progress, there may be projects that can utilize much steeper slopes. Moreover, while the bulk of an application may be in an area with 5% slope or less, some arrays may be moved up a hillside to an 8-10% slope (where current technology may be slightly less efficient) for purposes of avoiding resource conflicts. The exclusions, therefore, must be subject to a rule of reason. Categorically eliminating these lands from development does not account for this fact and serves little purpose.[23] The PEIS should recognize that these non-environmental factors currently limit development interest and feasibility but may not do so in the future, and allow for development in areas with those characteristics (assuming that other siting criteria are met).[24]

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[21] An example of such a constructive program is occurring in the Ivanpah Valley watershed in California and Nevada, where multiple stakeholders have agreed to study the biological characteristics and constraints of that area. Collaborative studies of this sort are preferable for the purpose of assessing where development should and should not take place, and under what conditions.

[22] In just a few short years, many photovoltaic (PV) systems have evolved and can now utilize slopes in the 8-10% range.

[23] The Draft PEIS recognizes that "concerns exist that by excluding [these] lands …, the BLM could be removing lands that some developers may find both technically and economically feasible to pursue in the future." Draft PEIS at 6-38. Indeed, almost the entire State of Nevada, 67% of whose lands BLM manages, is neither pink nor blue, but white—unavailable for development under any proposed alternative—in the Draft PEIS's maps. Moreover, the immense amount of land in pink, without explanation, leaves little of Nevada available for development. We strongly urge BLM to reconsider this determination, especially where not based on species concerns. *See* Section II.B.4-.6 (advocating for additional SEZs in Nevada).

[24] In any event we support BLM's decision to allow excluded areas to remain open to development of supporting infrastructure such as access roads and transmission lines. *See* Draft PEIS at ES-7 n.4 & 2-7.

3. The SEZ Alternative would significantly stymie utility-scale solar development with no added benefit.

Compared to the Preferred Alternative, the SEZ Alternative likely would slow the pace of development without offering any appreciable environmental protection advantage. Specifically, the SEZ Alternative likely would forestall many projects from being built, and force others on to private land.[25] This shift would drastically increase the cost of private land for development and compensatory mitigation, in turn further curbing solar development generally, including on already-disturbed lands.[26] Such a result would fail to meet BLM's goal of locating 10,000 MW of renewable energy on public lands.

In addition, utility-scale solar facilities seek to produce energy at a price that approaches grid parity, a critical achievement that will be arrested if developers face severe restrictions on their ability to develop economically feasible projects. Economic feasibility requires not only reasonable land valuations but flexibility in siting and the ability to develop in close proximity to load centers and with adequate access to the electricity market (i.e., transmission). The SEZ Alternative would eliminate this flexibility[27] and, given that many of the proposed SEZs are not close to load or transmission, leave developers stranded in remote areas with little market or transmission access. *See* Section II.B.4 (discussing market and transmission access problems with SEZs). The Draft PEIS does not fully evaluate these and other impacts associated with the SEZ Alternative.

What is worse, the SEZ Alternative would create these adverse impacts without offering any appreciable environmental protection benefit. While the SEZ Alternative could reduce or eliminate some of the impacts that might come from potentially dispersed development under the Preferred Alternative, the SEZ Alternative could "result in greater concentrations of impacts in the vicinity of the SEZs," Draft PEIS at ES-29, as well as in the SEZs themselves, Draft PEIS at 6-53. This is a real risk considering that BLM lacks

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[25] *See* Draft PEIS at 6-53 (stating assumption that "development that does not occur on BLM-administered lands was assumed to be made up for by development on non-BLM-administered lands"). This statement, however, does not account for the fact that private land cannot accommodate all (or even most) of the projects that otherwise would be built on public lands; there simply are not enough private lands that are commercially viable for this shift to occur.

[26] A zones-only approach on BLM-managed land could more directly discourage development on private lands adjacent to restricted (i.e., "no go") areas. State and local permitting authorities might be disinclined to permit projects on lands near areas that BLM has categorically excluded from development. While this outcome is possible under the Preferred Alternative, as well, far more private lands could suffer from this problem under the SEZ Alternative.

[27] Developers require and ask for a *reasonable* degree of flexibility. The SEZ Alternative would allow development on approximately 0.15% of BLM-managed lands in the six southwestern states covered by the PEIS. The Preferred Alternative would allow development on 4.9% of such lands. This is a critical difference but one that, even under the Preferred Alternative, would leave the overwhelming majority of BLM-managed lands off-limits to solar development.

the information it needs to accurately assess the SEZs' potential resource conflicts and carrying capacity. *See* Section II.B.

The SEZ alternative would not yield any net benefits to environmental protection over an alternative (like the Preferred Alternative) that provides more flexibility but imposes appropriate restrictions to ensure responsible development. As the Draft PEIS recognizes, the SEZ Alternative would (the Draft PEIS says "might" but that is far too optimistic) "reduce the flexibility of both the agency and developers in terms of identifying appropriate locations for utility-scale development. *There are likely to be economically attractive sites for solar energy development outside of the SEZs that can meet the environmental protection measures outlined in the PEIS*." Draft PEIS at 6-43 (emphasis added). Siting criteria that restrict development in high-conflict areas (*see* Attachment A and BLM's recent interim guidance[28]), combined with well-considered design policies and mitigation measures, can effectively promote solar development, preserve siting flexibility, and minimize adverse impacts; the SEZ Alternative cannot. The Preferred Alternative (with the modifications we propose) strikes an appropriate balance between promoting solar development and restricting it; the SEZ Alternative does not. No other industry that extracts energy resources or develops energy on BLM-managed lands is limited to zones, and there is no reason why the utility-scale solar industry, which is actively committed to responsible development and which supports significant restrictions to achieve that end, should be treated differently.

There are two more points. First, the SEZs would be inadequate even though they total 677,000 acres—463,000 acres more than the total acreage BLM estimates will be needed to produce 24,000 MW of solar-generated energy on BLM-managed lands over the 20-year life of the PEIS. As we discussed in detail in Section II.B above, many of the SEZs lack adequate access to existing or planned transmission, are located too far from load centers, already are the subject of applications, and/or raise concerns about sensitive resources. In addition, BLM lacks adequate detailed biological and cultural information about the SEZs to know whether additional problems will arise when developers try to site specific projects within the SEZ boundaries. It is highly likely that these known and potential conflicts will significantly reduce the amount of available or suitable acreage within the proposed SEZs for utility-scale solar development.[29] *See* Draft PEIS at 6-35

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[28] BLM, Instruction Memorandum No. 2011-061, *Solar and Wind Energy Applications - Pre-Application and Screening* (Feb. 7, 2011), available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/public_affairs/news_release_attachments.Par.79538.File.tmp/IM2011.61.Prescreening.pdf.

[29] BLM recognizes that not all of the land within the SEZs will be developable, although it optimistically assumes that 80% will be developable. Draft PEIS at 2-23. As discussed above and in Section II.B, this figure does not adequately account for the known and potential constraints associated with the proposed SEZs. See also Draft PEIS at 6-33 (recognizing that areas within the 22 million acres identified as available for development under the Preferred Alternative likely would not be "suitable for development because of as yet unidentified conflicts with other

("Based on the potential conflicts identified, some of the proposed SEZ areas may be reduced in size or eliminated entirely when the final SEZs are identified in the ROD for this PEIS."). The Draft PEIS appropriately recognizes this fact and concludes that, as a result, "it is possible that the amount of lands that would be available under the SEZ program alternative might not be enough to support full development of the RFDS in states other than Arizona and Colorado." Draft PEIS at 6-44; *see also* Draft PEIS at 6-40 to 6-45, 6-48 to 6-53 (discussing limitations of SEZ Alternative); Draft PEIS at 6-52.

Second, the SEZs would be inadequate even though BLM could expand or add new SEZs in the future. As BLM recognizes, BLM would need to propose a land use plan amendment and subject any proposed expanded or new SEZ to environmental review under NEPA. *See* Draft PEIS at ES-7, ES-12, 6-31 n.5. That is a multi-year process that cannot respond nimbly to developers' needs and market dynamics.[30] In addition, if development is restricted to SEZs, adequate SEZs are needed now, not in the future. The proposed SEZs are far from adequate for the reasons discussed above; developers will not build many of their projects and shift the remainder to private lands unless and until these inadequacies are addressed. BLM's ability to expand or add new SEZs cannot save the SEZ Alternative from its own problems.[31]

To be clear, in addition to believing that the SEZ Alternative would make bad policy, we believe that BLM cannot legally choose the SEZ Alternative. As discussed above, the SEZ Alternative does not fulfill the purpose and need of the PEIS or comply with applicable laws and mandates, and its impacts have not been adequately analyzed.

D. Energy policies and design features (Appendix A)

Many of the energy policies and design features proposed in Appendix A to the Draft PEIS are reasonable and necessary to protect natural resources. However, certain policies and features are unnecessarily restrictive because they are costly to solar development and

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resources"); Draft PEIS at 6-39 (same); Draft PEIS at 6-33 n.7 ("[G]overnment-to-government consultation and inter-agency consultation are still ongoing and could result in the identification of additional concerns" in the proposed SEZs). Our member companies' experiences over the last few years suggest that far less of the proposed SEZs—perhaps as low as 10-40%—will be developable.

[30] In fact, BLM considered suggestions to include additional SEZs in the Draft PEIS but could not because "the site-specific evaluation of SEZs requires a large amount of data and lengthy evaluation time." Draft PEIS at 2-29. Such process will be even longer if BLM gathers the information and conducts the analysis that we think is necessary for useful SEZs.

[31] This is not to say that BLM should not establish a process for identifying and approving new SEZs. *See* Section II.B.6. Such a process will be important if BLM designates SEZs, and BLM should identify that process in the Final PEIS. The point here is that that process cannot sufficiently ease, on a meaningful timeframe, the unreasonable constraints the SEZ Alternative would impose.

yet provide little benefit to the environment. The preference to avoid, then minimize, then mitigate adverse impacts is generally sound, but in some instances unnecessarily sacrifices development where mitigation can be truly effective, or where the impact at issue is not significant in the first place. As a result, a requirement to avoid and/or minimize impacts can unintentionally and unnecessarily add costs to a project.

We appreciate BLM's effort to provide specificity in the PEIS, but the agency must be careful to avoid broad brush strokes where small ones are needed. That is, some policies and design features may not apply to all projects. BLM should take care to craft the policies and features to avoid unintended or unnecessary constraints to solar development, and should allow for varying site conditions and solar field design.

Specific comments on the proposed policies and design features in Appendix A are provided in Attachment A to this document.

E. Rental and bonding policies

The Draft PEIS states that "elements of [BLM's] existing policies addressing rental fees, terms of authorization, due diligence, bonding requirements, and BLM access to records would remain in effect." Draft PEIS at ES-6 n.3. BLM should modify these policies to be less expensive and less restrictive for solar developers.

1. Rental policy

On June 10, 2010, BLM issued Instruction Memorandum No. 2010-141, *Solar Energy Interim Rental Policy* ("2010 Rental Policy"). The policy expires on September 30, 2011. Under the methodology reflected in the 2010 Rental Policy, the annual rent for a solar project located on BLM-managed lands depends on the project's acreage, power capacity, and type of solar technology. Although the rental policy helpfully provides a greater level of certainty for developers (which is helpful in negotiating PPAs and other contracts), the rents it establishes are too high. BLM should use the Final PEIS to establish a new policy that takes the following considerations and points into account:

- Most BLM lands that are desirable for solar development are located in arid regions where public land value is based on grazing, recreational or open public use. As such, rents—particularly acreage-based fees—should not be very high given the nature of the BLM lands proposed for use. BLM must remember that solar developers do not acquire BLM's mineral rights when they receive a ROW grant.

- Utility-scale solar companies have begun securing similar or comparable private lands for project development and/or mitigation. These land values are typically in the range of $900-$2,500 per acre, excluding mineral and water rights. These lands generally do not have agricultural, industrial, or other development value, other than the proposed solar use.

- Using standard industry MAI appraisal methods, and also using Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book standards), annual rental values should be in the range of $72-$200 per acre per year, given a capitalization rate of 8%. When acreage- and capacity-based fees are combined, BLM's 2010 Rental Policy establishes much higher values, particularly for Riverside County in California, with little explanation. BLM's rents also appear to be based largely on the value of irrigated agricultural land, which have a higher value than the non-irrigated lands on which most projects are proposed.

- Rental fees are self-reinforcing in that they are to be used to set the "highest and best" use of BLM-managed lands (i.e., BLM may determine that the alternative highest and best use for a given parcel is another large-scale solar facility, rather than grazing, recreation, etc.). For this reason, BLM must be especially careful in its calculations.

- According to the Draft PEIS, BLM typically uses a 50% encumbrance factor when setting acreage-based rents. However, for utility-scale solar projects, BLM uses a 100% encumbrance factor "to reflect the high density land use common to solar energy projects." Draft PEIS App. A at A-11. Yet the Draft PEIS also states that the capacity-based fee is necessary to "capture the increased industrial use value of the authorization, above the limited rural/agricultural land value captured by the base rent." Draft PEIS App. A at A-12. Because BLM already has doubled the base rent encumbrance factor it normally uses, it is unclear how BLM can justify an additional capacity-based fee can be justified.

The rents established by the 2010 Rental Policy impose a significant burden on the economic feasibility of many projects, at a time when solar energy is not yet cost-competitive with other sources of electricity.[32] Moreover, high rental rates on public lands lead to higher purchase prices for private lands, making it ever more difficult to develop projects and purchase lands for compensatory mitigation. BLM should reduce the acreage- and/or capacity-based fees to arrive at more reasonable rental rates.

If BLM insists on charging the high rates set forth in the 2010 Rental Policy, it should adjust the number of acres deemed to be occupied by a solar facility. For example, rather

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[32] Per the 2010 Rental Policy, base rent for a 250-MW, 1,950-acre project in Riverside County will be $313.88 per acre per year, or $17.8 million over the project's estimated 30-year life (assuming a 20-year PPA with no extension). A net present value calculation using the Rental Policy's assumed federal discount rate of 5% yields $4,825 per acre per year. If the capacity-based rent factor is added (assuming that the project begins operation within 3 years), total rent over 30 years increases by $17.7 million, with a total net present value of $7,951 per acre per year. This value far exceeds the market price of similarly-situated lands.

than calculating the number of acres occupied based simply on the ROW grant, BLM should calculate that number based on the number of acres that project facilities physically occupy. Such calculation would be a better measure of a project's impact and provide for a more reasonable rent schedule. Alternatively, BLM could reduce the encumbrance factor to 50% for that land that does not actually house the facilities associated with a project.

2. Bonding policy

On October 13, 2010, BLM issued Instruction Memorandum No. 2011-003, *Solar Energy Development Policy* ("2010 Solar Policy"). The policy expires on September 30, 2011. Among other things, the Policy requires developers to post a performance and reclamation bond for each project. Acceptable bond instruments are cash, cashier's or certified checks, certificate or book entry deposits, negotiable U.S. Treasury securities, surety bonds, irrevocable letters of credit, and an insurance policy that identifies BLM as the beneficiary. A bond must cover liabilities associated with hazardous materials, decommissioning, and reclamation. In calculating bond amounts, BLM will look to the bonding requirements applicable to mining operations under 43 C.F.R. Subpart 3809.

BLM should use the Final PEIS to revise the bonding requirements set forth in the 2010 Solar Policy. We understand and support the important obligation to decommission solar projects and reclaim BLM-managed lands when those projects reach the end of their useful economic lives. We also appreciate that BLM allows bond amounts to be increased on a graduated basis during construction. However, the bond instruments that BLM will accept are too narrow and the bond amounts that BLM is requiring are too high.

a. The bonding requirements for surface mining operations do not and should not apply to utility-scale solar projects.

The 2010 Solar Policy indicates that BLM calculates bonds for utility-scale solar projects in part by using the surface mining requirements set forth in 43 C.F.R. Subpart 3809, §§ 3809.500-.599. This approach is misplaced, imposes onerous and unnecessary costs on the solar industry, and provides no additional public land protection.

BLM promulgated surface mining financial assurance regulations in response to the "inability or unwillingness of some operators to meet their reclamation obligations" as mine operators simply abandoned mines. 65 Fed. Reg. 69,998, 70,002 (Nov. 21, 2000). To avoid, or at least limit, taxpayer liability for unsecured or undersecured surface disturbances caused by mining, BLM now requires a project developer to provide financial assurance that it will be able to cover all costs of reclamation. 43 C.F.R. §§ 3809.500-.599. Reclamation concerns identified in the surface mining context include: (1) isolation, control, or removal of acid-forming, toxic, or deleterious substances; (2) re-grading and reshaping to conform with adjacent landforms, facilitate revegetation, control drainage,

and minimize erosion; (3) rehabilitation of fisheries and wildlife habitat; (4) placing growth medium and establishing self-sustaining vegetation; (5) removal or stabilization of buildings, structures, or other support facilities; (6) plugging of drill holes and closure of underground workings; and (7) providing for post-mining monitoring, maintenance, or treatment. 43 C.F.R. § 3809.5 ("Reclamation").

In contrast to surface mining operations, there is little risk that solar projects will be abandoned and BLM left with significant reclamation liability. A mine can become unprofitable due to unexpected and sudden swings in commodity prices. The decision to shut down a mine is driven by the need to eliminate the ongoing cash drain which occurs when operating costs exceed revenue during low price periods, even for mines with substantial remaining deposits. (As commodity prices swing, that portion of the deposit that is economic to mine ("reserves") also changes.) In contrast, a typical utility-scale solar power plant can require well over $1 billion in capital investment, in effect representing a pre-payment of "fuel cost", and before it can be built, must be first be secured by a long-term power contract (called a power purchase agreement, or PPA) with a utility customer at a fixed price for the power it generates. The project is either project-financed or balance sheet-financed by an owner with the financial resources to fund the significant capital investment required to build or acquire the solar facility.[33] In addition, the closest point in time at which a solar power plant is to be decommissioned is predictable—i.e., tied to the term of the PPA, which typically lasts 25 years with the possibility of extensions. Finally, a solar power plant has very low operating costs (since the "fuel" is "pre-paid"), providing healthy cash margins from fixed revenues. For all these reasons, it is extremely unlikely that the owner of a solar project or its lenders would walk away from a project. For these reasons, BLM's surface mining requirements are inapplicable to solar projects.

The 2010 Solar Policy also does not establish a transparent process for calculating the amounts of performance and reclamation bonds. Under the Policy, a developer must submit a Reclamation Cost Estimate to the BLM authorized officer, who sets the bond amount in coordination with the Solar Energy Bond Review Team. While we appreciate the good relationships developers share with BLM authorized officers, and the effort to ensure that bonds are consistent, developers have little input beyond the RCE into the bonds that are required for their projects.

b. Acceptable bonding instruments should include corporate guarantees backed by financial tests.

The 2010 Solar Policy states that "BLM will not accept a corporate guarantee as an acceptable form of bond." This is unnecessarily restrictive. BLM's requirements and

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[33] Indeed, BLM makes a showing of such financial feasibility a requirement for securing a ROW. 43 C.F.R. §§ 2804.12(a)(5), 2804.26(a)(5); *see also id.* § 2884.11(c)(9), 2884.23(a)(5) (imposing same requirement for ROW grants under Mineral Leasing Act).

goals could be satisfied by a corporate guarantee backed by a demonstration of adequate financial capacity to cover project reclamation and decommissioning costs. BLM has discretion to accept corporate guarantees as financial assurance. *See* 43 U.S.C. § 1764(i) ("*Where he deems it appropriate*, the Secretary concerned *may* require a holder of a right-of-way to furnish a bond, *or other security*, satisfactory to him to secure all or any of the obligations imposed by the terms and conditions of the right-of-way or by any rule or regulation of the Secretary concerned.") (emphasis added); *see also* 43 C.F.R. § 2805.12(g) (providing that, "*[i]f* BLM requires," a ROW grant holder must obtain "a surety bond *or other acceptable security*") (emphasis added).

Other federal and state agencies rely on a broad range of financial assurance instruments, including corporate guarantees. For example, the U.S. Environmental Protection Agency and the Nuclear Regulatory Commission accept a financial test (based on a company's year-end audited financials) and a parent company guarantee that demonstrate sufficient financial viability for addressing the decommissioning and cleanup costs associated with hazardous waste handling, storage and treatment and/or radioactive isotope handling.[34] 40 C.F.R. Parts 264, Subpart H; 40 C.F.R. Part 265, Subpart H; and 10 C.F.R. Parts 30. Similarly, the California Department of Toxic Substances Control accepts a financial test or corporate guarantee, trust fund, letter of credit, and/or insurance in lieu of a surety bond for securing the decommissioning and cleanup costs associated with hazardous waste handling, storage and treatment. *See* 22 C.C.R. §§ 66264.143(f), .145. Under the financial test option, an applicant must provide, on an annual basis, externally-audited financial statements and must maintain certain debt-to-asset/income ratios. *Id.* § 66264.143(f). Under the corporate guarantee option, a parent, grandparent, or sibling company may provide financial assurance in place of the applicant by providing essentially the same information required under the financial test. *Id.* § 66264.143(f). Given this governmental precedent for allowing other financial instruments—particularly in the hazardous waste context, where negative environmental impacts are likely more serious, and reclamation costs likely much higher, than in the solar context—BLM should provide similar flexibility here.

Moreover, the point of financial assurance is not that *BLM* must have adequate funds to cover reclamation costs at the moment when decommissioning and reclamation are required, but rather that there must be *someone* who has those funds and is legally obligated to provide them at that moment. As discussed above, the owner of a solar power plant is uniquely positioned to provide assurance through a financial test/corporate guarantee

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[34] These financial assurance mechanisms are part of the requirements set forth in the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 et seq. and the Atomic Energy Act of 1954, as amended (68 Stat. 919) and under title II of the Energy Reorganization Act of 1974 (88 Stat. 1242).

because the owner will have a PPA and on-going obligations that disincentivize and even preclude easy abandonment of its project.[35]

We also are aware that BLM Manual MS-2805, which states that "bonds are normally required" for ROW grants, reflects BLM's typical practice. *See* BLM Manual MS-2805, Terms and Conditions for FLPMA Grants, § .12D. However, as BLM is aware, solar power plants are not like most uses that BLM approves by ROW grant. BLM typically uses ROW grants to permit smaller, less intensive facilities (including linear facilities), which have correspondingly lower reclamation costs. For those projects, a surety bond may make sense. But for more capital-intensive uses covering larger areas, like solar power plants, the value of the solar plant far exceeds any reasonable estimate of the reclamation and decommissioning costs that will be incurred at the end of the plant's economic life.

Requiring a surety bond or similar instrument can impose millions of dollars of additional annual cost, in some cases nearly doubling annual operating costs. By way of example, if BLM requires a reclamation bond of $10 million, a letter of credit or surety bond with a rate as high a 6% would impose $600,000 in additional annual operating costs. These added costs would jump to $2.1 million for a $50 million reclamation bond. These excessive costs are particularly problematic for projects that already have signed PPAs, since the costs cannot be passed on to customers. The added costs go to financial institutions as profit, not to BLM (or even the United States Treasury) as cost recovery or program support funds, and are not covered by DOE loan guarantees. The added costs impede the solar industry's effort to provide electricity at competitive prices, and provide no additional protection of public lands.

Finally, BLM imposes mandatory minimum bonding requirements in the oil and gas leasing context. *See* 43 C.F.R. subpt. 3401 ("Bonds"). While restrictive, mandatory, and minimum bonding requirements are appropriate in the oil and gas context due to the real and catastrophic potential for natural resource damages, as evidenced by the recent oil spill in the Gulf of Mexico, solar projects present significantly fewer and less severe potential harms, for the reasons outlined above. Accordingly, use of more expansive financial assurance instruments is appropriate in the utility-scale solar context.

c. Bond amounts should be reduced, including to reflect a reclamation credit.

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[35] With solar projects, most of the investment is in the ground. There are no variable fuel costs that could cause a plant to shut down in the middle of extreme volatility. A developer with a PPA has more incentive to maintain the plant and continue operations because most of its costs are already sunk. The developer will only need to cover its going-forward costs (e.g., insurance, rent, operations and maintenance) even in the worst case scenario where a lender foreclosed on a loan.

Regardless of whether BLM allows a financial test/corporate guarantee as a form of security, BLM should reduce the bond amounts it requires through operation of the 2010 Solar Policy. As discussed above, letters of credit and surety bonds impose excessive operating costs on projects. Also as discussed above, the risk of abandonment of a project is minimal, and the value of a solar project high, factors BLM should include in its bond calculations. Because BLM conducts periodic review of bond amounts, it can adjust the amount of a required bond closer to the time that decommissioning actually will occur. One option that would capture these factors and set more appropriate bond amounts would be to maintain a portion of the reclamation bond in the form of security, to be increased each year throughout the term of a project's PPA. The total bond amount would be achieved a few years prior to expiration of the agreement. If the agreement is extended, BLM and the project developer could modify the amount of required security.

In Instruction Memorandum No. 2011-003 and in Draft PEIS Appendix A, BLM elected not to follow standard energy industry practice and recognize a reclamation credit at the decommissioning stage that could help to offset the size of reclamation bond required. We disagree with a decision by BLM to rely on mining reclamation guidance to establish requirements for this phase due to resource impacts that are very different than those of a solar power plant. The concrete, glass, metal, and other infrastructure used to construct a solar facility have a recognized value in the marketplace of recycled products and BLM's standards should reflect that fact.

F. Miscellaneous issues

The following miscellaneous issues also bear comment:

- The nature and extent of BLM's cooperation with the California Energy Commission is crucial to the siting of future solar thermal projects in California. The permitting of several initial projects revealed both benefits and problems with the agencies' coordination efforts. We urge BLM to consider how those problems might be overcome for future projects.

- We urge BLM to develop policies for fostering more and better interagency coordination generally. The MOU in California among BLM, FWS, the California Energy Commission, and the California Department of Fish and Game is an example of how an MOU can improve interagency coordination. There may be other tools, such as inter-agency working groups, that can foster coordination.

- Coordination among the Departments of the Interior, Defense, Agriculture, and Transportation, and the Federal Energy Regulatory Commission, to improve the identification and resolution of conflicts in the development of solar projects and transmission could ensure greater consistency and predictability in conflict resolution. Coordination among agencies with resource management responsibilities could similarly establish uniform

mitigation requirements applicable in areas with certain characteristics and thereby ensure that developers are not required to mitigate the same impacts in more than one way.

- The Final PEIS should contain more specific guidance on coordination with military and civilian aviation and radar concerns. BLM entered into an MOU with the Defense Department concerning aviation issues associated with wind energy projects—similar MOUs with the Defense Department and the Federal Aviation Administration would more efficiently resolve similar issues associated with utility-scale solar projects.

- The Final PEIS should consider how the federal policies will coordinate with the mitigation measures that will be developed as part of the California DRECP, and those in the recently issued FWS guidance on the Bald and Golden Eagle and Migratory Bird Treaty Act, Executive Order 13186, regarding migratory birds and renewable energy projects. This recommendation also relates to the suggestion above that BLM coordinate with other agencies with resource management responsibilities to ensure that developers are not subject to multiple mitigation standards.

- Competitive bidding likely will increase the costs of developing utility-scale solar projects on public lands. Combined with high rental rates, bonds, and other costs, some developers that might have pursued projects on public lands will pursue projects on private lands or not at all.

III. Comments on the Draft PEIS (DOE)

DOE has evaluated two alternatives in the Draft PEIS: a no action alternative and an action alternative (the preferred alternative) under which DOE would "develop programmatic guidance to further integrate environmental considerations into [DOE's] analysis and selection of solar projects that [DOE] will support." PEIS at 7-1; 75 Fed. Reg. 78,980, 78,983 (Dec. 17, 2010). In other words, DOE would develop criteria it would use to decide which projects to invest in and to streamline the NEPA reviews DOE conducts for those investment decisions. DOE states that this guidance would apply to "all lands," not just those that BLM manages. Draft PEIS at ES-36 to ES-38. DOE correctly concludes that the preferred alternative would reduce adverse impacts of utility-scale solar development, increase the pace and decrease the costs of that development, and accelerate the greenhouse gas-reducing and economic benefits that are expected from that development. Draft PEIS at ES-38 to ES-39. We support DOE's preferred alternative, though we would like clarification on exactly which "lands" the criteria would apply to.

Although not part of the Draft PEIS, DOE may elect to establish guidance for "previously disturbed lands" (the definition of which is unclear) and similarly, DOE may also elect to promote guidelines for locations near populated areas. Most industrial

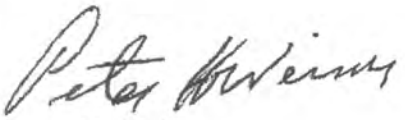
facilities prefer to locate away from populated areas. While this may sound good from a land-use perspective, locating sites near populated areas will raise concerns from the local populace and may result in additional cost impacts to the projects.

IV. Conclusion

LSA, CEERT, and SEIA sincerely appreciate BLM's efforts to promote responsible solar energy development of public lands through the preparation of the Solar PEIS. With the important additional work and modifications we have discussed above, the PEIS can serve a critically useful role in promoting and guiding the development of solar energy while protecting our natural environment.

Thank you for your time and consideration.

Sincerely,



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Attachment A: Comments on Appendix A (proposed policies and design features)

Attachment A

Draft Solar PEIS – Comments on Appendix A
(Proposed Energy Policies and Design Features)

Page	Text	Comment
General Comment	Various text throughout Appendix A.	Use of the term "avoid" should be limited to situations where absolute prohibition of an activity is necessary. "Avoid" is used extensively throughout Appendix A, but often in situations where avoidance is not necessary or the impacts can be otherwise mitigated without prohibiting the activity.
General Comment	Various text throughout Appendix A.	Design features and mitigation should be intended to mitigate a potentially significant impact, not to always eliminate or minimize the potential for impacts, regardless of their significance. Cumulatively, these requirements can become very expense and may be unnecessary. These types of requirements should be addressed at the project level, not the programmatic level.
General Comment	Various text throughout Appendix A.	The proposed design features seem to be primarily directed at limiting available land, but do not in turn provide specifics about what land will be left after all the limitations are imposed.
General Comment	Proposed addition to Appendix A.	The final Solar PEIS should address and clarify how its provisions will or will not modify the several solar-related BLM Instruction Memorandums that were released over the past few years: • IM-2007-097- Solar Energy Policy (4/4/07) • IM-2009-167- Application of Visual Resource Management to Renewable Energy (7/7/2009) • IM-2010-141- Solar Interim Rental Policy (6/10/10) • IM-2011-003- Solar Energy Development Policy (10/13/10) • Solar Plan of Development (1/31/2011) • IM-2011-059- NEPA Compliance for Utility Scale (2/08/11) • IM-2011-060- Solar and Wind Due Diligence (2/08/11) • IM-2011-061- Solar and Wind Pre-Application and Screening (2/08/11)
A-13 "Megawatt	The MW capacity fee established by this IM is: $5,256 per MW for photovoltaic (PV) solar projects; $6,570 per MW	How are these fees applied if a facility is down for routine or major maintenance? How are these fees applies if a facility is down due to loss

Page	Text	Comment
Capacity Fee" Para. 4	for concentrated PV and concentrated solar power (parabolic trough, power tower and solar dish/engine) projects without storage capacity; and $7,884 per MW for concentrated solar power projects with storage capacity of 3 hours or more.	of a major generating component?
A-17 "Term of Authorization" Para. 2	The BLM will therefore issue all solar energy right-of-way authorizations for a term not to exceed 30 years.	There should be flexibility when it comes to determining the term of a solar right-of-way because the expected life of many solar facilities is well beyond 30 years.
A-19 "Diligent Development" Para. 5	The BLM authorized officer may suspend or terminate the authorization when the holder fails to comply with the diligent development terms and conditions of the authorization (43 CFR 2807.17).	This provision would provide for exclusions if the BLM or other agencies do not accomplish their obligations in an agreed-upon time, or impede financing. It should be made clear that only affirmative failures on the part of the holder warrant suspension or termination.
A-19 "Diligent Development" Para. 8	In addition, the grant will specify that any idle, improperly functioning, or abandoned equipment or facilities that have been inoperative for any continuous period of 3 months must be repaired, placed into service, or removed from the site within 30 days from receipt of a written Notice of Failure to Ensure Diligent Development, unless the holder is provided an extension of time by the BLM authorized officer.	The time period provided for in this provision must be flexible, as equipment failure – of a main step-up transformer, for example – can result in extensive repair times.
A-20 "Performance and Reclamation Bond" Para. 3	The BLM authorized officer may increase or decrease the bond amount at any time during the term of the right-of-way authorization, consistent with the regulations (43 CFR 2805.12(g)).	Most financial institutions view unfavorably the ability of a bond amount to fluctuate, absent some type of cap.
A-20 "Performance and Reclamation Bond"	If a holder uses herbicides extensively, this component of the bond amount may be significant.	"Extensive use" is too general and subjective.

Page	Text	Comment
Para. 5		
A-26 Lines 12-14	The BLM may offer lands within solar energy zones (SEZs) for competitive ROW authorizations on its own motion or as a result of nominations by the public.	Existing applications within SEZs should be given an opportunity to complete the application process before sites are competitively bid.
A-26 Lines 16-18	If lands within SEZs are not offered competitively, solar energy development applications for such lands will receive priority processing over other solar energy development applications.	This would have an adverse impact on existing applications outside of SEZs and could delay advanced solar projects due to lack of committed BLM resources.
A-26 Lines 20-22	The BLM will discourage applicants from filing ROW applications for the purpose of speculating, controlling, or hindering development of solar energy on public lands.	How would this be implemented? Timeframes for advancement of permitting? Demonstration of financial capability? We agree that there should be mechanisms to prevent speculative applications and the PEIS should provide guidance that a field office can use to identify speculators, but existing applications should be given a reasonable opportunity to complete the ROW process.
A-27 Lines 9-13	The BLM will review applications for land use plan conformance (43 CFR 1610.5-3). To be considered further, applications must conform to the existing land use plan as amended by the Solar Programmatic Environmental Impact Statement (PEIS), including all solar ROW exclusions identified in Table 2.2-2.	Projects should be allowed to show compatibility with existing land use plans on a site-specific basis. It may be feasible to design projects to be compatible in areas that would otherwise preclude solar development. Given the complexity of BLM land management programs, it is likely that some amendment to an existing RMP will be required. To condition applications on a requirement that no RMP amendment be necessary would exclude many otherwise viable and environmentally compatible solar projects.
A-27 Lines 40-44	Entities seeking to develop a solar energy project on BLM-administered lands shall contact any potentially affected grazing permitee/lessee, in conjunction with BLM staff, to discuss potential impacts of the proposal, possible alternatives that could be addressed in scoping for the National Environmental Policy Act (NEPA), and potential mitigation and compensation strategies.	Situations where there are prior claims to the land can be problematic to solar development, since proposed mitigation measures may be too expensive to justify development. The BLM should make every effort to identify areas of potential overlap.
A-28 Lines 1-5	Entities seeking to develop a solar energy project on BLM-administered lands shall contact the owner of any federal mining claim located with the boundaries of the proposed	Same comment as above.

Page	Text	Comment
	solar energy project, in conjunction with BLM staff, to ensure that there is a potential for resolving any conflicts with federal mining claims.	
A-30 Lines 40-43	Management goals and objectives for special status species (such as the sage grouse and desert tortoise) that the BLM has identified in land use plans or goals and objectives substantiated by best available information or science shall be incorporated into the POD for proposed solar energy projects.	T&E species will be subject to Section 7 review and Biological Opinion conditions – this should not reach beyond these requirements.
A-34 Lines 24-25	The solar ROW authorization may be assigned consistent with the regulations, but all assignments are subject to approval by the BLM authorized officer.	There should be criteria for denial of assignment. It should be based on factors like the assignee's financial ability to perform and not on arbitrary factors.
A-34 Lines 46-47 A-35 Lines 1-3	….[Design features and exceptions]…. authorizations. It is anticipated that variations in the design features presented will be approved in very limited circumstances. Those design features that do not apply to a given project will need to be described as part of the project file along with an appropriate rationale. Additional mitigation measures may be identified and required during individual project development and environmental review.	This highlights the need for the design features to be very carefully crafted so that they are applicable to all projects and situations, and exclude requirements that may not apply or that could unnecessarily constrain development. Detailed requirements should be left to the project ROW approval.
A-35 Lines 12-13	Many of the proposed design features indicate the need for project-specific mitigation plans (see Table A.2-1 [which includes, among others: Glint and Glare Assessment, Mitigation, and Monitoring Plan; Heliostat Positioning Plan; and Unanticipated Burial Contingency Plan]).	Implementation of a glint and glare plan is not practical because glint and glare are dependent on mirror positions, sunlight angles, and viewer angles, all of which are changing constantly during the day. Existing solar facilities have operated for years with no reported glint and glare problems. It is not clear what a "Heliostat Positioning Plan" would require, but this type of information is proprietary and should not be required in any document that may become public.
A-36 Lines 39-42	Consolidation of access and other supporting infrastructure shall be required for single projects and for cases in which there is more than one project in close proximity to another	This should be qualified that consolidation will be required where feasible and safe, and where such consolidation is necessary to reduce environmental and land use impacts to less than significant.

Page	Text	Comment
	in order to maximize the efficient use of public land.	
A-37 Lines 35-38	Any lands that have not been recently inventoried for wilderness characteristics or any lands that have been identified in any citizen's wilderness proposal shall be inventoried for wilderness characteristics prior to any solar development action being approved within these areas.	What would be the timing for this requirement and what kind of study would it involve? This seems to have serious schedule and cost implications for the project. The requirement that "any citizen's wilderness proposal" be evaluated in a ROW application creates an opportunity for nuisance filings that would be expensive and could delay otherwise viable solar development. Citizens' wilderness proposals should be vetted by BLM for merit before burdening solar projects with inventorying these proposals.
A-38 Lines 19-24	Activities of project developers shall be coordinated with the BLM and other stakeholders to ensure that impacts on wild horses and burros and their management areas are minimized. Issues to be addressed could include the installation of fencing and access control, provision for movement corridors, delineation of open range, traffic management (e.g., vehicle speeds), and access to water sources.	Implementation of wild horse and burro movement corridors could affect plant operations and introduce the potential for injuries to horses or burros where operating personnel cross such a corridor.
A-38 Lines 44-46	The ROWs for solar facilities shall be large enough to ensure there is a sufficient fire break inside the ROW so there would be no threat to facilities from either a wildland fire approaching from outside the ROW or a fire ….	Achieving "no threat" may not be feasible. The requirement should be to mitigate risk to less than significant.
A-39 Lines 13-14	Public access through or around solar facilities shall be retained to permit continued use of public lands and non-BLM administered lands.	"Through" facilities is likely problematic from a liability and security standpoint, and access around facilities may require action by BLM with regard to designation of new roads/trails. Applicants may have limited ability to comply with "around solar facility" access.
A-39 Lines 16-17	Solar facilities shall not be placed in areas of unique or important recreation resources.	This requirement should be evaluated on a case-by-case basis. Some solar development in these areas may be feasible without adversely impacting recreational use.
A-39 Lines 34-37	The FAA shall be contacted early in the process of considering a solar energy project application to determine if there might be any potential impacts on aviation and if any mitigation might be required to protect military or civilian	The FAA process is fairly well defined and it may not allow for routinely reviewing projects early in the process. Proposed projects will file for any necessary FAA review as required by FAA regulations.

Page	Text	Comment
	aviation use.	
A-41 Lines 5-10	Land disturbance (including crossings) in natural drainage systems and groundwater recharge zones, specifically ephemeral washes and dry lake beds, are to be avoided. Any structures crossing drainages must be located and constructed so that they do not decrease channel stability or increase water volume or velocity. Developers shall obtain all applicable federal and state permits.	"Avoided" is too restrictive. Disturbance in these areas should be allowed, provided impacts are adequately mitigated to less than significant. Ephemeral washes can be very small and mitigation of impacts to these features may often be feasible. Because of the land use requirements for solar project, some drainage crossing may be necessary. This requirement should be revised to "minimize," not "avoid."
A-41 Lines 12-13	Solar facilities or components (e.g., heliostats, panels, dishes, and troughs) shall not be placed in natural drainage ways.	"Shall not be placed" is too restrictive. Placement in these areas should be allowed, provided impacts are adequately mitigated to less than significant.
A-41 Lines 26-29	New roads shall be designed to follow natural land contours and avoid or minimize hill cuts in the project area and avoid existing desert washes. Siting of new roads and walking trails (if any) is to be consistent with the designation criteria specified by the BLM in 43 CFR 8342.1.	This is too restrictive. Following contours to the extent feasible should be required (otherwise you cannot gain or lose elevation; flat roads only); avoiding washes completely is too restrictive. Again, it should be tied to impacts and subject to mitigating impacts to less than significant.
A-41 Lines 41-43	Areas with unstable slopes shall be avoided, and local factors that can cause slope instability (e.g., groundwater conditions, precipitation, earthquake activity, slope angles, and the dip angles of geologic strata) shall be identified.	Avoiding unstable slopes is too restrictive; can often mitigate unstable conditions.
A-42 Line 25	Originally excavated materials shall be used for backfill.	Excavated materials should be used to the extent they provide suitable backfill.
A-42 Lines 34-35	Drainage crossings shall be stabilized as quickly as possible, and channel erosion from runoff caused by the project shall be prevented.	Preventing erosion from runoff is not always practical; should be "mitigated."
A-43 Lines 21-22	Construction traffic shall avoid unpaved surfaces (to reduce the risk of compaction) and reduce speed to lessen fugitive dust emissions.	"Avoid" is too restrictive. Not all roads should be paved, and dust emissions can be mitigated.
A-44 Line 30	Construction on wet soils shall be avoided.	Avoiding wet soils to too restrictive. This could unnecessarily preclude winter construction activities.

Page	Text	Comment
A-44 Lines 35-36	All design features developed for the construction phase shall be applied to similar activities during the operations phase.	Not all construction phase design features may apply to operations. This should say "all applicable" design features shall be applied.
A-48 Lines 15-16	Natural drainages and a pre-project hydrograph shall be maintained for the area.	May not be feasible or necessary to maintain all minor drainages. This design feature should require that the project design should maintain downstream hydrographs and provide for protection of onsite improvements.
A-48 Lines 23-24	Siting in identified 100-year floodplains shall not be allowed within the development.	Minor construction, such as transmission poles should be allowable. This can be accomplished without significant impact to flood plain.
A-51 Lines 40-43	Construction activities shall avoid land disturbance in ephemeral washes and dry lakebeds; any unavoidable disturbance would be minimized. Stormwater facilities shall be designed to route flow around the facility and maintain pre-project hydrographs.	May not be feasible or necessary to avoid all drainages. Mitigation could accomodate development in certain drainages.
A-53 Lines 22-23	If chemical dust palliatives (suppressants) are used, they shall be selected and applied in accordance with the facilities Dust Abatement Plan.	BLM should standardize the acceptability of palliatives – allowed by some BLM offices but not others.
A-54 Lines 13-14	Water use shall be minimized by implementing conservation practices, such as treating spent wash water and storing it for reuse.	Capturing and storing wash water from a solar facility may have unacceptable cost and environmental consequences. Recovering spent wash water from a PV facility would not be feasible.
A-54 Line 40	Topsoil removed during construction shall be reused during reclamation.	This should be worded to make it clear that storage of topsoil is for reclamation following construction and not reclamation following decommissioning. It would not be practical to store topsoil for the life of the project.
A-55 Lines 11-13	To the extent practicable, projects shall be sited on previously disturbed lands in close proximity to energy load centers to avoid and minimize impacts on remote, undisturbed lands.	Sites that meet these criteria are likely very limited. Perhaps this design feature should simply say that sites that meet these criteria are desirable.
A-56 Lines 5-15	Projects shall be sited and designed to avoid direct and indirect impacts on important, sensitive, or unique habitats	Fully avoiding **any** direct and indirect impacts is usually not feasible. Feature should say that impacts will be avoided where feasible or

Page	Text	Comment
	in the project vicinity, including, but not limited to, waters of the United States, wetlands (both jurisdictional and nonjurisdictional), springs, seeps, streams (ephemeral, intermittent, and perennial), 100-year floodplains, ponds and other aquatic habitats, riparian habitat, remnant vegetation associations, rare or unique biological communities, crucial wildlife habitats, and habitats supporting special status species populations (including designated and proposed critical habitat). For cases in which impacts cannot be avoided, they shall be minimized and mitigated appropriately. Project planning shall be coordinated with the appropriate federal and state resource management agencies.	practical, and will otherwise be mitigated to less than significant, as necessary.
A-57 Lines 17-18	Fences shall be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.	This could conflict with biological interests, in some cases, where it may be desirable to allow wildlife access to the site (wildlife permeable fencing). Fencing to exclude wildlife should be on a case-by-case basis depending on the site and wildlife characteristics.
A-57 Lines 24-25	Developers shall avoid the placement of facilities or roads in drainages and make necessary accommodations for the disruption of runoff.	Avoiding drainages completely is too restrictive; requirement for avoidance should depend on the drainage feature and the potential impact.
A-57 Lines 33-38	Projects shall avoid surface water or groundwater withdrawals that affect sensitive habitats (e.g., aquatic, wetland, and riparian habitats) and any habitats occupied by special status species. Applicants shall demonstrate, through hydrologic modeling, that the withdrawals required for their project are not going to affect groundwater discharges that support special status species or their habitats.	Requirement should not necessarily be to avoid if it can be shown that the impact is less than significant.
A-57 Lines 42-44	The capability of local surface water or groundwater supplies to provide adequate water for the operation of proposed solar facilities shall be considered early in the project siting and design. Technologies that would result in large withdrawals that would affect water bodies that support special status species shall not be considered.	"Large withdrawal" is too general and subjective. Requirement should be site-specific and consider the amount of the withdrawal compared to the water supply available.

Page	Text	Comment
A-59 Lines 16-18	Activities shall be timed to avoid, minimize, or mitigate impacts on wildlife. For example, crucial winter ranges for elk, deer, pronghorn, and other species should be avoided, especially during their periods of use.	Should allow for possibility to mitigate rather than avoid.
A-60 Lines 10-11	Project activities shall not be located in or near occupied habitats of special status animal species. Buffer zones shall be established around these areas.	"Occupied habitat" is too restrictive. Habitat could include foraging habitat, which should not necessarily be precluded from project activities, particularly if the species is not a federal or state threatened or endangered species.
A-65 Lines 7-13	Prior to any ground-disturbing activity, seasonally appropriate walkthroughs shall be conducted by a qualified biologist or team of biologists to ensure that important or sensitive species or habitats are not present in or near project areas. Attendees at the walkthrough shall include appropriate federal agency representatives, state natural resource agencies, and construction contractors, as appropriate. Habitats or locations to be avoided (with appropriately sized buffers) shall be clearly marked.	The purpose and timing of any walkthroughs or surveys is project specific. Protocols and attendance would be determined based on resources present and the project schedule. Agency involvement in any walkthrough would have to be at the agency's discretion, not a requirement of a Design Feature.
A-66 Lines 6-12	Meteorological towers, soil borings, wells, and travel routes shall be located to avoid important, sensitive, or unique habitats, including, but not limited to, wetlands, springs, seeps, ephemeral streams, intermittent streams, 100-year floodplains, ponds and other aquatic habitats, riparian habitat, remnant vegetation associations, rare natural communities, and habitats supporting special status species populations as identified in applicable land use plans or best available information and science.	Avoiding these features is too restrictive and may not be necessary in all situations. Site characterization activities should be conducted in accordance with site conditions and local BLM office guidance.
A-67 Lines 24-26	Open trenches could also entrap smaller animals; therefore, escape ramps shall be installed along open trench segments at distances identified in the applicable land use plan or best available information and science.	The requirement for escape ramps should only apply to sensitive species.
A-67	As directed by the local BLM field office, Joshua trees (*Yucca*	To require salvage of these species, it should be certain that there is a

Page	Text	Comment
Lines 40-44	*brevifolia*), other *Yucca* species, and most cactus species shall be salvaged prior to land clearing, and they shall be transplanted, held for use to revegetate temporarily disturbed areas, or otherwise protected as prescribed by state or local BLM requirements.	demand or need for these species, otherwise there may be no place to relocate these plants.
A-68 Lines 6-7	Reestablishment of vegetation within temporarily disturbed areas shall be done immediately following the completion of construction activities, provided such revegetation will not compromise the function of the buried utilities ….	Revegetation should occur at a seasonably appropriate time to maximize success. "Immediately" following construction may not be optimal if it would occur during the dry season in a desert environment. Best timing for revegetation is likely fall or spring.
A-69 Lines 7-9	The lower 18 in. (46 cm) of the fencing shall be a solid barrier that would exclude entrance by amphibians and other small animals.	Excluding amphibians and other small animals should be determined on a project-by-project basis. It may not always be beneficial to exclude these species.
A-71 Lines 42-45	Habitat disturbance shall be minimized by using helicopters for construction to lessen the need for access roads, and by locating transmission facilities in previously disturbed areas. Existing utility corridors and other support structures shall be used to the maximum extent feasible.	Use of helicopters should not be mandatory in all cases. If there are existing access roads or if roads can be constructed without significantly affecting habitat, surface installation should be allowed.
A-74 Lines 1-2	Newer and cleaner equipment that meets more stringent emission controls shall be leased or purchased.	This needs to be more specific as to what is required. Newest and cleanest may not be necessary in all locations and may not be available. This could unnecessarily add significant costs to a project. This BACT-related requirement necessarily is addressed in project permitting.
A-74 Lines 16-22	All unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during project activities shall be watered as frequently as necessary to minimize fugitive dust generation. In water-deprived locations, water spraying shall be limited to active disturbance areas only, and non-water-based dust control measures shall be implemented in areas with intermittent use or use that is not heavy, such as stockpiles or access roads.	Dust palliatives are not allowed by all BLM field offices – non water-based dust control measures shall be implemented – under current practices this may not be allowed.
A-75 Lines 1-2	Wind fences shall be installed around disturbed areas that could affect the area beyond the site boundaries (e.g., nearby	This should only be applicable to significant effects. Mitigating any effect is too costly and unnecessary.

Page	Text	Comment
	residences).	
A-75 Lines 4-8	All soil disturbance activities and travel on unpaved roads shall be suspended during periods of high winds. A critical site-specific wind speed shall be determined on the basis of soil properties determined during site characterization, and monitoring of the wind speed shall be required at the site during construction, operation, and reclamation.	Suspension of activities should be based on inability to mitigate dust, not just because of high winds. High winds during rain or wet soil conditions may not be a problem.
A-76 Lines 9-14	Because of low winds and stable atmospheric conditions occurring in the early morning from late fall to early spring, the highest 24-hour concentrations of particulate matter during construction would be attributable to activities occurring during those hours. Thus, soil disturbance activities should be eliminated or minimized under these atmospheric conditions, particularly for construction activities occurring near facility boundaries.	This is overly restrictive. If dust can be mitigated, construction activities should not be constrained.
A-76 Lines 34-35	Alternative-fuel, electric, or latest-model-year vehicles shall be used, when available, as facility service vehicles.	If the facility has few emissions, as stated above, it is not necessary to restrict vehicle type, particularly in attainment areas.
A-78 Lines 16-20	A qualified and licensed professional landscape architect with demonstrated experience with the BLM's VRM policies and procedures shall be a part of the developer's and the BLM's respective planning teams, evaluating visual resource issues as project siting options are considered. The visual issues shall be addressed throughout the planning and design process, and the final project plans shall reflect intended methods for mitigating visual impacts.	Should allow for visual design specialist without being a licensed landscape architect. This requirement could unnecessarily eliminate qualified individuals or firms.
A-80 Lines 30-33	Project developers shall exhaust opportunities to minimize visual dominance of projects by siting projects outside the viewsheds of KOPs or by siting them as far away as possible, diminishing dominance by maximizing visible separation with distance.	Having to "exhaust opportunities" is not appropriate for a programmatic document. Requirements should be tied to the visual impacts, and should not have to be exhaustive in all situations. Not all KOPs are equally sensitive to visual impacts, and requirements should be evaluated on a project-by-project basis.
A-81 Lines 1-2	Locating facilities near visually prominent landscape features (e.g., knobs and waterfalls) that naturally draw an observer's	Prohibiting placement of facilities near any knob or waterfall, regardless of size or significance is overly restrictive. Small, insignificant features

Page	Text	Comment
	attention shall be avoided.	could unnecessarily preclude development of a project in the area.
A-81 Lines 18-21	Linear developments (e.g., transmission lines, pipelines, roads) shall follow the edges of natural clearings or natural lines of transition between vegetation type, topography, etc. (where they would be less conspicuous) rather than pass through the center of clearings.	Requirements under this design feature should be to the extent practical. Depending on the site characteristics, these requirements could render a project infeasible.
A-81 Lines 26-29	In visually sensitive areas, air transport capability shall be used to mobilize equipment and materials for clearing, grading, and erecting transmission towers, thereby preserving the natural landscape conditions between tower locations and reducing the need for permanent and/or temporary access roads.	Air transport should be used to the extent necessary to reduce visual impacts to less than significant; it may not be necessary in all situations. Construction access would not necessarily require establishment of permanent roads. However, if permanent surface access is required, the use of air transport during construction would not reduce visual impacts.
A-82 Lines 10-15	Where screening topography and vegetation are absent or minimal, natural looking earthwork landforms, vegetative, or architectural screening shall be used to minimize visual impacts. The shape and height of earthwork landforms must be adapted to the surrounding landscape, and must consider the distance and viewing angle from KOPs in order to ensure that the earthworks are visually unobtrusive.	This should be addressed on a project-by-project basis. Screening, particularly with earthwork landforms, may not be practical or necessary in many situations, and the screening itself could have adverse environmental impacts.
A-83 Lines 9-10	Solar panel backs shall be color-treated to reduce visual contrast with the landscape setting.	Requirement should be project- and technology-specific, otherwise it could be adding unnecessary cost to projects.
A-84 Lines 21-22	…. shall not cause excessive reflected glare. Low-pressure sodium light sources shall be used to reduce light pollution. Full cut-off luminaires shall be used to ….	Should not specify a particular type of light (low-pressure sodium) in a programmatic document. Over the life of the document, other lights may be developed that are more appropriate.
A-85 Lines 4-5	Commercial symbols or signs and associated lighting on buildings or other structures shall be prohibited.	Would this mean no project name, company name or logo on buildings or entrance signs? That would seem unnecessarily restrictive.
A-86 Lines 25-26	The visual color contrast of graveled surfaces shall be reduced with approved color treatment practices.	It would seem that color treatment of gravel could be expensive and may need environmental review to determine the impact of the treatment on the environment. Again, this should be considered on a project-by-project basis; it may be unnecessary where gravel surfaces are not visible from sensitive visual locations.

Page	Text	Comment
A-87 Lines 31-33	The project developer shall maintain revegetated surfaces until a self-sustaining stand of vegetation is reestablished and visually adapted to the undisturbed surrounding vegetation.	It is unclear when re-vegetation is expected to occur. Re-establishing vegetation inside of an operating solar power plant can cause problems with facility operations by hampering access to equipment during operations and maintenance.
A-91 Lines 4-5	If residences or sensitive receptors are nearby, noisy equipment, such as turbines and motors, shall be placed in enclosures.	This requirement should be tied to an impact and not just if receptor is "nearby." Impacts on nearby receptors will be dependent on distance, natural noise screening, and ambient conditions.
A-92 Lines 3-8	If a noise from a transformer becomes an issue, a new transformer with reduced flux density, which generates noise levels as much as 10 to 20 dB lower than National Electrical Manufacturers Association (NEMA) standard values, could be installed. Alternatively, barrier walls, partial enclosures, or full enclosures could be adopted to shield or contain the transformer noise, depending on the degree of noise control needed.	"Becomes an issue" needs to be defined. Change out of transformers is a very costly requirement and transformer design should be determined at the permitting stage, not after the fact. If the transformers meet the design criteria, replacement should not be required.
A-95 Lines 16-17	Project developers shall conduct a records search of published and unpublished literature for past cultural resource finds in the area …	How does the BLM propose that a developer conduct a records search of "unpublished" literature? Does this require investigations of oral records with the people of the area? There should be some objective criteria.
A-103 Lines 38-40	Project developers shall survey project sites for unexploded ordnance, especially if projects are within 20 mi (32 km) of a current DoD installation or formally used defense site.	Surveys for unexploded ordinance should only be required in areas where there is evidence of, or a high probability, of occurrence.
A-108 Lines 18-20	Because of the high global warming potential of sulfur hexafluoride (SF_6), the use of alternative dielectric fluids that do not have a high global warming potential shall be required.	If an alternative to SF_6 is required, that alternative should be identified. Additionally, any alternative identified should be demonstrated to be viable through consultation with the electrical industry.
A-126 Table A.2-2 (Cont.)	*Water Resources*: … Land disturbance activities should avoid impacts to the extent possible near the regions surrounding Palen Lake, Ford Dry Lake, and McCoy Wash.	The reference to the term "regions" is extremely broad and could imply that activities that would have no impact on these features should be avoided. In addition, the reference should be to "Palen *Dry* Lake," as it is not an active waterbody.
A-126 Table A.2-2 (Cont.)	*Vegetation*: … All wetland, riparian, playa, dry wash (including dry wash microphyll woodland), sand dune and sand transport areas, and chenopod scrub habitats within	The reference to the maintenance of a "buffer area" is not defined and could be interpreted more broadly than required under applicable federal and state requirements. This reference should be qualified to state that a

Page	Text	Comment
	the SEZ should be avoided to the extent practicable, and any impacts minimized and mitigated. A buffer area should be maintained around wetland, riparian, playa, and dry wash communities to reduce the potential for impacts on these communities on or near the SEZ.	buffer area if required by ACOE/EPA Clean Water Act jurisdiction or CDFG SAA jurisdiction should be maintained.
A-127 Table A.2-2 (Cont.)	*Wildlife (All)*: To the extent practicable, avoid ephemeral drainages, Palen Lake and Ford Dry Lake, wetlands, McCoy Wash, and the Colorado River Aqueduct.	While the language is qualified with reference "[t]o the extent practicable," there should be some recognition that ephemeral drainages are ubiquitous throughout the desert environment of the SEZ and avoidance will be nearly impossible for any site of significant size. As noted previously, the reference should be to "Palen *Dry* Lake."
A-127 Table A.2-2 (Cont.)	*Special Status Species*: Disturbance of desert playa and wash habitats within the SEZ should be avoided or minimized to the extent practicable. In particular, development should be avoided in and near Ford Dry Lake, Palen Lake, and McCoy Wash within the SEZ.	Same comments as previously regarding the practical inability to avoid impacts to "desert playa and wash habitats," ambiguity regarding "in and near" referenced features, and the reference to "Palen *Dry* Lake."
A-128 Table A.2-2 (Cont.)	*Visual Resources:* Within the SEZ, in areas west of the northwest corner of Section 6 of Township 006S Range 017E, and in areas north and west of the northwest corner of Section 30 of Township 005S Range 018E, visual impacts associated with solar energy development in the SEZ should be consistent with VRM Class II management objectives, as determined from KOPs to be selected by the BLM within Joshua Tree NP and the Palen-McCoy WA.	The reference to visual resource impacts associated with Joshua Tree National Park is of concern. The principal problem with the proposed BMP is that it seeks to amend existing designations solely for solar projects when the Visual Resource Inventory (VRI) determination should be based on the resources as opposed to a proposed project. The BMP may be inconsistent with BLM's site-specific VRI findings and therefore not supported by any factual basis. In addition, the KOPs for Joshua Tree NP should be identified in the Solar PEIS, and not left to subsequent BLM "to be determined" discretion.
A-128 Table A.2-2 (Cont.)	*Cultural Resources*: Significant resources clustered in specific areas, such as those in the vicinity of Palen and Ford Dry Lakes, focused DTC/C-AMA activity areas that retain sufficient integrity, and Native American trails evident in the desert pavement should be avoided.	In light of the widespread presence of DTC/C-AMA-associated historic resources (many of which are of marginal historic value), the reference to "avoided" impacts should be qualified by reference to "to the extent practicable." Recovery may be more appropriate in some circumstances.

Thank you for your comment, Chuck Huckelberry.

The comment tracking number that has been assigned to your comment is SolarD11824.

Comment Date: May 2, 2011 15:48:58PM
Solar Energy Development PEIS
Comment ID: SolarD11824

First Name: Chuck
Middle Initial: H
Last Name: Huckelberry
Organization: Pima County
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Address 2:
Address 3:
City: Tucson
State: AZ
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: ltr-solar.energy.BLM.DRAFT.EIS.pdf

Comment Submitted:

COUNTY ADMINISTRATOR'S OFFICE
PIMA COUNTY GOVERNMENTAL CENTER
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C.H. HUCKELBERRY
County Administrator

May 2, 2011

Solar Energy DRAFT Programmatic EIS
Argonne National Laboratory
9700 South Cass Avenue – EVS/240
Argonne, Illinois 60439

Re: **Scoping Comments on BLM and Department of Energy Solar Energy Development Draft Programmatic EIS**

To Whom It May Concern:

The Bureau of Land Management's (BLM) efforts in furthering solar energy development and improving current renewable energy policies are important steps forward in our collective objective to develop and use more renewable energy resources. For our part, Pima County has consistently supported renewable energy projects, but not at the expense of unnecessary fragmentation of our fragile desert resources or undesirable impacts to community residents. In our review of the BLM and Department of Energy's Solar Energy Development Draft Programmatic EIS, Pima County is concerned about the proposed siting of solar development within Pima County and the process undertaken so that development of renewable energy resources undergo a comprehensive study of the environment and should not compromise existing natural resources. We believe that by maintaining an inclusive public process during this EIS review and a thoughtful consideration given to comments, a balance can be achieved. After reviewing the above-referenced EIS and programmatic alternatives for utility-scale solar energy development, Pima County offers the following comments.

BLM Proposed Alternatives

The County has two underlying concerns with the EIS as presented. The first relates to the percentage attributed to solar energy development on public lands. We question the appropriateness of the BLM's assumption that public lands will provide 75 percent of the lands available for utility-scale solar development. Unless public lands are mandated to

bear the majority of the burden for solar energy development, the public/private responsibility should be more equitably partitioned. The second general concern is the lack of consideration of the potential infrastructure impacts associated with transmitting and connecting to the power grid from the various possible locations proposed under both alternatives.

As for the proposed action alternatives proposed, the County reviewed and offers comments on both. However, our most specific comments are on the Preferred Alternative as there are no Solar Energy Zones proposed in Pima County.

Solar Energy Zones (SEZs) Alternative

The concept behind Solar Energy Zones is sensible. This alternative is a step in the right direction in that it identifies areas of minimal resource conflict and the highest potential for solar energy production. If located in close proximity to transmission connections, impacts can be geographically limited within the SEZs, greatly minimizing potential adverse impacts, and giving the solar development community more certainty in where to locate without unexpected obstacles or the types of opposition described in the public hearings in Phoenix and Tucson on similar local projects. Key to this process is the inclusion of all jurisdictions, including local governments, at the beginning of the EIS process.

Regarding the estimated 214,000 acres needed under the reasonably foreseeable solar energy development scenario (RFDS) there is concern that the SEZ Alternative will not provide enough land. According to the draft EIS, however, if the need for additional land arises in the future, or new information becomes available, BLM can expand, add, reduce, or remove SEZs through a land-use planning and environmental analysis process to accommodate the need. Additionally, the BLM Arizona Restoration Design Energy Project EIS is currently looking at identifying areas across the state that may be suitable for development of renewable energy and to develop a set of environmental protection measures for these projects. This exercise is focusing on lands that have been previously disturbed or developed across Arizona regardless of whether the land is publicly or privately owned. These disturbed lands can include retired agricultural fields, landfills, old mine sites and brownfields, which provide lands that can be prioritized or fast-tracked for development given their disturbed state, as opposed to developing on pristine (i.e. previously undisturbed) land. The Restoration Design Energy Project EIS needs to inform the Draft Programmatic EIS for the State of Arizona.

Once specific project areas within SEZs are identified and evaluated on the project-scale, vetted through the public process and comprehensively assessed for potential environmental conflicts, the SEZ Alternative is more likely to meet the objectives of the Programmatic EIS than the proposed Preferred Alternative.

BLM's Preferred Alternative - Solar Energy Development Program

This alternative would potentially allow utility-scale solar energy development facilities on BLM lands scattered across approximately 4.5 million acres in Arizona, with 100,000 acres in Pima County, allowing for the possibility of more widespread impacts and less certainty for the solar energy development community and other stakeholders. Considering that the RFDS estimates that the solar generation over the 20-year study period for the six states would be about 24,000 megawatts, with a use of approximately 214,000 acres, the Preferred Alternative, as proposed, goes well beyond a reasonable accounting of lands necessary for solar energy development. The scale alone is so large that it prohibits any meaningful analysis of the potential scope of impacts to the environment and surrounding communities.

The County's assessment of the lands subject to the Solar Energy Development Program Alternative within Pima County applied five evaluation criteria (see Attachment 1). These criteria are the same measures we consistently use to evaluate other development projects proposed in Pima County. The five criteria used are:

1. *Maeveen Marie Behan Conservation Lands System (CLS)* – Since 2001, the CLS has served as the foundational cornerstone to land-use decisions and planning in Pima County. The CLS was the result of an extensive science-based, peer-reviewed process that identifies the relative value of lands throughout the County with regards to key biological values such as biological diversity and locations of sensitive species and other resources. There are multiple categories that describe these resources, with Important Riparian Areas, Biological Core Management Areas and Special Species Management Areas (see Attachment 2) having the highest resource values. In our analysis of the preferred alternative, we excluded all proposed solar energy sites that fell within these three areas and provided cautionary status to sites within other CLS categories, such as Multiple-Use Management Areas.

2. *Floodplain Management* – The Pima County Regional Flood Control District (RFCD) is responsible for ensuring that development activities that cannot be located to avoid the active floodplain are protected from flooding and do not cause adverse impacts to others. Proposed development sites are routinely evaluated for their potential to impact regulated riparian habitats, including Important Riparian Areas, FEMA floodplains, floodways, sheet flooding and local flow corridors.

3. *Historic and Cultural Resources* – Pima County has a strong Cultural Resources Conservation Program, whose primary responsibilities are to ensure that proposed development actions meet or exceed applicable laws, including County-specific policies and requirements. Lands affected by the PEIS within Pima County were evaluated according to their relationship to county-designated Archaeological

Sensitivity Zones, National Register-listed Properties and Districts, and the latest GIS information showing AzSite archaeological site polygons.

4. *Relationship to Existing County Preserves* – The County has a long history of acquiring lands for conservation. Since 1975, voters in Pima County have approved bond funding for the purpose of conservation acquisitions. More recently in 2004, voters approved $164 million to fund for the acquisition of conservation and open-space lands. Attachment 3 shows all County-owned conservation and open-space lands, County-held State grazing leases and BLM grazing permits associated with the fee title lands held by Pima County. The local BLM office is an active partner with the County on property management. With regards to the preferred alternative, Pima County is strongly opposed to these BLM lands being subject to solar development. These BLM lands, along with associated State and fee-title lands held by Pima County are being managed for species conservation as part of Pima County's forthcoming Endangered Species Act Section 10(a) permit.

5. *Proximity to Existing or Proposed Development* – The location of solar facilities close to existing development poses potential air quality and other public nuisance problems. Clearing large areas of land for construction of a project can lead to significant neighborhood impacts, including fugitive dust problems both at the time of construction and post construction. Therefore, lands affected by the PEIS lying within Pima County were evaluated for their proximity to existing developments.

Attachment 4 depicts the results of the criteria assessment of those lands within Pima County affected by the PEIS on a parcel-by-parcel basis. We recommend BLM exclude from further consideration those parcels shown in red. We further request that any future changes to the Alternatives in the EIS include the five criteria listed above when identifying lands in Pima County.

Conclusion

It is difficult to understand how two alternatives that are intended to provide a viable response to fulfilling the need for solar energy development can conclude such disparate acreages: across the same six western states 22 million acres are identified under the Preferred Alternative (4.5 million acres in Arizona) and 677,000 acres under the Solar Energy Zones Alternative (13,000 acres in Arizona). Perhaps a third action alternative is merited, or an additional clause to the Solar Energy Zone Alternative, whereby flexibility is afforded to BLM to consider land exchanges with local governments that have identified lands appropriate for solar energy development in exchange for sensitive BLM lands.

Pima County is currently developing specific location criteria to better identify and analyze potentially suitable solar sites as part of the Solar America Communities grant with the City of Tucson and the Department of Energy. Some of these sites appear to be sizeable enough to accommodate utility-scale solar facilities. Approximately 2,100 acres were

identified as potential solar sites for inclusion in Renewable Energy Incentive Districts (REIDs), with the largest parcel being 1,000 acres. We expect to complete this process shortly, with the possibility of identifying more suitable lands, and would be more than willing to make the results and criteria available to the BLM.

I cannot over-emphasize the importance of coordinating with Pima County and other local entities for reviews and input at the beginning of the application review process. There are options and opportunities that can be explored early in the process if local governments and entities are included in advance. We encourage the BLM to incorporate the multiple efforts, such as the Arizona Restoration Design Energy project and the Pima County and City of Tucson solar energy development efforts, into the solar energy development draft programmatic EIS.

Thank you for the opportunity to comment on this important effort.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/dr

Attachments

c: The Honorable Chairman and Members, Pima County Board of Supervisors
John Bernal, Deputy County Administrator for Public Works
Nanette Slusser, Assistant County Administrator for Public Works Policy
Nicole Fyffe, Executive Assistant to the County Administrator
Carmine DeBonis, Jr., Director, Development Services Department
Ursula Kramer, Director, Environmental Quality
Linda Mayro, Director, Science and Conservation, Cultural Resources and Sustainability Office
Arlan Colton, Director of Planning Division, Development Services Department
Diana Durazo, Special Staff Assistant, County Administrator's Office
Robin Johnson, Environmental Specialist, Environmental Quality
Betty Stamper, Central Permits Supervisor, Development Services

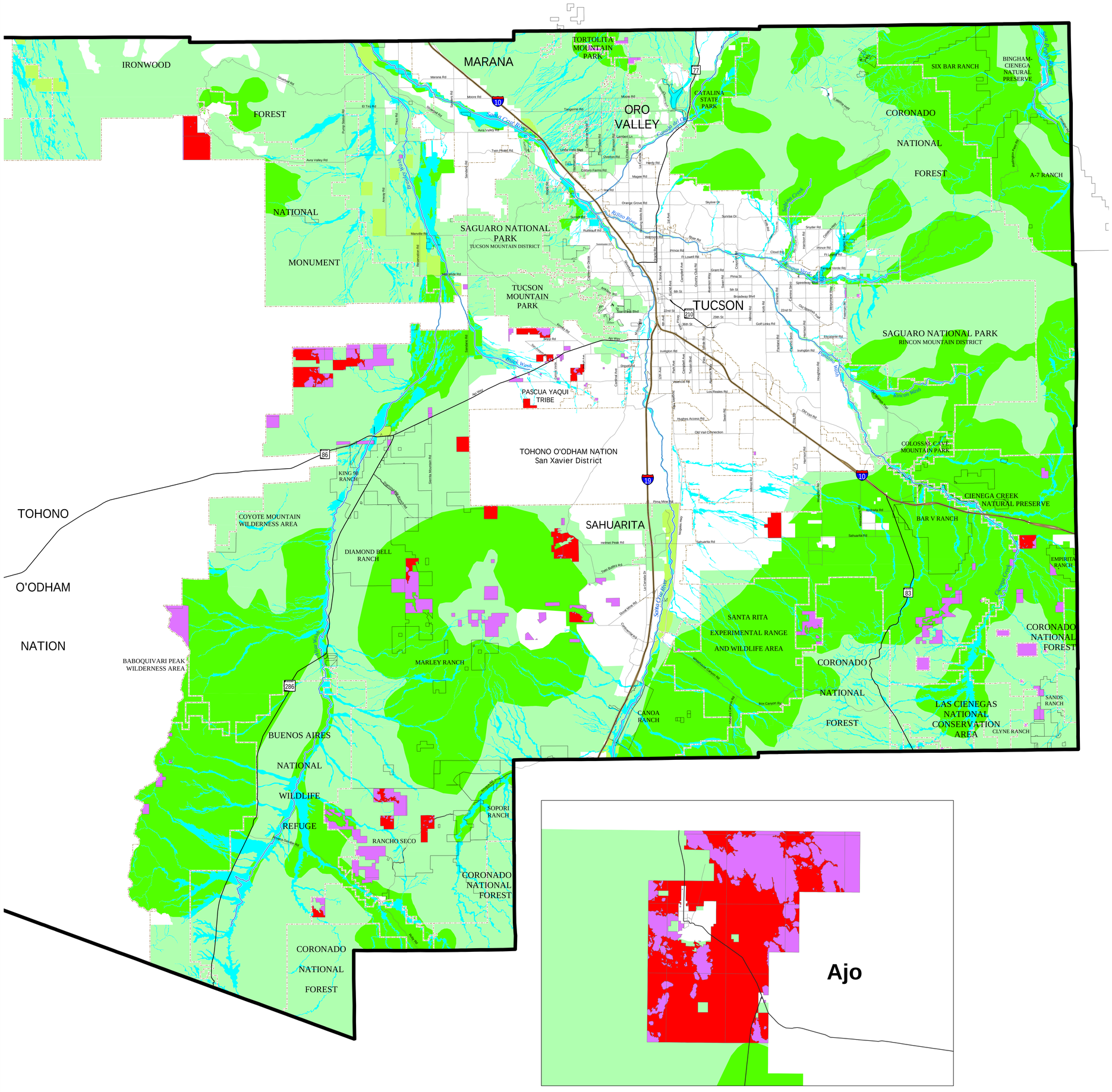
Attachment 1

Assessment Methodology for BLM Solar PEIS Preferred Alternative Properties Occurring in Pima County

	Not Acceptable for Utility-Scale Development	**Maybe Acceptable** for Utility-Scale Development Pending Further Project-Specific Evaluations
CLS	Biological Core, IRA, SSMA,	Multiple Use, Agricultural In-Holdings in CLS, Outside CLS
Proximity to County Preserve Lands	Site is within a County Preserve	Site is within ½ mile of County Preserve
Cultural & Archaeological Resources	Located within a High Archaeological Sensitivity Zone	Located within a Medium or Low Archaeological Sensitivity Zone
Proximity to Occupied/Planned Development	Many residents within ½ mile; not suitable for large scale site clearing	Few to no residents within ½ mile; fugitive dust mitigation likely.
Floodplains/Water-courses	Site contains Important Riparian Area, FEMA Floodplain, Floodway or local Flow corridor which impacts a significant portion of the parcel	Site contains Important Riparian Area, FEMA Floodplain, Floodway or local Flow corridor which impacts only minor portion of the property and avoidance is possible, OR site contains sheet flooding, OR Site may contain xeroriparian habitat, but avoidance is possible

Attachment 2

BLM Administered Lands Being Analyzed for Solar Development as Compared to the CLS



Legend

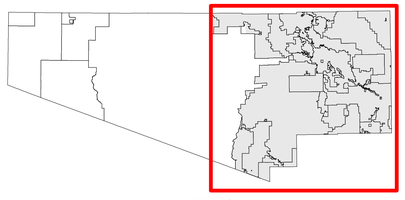
- BLM Solar Development Alternative
- BLM No Action Alternative

Conservation Lands System

- Agriculture Inholdings Within CLS
- Biological Core Management Areas
- Important Riparian Areas
- Multiple Use Management Areas

NOTE:
1. There are no Solar Energy Zones (SEZ) within Pima County
2. The lands available under NO Action also include the Solar Development Alternative

Pima County Index Map



Index Map Scale 1:1,500,000 for Arch E Print

The information depicted on this display is the result of digital analyses performed on a variety of databases provided and maintained by several governmental agencies. The accuracy of the information presented is limited to the collective accuracy of these databases on the date of the analysis. Pima County Information Technology Department Geographic Information Systems makes no claims regarding the accuracy of the information depicted herein. This product is subject to the GIS Division Disclaimer and Use Restrictions.

Map Scale 1:150,000 for Arch E Print

0 2.5 miles

Pima County GIS

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APR 19, 2011

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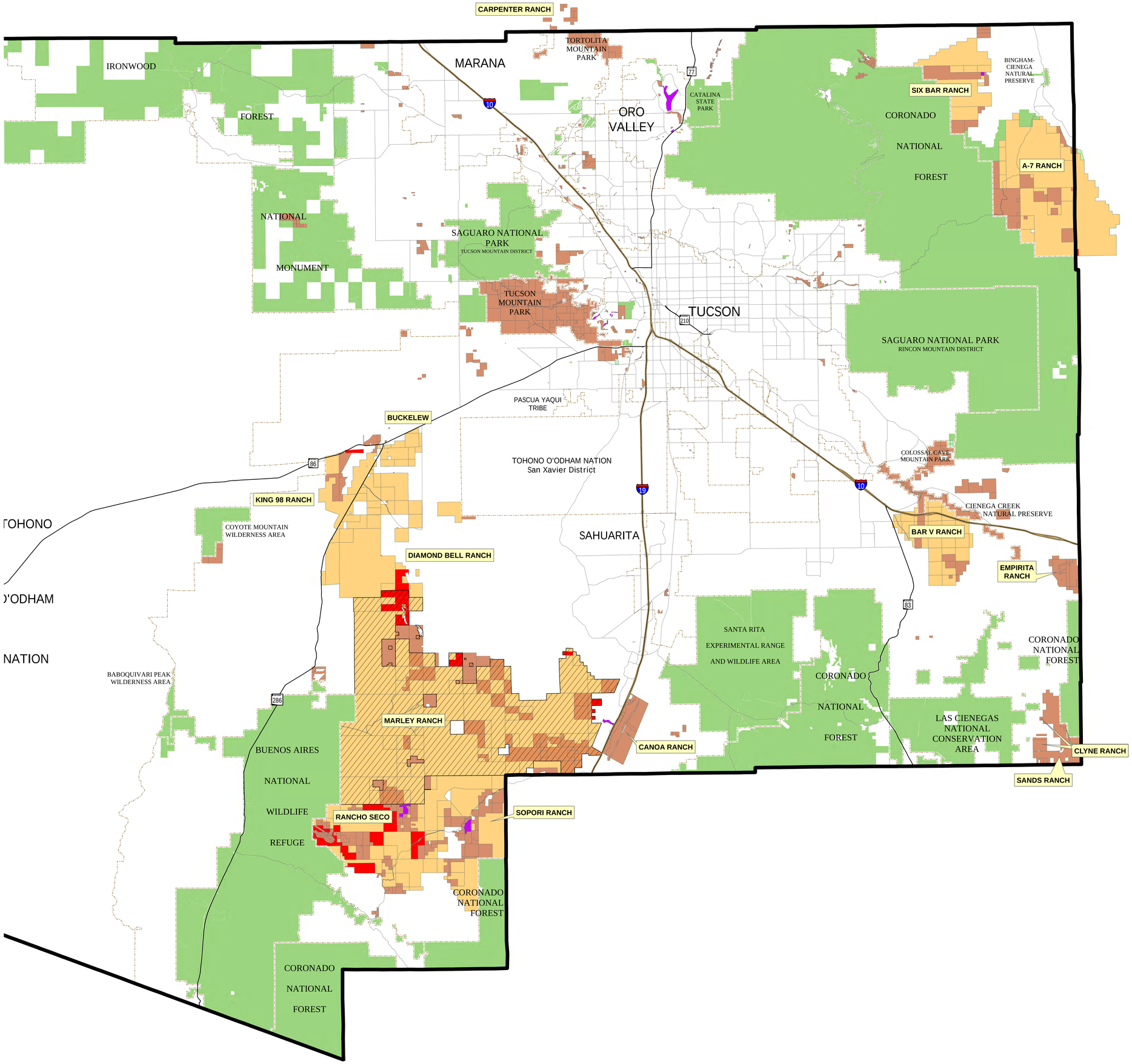
Attachment 3

Pima County Conservation Acquisitions as of April 2011



County Owned in Fee Simple - 91,750 Ac.

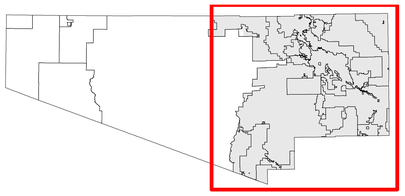
County Managed Grazing Leases
130,430 Ac.

BLM Grazing Permits - 6,900 Ac.

State Grazing Leases - 123,530 Ac.

Marley Acquisition - 105,790 Ac.
(Options Purchased for Phases 2 & 3)

Pima County Index Map



Index Map Scale 1:1,500,000 for Arch E Print

The information depicted on this display is the result of digital analyses performed on a variety of databases provided and maintained by several governmental agencies. The accuracy of the information presented is limited to the collective accuracy of these databases on the date of the analysis. Pima County Information Technology Department Geographic Information Systems makes no claims regarding the accuracy of the information depicted herein.This product is subject to the GIS Division Disclaimer and Use Restrictions.

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0 5 miles

Pima County GIS

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THE SEAL OF PIMA COUNTY ARIZONA

APR 13, 2011

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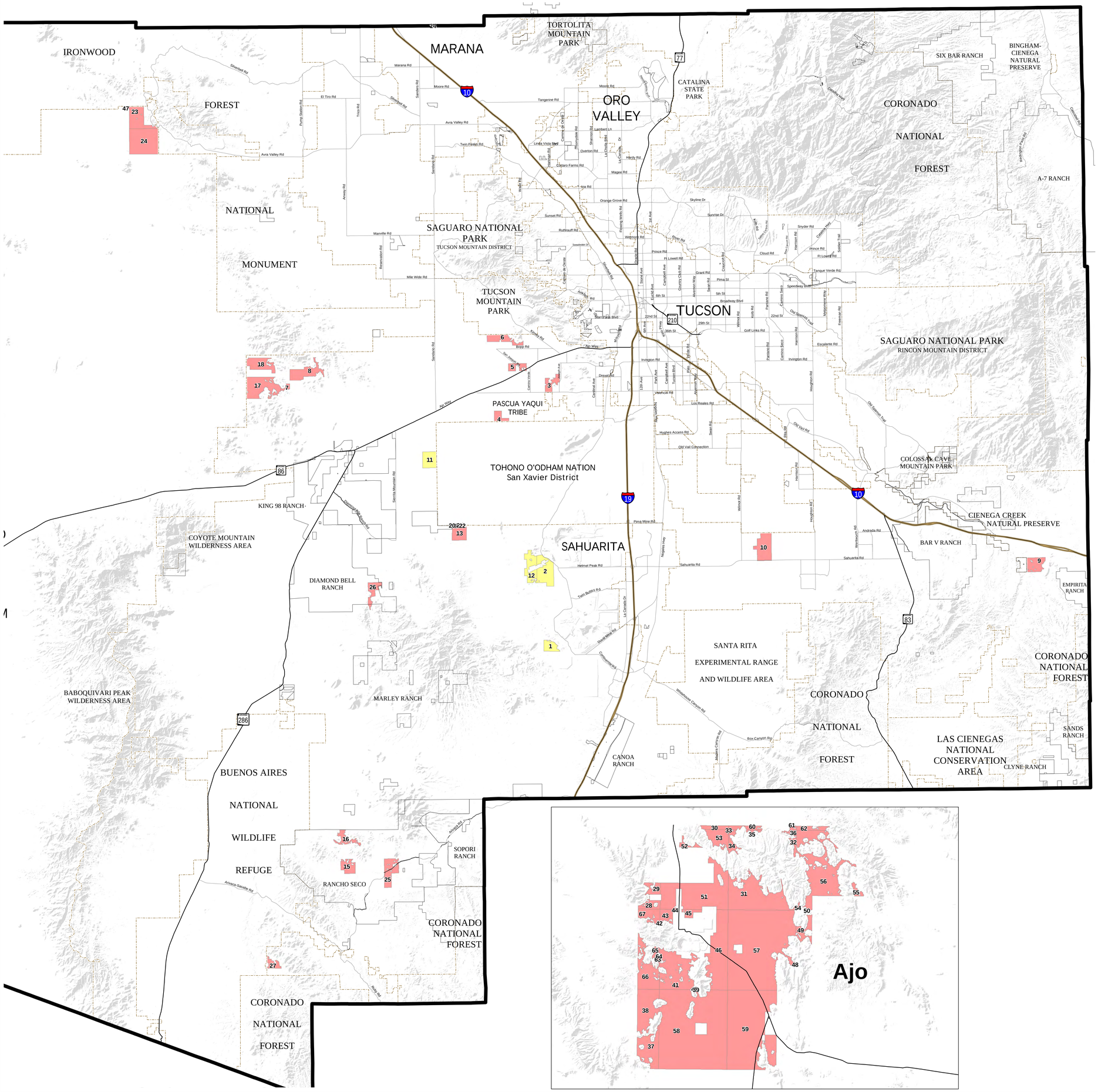
Attachment 4

BLM Solar Development Alternative Acceptability Determination

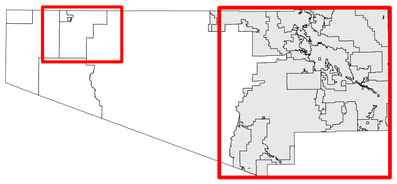


- Interstate Highway
- State Highway
- Major Streets
- Administrative Boundaries

BLM Solar Development Alternative Determination

- Maybe Acceptable
- Not Acceptable

Pima County Index Map



Index Map Scale 1:1,500,000 for Arch E Print

The information depicted on this display is the result of digital analyses performed on a variety of databases provided and maintained by several governmental agencies. The accuracy of the information presented is limited to the collective accuracy of these databases on the date of the analysis. Pima County Information Technology Department Geographic Information Systems makes no claims regarding the accuracy of the information depicted herein.This product is subject to the GIS Division Disclaimer and Use Restrictions.

Map Scale 1:137,924 for Arch E Print

0 4 miles

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4/20/2011

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Thank you for your comment, Donald Hardenbrook.

The comment tracking number that has been assigned to your comment is SolarD11825.

Comment Date: May 2, 2011 15:49:00PM
Solar Energy Development PEIS
Comment ID: SolarD11825

First Name: Donald
Middle Initial: B
Last Name: Hardenbrook
Organization: Nevada Department of Wildlife
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Country: USA
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Attachment: E2011-101SR11-119DraftSolarPEIS2May11.pdf

Comment Submitted:

Please find the attached file containing comments to the Draft PEIS from the Nevada Department of Wildlife. As indicated in the letter, additional material will be shared with BLM's National and Nevada State Office representaives for the Solar Energy Development PEIS.
Thank you,
D. Bradford Hardenbrook

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May 2, 2011

NDOW-SR#: 11-119
SAI#: E2011-101

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue - EVS /240
Argonne, IL 60439

Re: Solar Energy Development Draft Programmatic Environmental Impact Statement (DPEIS)

Dear PEIS Team:

Great effort was obviously expended in assembling the DPEIS and the Nevada Department of Wildlife (NDOW) appreciates the comment period extensions for reviewing the large volumes. The Executive Summary, Readers Guide, and Introduction are clear in conceptually summarizing what the U.S. Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE) are contemplating for achieving a more efficient manner in facilitating solar energy development in the six western states. We understand the DPEIS is: limiting analysis assumptions based in part on a 20-year program life, applying only to utility scale developments using technologies commercially available during this period, and that have production capacity of ≥20MW, among others. While the no action alternative is mandatory for process and reflects the situation in need of improvement for the rationale used in furthering solar energy development purposes and needs, the action alternatives do provide perspective for furthering insights on possible avenues taken for PEIS direction.

As a cooperating agency, NDOW's participation was challenged over the many months in devoting time to the DPEIS in part by personnel attending to numerous fast-tracked renewable energy projects, land use plan revisions and other major EIS level actions like the Las Vegas RMP Revision all to which NDOW participates as a cooperating agency. A number of other factors contributed to untimely delays internally as well as interagency contacts, but NDOW believes this contributes to the wealth, as described in the DPEIS, of lessons learned in program administration with respective agency workloads and funding resources. Nonetheless, identification of outstanding considerations, mainly in the form of data gaps, was possible. For example, information contributions from NDOW's wildlife database were delivered to the BLM's Nevada State Office last fall, yet did not seem to be utilized for the present effort. A more focused product from NDOW's database will be delivered electronically under separate cover to BLM's Linda Resseguie and Patrick Gubbins as present options are limited.

In weighing the assumptions and alternatives of the present DPEIS, several areas of importance to the ecological environment which were mentioned during the scoping period (see our letter of September 14, 2009) included but were not limited to:

- Comprehensive analyses in consideration of threatened, endangered, and candidate species so listed under the Endangered Species Act of 1973, as amended; birds protected under the Migratory Bird Treaty Act of 1918, as amended; current list of Nevada BLM Sensitive Species; State of Nevada wildlife[1] classified protected[2] and species of conservation priority identified in the 2006 Nevada Wildlife Action Plan[3]. On a case-by-case basis there may be need to also consider other species not previously afforded elevated conservation recognition. These case-by-case considerations may apply across adjoining states.
- Maintenance of migration or crucial movement corridors and integrity of ecological/physiognomic dynamics of isolated populations using an adaptive / effectiveness monitoring management approach cannot be over-emphasized. If unavoidable, predicted irretrievable losses or effects should include accurate determination as to whether these impacts are tolerable from a broader regional conservation perspective. This is imperative, especially in consideration of spatial and temporal ramifications by other developing land uses also having potential in accelerating landscape changes.
- Two aspects of solar energy development associated with utility-scale facilities are of great interest to NDOW. The sheer size of individual solar developments and the large amount of fresh water required to operate most solar concentrating power (thermal) designs. What becomes of wastewater byproducts generated by thermal solar facilities may become a hazard to wildlife if allowed to concentrate in lined evaporation ponds.
- Discussion addressing transmission structures for energy facility tie-ins and long distance energy transmission where use of lattice-type design is avoided; information that was available but was overlooked or not included because of timing conflicts during the course of analysis.

Mindful of these considerations and information in the DPEIS, the following observations, comments, and recommendations are intended as productive input.

Given the action alternatives presented, the prudent choice from an ecological resource standpoint while reasonably accommodating solar energy development goals for Nevada would be the Solar Energy Zone (SEZ) Program Alternative. This approach would provide adequate opportunities for attaining solar energy goals and objectives by both BLM and DOE over the next 20 years, but also provides desired opportunities for improved ecological resource consideration and conservation:

- Limiting developable acreage to 171,265 acres versus the approximately 9 million acres of the DPEIS-stated preferred alternative would translate to fewer impacts to wildlife, aquatic biota and special status species as identified in Table ES 2-5. Given the Department has management responsibility for the State's wildlife, predictable locations where solar projects would be directed as is identified in the SEZ Program Alternative allows for better informed, more orderly, and less error-prone impact response planning of landscape-scale conservation efforts. The preferred alternative lacks this attribute.
- Discussion could be facilitated Lessons learned from fast-track projects like Solar Millenium's Amargosa Farm Road Project, Tonopah Solar Energy's Crescent Dunes Solar Energy Project, First Solar's Silver State Solar Energy Project North and SCE's Eldorado-Ivanpah Transmission Project and TransWest Express LLC's direct current transmission project would benefit aspects of the envisioned Solar Energy Program.
- Fill knowledge gaps for certain SEZ's having relatively higher resource value conflicts and provide time to prioritize or redefine existing SEZ boundaries.

---

[1] Nevada Revised Statute 501.097 online at http://leg.state.nv.us/NRS/Index.cfm
[2] Chapter 503 of Nevada Administrative Codes; online at http://leg.state.nv.us/NAC/CHAPTERS.HTML
[3] Online at: http://www.ndow.org/wild/conservation/cwcs/

- Help determine actual transmission alignments to serve local solar energy "centers" and avoid or reduce environmental impacts that may be as great or more than development of SEZ's alone
- From an adaptive management perspective, allowance is possible for other efforts such as the Rapid Ecoregional Assessments, LCC's, improved transmission structure designs and alignment routing, and similar programs and projects to become functional and refined for assisting in more informed, landscape level planning and individual project implementation.
- Allows additional time for practicable understanding of the suitability potential for the approximately 9 million acres of non-SEZ lands identified for Nevada in the Solar Energy Program Alternative (e.g. avoiding ESA-listing of the greater sage-grouse, avoidance of critical mule deer winter range or access routes). In pursuing the SEZ Program Alternative, there would seem room for a staged approach allowing more flexibility in siting infrastructure and identifying additional SEZ's, if appropriate.
- Because individual solar energy projects have a large site footprint, a 5,000 - 10,000 acre site could pose problems for wildlife population connectivity by resulting in loss of migration or movement corridors causing geographic isolation of wildlife populations such as bighorn sheep. While the seven SEZ's segment large areas, wildlife movement corridors may remain unaffected or reasonably intact.

Although direct, indirect and cumulative impacts to wildlife resources are inevitable with land uses like solar energy development, when viewed from a regional perspective inclusive of all Nevada's species and habitats, the seven SEZ's comprising a total of 171,265 acres compared to other alternatives would be more reasonably justifiable provided:

- The model described in chapter 11 used for predicting affected species and habitats is fortified with inputs from NDOW's database.
- Until such time that new information or technologies are forthcoming concerning water resource availability in Nevada, solar technologies should be limited to projects using photovoltaic and dry-cooled concentrating solar power designs.
- The potential for consequences to wildlife displaced by solar development needs additional attention. For example, there is a body of knowledge identifying physiological affects leading to reduced survivorship in mule deer.
- Effects of habitat fragmentation and loss relative to biological hotspots are not well understood for many species in Nevada. For example, distribution, population size and health, and habitat affinities for vulnerable species like kangaroo mice germane to the Millers and Dry Lake Valley North SEZ's are needed.
- Power transmission links to the western grid are inadequately addressed. Transmission lines have the potential in capacity to be a larger impact than the generation site. Even though one of the primary purposes of the PEIS is to streamline and move projects into an environmental assessment documentation level, lengthy, poorly sited transmission lines could result in significant impacts pushing projects into the need to produce EIS's. The energy industry has a track record of not using designated areas for power development or transmission. The designation of "energy corridors" has not resulted in a demonstrated focus of use. Utility companies often identify finding a more direct, shorter route resulting in a lower project cost. BLM and DOE need more input from the energy developers on where they are planning to locate their facilities and examine benefit-cost relationships for all affected resources. Until adequate information is forthcoming, a restriction of solar energy land use should require developers to use the seven SEZ's identified in the DPEIS and avoid potential for other ecological impacts.
- The Las Vegas Resource Management Plan (RMP) is presently under revision and NDOW has proposed lands for additional inclusion into Areas of Environmental Concern (ACEC's). One habitat area overlaps with the northeast portion of the proposed Amargosa Valley SEZ boundary. The NDOW recommends the Amargosa Valley SEZ boundary become modified and terminate

along the southwest side of Highway US 95 at the SEZ's northeast boundary and not include habitats northeast of Highway US 95.

As the Solar Energy Zone Program Alternative applies to Nevada, the ecological analysis going into rational selection of the seven Solar Energy Zones (SEZ's) could stand additional attention. The PEIS could benefit if Nevada inputs, at least from this cooperating agency, are facilitated through a more closely engaged brainstorming/workgroup approach at an interagency level. Examples of why this is requested include but are not limited to:

DPEIS Readers Guide, Page 1 has the statement: *The first level of analysis for the PEIS will evaluate the environmental impacts of utility-scale solar energy technologies considered to be viable for deployment over the next 20 years, and the potential effects of the agencies establishing new solar energy development programs or guidance.* NDOW noted: With solar technologies advancing quickly, there is concern how the PEIS can evaluate this technology and its potential environmental impacts over the next 20 years. NDOW recommends the PEIS identifies a method to reevaluate and incorporate impacts from new or improved solar energy technologies into this process, as they may be developed. (That Appendix E describes the methods used to project the levels of utility-scale solar energy development over the next 20 years within each of the six states; this Appendix does not address advances in technologies and how potential environmental impacts will be reevaluated or incorporated into a review process.) Additionally, the PEIS should address how changing technologies will be incorporated into agency solar energy development programs and/or guidance.

DPEIS Readers Guide, Page 7 states: *GIS data are not consistently available across the six-state study area for many categories of lands (Chapter 2, Table 2.2-2) that will be excluded from utility-scale solar energy development. As such, the maps and acreage estimates in the draft PEIS showing lands available for ROW application include some areas that would be excluded from development.* NDOW observation: Due to the difficulty in reviewing these inconsistencies, the Department recommends using data that may only be available at the state level in order to show maps accurately illustrating available lands in each state. These data could be presented in the separate state chapters, since the data are not consistent across the six-state study area. The data should not be omitted entirely from the draft PEIS, which likely results in little to no consideration during the review process. The Department would like to conduct a thorough review of areas BLM considers suitable for utility-scale solar energy development, excluding lands listed in Table 2.2-2. Otherwise, these data issues may render the BLM's evaluation of the new program untimely. The Department acknowledges the new program would establish requirements for solar energy development in the context of specific types of sensitive resources, resources uses, and special designations; however it is important for the Department to provide input throughout this process, prior to the finalization of the final PEIS.

DPEIS Readers Guide, Page 8 states: *Another recognized data discrepancy is the inconsistent incorporation of information collected in preparation for "fast-tracked" solar energy project ROW applications for which separate EISs have already been prepared.* This information will be integrated into the final PEIS, but this does not allow the review of this information together as it relates to the PEIS. The NDOW requests a review opportunity after this information has been incorporated.

DPEIS Readers Guide, Page 8 also states: *Only those species that are known to occur in the SEZ regions are discussed in Appendix J and elsewhere in the PEIS because the need for an expanded species analysis was identified too late. An expanded species analysis will be incorporated into the final PEIS.* The Department highly recommends a discussion, in close consultation with all wildlife agencies and partners, of all species with potential for impacts under each alternative to be developed and incorporated in the PEIS. Even though the new solar energy program would establish requirements for solar energy development in the context of specific types of sensitive resources, resource uses, and special designations, NDOW requests to review the species analysis prior to the final PEIS emphasizing close

consultation with wildlife agencies and partners during this process. Otherwise, these data issues may compromise the solar energy program's effectiveness regarding ecological environment analyses.

DPEIS Chapter 4, Page 4-82 through 4-87, section 4.10.2.2 Birds especially Figure 4.10-1 and subsection 4.10.2.2.3 Neotropical Migrants. Migration routes would be better illustrated if the information source is provided by the USGS (see http://www.npwrc.usgs.gov/resource/birds/migratio/routes.htm) rather than the source used in the DPEIS. While mention is made of the diversity of migratory neotropical passerines and references the Partners in Flight North American Landbird Conservation Plan (Rich *et al* 2004), the PEIS has underrepresented the importance of the western states in particular the southwest to the large number of landbird species that breed there and the environmental vulnerability of these species. This information is further detailed on pages 6-14 of Rich *et al* 2004 with illustrated figures.

Chapter 11 – Nevada Proposed Solar Energy Zones (SEZ),

- *Wildlife and Aquatic Biota, and Special Status Species Sections*: The use of SWReGAP will cover larger scale suitable habitats for wildlife but does not adequately cover finer scale habitats in southern Nevada (e.g. wash systems, mesquite woodlands) and likely results in over projections of suitable habitats. In addition, SWReGAP does not account for impacts that are not well mapped or modeled, for example OHV use, livestock grazing including wild horses and burros, and invasive plants.
- *Waterfowl, Wading birds, and Shorebirds*: Waterfowl, wading birds and shorebirds may be attracted to the SEZ post construction due to the glare of the solar panels presumed as water by the birds. This could put birds into harm's way due to collisions with structures associated with the solar developments. Particularly vulnerable are diving ducks, grebes and loons that although may survive landing they cannot propel themselves into the air without a water body.

Use of Applicable Wildlife Conservation Plans and Data for Nevada:

- California Wildlife Habitat Relationships System (CWHRS) and SWReGAP although useful for assessing habitat acreage and potential impacts for wildlife, do not use species of concern and of interest in Nevada. As stated previously, NDOW is providing database information for each SEZ. It is inclusive BLM Sensitive, Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Nevada State Protected, Big Game and Species of Conservation Priority. The database spreadsheet delineates known species occurrence within the SEZ's, in proximity to incrementally out to a 15 mile radius. Further, species of conservation priority potentially present but not having been recorded in NDOW's database were also included.

Sources of information additional to NDOW's database and the *Nevada Wildlife Action Plan* and relevant to several DPEIS chapters and appendixes at least include:

- The recently completed (2010) *Nevada Bird Conservation Plan* is also available at www.gbbo.org/bird_conservation_plan.html, and has a wealth of information on Nevada's birds. Elements of this plan include: summaries of conservation status, distribution, abundance, and habitat requirements of conservation priority birds, along with important threats and conservation issues, and habitat management guidelines as the primary mechanism for bird conservation. Additionally, NDOW recommends contacting the Great Basin Bird Observatory (gbbo.org) for access to shape files of predictive distributions of Nevada birds overlayed in relation to the Solar Energy Zones (SEZ). This effort is key to developing more informed mitigation and minimization measures identified in Chapter 11 for Nevada's birds.
- *The Nevada Breeding Bird Atlas* (Available University of Nevada Press at www.nvbooks.nevada.edu/books.asp?ID=2453). The Atlas of the Breeding Birds of Nevada presents maps with all breeding records and the predicted distributions of all 243 species that

were confirmed as breeders in Nevada during the atlas project. The University of Nevada Press published the book in April 2007.

- *The Revised Nevada Bat Conservation Plan* (available for download at http://ndow.org/wild/conservation/ or www.heritage.nv.gov). This plan assesses the current state of bat conservation in Nevada and suggests proactive strategies for improving and standardizing the conservation of Nevada's bats. The plan is a useful reference document and contains; conservation strategies, species profiles, research needs, survey protocols, approved gate and bridge designs and much more information on Nevada's bats.
- *The Draft Habitat Management Guidelines for Amphibians and Reptiles of the Southwestern United States (Lovich and Halama In Review) and the Habitat Management Guidelines for Amphibians and Reptiles of the Northwestern United States and Western Canada (Pilliod and Wind 2008)* provide general habitat management guidelines for amphibians and reptiles. These guidelines should be used as recommendations for land and resource managers to consider the needs of amphibians and reptiles in the course of their management activities. Information about these documents can be found at http://www.parcplace.org/habitat_management_guide.html.
- The Department's Gila Monster Protocol should be provided to on site project personnel and followed if a Gila monster is observed anywhere in Nevada. The Protocol can be accessed at http://www.ndow.org/about/pubs/reports/2007_NDOW_Gila_Protocol.pdf.
- Lastly and relative to supporting appendices addressing the desert tortoise, handling desert tortoises in Nevada requires prior written approval from the State's Department of Wildlife. Requests for authorization to handle desert tortoises in Nevada should be made to the Department at least four weeks in advance. The processing and disposition of tortoises encountered on project sites in Nevada will be determined by USFWS and NDOW according to the Desert Tortoise Field Manual (USFWS 2009), Translocation of Desert Tortoises (Mojave Population) from Project Sites (USFWS 2010) and Draft Health Assessment Procedures for the Desert Tortoise (*Gopherus agassizii*): A Handbook Pertinent to Translocation (USFWS In Review).

References

Great Basin Bird Observatory. 2010. Nevada Comprehensive Bird Conservation Plan, ver. 1.0 GBBO, Reno, NV.

Lovich, R. and K. Halama, Ed. In Review. Draft Habitat Management Guidelines for Amphibians and Reptiles of the Southwestern United States. Partners in Amphibian and Reptile Conservation.

Nevada Department of Wildlife, 2006. Nevada Wildlife Action Plan. Reno, NV

Pilliod, D.S. and E. Wind, Ed. 2008. Habitat Management Guidelines for Amphibians and Reptiles of the Northwestern United States and Western Canada. Partners in Amphibian and Reptile Conservation, Technical Publication HMG-4, Birmingham, Alabama.

Rich, T.D. *et. al.* 2004. Partners in Flight North American Landbird Conservation Plan. Cornell Lab of Ornithology. Ithaca, NY. 84 pp.

U.S. Fish and Wildlife Service. 2009. Desert Tortoise Field Manual. U.S. Fish and Wildlife Service, California and Nevada Region (Region 8, Sacramento, California), Southwest Region (Region 2, Albuquerque, New Mexico), and Mountain-Prairie Region Region 6, Denver, Colorado).

U.S. Fish and Wildlife Service. 2010. Translocation of Desert Tortoises (Mojave Population) from Project Sites. U.S. Fish and Wildlife Service Desert Tortoise Recovery Office Technical Paper. Reno, Nevada.

U.S. Fish and Wildlife Service. (In Review.) Draft Health Assessment Procedures for the Desert Tortoise (*Gopherus agassizii*): A Handbook Pertinent to Translocation. U.S. Fish and Wildlife Service Desert Tortoise Recovery Office. Reno, Nevada.

The NDOW is supportive of the goals to develop renewable energy development strategies and technologies for lessoning the Nation's dependency on fossil fuel resources, meeting existing and future energy needs, and sustaining Nevada's wildlife resources as an important inherent ecological and public value. As part of this weighty undertaking, the Department looks forward to continued coordination and consultation throughout the planning process with the BLM, DOE and Solar Energy Development PEIS partners.

Thank you again for this input opportunity. For additional assistance, please do not hesitate to contact me or Steve Siegel at the Department's State Headquarters in Reno. He can be contacted by phone at 775-688-1561, or by e-mail at ssiegel@ndow.org.

Sincerely,

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Thank you for your comment, Bill Harper.

The comment tracking number that has been assigned to your comment is SolarD11826.

Comment Date: May 2, 2011 15:55:06PM
Solar Energy Development PEIS
Comment ID: SolarD11826

First Name: Bill
Middle Initial:
Last Name: Harper
Organization: Friends of Old Growth Ironwoods
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment: PEIS 2.docx

Comment Submitted:

This is my Second Comment
my first was SEDD101059.

Bill Harper

Communications Director for Friends of Old Growth Ironwoods

My second round of comments thanks to the deadline extension. My comments made at Palm Springs are still not posted so I am unable to review them to be sure the record reflects what I am trying to say.

The price of Photovoltaic panels has dropped by more than half since the PEIS process has begun. Sterling engines, solar trough and solar tower technologies are already obsolete. They additional burden of wet cooling in the chronically drought stricken west is absurd and unnecessary.

At Palm Springs I showed a photo of the abandoned store and agriculture fields adjacent to the Harper Lake solar trough site. It showed steam evaporating from the plants. The store has not reopened and there are abandoned houses on the farms from which the plant uses the water.

Sempra Energy's recently completed plant in Nevada with 12 million dollars in subsidies generated five permanent jobs. Big remote solar will not stimulate local economies. Locally distributed solar would help locals. The temporary jobs come with a huge transportation costs the use up most of the income for tradespeople and are just that, temporary.

Facilities that use natural gas should be considered "solar assisted". They would not exist gas component is removed. They do not in any way reduce carbon or achieve energy independence. If the true environmental cost of fracking are considered the supplies of future natural gas could be quite limited. The availability along with the higher costs may cause the abandonment of the facilities.

Chap. 3 pages 48-49

38 The term length of authorizations would typically be 30 years, which is the general
39 design life of utility-scale solar facilities. The authorization could be renewed consistent with

40 the regulations (43 CFR 2807.22(a)); the ROW would be renewed if the applicant showed
41 compliance with the terms, conditions, and stipulations of the original ROW and with applicable
42 laws and regulations. Under the current ROW authorization process, the holder of a ROW
43 authorization pays an annual rent established by the BLM on the basis of an established Rental
44 Schedule (as described in BLM's interim rental policy issued in June 2010 [BLM 2010a]). Under
45 this policy, the rental payment reflects the full use of the public land for solar facilities, similar to

2 period once the facility begins generating electricity.
3
4 ROW applications for solar energy development are generally accepted and processed
5 on a first-come, first-served basis. The BLM discourages applicants from holding ROW
6 authorizations for the purposes of speculating, controlling, or hindering development of solar
7 energy on public lands, through ensuring that applicants meet qualification requirements,
8 including providing information on their technical and financial capabilities to construct, operate,
9 maintain, and terminate the solar energy facilities. The regulations provide the authority to deny
10 an application if the applicant cannot demonstrate adequate technical ability to construct,
11 operate, and maintain the solar energy facilities. The BLM may also deny an application if the
12 applicant does not provide, in a timely manner, additional information requested by the BLM to
13 process an application or the required cost recovery funds.
14
15 Solar energy development ROW authorizations include a due diligence requirement for
16 installation of facilities consistent with an approved Plan of Development, with construction to
17 begin within 2 years of the ROW being issued. If construction has not been started within this
18 time frame, the ROW holder must provide the BLM good cause as to the nature of any delay,
19 evidence of progress toward beginning construction, and the anticipated date of start-up
20 operations, or the authorization may be terminated.
21
22 Environmental analyses are required for solar energy development projects in accordance
23 with the National Environmental Policy Act of 1969 (NEPA) and must address potential direct,
24 indirect, and cumulative effects of the project. The scope of the NEPA analysis must include
25 the installation and maintenance of solar collectors, water for steam generation and cooling
26 purposes, oil or gas used by backup generators, thermal or electrical storage, turbines or engines,
27 access roads and electrical inverters, and transmission facilities. The NEPA analysis must also
28 include assessment of land disturbance, water use, and potential impacts on natural, cultural, and
29 biological resources.

30
31 The BLM is using the 2007 Solar Energy Development Policy as updated by instruction
32 memoranda issued in 2010 (BLM 2010a,b) to continue processing applications while this PEIS
33 is being developed. As of December 1, 2010, the BLM had approved eight utility-scale ROW
34 authorizations in the six-state study area under these policies.

Almost all of the above is not true or inadequate.

Leases should begin at full rate the day the land is withdrawn from public use and should continue until the site has been completely restored to its previous condition. That is the period of use. That is the length of time the public is prevented from enjoying the site as it is. That is the true cost of the lease to our nation.

No solar facilities have been operating for that long a period. A look at Google Earth shows a multitude of broken, missing or disabled troughs at both Kramer Junction and Harper Lake sites. They are not being maintained currently. They are not producing the power they could be for all the land they have removed from public access. The Kramer Junction site is listed on the BLM's own site as having gone bankrupt and changed hands.

The Dagget power tower site operated for less than four years and took another six years to remove. The timelines suggested here are not supported by past.

The sale and change of technologies at the Calico site in the middle of planning shows a lack of due diligence in approving these projects by BLM. They don't meet the requirements of a producible technology, financial ability and appear to be speculative in nature.

At the fast tracked Ivanpah site the estimated number was less than 5% of the new opinion by the USFWS; (www.blm.gov/ca/st/en/prog/energy/fasttrack/ivanpahsolar/fedstatus.html). If the rules were followed this would not have happened. Yet the PEIS claims these rules are being followed.

Clearly the method of one season of counts is wholly inadequate for Tortoise population estimates. The whole method by which the assessment of desert populations of all rare plants and animals need to be redone and should include multiple year counts. The tactic of being dormant during dry years and even decades is a common survival tool for many desert plants and animals.

Large developments like this should be postponed until accurate species assessment can be done and effective mitigations developed.

The inaccurate believe that these large scale conversions of continuous habitats are benign and unnecessary is reminiscent of the rush to "clean safe unlimited" nuclear power, often in the wrong place.

Offering public land, subsidizing the development outside of free market principals, artificially competes with locally distributed solar. The value added to homes is also a source of income for local governments unlike those on public land in California. New surveys show that solar adds more than its current costs to the resale value.

This document is filled with wishful thinking, missing species and a history not supported by BLM documents.

The option of no large scale conversion of BLM land should be considered and adopted in favor of distributed rooftop and parking lot PV for the truly clean economic, sustainable, secure energy it can produce.

Thank You Bill Harper

Thank you for your comment, Bill Harper.

The comment tracking number that has been assigned to your comment is SolarD11827.

Comment Date: May 2, 2011 16:00:41PM
Solar Energy Development PEIS
Comment ID: SolarD11827

First Name: Bill
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Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment: PEIS 2.docx

Comment Submitted:

This is a resend of my second set of comments, My first was SEDD10159

Bill Harper

Communications Director for Friends of Old Growth Ironwoods

My second round of comments thanks to the deadline extension. My comments made at Palm Springs are still not posted so I am unable to review them to be sure the record reflects what I am trying to say.

The price of Photovoltaic panels has dropped by more than half since the PEIS process has begun. Sterling engines, solar trough and solar tower technologies are already obsolete. They additional burden of wet cooling in the chronically drought stricken west is absurd and unnecessary.

At Palm Springs I showed a photo of the abandoned store and agriculture fields adjacent to the Harper Lake solar trough site. It showed steam evaporating from the plants. The store has not reopened and there are abandoned houses on the farms from which the plant uses the water.

Sempra Energy's recently completed plant in Nevada with 12 million dollars in subsidies generated five permanent jobs. Big remote solar will not stimulate local economies. Locally distributed solar would help locals. The temporary jobs come with a huge transportation costs the use up most of the income for tradespeople and are just that, temporary.

Facilities that use natural gas should be considered "solar assisted". They would not exist gas component is removed. They do not in any way reduce carbon or achieve energy independence. If the true environmental cost of fracking are considered the supplies of future natural gas could be quite limited. The availability along with the higher costs may cause the abandonment of the facilities.

Chap. 3 pages 48-49

38 The term length of authorizations would typically be 30 years, which is the general
39 design life of utility-scale solar facilities. The authorization could be renewed consistent with

40 the regulations (43 CFR 2807.22(a)); the ROW would be renewed if the applicant showed
41 compliance with the terms, conditions, and stipulations of the original ROW and with applicable
42 laws and regulations. Under the current ROW authorization process, the holder of a ROW
43 authorization pays an annual rent established by the BLM on the basis of an established Rental
44 Schedule (as described in BLM's interim rental policy issued in June 2010 [BLM 2010a]). Under
45 this policy, the rental payment reflects the full use of the public land for solar facilities, similar to

2 period once the facility begins generating electricity.
3
4 ROW applications for solar energy development are generally accepted and processed
5 on a first-come, first-served basis. The BLM discourages applicants from holding ROW
6 authorizations for the purposes of speculating, controlling, or hindering development of solar
7 energy on public lands, through ensuring that applicants meet qualification requirements,
8 including providing information on their technical and financial capabilities to construct, operate,
9 maintain, and terminate the solar energy facilities. The regulations provide the authority to deny
10 an application if the applicant cannot demonstrate adequate technical ability to construct,
11 operate, and maintain the solar energy facilities. The BLM may also deny an application if the
12 applicant does not provide, in a timely manner, additional information requested by the BLM to
13 process an application or the required cost recovery funds.
14
15 Solar energy development ROW authorizations include a due diligence requirement for
16 installation of facilities consistent with an approved Plan of Development, with construction to
17 begin within 2 years of the ROW being issued. If construction has not been started within this
18 time frame, the ROW holder must provide the BLM good cause as to the nature of any delay,
19 evidence of progress toward beginning construction, and the anticipated date of start-up
20 operations, or the authorization may be terminated.
21
22 Environmental analyses are required for solar energy development projects in accordance
23 with the National Environmental Policy Act of 1969 (NEPA) and must address potential direct,
24 indirect, and cumulative effects of the project. The scope of the NEPA analysis must include
25 the installation and maintenance of solar collectors, water for steam generation and cooling
26 purposes, oil or gas used by backup generators, thermal or electrical storage, turbines or engines,
27 access roads and electrical inverters, and transmission facilities. The NEPA analysis must also
28 include assessment of land disturbance, water use, and potential impacts on natural, cultural, and
29 biological resources.

30
31 The BLM is using the 2007 Solar Energy Development Policy as updated by instruction
32 memoranda issued in 2010 (BLM 2010a,b) to continue processing applications while this PEIS
33 is being developed. As of December 1, 2010, the BLM had approved eight utility-scale ROW
34 authorizations in the six-state study area under these policies.

Almost all of the above is not true or inadequate.

Leases should begin at full rate the day the land is withdrawn from public use and should continue until the site has been completely restored to its previous condition. That is the period of use. That is the length of time the public is prevented from enjoying the site as it is. That is the true cost of the lease to our nation.

No solar facilities have been operating for that long a period. A look at Google Earth shows a multitude of broken, missing or disabled troughs at both Kramer Junction and Harper Lake sites. They are not being maintained currently. They are not producing the power they could be for all the land they have removed from public access. The Kramer Junction site is listed on the BLM's own site as having gone bankrupt and changed hands.

The Dagget power tower site operated for less than four years and took another six years to remove. The timelines suggested here are not supported by past.

The sale and change of technologies at the Calico site in the middle of planning shows a lack of due diligence in approving these projects by BLM. They don't meet the requirements of a producible technology, financial ability and appear to be speculative in nature.

At the fast tracked Ivanpah site the estimated number was less than 5% of the new opinion by the USFWS; (www.blm.gov/ca/st/en/prog/energy/fasttrack/ivanpahsolar/fedstatus.html). If the rules were followed this would not have happened. Yet the PEIS claims these rules are being followed.

Clearly the method of one season of counts is wholly inadequate for Tortoise population estimates. The whole method by which the assessment of desert populations of all rare plants and animals need to be redone and should include multiple year counts. The tactic of being dormant during dry years and even decades is a common survival tool for many desert plants and animals.

Large developments like this should be postponed until accurate species assessment can be done and effective mitigations developed.

The inaccurate believe that these large scale conversions of continuous habitats are benign and unnecessary is reminiscent of the rush to "clean safe unlimited" nuclear power, often in the wrong place.

Offering public land, subsidizing the development outside of free market principals, artificially competes with locally distributed solar. The value added to homes is also a source of income for local governments unlike those on public land in California. New surveys show that solar adds more than its current costs to the resale value.

This document is filled with wishful thinking, missing species and a history not supported by BLM documents.

The option of no large scale conversion of BLM land should be considered and adopted in favor of distributed rooftop and parking lot PV for the truly clean economic, sustainable, secure energy it can produce.

Thank You Bill Harper

Thank you for your comment, Michael Powelson.

The comment tracking number that has been assigned to your comment is SolarD11828.

Comment Date: May 2, 2011 16:09:43PM
Solar Energy Development PEIS
Comment ID: SolarD11828

First Name: Michael
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Attachment: The Nature Conservnacy's BLM Draft Solar Comments (2).pdf

Comment Submitted:

We are providing a CD of our eco-regional assessments via overnight delivery to Argonne at their Argonne, Illinois address

The Nature Conservancy
Protecting nature. Preserving life.™

May 2, 2011

Mr. Bob Abbey
Director
Bureau of Land Management
Solar Energy PEIS
Argonne National Laboratory
9700 South Cass Avenue
Argonne, IL 60439

Dear Mr. Abbey:

Thank you for the opportunity to comment on the draft Programmatic Environmental Impact Statement for Solar Energy Development. The Nature Conservancy's response is attached. In addition to these comments, we are also a member of the California Desert Solar Working Group facilitated by Michael Mantel, and contributed to and signed comments on the DPEIS from that group.

If you have any questions, please contact Michael Powelson, Director of Government Relations, Western Division, North America Conservation Region, at (503) 233-4243 or mpowelson@tnc.org.

Sincerely,

Robert Bendick

Robert Bendick
Vice President for External Affairs

Enc. Comments on the BLM Draft Solar PEIS & CD of eco-regional assessments

The Nature Conservancy

Protecting nature. Preserving life.™

Response to the Bureau of Land Management Draft Programmatic Environmental Impact Statement for Solar Energy Development

The Nature Conservancy · 4245 North Fairfax Drive, Suite 100, Arlington, VA 22203 · (703) 841-5300

Table of Contents

Introduction

The Nature Conservancy (the Conservancy) is an international nonprofit organization dedicated to biodiversity conservation. We endeavor to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. Our on-the-ground conservation work is carried out in all 50 states and in 30 countries with the support of approximately one million members. To date, we have helped conserve more than 117 million acres worldwide, with 24 million acres conserved in the United States alone. The Conservancy owns and manages approximately 1,400 preserves throughout the United States; they form the world's largest private system of nature sanctuaries.

One of the greatest threats to conservation of biodiversity as we know it is climate change. Increasing our use of renewable energy sources like solar is part of the solution to the challenge of climate change, as they provide alternatives to our use of fossil fuels to generate electricity, and thus emissions reductions; they also contribute towards securing our nation's energy independence. However, if not located, built, and operated responsibly, energy projects can negatively impact biodiversity, harm wildlife and their habitats, and diminish water resources, especially in fragile desert environments. We are now presented with a unique opportunity to help direct where and how utility-scale solar energy projects will be built on federal public lands or using federal funds, a chance to help ensure that the environmental impacts of utility-scale solar are avoided, minimized, and offset to the greatest extent possible.

To that end, the Conservancy is keenly interested in the draft Programmatic Environmental Impact Statement for Solar Energy Development (PEIS) prepared by the Bureau of Land Management (BLM). BLM has been an important partner to the Conservancy since 1961, when the Conservancy embarked on its first public agency partnership with BLM to manage an old-growth forest in California. Throughout the years, our organizations have continued to work together across the western states toward the conservation of the nation's irreplaceable natural resources. In addition to traditional land management and acquisition opportunities, BLM and the Conservancy have collaborated with members of the fossil fuel and renewable energy industries on finding innovative, science-based solutions to the challenges posed by energy development. We bring these experiences, and our long history of successful biodiversity conservation to our comments on the draft solar PEIS.

Since 2008 the Conservancy has been deeply involved in the issue of siting of renewable energy facilities and their associated transmission infrastructure on public lands. For example, in Arizona and California, the Conservancy has engaged in public stakeholder planning processes, including BLM's Restoration Design Energy Project in Arizona and, in California, the state's Desert Renewable Energy Conservation Plan (DRECP) and the California Desert and Solar Working Group (CDSWG). Based on our familiarity with issues discussed within the PEIS, as well as our conservation planning and science expertise, we believe that the goals of increased clean energy development and protecting biodiversity are not mutually exclusive, given the appropriate scientific and policy framework. We support BLM's proposal to create a solar energy development program and the Department of Energy's (DOE's) proposal to identify policies

that avoid and minimize ecological impacts and protect natural and cultural resources for solar projects involving the agency.

The Nature Conservancy's Recommendations

General Overview

The Conservancy recommends BLM, via the Solar PEIS, create a solar energy program with the following attributes:

- Uses landscape-scale ecological assessments as the basis of decisions to modify, adopt or create Solar Energy Zones, for the siting of specific solar energy projects, to assess mitigation needs, and to identify areas to focus mitigation efforts;

- Incorporates best-available science on the status, threats and impacts to plant and animal species and habitats when developing land management plans that address solar energy development, when making decisions on the modification and adoption of SEZs and in all project siting decisions;

- Seeks in all planning and siting decisions to avoid, to the greatest extent possible, impacts to high value ecological resources, fragmentation of intact habitats and conflicts with other uses, designations and legal mandates, while facilitating solar energy development;

- Directs and incentivizes solar energy development towards SEZs and away from areas of high ecological value, coupled to a transparent process for identifying and establishing new SEZs;

- Provides for incorporation of solar energy development and conservation areas identified via other federal and state solar energy planning efforts, specifically the California Desert Renewable Energy and Conservation Plan, and BLM's West Chocolate Mountains scoping process and Arizona Restoration Design Energy Project;

- Establishes Best Management Practices (BMPs) that provide meaningful, actionable safeguards to conserve and protect ecological resources from the siting, construction and operation of solar energy projects, and specifically addresses the need to protect surface and groundwater resources from diminishment;

- Adequately assesses mitigation requirements; focuses mitigation efforts towards those areas that demonstrate the best opportunity to ensure viability of species and habitats over time; creates a mitigation framework that ensures the best mitigation sites, actions and mechanisms allow for the highest and best mitigation to be achieved; and ensures enduring mitigation that equals the extent and duration of the ecological impacts, over and above existing conservation management mandates;

- Creates a fair and transparent process for processing existing applications under the terms of the final PEIS, especially applications filed with BLM prior to June 2009.

In the following pages, the Conservancy's specific recommendations will focus on these attributes and the structure of a solar energy development program, i.e. the siting and mitigation of utility scale solar energy generation facilities on BLM-administered lands or supported by DOE utility-scale solar programs. We respectfully offer no comments on aspects of the draft solar PEIS, such as appropriate solar energy technologies or cultural resources, that are better left to experts in those fields.

DPEIS Alternatives

The draft solar PEIS evaluates three alternatives: a No Action alternative; a Solar Energy Zone (SEZ) alternative; and a Solar Energy Development alternative, selected by BLM as the preferred alternative.

The Nature Conservancy specifically recommends BLM select the Solar Energy Zone (SEZ) alternative, which exposes fewer acres of high value conservation lands to habitat conversion or degradation while still providing ample room for solar energy development. In contrast to the SEZ alternative, both the preferred alternative, the Solar Energy Development Alternative, and the No Action Alternative, open far too many acres to potential solar energy development, putting the sensitive habitats and natural communities of the Southwest at risk, preclude other beneficial uses under BLM's multipurpose mandate, and inefficiently use our scare public resources by failing to focus them on those areas where solar energy development has the greatest likelihood of success. We urge BLM not to adopt either of these alternatives. However, please note that in our analyses we find that several of the currently identified SEZs in the DPEIS contain or encompass areas of high ecological value, and thus we recommend they be modified or eliminated, per our analyses and comments – please see the Appendix.

The Nature Conservancy strongly supports the SEZ alternative over the preferred alternative for a number of reasons:

1. Concentrating solar development in zones that are most appropriate for development will ensure that solar projects are built faster, cheaper and in a manner that is better for the environment, developers and consumers. The use of SEZs will allow BLM to focus scarce planning and NEPA efforts to specific places, likely leading to robust and detailed assessments that quicken processing of project applications, and where applicable, consultation under the Endangered Species Act.
2. The SEZ approach greatly reduces uncertainty in transmission planning and will allow federal and state agencies to analyze with reliable assumptions the need for any necessary transmission planning and/or construction, including upgrades that will be needed to bring renewable energy to population centers. This will facilitate and expedite transmission planning processes.

3. Conservation science supports this approach. Because they overlap with significantly fewer acres of important conservation areas, SEZs are a better option. Analysis by The Nature Conservancy has found the SEZs reduce the area of high conservation value impacted by development by nearly 96% relative to the Solar Energy Development alternative (from 5,170,926 acres to 214,526 acres) across the 6 states. (Please see the Appendix for a description of the analysis that The Nature Conservancy conducted). The SEZ approach also reduces fragmentation of intact habitats by focusing development towards appropriate areas.
4. The proposed SEZs identified by BLM, even given the robust Reasonably Foreseeable Development Scenarios stated in the DPEIS, allow for plenty of room for solar to grow responsibly over the next five years and, modified as we recommend, will allow for robust expansion of solar energy in the future.
5. The SEZ approach will create an atmosphere of success. Because our public lands are used and enjoyed by many stakeholders, focusing solar energy development to specific places where solar energy development is appropriate will greatly reduce current concerns and tensions within the public. In this case, less truly is more: by focusing on areas where projects have the greatest chance for success, rather than wasting time and resources "fixing" inappropriately sited projects, BLM can ensure that good projects move forward and our most critical areas of biodiversity are protected.

The Nature Conservancy strongly discourages adoption of the preferred alternative, the Solar Energy Development alternative, for the following reasons:

1. The potential for conflict remains very high. Using a coarse multi-state conservation analysis, the Conservancy found that 24% of the lands in this alternative or 5,170,926 acres would directly impact important regional conservation areas. There are 117 ESA species within these conservation areas, and almost 1,000 vulnerable species that could be jeopardized by development on these lands, and for which there might be significant opposition to development.
2. This approach could impede BLM's solar program from its inception. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy. Opening up vast areas for solar development will only perpetuate the atmosphere of concern and conflict we have witnessed over the last two years.
3. Since BLM estimates that approximately 300,000 acres will be needed to produce over 30,000 megawatts of electricity generated by solar power by 2030, under even the most robust and optimistic Reasonably Foreseeable Development Scenarios, we believe making nearly 22 million acres available for solar development is unnecessary, if not irresponsible, and potentially wastes scarce public resources.

However, it is important to note that the level of ecological and other analyses currently in the DPEIS for all alternatives, nor the Conservancy's submission of its ecoregional analyses as part

of its public comments on the DPEIS, provide sufficient information to meet NEPA sufficiency standards for siting of individual projects, whether within SEZs or not.

A Program for Solar Energy Development

While The Nature Conservancy recommends adoption of the Solar Energy Zone alternative that limits solar development to SEZs identified in the DPEIS (as modified, see Appendix), as the basis of a program to manage solar energy development on BLM-administered lands, we recognize that significant amendments and revisions are needed to the Alternative(s) in order for BLM to have a program that meets the needs of solar development and conservation of biodiversity, no matter which action alternative is selected.

Thus, per the attributes we provide in our introduction, the recommendations that follow are intended to guide BLM in the development of a program that 1) facilitates and uses landscape-scale ecological assessments and best available science as the basis for all siting and mitigation decisions, 2) creates a process for the modification of existing and the addition of new SEZs, 3) provides criteria for avoiding ecological and other land use conflicts for the siting of new SEZs and/or specific projects, 4) establishes Best Management Practices for the planning, siting and operation of solar energy projects, especially the protection of water resources, and 5) creates a mitigation framework that ensures all ecological impacts are fully addressed.

Note that while the Conservancy recommends BLM select the SEZ alternative, the following comments and recommendations apply to the Solar Energy Development Program Alternative as well, i.e. form the basis of any successful siting program for solar energy projects on BLM-administered lands.

The Role and Use of Landscape-scale Ecological Assessments

As a science-based organization, The Nature Conservancy has developed various tools to determine which actions are needed to achieve lasting conservation, e.g. our methodology called *Conservation by Design*, which helps us to identify the most important places for conservation, threats to ecological health of those places, the best strategies to reduce those threats, and how to measure our effectiveness, via an eco-regional assessment process. We offer our lessons learned from our decades of experience in conservation planning, and the completion of ecological assessments that cover large, "landscape-scale" areas or eco-regions for all terrestrial, freshwater and marine eco-regions in the United States. Even more importantly, we have applied this approach to inform land management decisions and their implementation in a systematic way to hundreds of places across the United States and around the world, working with a wide array of public and private partners.

We cannot over-emphasize the importance of landscape-scale ecological assessments in land-use planning and decision-making. The information provided by such assessments provides the basis by which land managers can ensure the best land management decisions can be forwarded, decisions that can ensure the least conflict with important ecological resources, while maintaining these resources for future generations – while allowing human needs to be met.

The value of an ecoregional assessment is its ability to determine areas important for species and habitat conservation targets and goals across large areas, areas that may be most appropriate for mitigation, and areas that contain relatively less conservation value and may be most appropriate for development from an ecological perspective. The value of this approach is that it is consistently applied across jurisdictions, uses the best available science and other information, and sets ambitious, long-range conservation priorities.

We note and enthusiastically support BLM's current efforts conducting Rapid Ecological Assessments (REA) for all western ecoregions which contain lands they administer (including lands not under their management authority), with the goal of informing appropriate management responses to energy development and climate change, for use in amending or revising resource management plans (RMPs) and in other planning processes. In addition we note that BLM and others are also involved in efforts that reflect landscape-scale ecological assessment attributes and use of best available science, i.e. the California Desert Renewable Energy and Conservation Plan, and BLM's West Chocolate Mountains scoping and EIS process and Arizona Restoration Design Energy Project, and EPA's Repower America effort.

However, the DPEIS is completely silent on the role and use of eco-regional assessments and best available science for siting of solar energy projects, a significant oversight that needs to be addressed. We strongly recommend that BLM include language in the DPEIS that:

1) requires landscape-scale ecological assessments to be used to identify (and thus avoid) areas of high ecological value or importance in the identification of new SEZs and/or siting of specific solar energy projects, and specifically to identify converted or highly degraded lands on BLM-administered and adjacent public and private lands such that they can be further evaluated as the preferred areas for solar energy development, e.g. establishment of SEZs. In addition, BLM should require that landscape-scale ecological assessments to be used to identify areas of high ecological value or importance as places to guide mitigation investments, whether they be acquisitions of private land, or improved (greater protection) designations coupled with conservation management of BLM-administered lands.

2) requires BLM to immediately, upon completion of individual assessments, amend or revise RMPs to include the results of BLM's Rapid Ecological Assessments (REAs), with specific language that they be used as a key component in the planning, siting and mitigation of solar energy projects, including existing applications. Specifically, we recommend they be used to establish goals for protection of specific conservation targets and identify lands necessary to meet those conservation goals, and also be used to assess the best places for mitigation investments, given the predicted impacts of likely solar development. We also encourage BLM to use the REAs to evaluate lands in the context of whether they would be good for solar development, e.g. slope, solar radiation, and transmission.

3) to create a process to adopt the results, upon completion, of the solar energy development and conservation areas identified in the California Desert Renewable Energy and Conservation Plan,

BLM's West Chocolate Mountains scoping and EIS process, BLM's Arizona Restoration Design Energy Project, and sites identified by EPA's Repower America's on BLM-administered and adjacent lands, into affected RMP amendments or revisions, with specific language for the use of this information as described above.

Landscape-scale Assessments: The Mojave Desert Eco-regional Assessment as an Example

Our recommendation to BLM on the use of landscape-scale assessments and planning is a direct product of our understanding and experience on the benefits of their use in informing land management decisions and the ease of their development. In September 2010 the Conservancy completed an ecoregional assessment of the Mojave Desert, which covers 31 million acres across parts of California, Nevada, Utah, and Arizona. A similar analysis of the Californian Sonoran Desert was completed in 2009. These analyses concluded that the Mojave and Californian Sonoran deserts are remarkable not only due to the unique and diverse plants and animals they contain, but also because they contain some of the most intact landscapes in the lower 48 states. Another striking conclusion was that BLM lands offer some of the most intact landscapes, wildlife corridors, and ecological resources in the deserts. In fact, close to half of the lands ranked as having the highest conservation value in the Mojave and Californian Sonoran deserts are under BLM management.

As an example of how ecoregional assessments can inform the SEZ approach and identify other areas appropriate for solar development, The Nature Conservancy has applied the SEZ approach to the data, analyses and findings within our 2010 Mojave and Sonoran Desert ecological assessments led the Conservancy to draw conclusions on the two action alternatives evaluated in the draft solar PEIS. First among our conclusions is that some SEZs—notably the Iron Mountain and Pisgah zones in California —should be eliminated because they have very high conservation values. Second, based on the finer-scale dataset that we used for the Mojave Desert and the Californian Sonoran Desert, there are more than 600,000 acres of lands that meet solar development criteria (filtered by slope and irradiance) and are more suitable for development from an environmental perspective because their habitats have been degraded or converted. Some of these areas could be easily added to the SEZs currently identified in the draft solar PEIS.

Also, the ecoregional assessment disclosed that a large fraction of the most disturbed lands in the Mojave Desert—locations with high solar insolation where development would pose a low risk to biodiversity—are in private ownership. In some cases, BLM lands are located in a "checker-board" with private lands, forming an area that may constitute an appropriate private and public SEZ. Our Mojave and California Deserts Eco-regional Assessments are included in our comment submission (along with other eco-regional assessments for the DPEIS area) as specific recommendations for inclusion in the PEIS.

A Least Conflict Approach to Adding New or Modifying Existing Solar Energy Zones

In the southwestern United States, BLM-administered desert lands offer some of the most intact landscapes, wildlife corridors, and ecological resources. However, the demand for utility-scale solar energy generation on these lands will likely continue in the future, and thus a process for adding additional zones or modifying existing zones will be needed to meet those demands. Following are our recommendations on the creation of a process and criteria of a least conflict approach to create new or modify (add to) existing SEZs. Per our recommendation above, an approach for adding new SEZs should be designed to accommodate ongoing state and federal processes currently underway to identify development areas (e.g., the DRECP and the scoping in the West Chocolate Mountains zone in California and the BLM Restoration Design Energy Project in Arizona).

Adding New or Modifying Existing Zones: Process

We recommend BLM set up a process for assessing the need to modify existing or add new SEZs as follows:

1. BLM will reassess the need for new SEZs every five (5) years after the PEIS is finalized.

    a. Petitions may be submitted to trigger reassessment on a different schedule based on the following triggers:
        1. The state needs additional projects to meet renewable energy goals because of new circumstances (e.g., the state's Renewable Portfolio Standard was increased).
        2. The approved development areas do not accommodate the assumed amount of projects or MW necessary given current state or federal law and/or policies.
        3. There was a change in federal policy that affects renewable energy need assumptions employed to date.

    b. The petition to reopen assessment of need will be decided upon by the state and national BLM directors based on national standards for evaluation determined in cooperation with DOE.

    c. The reassessment process should be an open, transparent process with opportunities for substantial stakeholder involvement and public comment.

2. If BLM determines a need for a new SEZ, then BLM shall propose and thoroughly analyze any new areas through a new NEPA/land use plan amendment or revision process. We recommend BLM also seek a Section 7(a)(2) consultation to provide for faster project-level ESA permitting once the area is adopted. We also recommend BLM provide a level of ecological and cultural analyses of the new SEZ at a level that would allow a specific solar energy project to tier off the SEZ EIS with an Environmental Assessment (EA) under NEPA. BLM may also, as appropriate and in-lieu of petitions, accept nominations for new zones via a public Request For Proposals (RFP), after the need for a new SEZ has been established per our recommendation above.

3. New zones should be identified via a landscape-scale ecological assessment that have assessed ecological attributes (species and habitats, ecological corridors, land use status, legal designations, per the criteria provided in our subsequent recommendations), cultural and social information, transmission availability and accessibility, and solar energy development criteria (e.g. solar resources, slope). New zones should be sized and designed to accommodate more than two utility-scale projects. Private lands adjacent and/or contiguous to BLM-administered lands should be included in an assessment of new zones, in addition to the public lands, because they offer additional acreage for potential expansion of BLM solar energy zones.

Adding New or Modifying Existing Zones: Environmental and Land Use Criteria

The Nature Conservancy recommends criteria for creation of new zones that avoids existing land use conflicts, coupled to identifying (and thus avoiding) areas of high ecological value as identified via a landscape-scale ecological assessment. The following criteria capture both land use and environmental concerns, arranged based on the companion approaches, least conflict and landscape-scale ecological assessment.

Criteria for Avoiding Land Use Conflicts

BLM should first identify any areas that are truly "least conflict" from an ecological perspective based on the following twelve criteria:

1. Lands that have been mechanically disturbed, including locations that have been degraded and disturbed by mechanical disturbance or "type-converted" from native vegetation through plowing, bulldozing, or other mechanical impact often in support of agriculture or other land cover change activities, such as mining, clearance for development, and heavy off-road vehicle use
2. Public lands of comparatively low resource value and located adjacent to degraded and impacted private lands on the fringes of BLM-managed land
3. Brownfields
4. Idle or underutilized industrialized sites, including mining sites
5. Locations with existing transmission capacity and infrastructure in place
6. Locations that could be served by existing substations
7. Locations adjacent to federally designated corridors with existing major transmission lines with capacity to carry the additional electricity generated by proposed facilities
8. Locations proximate to load centers
9. Locations adjacent to urbanized areas
10. Locations that minimize the need to build new roads
11. Locations proximate to sources of municipal wastewater for use in cleaning reflectors
12. Locations that have been repeatedly burned and invaded by fire-promoting non-native grasses

The purpose of this analysis is to quickly identify areas that may be appropriate to designate as zones in the near term while additional landscape-scale ecological assessments are completed. Least conflict areas will then need to undergo further analysis for their potential for new zones based on technical development criteria, transmission availability and cultural criteria. These criteria should be used in conjunction with those areas detailed in Table 2.2-2 *Areas for Exclusion under the BLM Solar Energy Development Program Alternative* beginning on page 2-8 of the Draft Solar PEIS, which we recommend retaining in a final PEIS.

Criteria for Avoiding Environmental Conflicts

In addition to the land use criteria listed above, we recommend BLM use landscape-scale assessments (as outlined above under *The Role and Use of Landscape-scale Ecological Assessments*), to identify areas of high ecological value that would be inappropriate for solar development and/or designation as a SEZ.

In choosing a landscape-scale assessment on which to base new areas identification, we recommend that the goal of the landscape-scale assessment should be to contribute to the persistence, distribution and diversity of the ecoregional biota and all its natural components and processes today and in the future, while accommodating renewable energy development and adapting to climate change. An appropriate landscape-scale ecological assessment would contain an evaluation of both public and private lands in a geographic area that makes sense from a biological perspective; would define objectives that guide selection of conservation targets, structure of impact analyses, and the targets and measures selected for monitoring; would evaluate the impact of various planning scenarios on the biodiversity and ecosystem function goals, the fragmentation of intact habitats, as well as on the target species; would implement and improve upon existing conservation and recovery plans; would include an adaptive management framework; and would result in a conservation reserve design that best satisfies this suite of biological goals while also meeting renewable energy goals.

Furthermore, in the process of developing the conservation reserve design under whichever landscape-scale assessment is used, the following criteria must be considered:

1. Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant populations of federal or state threatened and endangered species; significant populations of sensitive, rare and special status species; and rare or unique plant communities;
2. Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes and allowing for long-term shifts in distribution of native species in response to climate change;
3. Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands;
4. Areas that support a geophysical or other ecosystem processes upon which sensitive biological resources depend.

Because not all BLM-administered lands are appropriate for solar energy development, we recommend the landscape-scale ecological assessment incorporate and build on the areas identified in the DPEIS as inappropriate by virtue of their ecological value. Those areas are detailed in Table 2.2-2 *Areas for Exclusion under the BLM Solar Energy Development Program Alternative* beginning on page 2-8 of the DPEIS.

Finally, as there are potentially areas of public interest that may not be captured by the least conflict and environmental criteria we recommend above, which could create conflicts BLM would want to avoid in order to facilitate solar development, we encourage BLM to consider avoiding the following areas when identifying new SEZs or siting of individual solar projects: lands purchased for conservation, including those conveyed to BLM; Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas; proposed HCP and NCCP Conservation Reserves and locations within 2 miles of National or State Park units.

Note that all of the least conflict and environmental criteria listed above are also recommended as filters for the siting of individual solar energy projects, should the SEZ approach not be adopted.

Developer Incentives for Moving into SEZs

One of the key components of providing renewable energy more quickly, with less uncertainty for all stakeholders and at a lower cost to consumers, is to promote the development of facilities in zones. To this end, The Bureau of Land Management should provide meaningful incentives for solar energy developers to seek to site within SEZs and/or "move" their existing applications (please see *Management of Existing Applications*) from their current locations into SEZs and, under the SEZ or Solar Energy Development Progam Alternatives in the DPEIS, focus future development proposals only within the SEZs. Our recommendations for incentives fall into four categories:

1. Facilitate faster and easier permitting in zones
2. Improve and facilitate mitigation
3. Facilitate the permitting of needed transmission to projects within zones
4. Provide economic incentives for development within zones.

Facilitate Faster and Easier Permitting

Permitting of solar facilities within SEZs can be greatly facilitated with additional evaluation of the zones. The Conservancy recommends that the Bureau of Land Management conduct an EIS for each SEZ, in addition to this PEIS. These EISs should be conducted at a level of understanding and with enough fine-scale data to facilitate the permitting of projects within

their borders. In particular, the Bureau should consult with the US Fish & Wildlife Service (USFWS) (under § 7(a)(2) of the Endangered Species Act) as part of the additional analysis that is done to complete an EIS for each zone.

Permitting can be further facilitated by establishing a schedule for completion of project NEPA within the SEZ after project NOIs are published. These NEPA completion schedules should be applicable to all Department of Interior agencies. In addition to a clear schedule, the Department of Interior should establish inter-agency teams, comprised of at least the BLM, the USFWS and the Department of Interior Solicitor's Office, to facilitate the permitting process and coordinate input to the developers of projects within SEZs. These inter-agency teams should have a singular point of contact for all Interior agencies responsible for coordinating environmental reviews and consultations, ensuring timely performance of agencies, facilitating stakeholder reviews, and providing other services needed to help shepherd the developer through the permitting process. Inter-agency teams should also ensure that the BLM and the USFWS are coordinated from the very beginning in the review of each proposed project within a SEZ.

Improve and Facilitate Mitigation

The additional NEPA analyses conducted for each SEZ should be the basis upon which the Department of Interior agencies develop a regional mitigation plan for the impacts of future development of each SEZ. Each regional mitigation plan will need to consider the cumulative impacts of development within a SEZ, as well as ongoing conservation planning priorities (e.g., recovery plans for federal or state ESA-listed species, BLM Resource Management Plans, conservation priorities developed as part of the Desert Renewable Energy Conservation Plan, etc.).

By developing a regional mitigation plan for each SEZ with clearly identified regional conservation priorities, developers will have less uncertainty about mitigation requirements, and should be allowed to satisfy mitigation responsibilities for ecological impacts through funding the implementation of the plan. Benefits of this facilitated regional mitigation approach include not only permit efficiencies and greater financial predictability for the developer, but also the ability to focus offsets required for mitigation on large-scale conservation in order to provide benefits to sensitive species through higher quality habitat, improved connectivity between habitat areas, and better long-term protection – maintaining long-term ecological viability while allowing solar development to continue into the future.

It is our strong belief that advance planning for regional mitigation will provide efficiencies in the management and monitoring of mitigation, since the mitigation investment will be concentrated in larger areas of importance, rather than smaller and greatly dispersed sites, which is the normal mitigation result from project-by-project mitigation. The advanced and regional planning for mitigation of development within each SEZ also allows the Department of Interior to leverage and assist ongoing conservation efforts. We believe this type of mitigation planning will result in a mitigation outcome that is better for ensuring that conservation goals are met in the long term. In summary, the regional mitigation planning for the development of each SEZ will be more proactive and less reactive, more systematic and less haphazard, multifunctional

rather than single purpose, large scale rather than small scale, and better integrated with other planning efforts, resulting in larger scale, more meaningful and cost-effective conservation that advances regional environmental goals. Please see our recommendations under *Mitigation: A Framework for Last, Tangible Results* for more detailed recommendations on mitigation.

Facilitate permitting of needed transmission

Another key incentive to encourage solar development within a SEZ should be the facilitated permitting of needed transmission. While some of the actions needed to develop and permit transmission lay outside of the BLM's control, there are a number of actions that BLM should take to facilitate transmission planning and development for SEZs.

Through the EIS of each SEZ, the Bureau should analyze gen-ties and larger lines, to the maximum extent possible, as well as consider the need to build additional roads to facilitate transmission development. In addition, BLM should seek to establish cooperative agreements, MOUs and/or MOAs to facilitate State permitting of gen-ties and longer lines, as well as to facilitate permitting of high-voltage interstate power lines that could support solar energy development. The EISs conducted to evaluate each SEZ should also include a much more detailed evaluation of the transmission needs and impacts for anticipated solar development within the SEZ, which will not only facilitate the permitting of projects, but also will facilitate the transmission planning.

Overall, we encourage the BLM to engage in ongoing and comprehensive transmission planning efforts as a strategy to ensure the recognition of SEZs as a priority in transmission development. There are several state and regional transmission planning efforts underway which we encourage BLM to engage in. In California, for example, these efforts include the California Independent System Operator Transmission Planning Process and Statewide Transmission Plan, the California Transmission Planning Group, and transmission planning efforts being conducted as part of the DRECP Planning effort. At a regional level they include efforts by the Western Electricity Coordinating Council (WECC), the Western Governors Association (WGA), and the Western Area Power Administration (WAPA).

In California, we specifically recommend that BLM request of the CA ISO and the Public Utilities Commission that they enter into a MOU with BLM and the USFWS to formalize coordination regarding both planning and permitting for the BLM's solar energy development in SEZs, ensure that the transmission projects described immediately above are included in the Revised Transmission Planning Process, and obtain the CA ISO and CPUC's assistance in identifying and analyzing those projects. The BLM should seek similar MOUs with relevant regulators and transmission planners in the other five states within the DPEIS study area that will result in prioritized consideration of necessary lines. Close coordination with transmission planning efforts will ensure that solar energy loads generated within SEZs or on other BLM-administered lands can be efficiently utilized upon facility start-up.

Provide Economic Incentives for Development in Approved SEZs

The Conservancy recommends that the BLM provide further incentives for development of projects within SEZs by offering the following economic incentives:

1. A reduced capacity charge on energy generated within a SEZ
2. Provision of a longer phase in period for rental payments

Additional Incentives

Finally, the DOI should embrace the role they have to encourage development of renewable energy on appropriate private lands near and adjoining BLM-administered lands. To encourage development on *appropriate* private lands, if a project is in a SEZ and its footprint is also on private lands, BLM should offer all permitting incentives described above to the project as if it were fully on BLM land.

Best Management Practices

Broad Principles

The DPEIS devotes significant attention to best management practices (BMPs) and BLM policies for the processing and approval of solar facilities on BLM-administered lands, including broadly applicable principles that, if administered and enforced properly, would effectively limit harm.

The Nature Conservancy believes, however, that broad principles can only be administered and enforced properly if they are defined by and incorporated into the final PEIS's mandatory requirements. The following five BMPs must be clearly delineated, in addition to our recommendations below under *Water Resources*:

1. Landscape-scale ecological assessments: At the time a solar application is submitted, BLM should commit to review the best available landscape-scale ecological information, including information developed under BLM's Rapid Ecological Assessments (REAs), or other existing federal, state or private assessment efforts, as per earlier comments in this document. Furthermore, BLM should determine whether areas proposed for a solar project uses or associated transmission facilities are inconsistent with other high-priority conservation, restoration, or adaptation objectives.

2. Rejection of project applications: BLM must offer clear standards and an accessible, discretionary process for promptly and definitively rejecting applications in areas that will cause significant direct or indirect adverse ecological impacts, per the criteria we recommend in *Adding New or Modifying Existing Zones: Environmental and Land Use Criteria.*

3. Adaptive management: BLM must establish an adaptive management program in the PEIS requiring long term monitoring and specified triggering conditions for modifications, backed by developer financial assurances, that require alteration in plant-specific and solar program mitigation and design requirements where adverse impacts exceed original estimates. By formalizing this program, BLM commits to requiring monitoring of effects and to adoption of adaptive management plans to ensure that new data and lessons learned about the impacts of solar energy projects will be reviewed and incorporated on an ongoing basis into both individual plant authorizations and the overall solar energy program.

4. Degraded lands: BLM must establish a clear preference for prioritizing development on significantly degraded lands, as defined by the criteria for avoiding environmental conflicts in *Adding New or Modifying Existing Zones: Environmental and Land Use Criteria.* Preferential treatment should be given to evaluating new zones, as well as processing applications, in areas that meet these criteria.

5. Compensatory Mitigation: Because solar development on BLM-administered lands will permanently disturb large areas of habitat and may use significant water resources, rendering on-site mitigation difficult, and more likely impossible, compensatory mitigation requirements should be routinely required as a design feature to offset any adverse effects to these resources remaining after application of onsite mitigation. The goal should be a net improvement in the overall, long-term condition of affected desert ecosystems.

Water Resources

We believe one set of BMPs deserves more attention and necessitate strong, specific recommendations in the DPEIS: water resources. In the arid lands and deserts of the southwestern states, the long-term conservation and protection of water resources is critical to maintaining ecosystems, habitats, and species. The siting and operation of utility-scale solar generation facilities in these arid and desert environments can have far reaching direct and indirect adverse effects, including those mentioned in the DPEIS: loss of water resources; modification of the natural surface water and groundwater flow systems; alterations of the interactions between groundwater and surface water; contamination of aquifers; wastewater treatment either on or off site; and water quality degradation by runoff, excessive withdrawals, or chemical leaks and spills.

The protection of groundwater and groundwater-dependent ecosystems is, in the view of The Nature Conservancy, the most important water resource issue addressed by the DPEIS. Many desert solar energy facilities will rely on groundwater pumping for their operations and maintenance, which raises very particular and difficult concerns. Effects can extend widely, last for a very long time, be difficult to predict and detect, and can potentially cause irreparable harm to aquifers and surface ecosystems. Additionally, as noted in the DPEIS, federal protection of

groundwater is limited. Reliance on state and local groundwater regulations that vary widely across jurisdictions often results in placing a lower priority on protection of ecosystem uses of groundwater.

We recommend the DPEIS focus more closely on comprehensive, clearly articulated water BMPs to protect scarce, at-risk groundwater resources. These BMPs include:

1. Prohibitions on using more than the absolute minimum amount of groundwater by solar energy facilities;
2. Prohibitions on any groundwater withdrawal by a solar facility from a groundwater basin that will cause or contribute to withdrawals over the perennial yield of the basin;
3. Prohibitions on groundwater withdrawals that will cause an adverse effect on a listed or other special status species or their habitats over the long term, with specific analyses within the project NEPA EIS process to show that no effect will occur;
4. Hydrological studies using all available data and accepted models that define groundwater basins and surface water and groundwater interactions, sustainable yields, and long term effects, of all existing and probable withdrawals, including those related to climate change;
5. Groundwater monitoring with triggering provisions that specify automatically imposed remedies for reductions in groundwater use in the event that monitoring or modeling shows that adverse effects are likely to occur.

The Need for Groundwater-Specific BMPs in SEZs

While the DPEIS proposes reasonably comprehensive goals for protection of groundwater and associated surface water and ecological resources, the document lacks clarity in implementation strategies defining how those goals will be reached. Moreover, when the DPEIS deals with groundwater-specific requirements applicable to projects located in particular SEZs, the gap between goals and strategies widens.

For example, the proposed Amargosa Desert SEZ in Nevada is located in the larger Amargosa Desert groundwater basin, the home of the endangered Devil's Hole pupfish and numerous other listed, endemic, and sensitive species. Water levels are declining in Devil's Hole, probably due to regional groundwater pumping and lower recharge rates, risking extirpation of the species.

Regional groundwater pumping is already a concern in this groundwater basin. The perennial—or sustainable—yield is estimated to be 24,000 acre feet per year (AF/Y), of which only 7,000 AF/Y is available for withdrawal because the remaining water rights are held by Ash Meadows National Wildlife Refuge. Nevertheless, approved basin allocations exceed that 7,000 AF/Y by over 18,000 AF/Y. In 2009, more than double the perennial yield of the basin was withdrawn. Exacerbating this over-allocation, water requirements of the likely number of dry cooled concentrating solar plants in the Amargosa Desert SEZ are likely to fall between 2,000 and 7,600 AF/Y.

In this setting, where a groundwater basin is seriously over-allocated, where existing withdrawals are well beyond perennial yields, and where new groundwater withdrawals by solar plants could significantly worsen the long term chances for the survival of listed, endemic, and sensitive species in aquatic habitats of national significance, the DPEIS must offer specific best management practices to avert harm. Such requirements (beyond limitations to ensure cumulative withdrawals do not exceed the sustainable yield of the groundwater basin) would include a thorough understanding of basin and surface water hydrology and linkages; modeling to predict even very long term effects; active monitoring; and specified triggering conditions that require action to avert adverse effects. Requirements may also include compensatory groundwater mitigation in the form of acquisition and retirement of groundwater water rights for conservation use. Where limited exceptions, site-specific allowances or variances from generally applicable rules are authorized, the burden of proof should lie on the project applicant to demonstrate the absence of harm when proposing an alternative course of action.

The Role of State and Local Water Law and Regulations

The DPEIS abrogates authority to state and local agencies to avoid adverse groundwater effects, finding that the principal thrust of federal regulation of water resources is directed only toward managing floodplain development, water quality, and waste disposal. The DPEIS states that water laws are primarily a matter of state law, and regulatory complexity further precludes taking a strong federal preventive and remedial stance, and further posits that the myriad of applicable laws and agencies regulating water resources is complex and often requires a case-by-case assessment.

The Conservancy recommends BLM reconsider this position. We find strong federal authority exists to limit harmful groundwater withdrawals from BLM-administered lands and should be asserted in the DPEIS. In fact, in many locations federal ownership of the land offers a firm basis from which to assert control over how groundwater is pumped and used, even where state water laws are regarded as paramount. For example, in California, BLM's ownership interest extends to overlying water rights, and, as proprietor, BLM can limit the use of those rights. Even where state water laws do not provide for federal ownership of water rights, federal ownership of the surface and mineral rights provides BLM the right to permit and control surface activities, such as the drilling and operation of wells, and the use of water in facilities.

Moreover, where the existence of listed or other species covered by the Endangered Species Act may be jeopardized by groundwater withdrawals—even over a very long time interval—the federal government has the statutory obligation to ensure that development not cause harm to protected species or their habitats. Potentially, that protective role extends to candidate or other special status species and their habitats.

BLM's protective role further extends to probing and limiting adverse effects on other federally protected interests, such as Wild and Scenic Rivers and Areas of Critical Environmental Concern (ACEC). Referring to the earlier Amargosa Desert SEZ example, the Amargosa groundwater basin contains a Wild and Scenic River and an ACEC, both of which would be

negatively impacted by water withdrawals in the proposed Amargosa Desert SEZ. BLM may be authorized on the basis of these designations to prevent groundwater over-allocation.

Reposing primary regulatory control over the use of groundwater by solar facilities located on federally owned public lands substantially in the hands of state and local regulatory authorities forfeits important sources of federal control and regulation of groundwater, and we strongly recommend BLM not to abrogate its authority in the management of this critical resource.

BMPs - Accountability

While the DPEIS lists an extensive number of BMPs, it provides limited concrete guidance on how specific impacts can or will be minimized and virtually no guidance on the process to be applied in determining which specific BMPs will be applied in the context of a given application, and no specificity on the monitoring and enforcement mechanisms for ensuring that BMPs determined to be applicable will in fact be adopted and used. Importantly, there is no specific incorporation of the principles of adaptive management (to include funding responsibilities) to ensure that BMPs and other operational aspects of the project will be modified as required during the life of a project , based on the results of monitoring the actual, as distinct from projected, ecological impacts of the project , taking into account variances over time from the ecological conditions (such as water availability) initially presumed to be stable over the projected life of the project. We strongly recommend BLM address these deficiencies in the DPEIS to ensure BMPs offer measurable protection of ecological resources, while providing assurances that these protections will be viable over time.

Mitigation: A Framework for Lasting, Tangible Results

BLM has the opportunity to create an effective, mitigation framework that protects public lands with measures that deliver lasting, tangible results. As the basic rule of thumb, BLM should ensure all mitigation be additional, enduring, and monitored, fully account for the full cumulative impact of projects, and be at a sufficient scale to ensure ecological viability.

At a minimum, the Conservancy recommends that notwithstanding NEPA requirements, project design elements, mitigation, monitoring, and adaptive management mechanisms currently in the DPEIS, BLM explicitly integrate the Council of Environmental Quality (CEQ) January 14, 2011 guidance titled "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact" into the DPEIS by modifying the DPEIS as required to amplify and modify the numerous provisions of the DPEIS that are inconsistent with that guidance or simply do not address the measures and steps articulated in the guidance as appropriate when addressing mitigation and monitoring in a NEPA analysis. Adopting this recommendation would address many of the inadequacies in the DPEIS regarding mitigation and monitoring.

Additionally, with regard to monitoring, e.g. assessing the actual (as distinct from projected or predicted) impacts of solar development, and the success or failure of measures designed to avoid, minimize or offset impacts, we recommend the DPEIS incorporate robust measures for both monitoring and adaptive management. As stated in BLM's guidance on preparing NEPA analyses:

"In a record of decision (ROD), a monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation (40 CFR 1505.2(c)). The ROD must identify the monitoring and enforcement programs that have been selected and plainly indicate that they were adopted as part of the agency's decision (see Question 34c, CEQ, *Forty Most Asked Questions Concerning CEQ's NEPA Regulations, March 23, 1981*). The ROD must delineate the monitoring measures in sufficient detail to constitute an enforceable commitment, or incorporate by reference the portions of the EIS that do so (see Question 34c, CEQ, *Forty Most Asked Questions Concerning CEQ's NEPA Regulations, March 23, 1981*). "

Creating a Mitigation Framework: The Mitigation Hierarchy

The Nature Conservancy believes that BLM can devise and implement mitigation protocols that benefit people and nature. We have learned in our experience as land managers that conservation and human uses can co-exist when human uses, such as solar energy development, observe a common sense and practicable mitigation hierarchy based on avoidance, minimization, and mitigation (offset) of harm. Unfortunately, the DPEIS is largely silent on addressing many aspects of the mitigation hierarchy in meaningful ways.

Critically, in the formulation of a mitigation framework for solar energy development, one foundational conclusion must be drawn from the DPEIS: current utility-scale solar technologies permanently eliminate habitats and displace species, as well as eliminate all other uses of BLM-administered lands. As a result, on-site mitigation is largely impossible, leaving off-site mitigation the primary (if not the only) option.

This last point we consider a major oversight and lost opportunity within the DPEIS- the DPEIS must have a robust mitigation offset program, a program that seeks a "no net loss" baseline in terms of both acres and habitat values, based on identification of lands, public and private, of high ecological value that could be available and used to mitigate ecological impacts.

The Mitigation Hierarchy: Avoidance

In the first step, avoidance, the mitigation hierarchy calls for solar energy facilities to be sited in locations that avoid the most ecologically important and/or sensitive habitats entirely. A robust, landscape-scale ecological assessment, such as those discussed and recommended in our comments in *Role and Use of Landscape-scale Ecological Assessments* and *New or Modifying Existing Zones: Environmental and Land Use Criteria* above, should used to identify and avoid areas and associated species and habitats that are ecologically core, sensitive and/or intact. **To successfully maintain**

ecological viability across the arid and desert Southwest US, we recommend that the following areas be avoided (i.e., included in the areas identified as inappropriate for solar development):

1. Ecologically Core lands identified in The Nature Conservancy's 2010 Mojave Ecoregional Assessment;
2. Category A lands identified in The Nature Conservancy's 2009 California Sonoran Assessment;
3. For areas outside of the Mojave and Californian Sonoran, portfolio sites identified in The Nature Conservancy's "first generation" of ecoregional assessments, completed between 1996 and 2005, which collectively represented the best remaining areas to conserve an ecoregion's full array of biodiversity, including natural communities as well as the rare, unique and endemic species that may have very specific habitat requirements.

Additionally, to fully implement this avoidance step of the mitigation hierarchy, BLM should revise the proposed SEZs in the DPEIS so that they do not include these important conservation lands. Please see the Appendix for our comments and detailed assessment of proposed SEZs, and the attached CD for specific information on The Nature Conservancy's Mojave, Californian Sonoran Desert, and other western eco-regional assessments affected by the DPEIS.

The Mitigation Hierarchy: Minimization

In the second step of the mitigation hierarchy, minimization, facilities should be sited and operated in a manner that avoids or minimizes harm to habitats and species. This means identifying, developing, and employing BMPs that have been determined to be applicable to a given solar energy project and that actually limit harm to habitats and species. These BMPs would also specify which monitoring and enforcement mechanisms are applicable and should be adopted. Adaptive management should also be included in the BMPs to allow project modification based on the results of monitoring the actual, as distinct from projected, ecological impacts of the solar energy project, taking into account variances over time from the ecological conditions that may have been initially presumed to be stable over the projected life of the project. Please see our recommendations under *Best Management Practices* for more detail.

The Mitigation Hierarchy: Offset of Unavoidable Impacts - An Off-site Mitigation Program

In the third step of the mitigation hierarchy, offset of unavoidable impacts, effective measures must be taken in the face of unavoidable negative impacts to affected habitats and species. A successful mitigation framework established in the DPEIS must have an offset program that is adaptable to differences in SEZs, individual projects and technologies. It must reflect varying availabilities of private lands. It must account for the full cumulative impact of projects across a landscape, and be at a sufficient scale to ensure ecological viability. It must be as enduring and long-lasting as the impacts, i.e. in perpetuity.

To ensure unavoidable impacts are fully offset, the Conservancy recommends that BLM establish an off-site mitigation program within the mitigation framework that, in addition to acquisition of private lands, allows mitigation on BLM-administered lands where impacts cannot be addressed through acquisition and long-term management of private lands; allows "mitigation banking" on BLM-administered lands where conservation designation and management can achieve mitigation needs/outcomes relative to specific impacts to habitats and associated species; ensures adequate funding over time to achieve mitigation outcomes; and creates third party-managed endowments of mitigation funds to manage mitigation banks or zones, and other mitigation activities.

However, adequate mitigation is unlikely to be achieved by attempting to treat each project, and the required offsets of that project, separately. This "one off" approach historically has resulted in a patchwork of small "mitigation offset" sites that are of insufficient scale and connectivity to be ecologically viable. We recommend the DPEIS explicitly address the need to "bundle" mitigation offsets from a number of projects together (e.g. within a larger "mitigation zone or bank" – see below) to increase the likelihood of actually achieving an effective and enduring offset of ecological impacts. We believe "bundling" mitigation offsets from a number of projects and establishing mitigation banks or zones will also greatly facilitate future NEPA analysis of future proposed SEZs or projects, provide more certainty and predictability for developers, and will result in the expedited production of solar energy.

Following are the Conservancy's specific recommendations for an off-site, compensatory mitigation program, and specifically mitigation banks and mitigation endowments and funds.

Off-site Mitigation on Private Land

The Nature Conservancy recommends acquisition of suitable private lands of the size and quality needed to meet mitigation offset requirements for ecological impacts on BLM-administered lands as the first strategy for accomplishing off-site mitigation. Concomitantly, endowments should be established to provide sufficient funding for the long-term management and monitoring of private lands acquired as mitigation to address ecological impacts on BLM-administered lands. These acquired lands should also be clearly designated as withdrawn from future energy development and for the sole purpose (and use) of conserving the species and habitats they are intended to mitigate for, via immediate revision or amendment to the relevant Resource Management Plan.

Off-site Mitigation on BLM-administered Lands

Although it seems vast, the Mojave Desert ecoregion is a good example of a place covered by the DPEIS study area that likely lacks sufficient private land (of the quality and size necessary) to meet all the mitigation needs of solar developers for projects on both BLM-administered lands and similar private lands. With eighty-five percent of the land across the ecoregion already in

non-private ownership, compensatory off-site mitigation actions are frequently proposed for public lands, e.g. enhanced conservation management, restoration, or additional protections, in lieu of private land acquisition.

In order to ensure the effectiveness of mitigation investment on BLM-administered lands, The Nature Conservancy believes it is necessary to change the designation of lands identified to meet off-site mitigation needs, whether mitigation banks or zones, from multiple-use to stronger categories of protection and management, via amendments or revisions to the relevant RMP or other land-use plan. Additionally, it is especially important that compensatory mitigation dollars directed towards BLM-administered lands be spent on actions that provide clear and additive benefits rather than backfill existing agency activities and resources.

Mitigation Banks or Zones on BLM-administered Lands

One mechanism to accomplish ecologically viable mitigation offsets is the establishment of mitigation banks or zones on BLM-administered lands, coupled to third party financial mechanisms to ensure mitigation addresses impacts over the life of the impacts (and is additive to existing BLM activities and funding for those lands). We recommend BLM-administered lands suitable for use as mitigation banks or zones be identified via a landscape-scale ecoregional assessment (please see *Role and Use of Landscape-scale Ecological Assessments)* and taken from a pool of lands that are identified as ecologically core or intact and are of the habitat type and species that will be impacted by development in SEZs, solar projects on other BLM-administered lands, and in some cases, on private lands. These areas should be designed to maximize the likelihood that mitigation actions within mitigation banks or zones will ensure effective mitigation of projected and actual impacts of approved applications, and should followed by formal designation as mitigation banks or zones in an amendment or revision to the relevant RMP or land use plan, including a specific directive that they be withdrawn from other uses. It is very important that the process of designation and withdrawal be efficient enough to allow timely designation of mitigation banks or zones to maintain pace with BLM review and approval of new SEZs and/or solar project applications (and associated transmission) in order to ensure timely mitigation of impacts.

As solar projects are sited and built, the acres of land and associated funding needed to mitigate the impacts of those projects is "set aside" within the mitigation bank or zone until the mitigation bank is "full." Thereafter, the mitigation bank is permanently managed to ensure mitigation is achieved over time, implementing management actions that reduce ecological impacts and ensure lasting conservation (and thus mitigation) outcomes, e.g. cessation of grazing, elimination or better management of off-road vehicle use, control of invasive species, improved transportation management, and habitat restoration.

Funding for long-term management of mitigation banks or zones would be "banked" in third party-managed endowments or funds. BLM and the USFWS would direct compensatory mitigation towards funds or accounts managed by a third party for the purposes of implementing mitigation on BLM-administered lands according to CEQ guidance and NEPA or BLM

policies. Established on a zone, state, or ecoregional basis, each endowment would be used to address the ecological impacts from solar projects to all impacted habitats and species which the bank was created to mitigate for. BLM (and the USFWS as appropriate) would designate who would manage the endowment, the science-based approach to be used in discerning conservation actions to be taken to address impacts, and specify how decisions on the expenditure of mitigation funds would be made. BLM should also adopt appropriate budget mechanisms to ensure that these endowments are in addition to, and do not substitute for, historical or reasonable—whichever is higher--funding for management of those lands from annual federal appropriations. BLM should consider adopting, or examining as a potential model, the Army's approach to ensuring that the Army's mitigation obligations under NEPA are met.

The designation and use of mitigation banks is well within the authorities of the BLM and USFWS. Under the May 3, 2003 guidance on conservation banks promulgated by the US Fish and Wildlife Service, "[u]se of conservation banks on Federal lands is not precluded under this guidance, although there may be special considerations concerning applicability of conservation banks on Federal lands… use of conservation banks on Federal lands would occur only on a case-by-case basis after review and approval by the Director." We recommend that the DPEIS specifically state that such approval will be sought where effective off-site mitigation to offset the impacts of solar development on listed or candidate species cannot be accomplished through the acquisition and protection of private lands with suitable habitat.

Management of Existing Applications

Since 2008, solar energy developers have filed hundreds of ROW applications covering millions of acres of BLM-administered land in the DPEIS study area. In the California Desert District alone, there were at one time more than one hundred solar development "active" applications covering more than 600,000 acres. The need for a programmatic review of potential solar energy development was evident.

With the release of the DPEIS, opportunities arise to better review and manage existing applications (those submitted prior to June 30, 2009) and new applications (those submitted between June 30, 2009 and the date that the ROD for the final PEIS is signed). The approach for managing these existing and new applications is fundamental to meeting the Secretary's vision as he described it on June 29, 2009: "This environmentally-sensitive plan will identify appropriate Interior-managed lands that have excellent solar energy potential and limited conflicts with wildlife, other natural resources or land users…with coordinated environmental studies, good land-use planning and zoning and priority processing, we can accelerate responsible solar energy production that will help build a clean-energy economy for the 21st century."

Both existing and new applications have the potential to make meaningful progress toward building the clean-energy economy captured in the Secretary's vision. However, these

applications also have the potential to undermine or conflict with the environmental, land-use planning and zoning vision that the Secretary articulated The goal of BLM in reviewing existing applications should be to approve solar energy developments in a manner consistent with the vision and objectives of a final PEIS (as it would be for new applications). To accomplish this, and to improve management of all applications, new and existing, we offer the following recommendations.

Existing Right-of-Way (ROW) Applications

To enhance the processing of existing applications, we recommend the current guidance for the administration of solar energy development on BLM-administered lands be revised as follows:

1. Establishing a time limit (or "shelf life") for pending first in line applications to reach Notice of Intent readiness. Applications that have not reached NOI readiness within that window should be rejected. When and if second in line and subsequent applications become first in line applications, they should also be subject to this same requirement;
2. The BLM should establish a new processing fee structure at a level sufficient to dampen speculation. All applicants (including those with second and later in line applications) should be required to pay these fees in full into escrow before application processing begins;
3. The Department of the Interior (DOI) should clearly define all POD requirements and enforcement mechanisms in regulation;
4. DOI should adopt and use enhanced criteria-based screens for economic, technological, and environmental viability, using the environmental screens proposed by the California Desert and Renewable Energy Working Group in December 2010;
5. DOI should coordinate with the Department of Energy, Treasury, and other federal agencies to apply screens within their expertise to ensure that limited public resources are focused on only the most viable applications.

Rejection of existing right-of-way applications

There are three categories we recommend for immediate rejection of ROW applications:

1. The ROW application is proposed in an area identified as inappropriate for development in the PEIS. The DPEIS states that "all BLM-administered lands are not appropriate for solar energy development." Those areas ar1.e detailed in Table 2.2-2 Areas for Exclusion under the BLM Solar Energy Development Program Alternative beginning on page 2-8 of the Draft Solar PEIS. Once the ROD for the PEIS is signed, the BLM should immediately reject any areas that are identified as inappropriate for development in the Final PEIS.

   Prior to the signing of the PEIS ROD, all pending applications determined by the BLM to be in "high-conflict" areas, per the environmental screens proposed by the California Desert and Renewable Energy Working Group in December 2010, following

consultation with the applicant and stakeholders, should be rejected.

2. The ROW application is proposed in an area that is identified as core to meeting landscape-scale goals for conservation. As we discussed in our comments in *Role and Use of Landscape-scale Ecological Assessments* and *Creating a Mitigation Framework: The Mitigation Hierarchy*, solar energy facilities should not be sited in locations that contain the most ecologically important, sensitive or intact habitats. A robust, landscape-scale ecological assessment, such as those discussed and recommended in our comments in *Creating a Mitigation Framework: The Mitigation Hierarchy,* should be the basis for identifying avoidance areas, or areas where applications will not be accepted. The Nature Conservancy has already completed landscape-scale analyses in each of the ecoregions considered in the DPEIS. **To successfully maintain ecological viability across the arid and desert Southwest US, we recommend that applications in the following areas be rejected (i.e., included in the areas identified as inappropriate for solar development)**:

    - Ecologically Core lands identified in The Nature Conservancy's 2010 Mojave Ecoregional Assessment;
    - Category A lands identified in The Nature Conservancy's 2009 California Sonoran Assessment;
    - For areas outside of the Mojave and Californian Sonoran, portfolio sites identified in The Nature Conservancy's "first generation" of ecoregional assessments, completed between 1996 and 2005, which collectively represent the best remaining areas to conserve an ecoregion's full array of biodiversity, including natural communities as well as the rare, unique and endemic species that may have very specific habitat requirements.

3. Applications in excess of their "shelf life." Existing applications should be required to demonstrate compliance with technical and financial screening criteria within six months of notice provided upon issuance of the ROD for the Solar PEIS. Those that cannot demonstrate such compliance should be rejected

Screening of Remaining Applications: Relocation and Prioritization of BLM Resources

First, completed or pending ROW applications submitted prior to June 30, 2009 should be offered the opportunity to relocate into SEZs identified in the final PEIS, coupled with an accelerated priority status for processing applications and any necessary NEPA analyses.
For existing applications outside of avoidance areas but not within SEZs, BLM should evaluate each application against the screening criteria in the California Desert & Solar Working Group's letter to the Secretary of Interior dated December 22, 2010.

Applicants that are in "medium" or "low" conflict areas should be given an option to move their applications to land not already under application within an established SEZ in the same state before any other new applications are accepted by BLM in those areas. Applicants who choose

not to exercise the option to move their applications must comply with shelf-life and other requirements. Priority for processing should be given first to applications in the "low conflict" category, where a Notice of Intent has been filed.
Where BLM has received multiple ROW applications for overlapping geographic areas within the "low conflict" category, BLM should—to the extent allowed by law—compare the ROW applications and give the highest priority for more detailed review to the proposal that appears to both minimize adverse impacts and maximize the likelihood of technical and financial success. This should facilitate timely approval and successful implementation of the most promising projects in the most promising locations.

Once the Solar PEIS is completed, processing of ROW applications in SEZs should take precedence.

New ROW Applications

New ROW applications submitted after June 30, 2009 should receive no further processing until the ROD for the PEIS is signed. They then become subject to the terms of the final Solar PEIS. Post-June 30, 2009 applications will not be processed after the ROD unless they are located within an identified SEZ or until a SEZ is added that encompasses the area of the application, per the criteria outlined for identifying new zones (see the discussion of adding new SEZs in the *A Least Conflict Approach to Adding New or Modifying Existing Solar Energy Zones*).

Finally, we recommend that no new applications be accepted from this point until the record of decision (ROD) is signed for the final Solar PEIS. Precluding new applications will eliminate confusion for new applicants and give BLM the opportunity to complete pending applications.

Appendix: Ecological Analysis of the Draft Solar PEIS Alternatives

The DPEIS evaluates three alternatives for managing solar energy development on BLM-administered lands in the six southwestern states over the next 20 years. The Nature Conservancy has assessed how the proposed alternatives could affect biological diversity by comparing them with spatially explicit information on lands and waters with high conservation value from ecoregional assessments completed by the Conservancy and its partners. Collectively these ecoregional assessments cover the entire area encompassed by the draft solar PEIS and permit the Conservancy to provide probative, science-based comments.

Ecoregional assessments are comprehensive and systematic efforts to identify conservation priorities. The "first generation" assessments, completed between 1996 and 2005 identified "portfolios" of sites that collectively represented the best remaining areas to conserve an ecoregion's full array of biodiversity, including natural communities as well as the rare, unique and endemic species which may have very specific habitat requirements. These "first generation" did not assign conservation value to lands and waters other than the portfolio sites.

More recently completed "second generation" assessments, including the updated Mojave Desert Ecoregional Assessment (2010) and the Framework for Effective Conservation Management of the Sonoran Desert in California (2009), used the same basic methodology but differed in providing "wall-to-wall" classification of all land in these regions into one of four conservation value categories: Ecologically Core, Ecologically Intact, Moderately Disturbed and Highly Converted. These "second generation" assessments were designed to inform regional land use planning in addition to identifying regional conservation priorities. For more information on the approach used to conduct these first generation ecoregional assessments, see Groves (2003) and for the second generation assessments, see Randall et al (2010; http://conserveonline.org/workspaces/mojave/documents/mojave-desert-ecoregional-2010/@@view.html).

Acres Opened for Development

Drawing upon these first and second generation assessments, the Conservancy began its analysis of the proposed alternatives with the DPEIS's Reasonably Foreseeable Development Scenario. It projects a need for 214,119 acres of BLM land and 71,370 acres of other lands for solar energy development in the 6 states by 2030. The amount of BLM land available for Right Of Way (ROW) applications would be much greater than this scenario requires under all three alternatives presented in the DPEIS: by a factor of over 450 under the no action alternative (98,732,220 acres), by a factor of 100 under the Solar Energy Development Program alternative (21,581,154 acres), and by a factor of three under the Solar Energy Zone (SEZ) alternative (677,384 acres). Based on these figures alone, it appears the proposed alternatives open far more acres of publicly owned land for solar development than is necessary.

The consequence of opening an excess of acres is placing more core ecological areas at risk of conversion and degradation. Under the No Action alternative, a third of the land that would be open to ROW applications (30,788,401 acres) falls within "portfolio sites" identified as having high conservation value in the first generation ecoregional plans completed by The Nature Conservancy and partners (Table 1).

The Solar Energy Development Program alternative excludes over 76 million acres of BLM land that would be available for ROW application under the No Action alternative, but which is known or believed to be unsuitable for solar energy development based on 25 criteria including slope, insolation, and a variety of recreational use, historical and conservation designations and values (see Table ES-2.2 in the draft PEIS Executive Summary and copied below). Nonetheless, this alternative leaves over 21.5 million acres open to ROW applications across the six-state region. Nearly a quarter of this area, or 5,170,926 acres, overlaps with high conservation value portfolio sites (Table 1).

The Solar Energy Zone alternative exposes a total of 677,384 acres to ROW application, of which 214,526 acres (32% of the total area of the SEZs) overlaps with high conservation value portfolio sites, a substantial area but far less than the other alternatives.

Portfolio Site Overlap

Many of the "portfolio sites," which overlap with areas open to ROW applications under the three alternatives, extend well beyond the area covered by the alternatives themselves, into lands held by other agencies or in private hands. Our data on the presence of federally endangered and threatened species is grouped by portfolio site, so we report on the numbers of T&E species in the portfolio sites, but it must be noted that it is not certain the species are found on portions of the portfolio sites that overlap with BLM land. Under the No Action alternative, at least 133 federally Threatened and Endangered species have been reported from the overlapping portfolio sites (Table 1), many more than have been reported from the Solar Energy Development Program (105 species) or the Solar Energy Zones (27 species).

A closer look at the second generation assessments conducted for the California portions of the Mojave and Sonoran Deserts reveals that the No Action alternative encompasses 2,551,115 acres of Ecologically Core lands (Table 2; Figure 2). The Solar Energy Development Program alternative encompasses 685,103 acres of Ecologically Core land in California (Table 2; Figure 3), while the Solar Energy Zone alternative encompasses 182,356 acres (Table 2; Figure 4).

Table 1. Alternatives Overlap with Portfolio Sites and Listed Species Prevalence

State	No Action Alternative		Preferred Alternative		Solar Energy Zones	
	Overlap with Portfolio sites (Acres/%)[1]	*T & E species*[2]	*Overlap with Portfolio sites (Acres/%)*[1]	*T & E species*[2]	*Overlap with Portfolio sites (Acres/%)*[1]	*T & E species*[2]
AZ	2,726,962 acres (30%)	54	937,095 acres (21%)	40	680 acres (5%)	0
CA	4,276,086 acres (39%)	45	567,629 acres (32%)	33	120,660 acres (36%)	12
CO	3,430,989 acres (47%)	25	92,528 acres (62%)	4	14,568 acres (69%)	0
NV	10,669,878 acres (26%)	36	2,251,479 acres (25%)	13	60,780 acres (35%)	18
NM	3,147,025 acres (27%)	36	871,314 acres (21%)	24	11,937 acres (11%)	0
UT	6,537,460 acres (36%)	38	450,880 acres (22%)	23	5,901 acres (31%)	0
Six state region	30,788,401 acres (31%)	133	5,170,926 acres (24%)	105	214,526 acres (32%)	27

[1]Acres of lands within BLM alternative that overlap with regional conservation areas. % expresses the % of BLM alternative that overlaps with regional conservation areas.

[2]Species that are listed as Threatened or Endangered under the U.S. Endangered Species Act.

Portfolio sites are areas of high conservation value and regional conservation significance that contain sensitive biological species, vegetation communities, riparian, wetland and aquatic systems and intact habitat for wildlife. They were identified by The Nature Conservancy through a series of ecoregional assessments conducted in collaboration with federal, state, university, academic, and tribal partners between 1996 and 2005. (Note: these data do not include recent assessment data such as that developed for the Mojave ecoregion in 2010).
Data source: http://azconservation.org/downloads/category/ecoregional_assessment/

Table 2. Conservation Values of the Lands Available for ROW Applications in California under the Three Alternatives

PEIS	EC	EI	MD	HC	Grand Total
SEZ	182,356	108,296	47,561	878	339,090
Dev Alt	685,103	711,988	287,024	21,412	1,705,526
No Action	2,551,115	3,115,025	1,057,241	77,290	6,800,671
PEIS	EC	EI	MD	HC	
SEZ	54%	32%	14%	0%	
Dev Alt	40%	42%	17%	1%	
No Action	38%	46%	16%	1%	

Figure 1. Acres of Land Available by Conservation Value Category for ROW Applications under the Three Alternatives

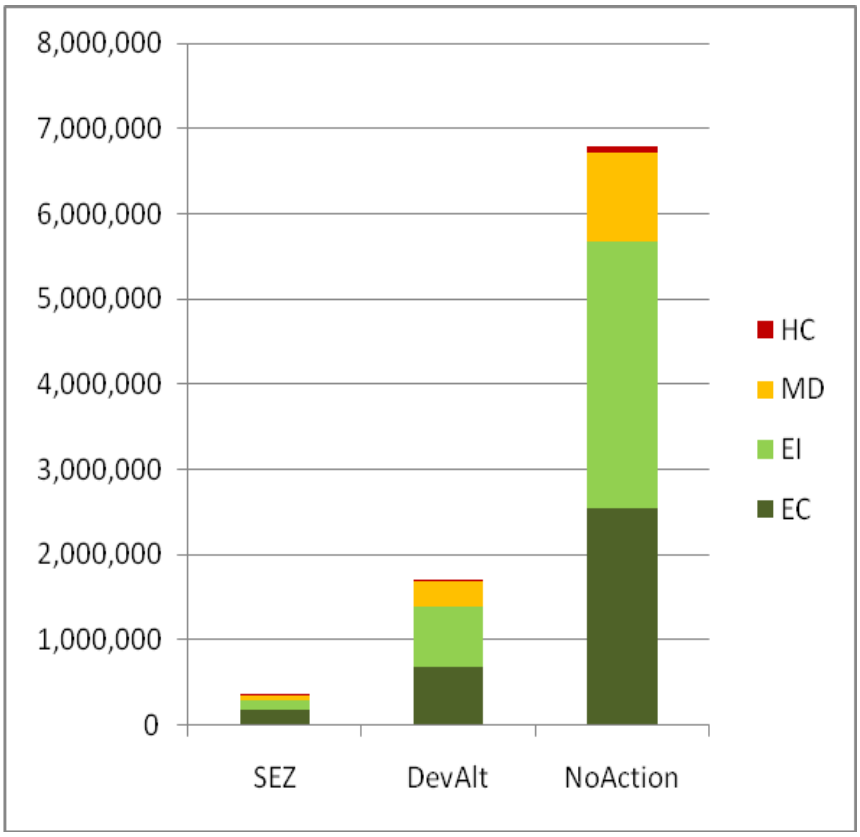


Figure 2. Land Conservation Values: No Action Alternative

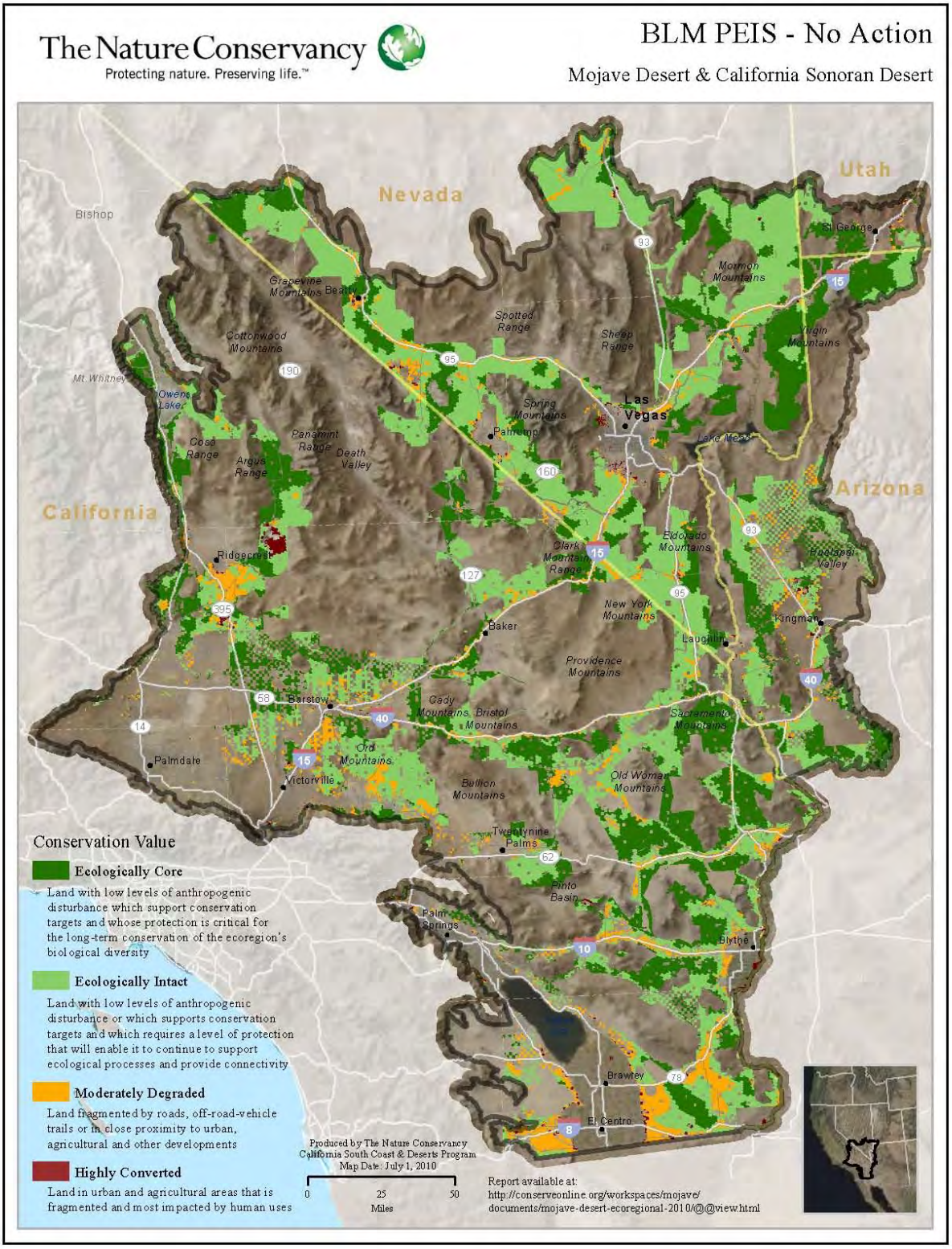


Figure 3. Land Conservation Value: Development Alternative

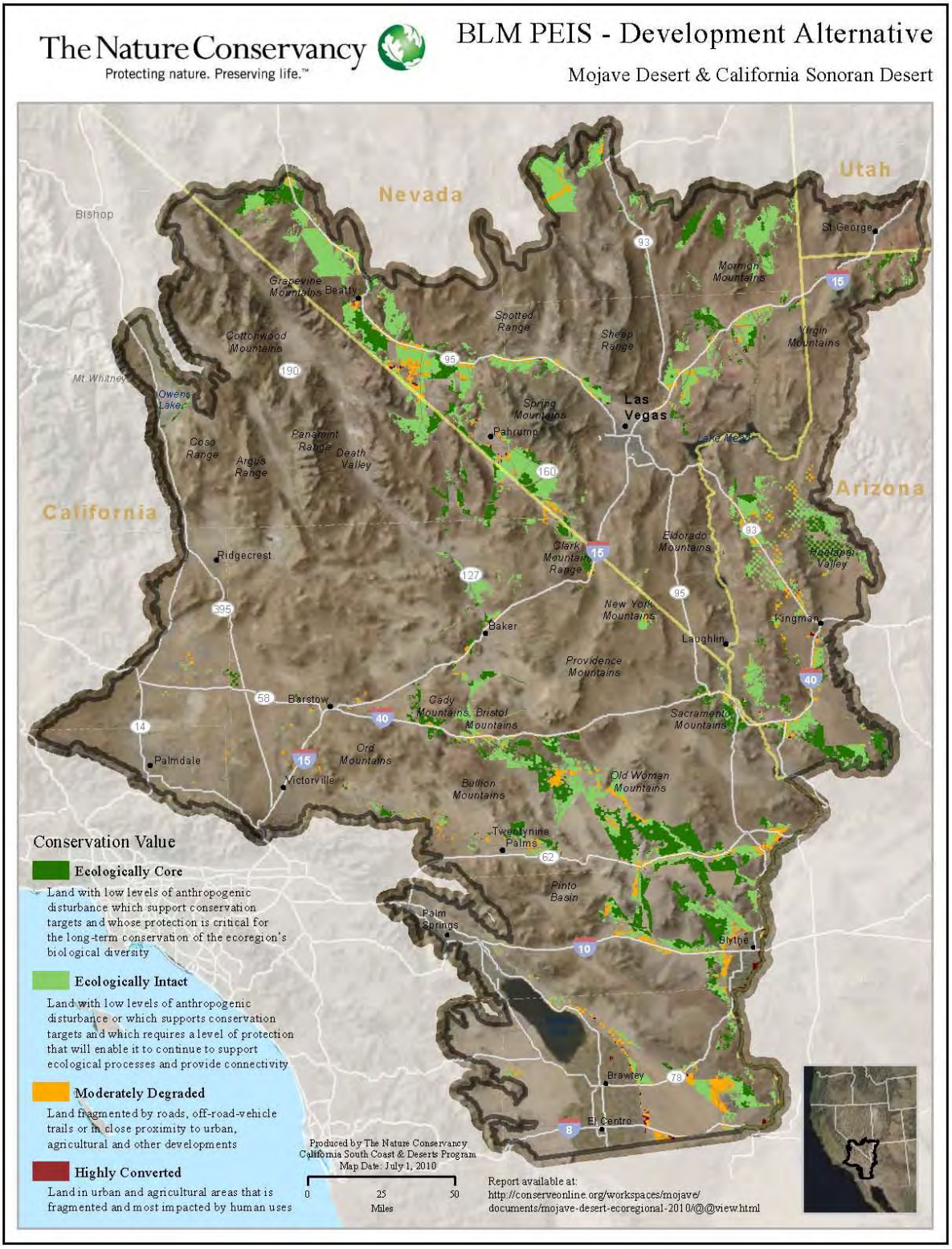
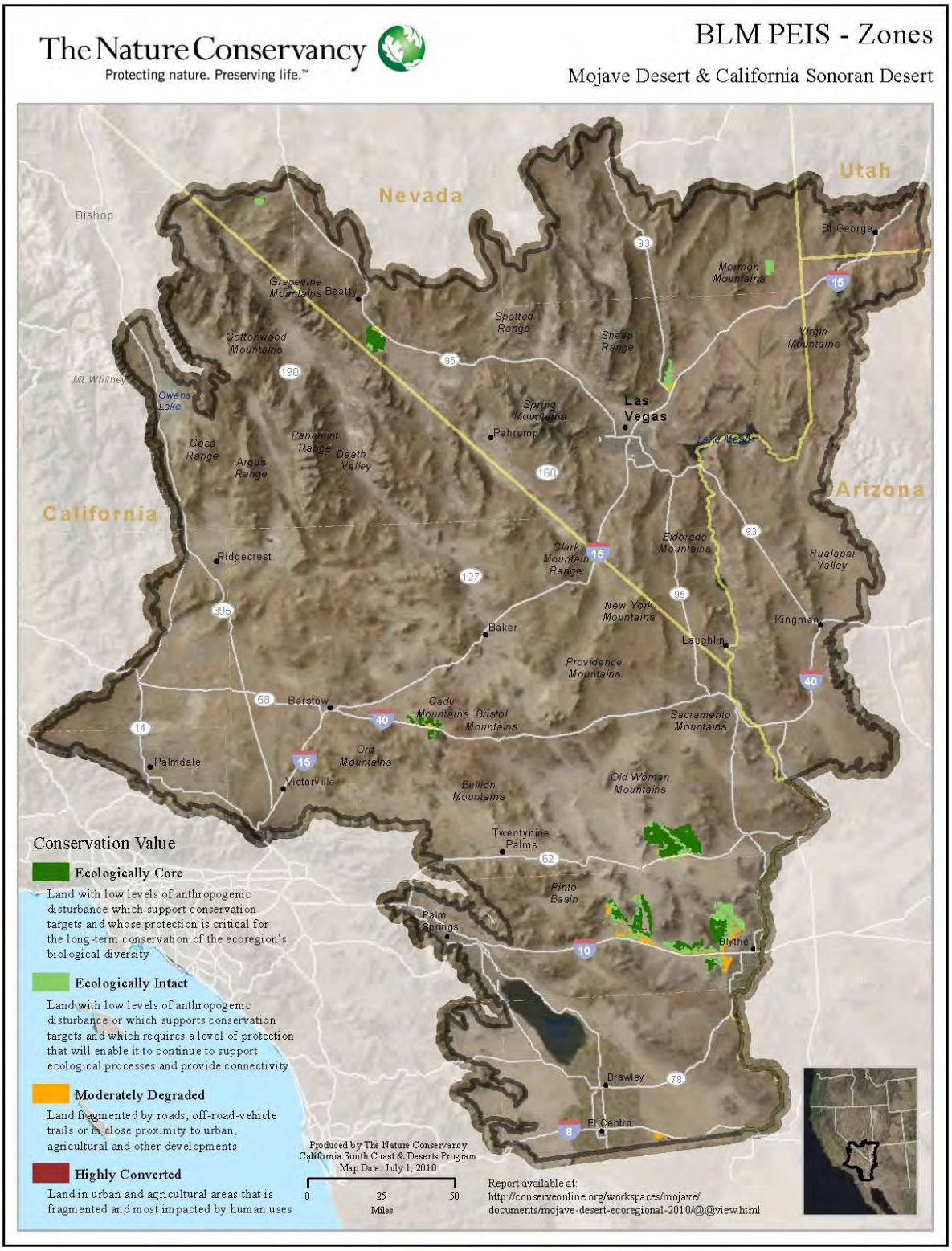


Figure 4. Land Conservation Value: SEZ Alternative



Federally Endangered and Threatened Species

Lands open for ROW applications under the No Action alternative in the California Deserts host 21 T&E species (15 endangered species and 6 threatened species) as well as 61 other Bureau of Land Management Sensitive species (Table 3). In contrast, the Solar Energy Development Program lands host just four endangered and two threatened species and 30 other BLM Sensitive Species, while the proposed Solar Energy Zone lands in the Mojave hosts one federally threatened and one endangered species plus six more BLM sensitive species (Table 4).

BLM Species of Special Concern include all federally threatened and endangered species as well as those formally proposed for listing, plus all species designated as BLM Sensitive species. These Sensitive Species in turn are taxa that are not federally listed as threatened or endangered or proposed for listing, but which are known or believed to be present on BLM land and meet one or more of the following criteria:

1. Could become endangered or extirpated from the state, or within a significant portion of its range in the foreseeable future
2. Under status review by the FWS or National Marine Fisheries Service
3. Undergoing significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution or population or density such that federally listed, proposed, candidate, or state listed status may become necessary
4. Typically consists of small and widely dispersed populations
5. Inhabits ecological refugia, or specialized or unique habitats
6. Is state-listed, but which may be better conserved through application of BLM

Table 3. BLM Special Status Species on Lands Available for POW Applications in the California Mojave & Sonoran Deserts

Type	BLM Sensitive Species	Federal Endangered	Federal Threatened
SEZ	6	1	1
Dev Alt	30	4	2
No Action	61	15	6

Table 4. BLM Special Status Species Present on Lands open to ROW Applications in California

Species	BLM Status	Alternative
Astragalus magdalenae var. peirsonii	Threatened	DevAlt
Erigeron parishii	Threatened	NoAction
Gopherus agassizii	Threatened	SEZ
Grindelia fraxinipratensis	Threatened	NoAction
Melozone crissalis eremophilus	Threatened	NoAction
Uma inornata	Threatened	NoAction
Astragalus albens	Endangered	NoAction
Astragalus jaegerianus	Endangered	NoAction
Astragalus lentiginosus var. coachellae	Endangered	NoAction
Cyprinodon macularius	Endangered	NoAction
Cyprinodon radiosus	Endangered	DevAlt
Empidonax traillii extimus	Endangered	NoAction
Eriogonum ovalifolium var. vineum	Endangered	NoAction
Microtus californicus scirpensis	Endangered	NoAction
Nitrophila mohavensis	Endangered	DevAlt
Ovis canadensis nelsoni DPS	Endangered	NoAction
Ovis canadensis sierrae	Endangered	NoAction
Rallus longirostris yumanensis	Endangered	SEZ
Siphateles bicolor mohavensis	Endangered	NoAction
Siphateles bicolor snyderi	Endangered	NoAction
Xyrauchen texanus	Endangered	DevAlt
Acmispon argyraeus var. multicaulis	BLMS	DevAlt
Antrozous pallidus	BLMS	DevAlt
Aquila chrysaetos	BLMS	NoAction
Athene cunicularia	BLMS	DevAlt
Buteo swainsoni	BLMS	NoAction
Calochortus excavatus	BLMS	DevAlt
Calochortus striatus	BLMS	NoAction
Chamaesyce platysperma	BLMS	NoAction
Coccyzus americanus occidentalis	BLMS	DevAlt
Colaptes chrysoides	BLMS	NoAction
Cordylanthus tecopensis	BLMS	NoAction
Corynorhinus townsendii	BLMS	DevAlt
Croton wigginsii	BLMS	DevAlt
Cymopterus deserticola	BLMS	DevAlt
Cyprinodon nevadensis amargosae	BLMS	NoAction
Dedeckera eurekensis	BLMS	NoAction

Species	BLM Status	Alterative
Deinandra arida	BLMS	NoAction
Deinandra mohavensis	BLMS	No Action
Echinocereus engelmannii var. howei	BLMS	No Action
Enceliopsis covillei	BLMS	No Action
Eriastrum harwoodii	BLMS	SEZ
Eriogonum bifurcatum	BLMS	Dev Alt
Eriogonum contiguum	BLMS	Dev Alt
Eriophyllum mohavense	BLMS	Dev Alt
Euderma maculatum	BLMS	No Action
Eumops perotis californicus	BLMS	Dev Alt
Ivesia patellifera	BLMS	No Action
Laterallus jamaicensis coturniculus	BLMS	No Action
Linanthus maculatus	BLMS	No Action
Lupinus excubitus var. medius	BLMS	No Action
Lupinus magnificus var. magnificus	BLMS	No Action
Macrotus californicus	BLMS	SEZ
Melanerpes uropygialis	BLMS	Dev Alt
Mentzelia polita	BLMS	No Action
Mentzelia tridentata	BLMS	No Action
Micrathene whitneyi	BLMS	Dev Alt
Microtus californicus vallicola	BLMS	Dev Alt
Mimulus mohavensis	BLMS	No Action
Myotis velifer	BLMS	No Action
Myotis yumanensis	BLMS	Dev Alt
Opuntia basilaris var. brachyclada	BLMS	No Action
Ovis canadensis nelsoni	BLMS	SEZ
Palafoxia arida var. gigantea	BLMS	Dev Alt
Penstemon albomarginatus	BLMS	SEZ
Penstemon fruticiformis var. amargosae	BLMS	Dev Alt
Penstemon stephensii	BLMS	Dev Alt
Perognathus longimembris bangsi	BLMS	No Action
Phacelia inyoensis	BLMS	No Action
Phacelia nashiana	BLMS	No Action
Phacelia parishii	BLMS	No Action
Pholisma sonorae	BLMS	Dev Alt
Phrynosoma blainvillii	BLMS	No Action
Rhinichthys osculus ssp. 1	BLMS	No Action
Salvia greatae	BLMS	Dev Alt
Sidalcea covillei	BLMS	No Action
Sphaeralcea rusbyi var. eremicola	BLMS	Dev Alt

Species	BLM Status	Alterative
Toxostoma bendirei	BLMS	SEZ
Uma scoparia	BLMS	SEZ
Vireo bellii arizonae	BLMS	Dev Alt
Xylorhiza cognata	BLMS	Dev Alt
Xylorhiza orcuttii	BLMS	No Action

Solar Energy Zone Program Analysis

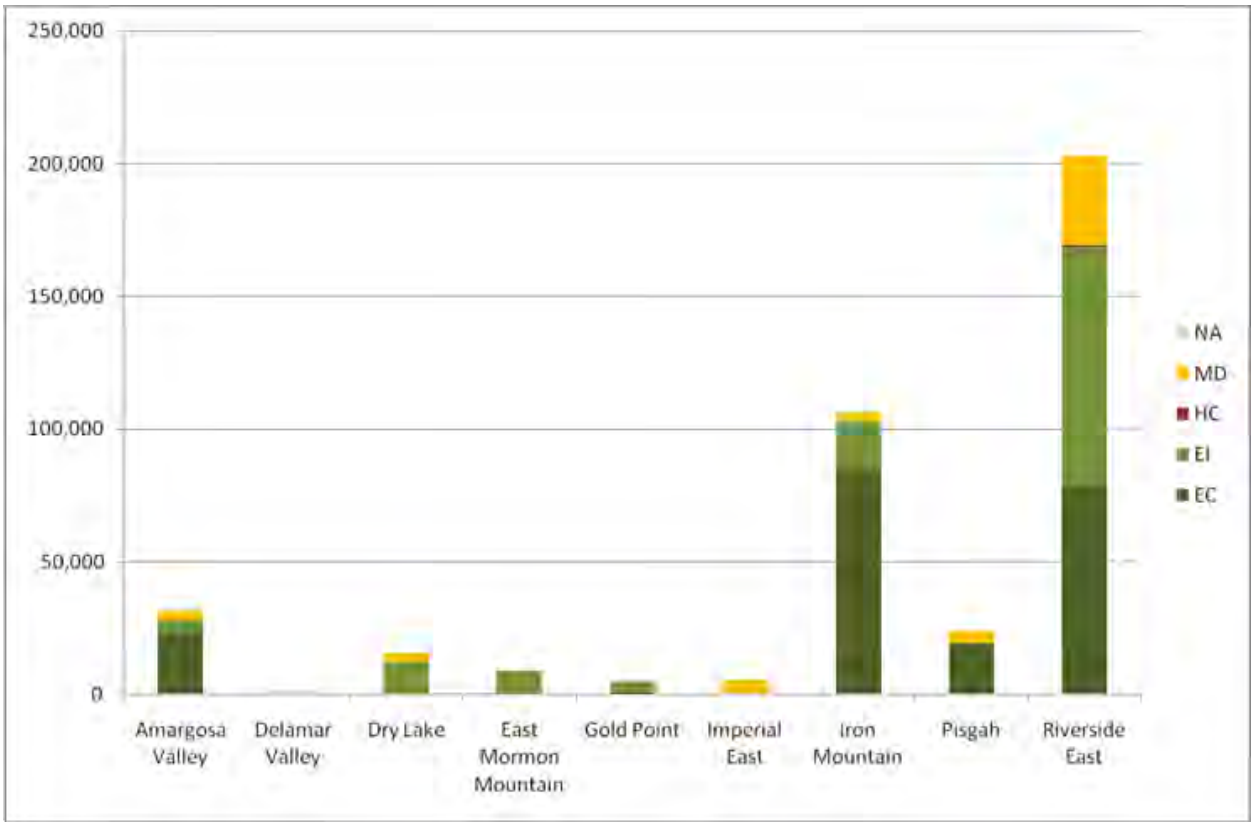
The twenty-four proposed solar energy zones proposed in the DPEIS would encourage grouping of solar energy facilities, reducing fragmentation and the need for new transmission lines relative to the more dispersed siting of facilities likely under the Solar Development Program or the No Action alternative. SEZs also expose far less high conservation value land to ROW application than the other alternatives, and fewer federally listed species and other BLM Special Status Species to potential harm. Nonetheless, several of the proposed SEZs could be modified or replaced with other lower conservation value land to better avoid harmful impacts to biological diversity.

Although the Solar Energy Zone alternative has many advantages over the other alternatives, it still poses unnecessary threats to biological diversity, most of which could be eliminated or reduced by modifying or replacing specific SEZs (see the discussion above on our recommended modified zone approach). For example, over half of the area of the SEZs proposed for the Mojave Desert ecoregion and for the California portion of the Sonoran Desert falls on lands that were assigned to the highest conservation value category- Ecologically Core- in the second generation ecoregional assessments: (206,641 acres, 52%; Table 5 below; Figure 2). Large areas of the Amargosa Valley, Iron Mountain, Pisgah and Riverside East SEZs are comprised of these highest conservation value lands (Table 5).

Table 5. Acres of Land by Conservation Value Category for SEZs in the Mojave and California Sonoran Deserts and Overlap with Portfolio sites

SEZ	EC	EI	MD	HC
Amargosa Valley	23,377	4,496	3,752	
Dry Lake	176	11,861	3,612	
East Mormon Mountain		8,968		
Gold Point	732	4,078		
Imperial East			5,567	155
Iron Mountain	84,638	17,896	3,987	
Pisgah	19,142	281	4,528	
Riverside East	78,577	90,118	33,478	723
Total	206,641	137,838	54,924	878
	(52%)	(34%)	(13.8%)	(.02%)

Figure 5. Proportions of Land in each of the Four Conservation Value Categories for each of the Nine Proposed SEZs Located Entirely or Partially in Mojave Ecoregion or the California portion of the Sonoran Ecoregion.



Below we recommend that some of the proposed SEZs be replaced or modified to avoid damage to lands with high conservation values and using the following criteria to help identify lands that may be suited to replace these excluded areas or to add SEZs if the need arises:

1. Lands that have been mechanically disturbed, including areas classified as Moderately Degraded and Highly Converted in the Mojave and California Sonoran assessment, i.e. locations that are degraded and disturbed by mechanical disturbance, include areas that have been "type-converted" from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use)
2. BLM lands of comparatively low resource value located adjacent to disturbed and degraded private lands to allow for the expansion of renewable energy development onto private lands, with private lands development offering tax benefits to local government
3. Brownfields to revitalize idle or underutilized industrialized sites; existing transmission capacity and infrastructure are typically in place
4. Locations adjacent to urbanized areas that provide jobs for local residents often in underserved communities; minimize growth-inducing impacts; provide homes and services for the workforce that will be required at new energy facilities; and minimize workforce commute and associated greenhouse gas emissions

5. Locations that minimize the need to build new roads
6. Locations that could be served by existing substations
7. Areas proximate to sources of municipal wastewater for use in cleaning
8. Locations proximate to load centers
9. Locations adjacent to federally designated corridors with existing major transmission lines.

We also recommend that greater emphasis be placed on providing incentives for renewable energy development on disturbed private lands. In the Mojave Desert, BLM and other federal agencies land holdings are largely undisturbed and of high conservation value with nearly 5.5 million acres in Ecologically Core and Ecologically Intact status versus just 428,245 acres of Moderately Degraded and Highly Converted land (Table 6).

On the other hand, private lands in the Mojave are disproportionately disturbed and of lower conservation value with over 1 million acres of Moderately Degraded and Highly Converted land, more than double the acreage of lower conservation value lands held by BLM. This is particularly noteworthy because less than 15% of the land in the Mojave is in private hands, a lower percentage than any other U.S. ecoregion. Large areas of privately held, disturbed lands most suitable for renewable energy development are likely to be found in other ecoregions as well.

Table 6. Proportional Ownership of Land in Each Conservation Category

Category	BLM	NPS	DOD	USFWS	USFS	State	Tribal	Private	Other
Core	44.8%	27.4%	11.0%	2.5%	2.5%	2.2%	0.3%	8.1%	1.3%
Intact	52.7%	19.1%	11.9%	3.4%	0.2%	1.8%	0.4%	8.3%	2.1%
Degraded	29.1%	2.1%	17.0%	0.1%	0.5%	1.9%	0.7%	46.5%	2.1%
Converted	6.4%	0.3%	4.1%	♣0.1%	0.4%	1.7%	1.4%	84.8%	0.9%
Core & Intact	49.3%	22.7%	11.5%	3.0%	1.2%	2.0%	0.4%	8.2%	1.7%
Degraded & Converted	23.1%	1.6%	13.6%	0.1%	0.4%	1.8%	0.9%	56.7%	1.8%[1]

[1]Rows total 100%

SEZs in Arizona, California, Colorado, Nevada, and Utah

The Nature Conservancy closely examined each of the proposed Solar Energy Zones. More than half of the total area of the proposed SEZs is in California, where four SEZs have been proposed, including the two largest: the Iron Mountain site (106,522 acres) and the Riverside East site (202,896 acres). We recommend that the highest value, Ecologically Core lands or portfolio sites be eliminated from all the proposed SEZs that contain them. Below we offer specific comments on proposed SEZs with recommendations for excluding specific areas of high conservation value.

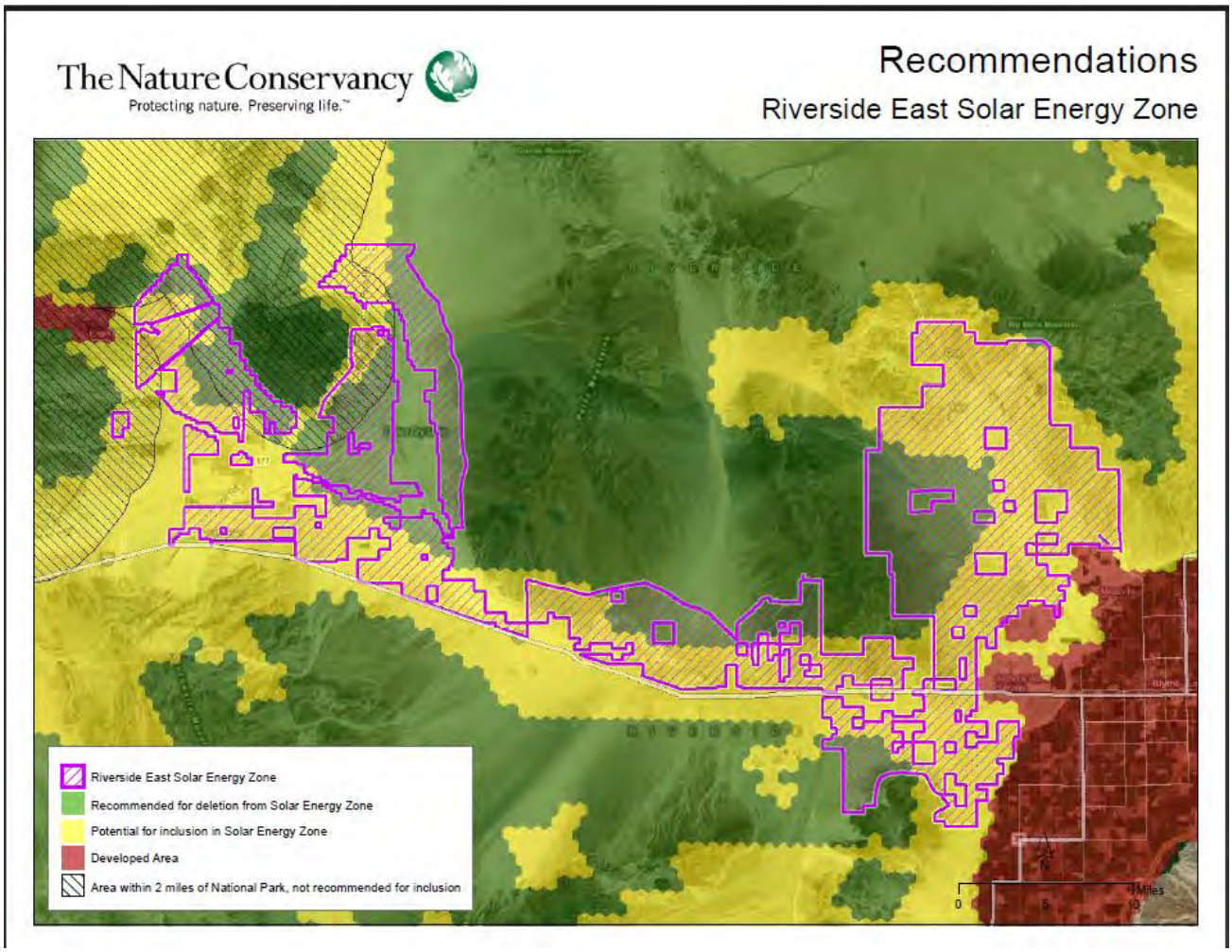
Arizona

Upon examining the Brenda, Bullard Wash, and Gillespie SEZs, the Conservancy recommends reshaping the northwest portion footprint of the Gillespie SEZ into a more compact area, which would help reduce harmful impacts on bat foraging areas and minimize large mammal movement barriers between hills and flats.

California

Riverside East

The Riverside East SEZ is divided between moderately degraded, ecologically intact and ecologically core lands. Nearly 39% of the Riverside East SEZ is comprised of lands identified as having high conservation value in the Framework for Effective Conservation Management of the Sonoran Desert in California because they are unfragmented and host important species and communities. We recommend the withdrawl from this SEZ of the highest conservation value lands shown on the accompanying map including lands around Palen Dry Lake and within 2 miles of the Joshua Trees National Park in the northwestern portion of the SEZ, and the high value habitat northwest of Blythe.

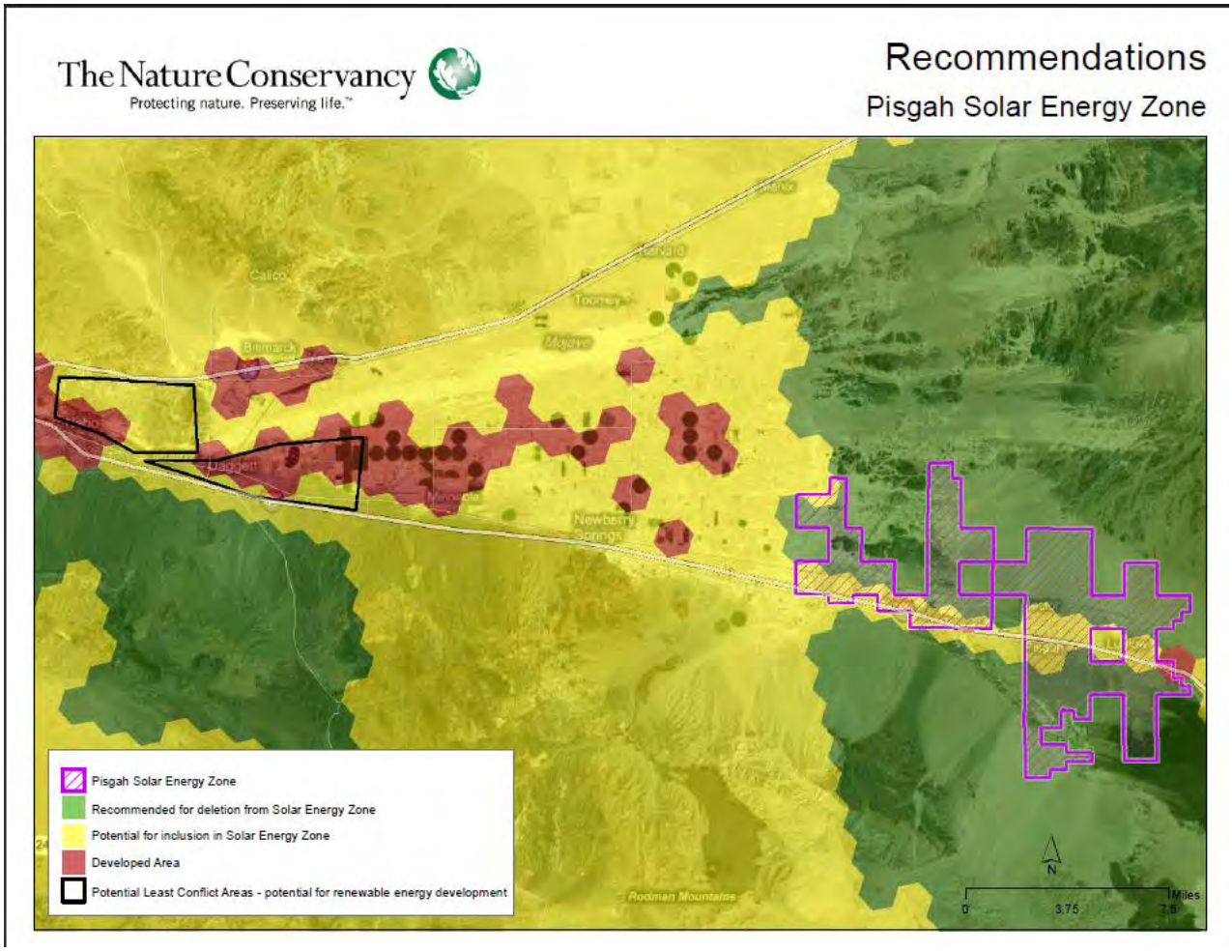


Iron Mountain

The Iron Mountain SEZ contains nearly four-fifths ecologically core land, with little more than one-fifth classified as ecologically intact or moderately degraded. Bighorn sheep have been reported on the edge of this area, which is also within the top end for habitat suitability in the desert tortoise model. Consequently, the Conservancy recommends this SEZ be eliminated.

Pisgah

Nearly 80% of the Pisgah SEZ is comprised of ecologically core land; just over 20% of this land has a lower conservation value. Pisgah is immediately west of the triangle formed by the junction of southbound Interstate 15 and westbound Interstate 40 and near private, disturbed lands that already house an out-of-service solar array. . The Conservancy recommends the Pisgah SEZ be withdrawn from consideration for ROW applications. Instead, the private lands immediately to the west may serve to replace this SEZ.



Colorado

In evaluating the Antonito Southeast, De Tilla Gulch, Fourmile East, and Lost Mogotes East SEZs , the Conservancy has identified potential conflicts in the riparian areas of the Los Mogotes East and Antonito Southeast SEZs. Specific BMPs should be employed to avoid harm to riparian ecosystems, to minimize harm that is not avoided, and to mitigate for harm that cannot be minimized.

Nevada

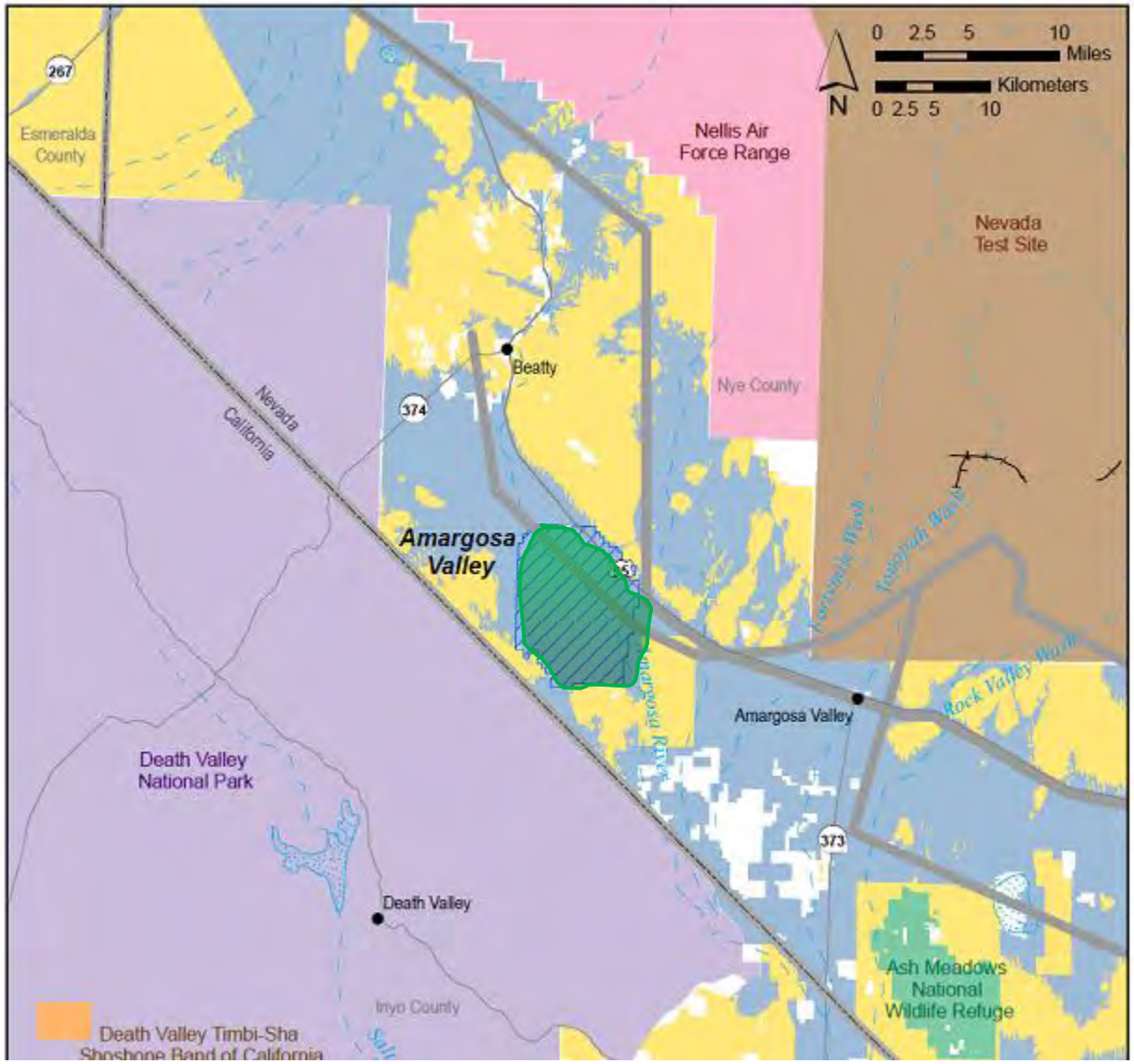
Amargosa Valley

This valley (Figure 6) is already scheduled to be heavily compromised by ongoing existing renewable energy applications, two of which are on the fast track course. There has been no explanation why additional facilities are needed in this general area given the scale of the existing proposed facilities. According to the 2010 TNC Ecoregional Assessment for the Mojave Desert, the overwhelming majority of this SEZ is contained within Ecologically Core zone with an additional 4,500 acres of Ecologically Intact lands. Only roughly 11% of this SEZ is within Moderately Degraded category, and that principally located along US Highway 95.

This valley is located within an important corridor of movement for desert tortoises in light of projected climate change. Currently occurring at low densities, this very lightly impacted valley of Mojave creosote-bursage scrub may be an important population center for this enigmatic desert species if climate trends continue. The Amargosa Valley groundwater basin is already overallocated and linked to critically important desert oases such as Oasis Valley to the north and Ash Meadows to the southeast. Additionally, the presence of Big Dune at the core of this valley should cause concern that the proliferation of renewable energy facilities will interrupt important sand transport pathways from the Amargosa River bed and nearby dry lake beds to the south and east of this valley (Figure 7).

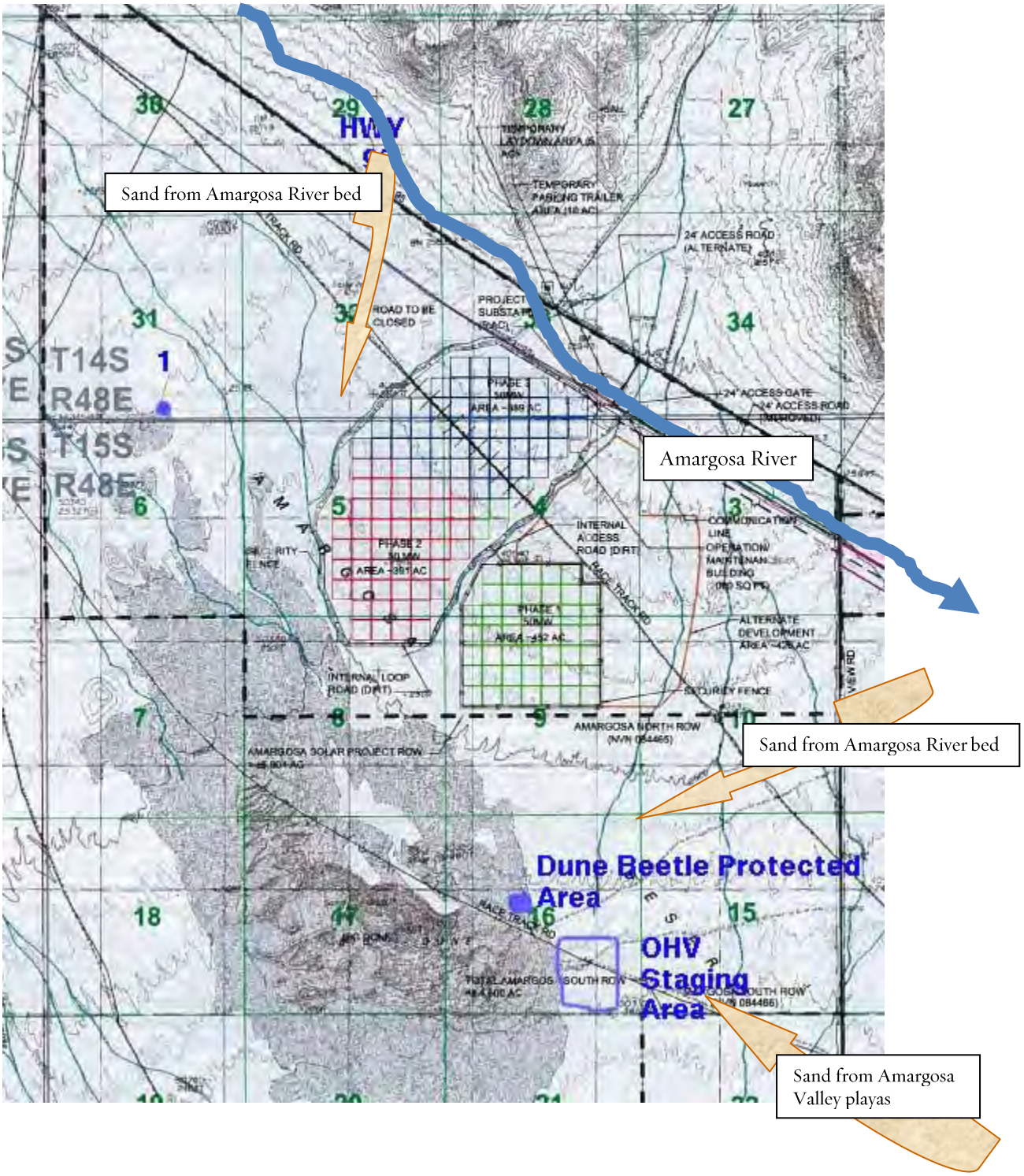
If there is a credible argument to be made for additional renewable energy to be generated in this vicinity after the build-out of several existing fast track and prior applications for solar facilities, then any additional development should occur only in the moderately degraded corridor paralleling US 95. Otherwise, this SEZ should be eliminated from further consideration.

Figure 6. Amargosa Valley SEZ



- Ecologically core and intact acreage recommended to be removed from SEZ consideration

Figure 7. Big Dune in Amargosa Valley with Likely Sand Transport Pathways

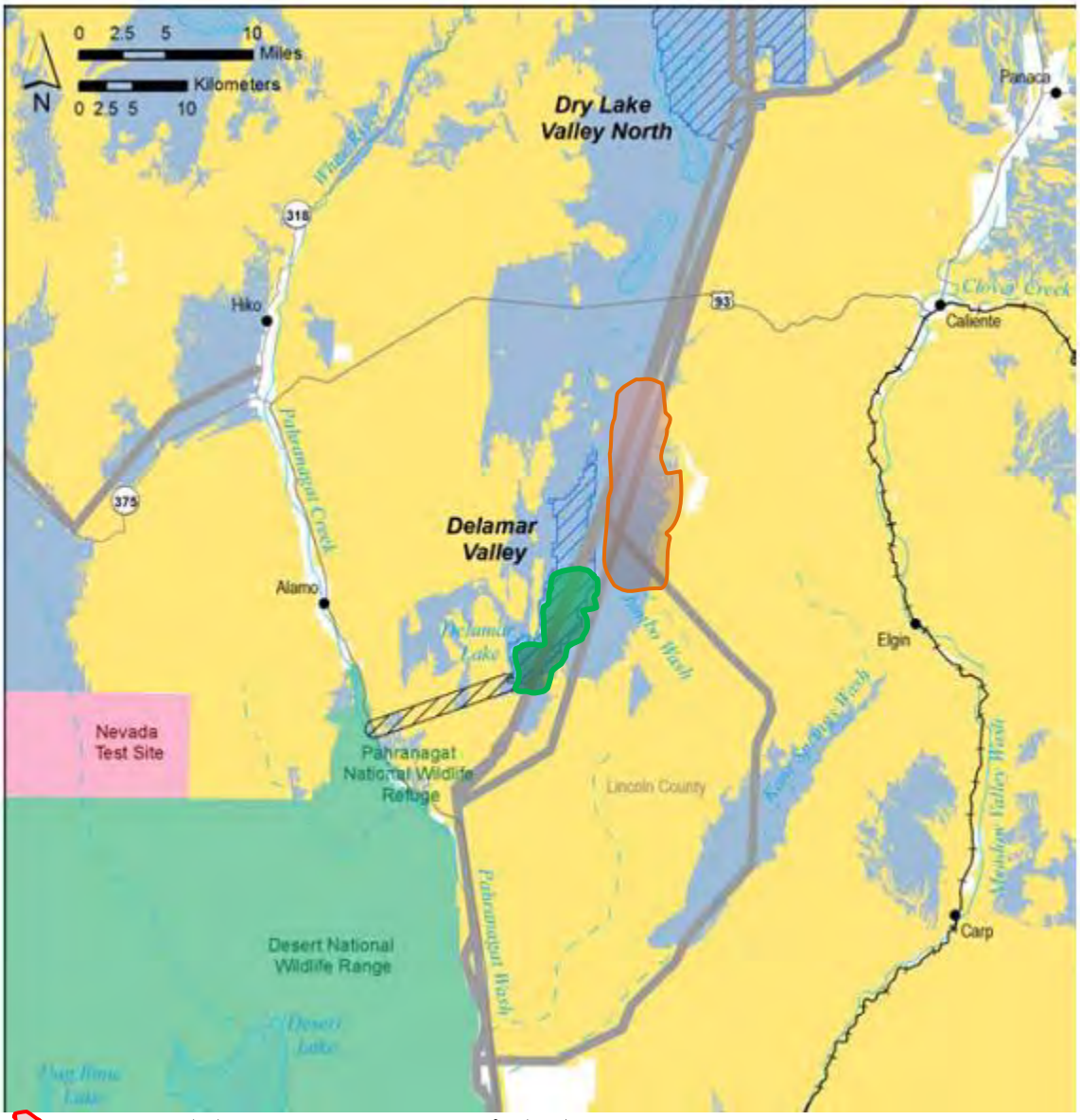


Delamar Valley

This SEZ is located outside of the Mojave Desert ecoregion, but is proximate to several ecoregionally important conservation sites such as Pahranagat Valley, the Hiko Wash, Warm Springs/Moapa/Muddy River, Ash Springs and Desert National Wildlife Refuge. The underground hydrology is too poorly understood to allow further drawdown of groundwater within a reasonable range from these desert wetland habitats, all of which contain endemic and federally listed species. The location is remote with no proximate significant end user of power generated there. The majority of this SEZ is apparently on intact landscapes, but of primary concern is the presence of Jumbo Wash through the center of it. Any facility approved within this SEZ should be sited north of Jumbo Wash away from the desert playa wetlands at the southern tip of the SEZ.

If renewable energy generation is needed and justified in this general area, the acreage containing the playa wetland at the southern tip of the SEZ should be removed from consideration. That acreage may be replaced to the northeast of the current configuration with little impact on local wildlife, and any technology approved in this SEZ should be as minimally consumptive of water resources as possible.

Figure 8. Delamar Valley SEZ



-recommended area to move appropriate facility location

- recommended avoidance zone

Dry Lake

The majority of this proposed SEZ is in ecologically intact acreage, but on an ecoregional basis is not significant in terms of the vegetative community or species contained within its boundaries, with the exception of a playa wetland at the southern end. It is surrounded by existing renewable energy facility applications that would likely take precedence over any facility to be developed within this SEZ, and as such it is difficult to justify the additional development on an ephemeral wetland community. The location is proximate to the likely end user of power generated here (Las Vegas Valley) and is heavily compromised by existing facilities including considerable existing power transmission lines.

This location is generally suitable and appropriate with the exception of the playa wetland at the southern end of the SEZ. This area should be eliminated from the SEZ and the acreage could be replaced with that to the East of the Dry Lake towards Interstate Highway 15.

Figure 9. Dry Lake SEZ

Blue – highly braided and complex drainage to be excluded
Green – Playa wetland to be excluded
Orange – already high developed area that would preclude further development

East Mormon Mountain

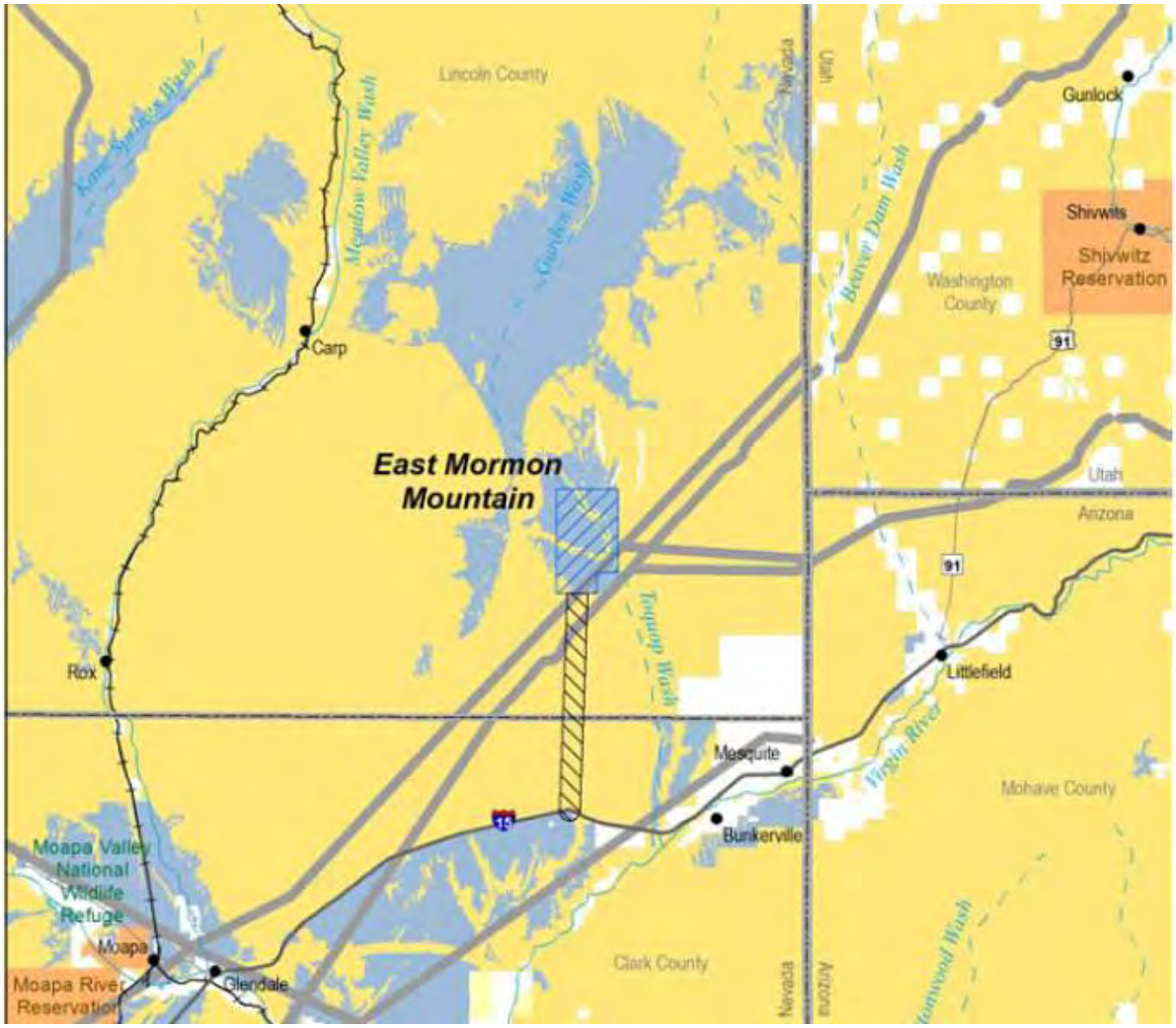
While the Conservancy's ecoregional assessment indicates that the entirety of this SEZ is located within ecologically intact lands, wildfires in 2005 burned almost the entire area as a result of a proliferation of non-native invasive grasses, primarily Red brome. It is most likely that this invasive species has replaced what burned and continues to dominate what is otherwise a superficially intact landscape.

East Mormon Mountain SEZ is on the outskirts of a desert tortoise DWMA and concerns about fragmentation resulting from transmission corridors should be weighed heavily in both siting decisions and mitigation requirements should any facilities be developed. It is not clear why a new north-south transmission line corridor would need to be constructed to service this facility because there are two major power corridors to the immediate south. No further fragmentation of the Mormon Mesa DWMA should be approved.

Toquop Wash should be avoided for the siting of any facility developed within this SEZ since it is a regionally important desert wash containing many of the Mojave Desert ecoregionally significant plant and animal species such as gila monster, desert tortoise, sidewinder, American badger, bobcat, southwestern burrowing owl, phainopepla, and catclaw acacia, among many others.

The location of a large renewable energy facility is unlikely to significantly compromise what has already become a major invasive weed breeding ground. Nevertheless, further fragmentation of an already poorly configured Desert Tortoise DWMA (Mormon Mesa), by means of transmission line corridors, should be avoided. The Toquop Wash should be avoided completely.

Figure 10. East Mormon Mountain SEZ



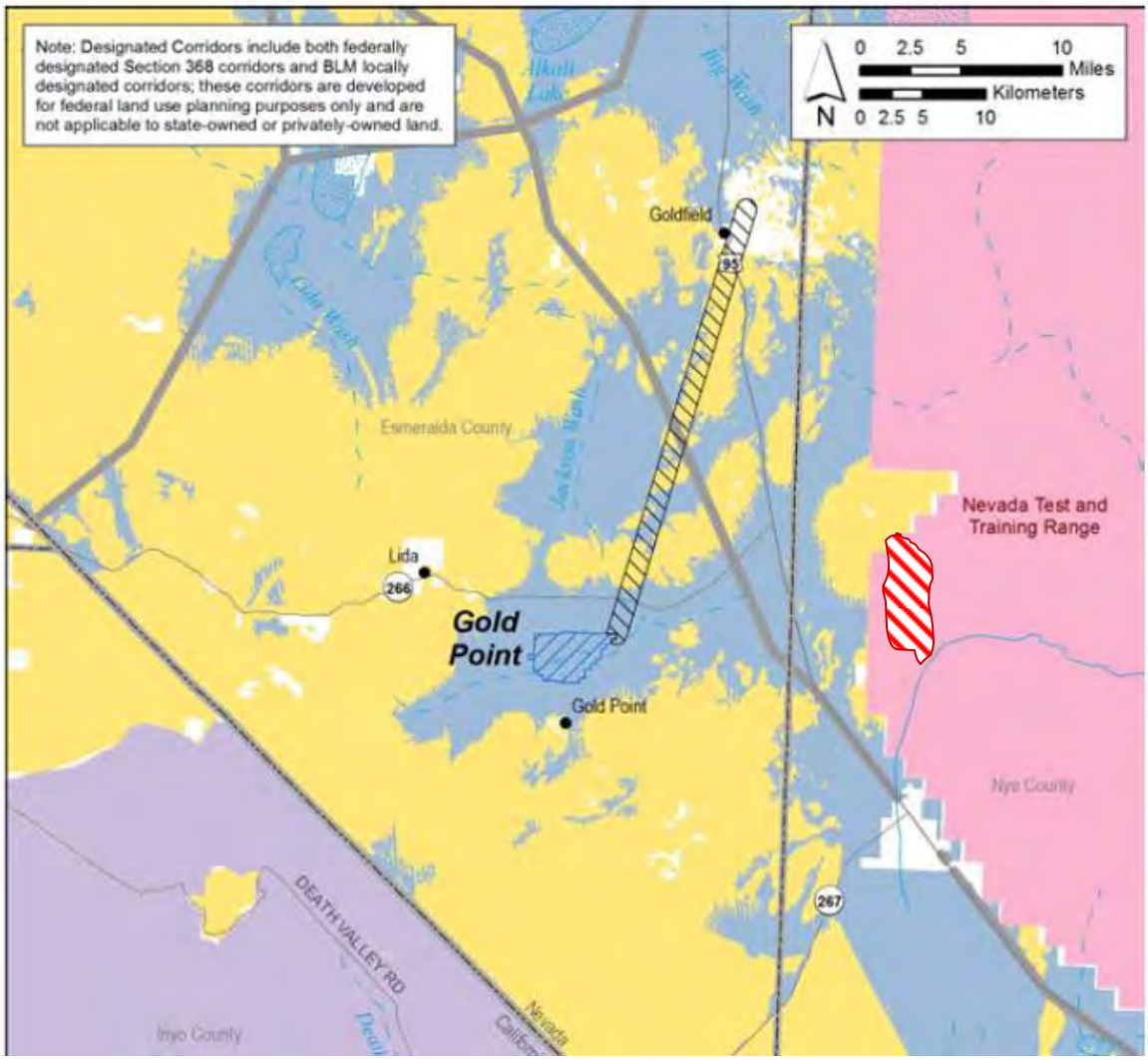
Gold Point

Gold Point SEZ is entirely within both ecologically core and intact zones identified by the Conservancy in its 2010 ecoregional assessment. It is quite distant from both existing transmission lines, as well as from likely significant end users in Las Vegas Valley or Tonopah. The immediate vicinity is remote and largely intact from existing developments and should remain so.

The general vicinity serves as habitat for several locally important species as identified in the PEIS such as Pronghorn antelope and Greater Sage Grouse. The proposed transmission corridor is particularly problematic for both of these species. Moving the SEZ location to the recommended zone would also alleviate these transmission corridor concerns since the new corridor could parallel US 95 without appreciable additional impacts to the species mentioned.

This SEZ is remote and not regionally significant as far as demonstrated power needs and furthermore is currently ecologically intact. It should be removed from consideration or relocated to the only nearby degraded or converted acreage at the intersection of US Highway 95 and State Road 264 as indicated on the map.

Figure 11. Gold Point SEZ



- Moderately degraded land to transfer SEZ acreage

New Mexico

Afton

The Kenzin Conservation Area (14,826 acres), identified by the Conservancy's Chihuahuan Desert Ecoregional Assessment, lies almost entirely within the Afton SEZ (77,267 acres).

The Kenzin Conservation Area contains Chihuahuhan desert grasslands, a small but important part of the ecoregion's biological diversity. The grasslands support numerous endemic species, high plant and animal diversity, and critical ecological processes. They also serve as wintering grounds for a large number of North American Great Plains birds, including significantly declining species such as mountain plover (Charadrius montanus), ferruginous hawk (Buteo regalis) and Baird´s sparrow (Ammodramus bairdii).

To maintain the ecological integrity of the grasslands, it is critical to avoid placing any solar development on large blocks of unfragmented grasslands. If placement of a solar facility on a large block of grassland is permitted, then siting the development at the edge of the block will help to curb fragmentation. To minimize impact of fragmentation, facilities should use existing roads and avoid new road construction.

Lastly, to reduce the introduction and spread of invasive species that would reduce the quality of grassland habitat, all applicable local policies for noxious weed control, such as cleaning vehicles and equipment arriving from areas with known invasive species issues, using locally sourced topsoil, and monitoring for and removing rapidly removing noxious weeds at least annually, should be followed.

Utah

Wah Wah Valley

The Conservancy recommends that potential indirect effects on special-status animals (such as burrowing owl, ferruginous hawk, kit fox, dark kangaroo mouse) in the areas surrounding area the Wah Wah Valley SEZ should addressed by project design, operations, and maintenance to avoid or reduce impacts. Furthermore, we recommend that project be designed and operated to reduce the generation of fugitive dust that could have adverse impacts on special-status plants to the east.

Thank you for your comment, Linda Joseph.

The comment tracking number that has been assigned to your comment is SolarD11829.

Comment Date: May 2, 2011 16:24:04PM
Solar Energy Development PEIS
Comment ID: SolarD11829

First Name: Linda
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Attachment: BLMSolar-PEIS-5-11.pdf

Comment Submitted:

SAGUACHE COUNTY GOVERNMENT
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May 2, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue • EVS/240
Argonne, IL 60439

To whom it May Concern,

Saguache County is pleased to be a Cooperating Agency with the Department of Energy (DOE), and the Department of the Interior, Bureau of Land Management (BLM), on the Solar Energy Development Programmatic Environmental Impact Statement (Solar PEIS). The Saguache County Board of County Commissioners (Board) appreciates this opportunity to comment on the latest draft of the Solar PEIS, and the extensive effort to create it.

We do not necessarily agree with the BLM's preferred scenario, nor the assertions in Executive Summary pg ES-29:

> "... that the solar energy development program alternative would best meet the BLM's objectives for managing utility-scale solar energy development on BLM-administered lands. It would likely result in the highest pace of development at the lowest cost to the government, developers, and stakeholders. Simultaneously, it would provide a comprehensive approach for ensuring that potential adverse impacts would be minimized to the greatest extent possible. If the pace of development is greatest under this alternative, it would accelerate the rate at which the economic and environmental benefits would be realized at the local, state, and regional levels."

This statement fails to recognize - the potential time and money lost in litigious actions due to the level of controversy surrounding large scale development; - the costs of unknown consequences; and - the importance of site specific review and determinations, based on local knowledge, experience and input.

In our analysis of the alternatives under consideration, the Board supports elements of the BLM's various Alternatives being combined, in order to reap the best results each has to offer. From our own deliberations on solar development and the significant issues it poses, and from knowledge of our constituent's interests with regard to solar development, the following describes key factors that merit inclusion in the scenario ultimately selected.

From the No Action Alternative

The Board concurs, with solar projects and land use plan amendments being evaluated -

> "on an individual, case-by-case basis", Executive Summary, pg ES-12.

Local level consideration, and site specific planning for each project, is a key to wise development, and optimal responsiveness to an industry in it's infancy, with little experience and empirical data to guide it, new technologies arriving on the scene continuously, and great variation in local carrying capacity of the lands.

From the Solar Energy Development Program (preferred) Alternative

The Board acknowledges that some -

> " new Solar Energy Program of administration and authorization policies and required design features", Executive Summary, pg ES-6,

may be needed to bring your administrative procedures up to date. However, we would caution against significant time spent on details that might quickly become obsolete, or even deleterious. The Board suggests that only those necessary for general and consistent guidance, and that would allow for site-specific determinations with regard to design features, be developed.

We support implementation of -

> "an adaptive management plan for solar energy development, developed in coordination with potentially affected natural resource management agencies, to ensure that new data and lessons learned about the impacts of solar energy projects would be reviewed and, as appropriate, incorporated into the program through revised policies and design features", Appendix A, pg A-25.

This critical process, should be included in any final plan, and works well in conjunction with case-by-case site review and development, which will provide the necessary learning to inform the adaptive planning process.

From the SEZ Alternative

This alternative is appealing in that it focuses down to only SEZ areas, and does not leave uncertainty extending over massive acreage allowed for in the other alternatives. In actuality, these are pilot projects, a judicious approach, as a starting point. Lessons learned would provide a basis for future identification of additional areas for development, should they prove to be needed.

However, an opportunity which deserves attention and incorporation into the BLM's plans, is to make use of the Environmental Protection Agency's studies and findings of spoiled lands, already impacted by industrial activity, not useful for other purposes and with significantly less potential impacts to mitigate, and therefore less controversy. It seems clear that such locations could be evaluated for SEZ designation, or local prioritization. In our County, many who are disturbed by and oppose large scale solar development on lands with other values, would be more inclined to support such development on "waste lands". Development on lands that have few other uses, and leaving lands that have other productive potentials, or other values and benefits, is a win, win solution, readily available, and deserves priority attention in the BLM's siting considerations for solar development.
As stated in the Solar PEIS -

> "the BLM may choose to adopt one of the alternatives or a combination of alternatives; selected alternatives may also vary by geographic region" Chapter 2, pg 2-1.

In summary, the Board supports a combination of approaches that allows variation based on the geographic region and it's particular environmental, social and economic interests, to achieve the best long-term outcomes. If this is not the overarching model ultimately selected, we respectfully request that the option to vary alternatives regionally be invoked for our region, so that we have the opportunity to select the best elements of all alternatives, as appropriate locally. We have no industrial scale development to date. And while we wish to support solar development, our experience with applications for such projects have pointed up many site-specific issues we, and public lands managers are responsible to carefully address.

It has been our experience locally that new collaborative relations and processes across agencies are increasingly called for, to achieve effective planning and best practices for all involved. The Saguache County Commissioners work closely with our local and regional Public Lands Managers, and, wish to cooperate with the BLM in the site-specific NEPA process for development applications at the DeTilla Gulch SEZ, or other areas in our County as may be selected for development. The BLM's proposed Adaptive Management Plan approach can then be utilized to take advantage of lessons learned, before further large-scale development. At any given time, there may be County, community and Valley plans of various types, pertinent to BLM Solar development. This is the knowledge the County brings to the table as a cooperating agency, consideration of which is vital to decisions on where large-scale development is best located.

Given the prototype nature of solar technology, and unprecedented large-scale, long term impacts, we urge the BLM to invoke the authority to draw from a combination of alternatives, for site specific solar development, in your preferred scenario, and if not there, then for our area. This offers the greatest protection against unforeseen issues. It provides for vigilance and a phased approach, which may allay alarm and controversy in our communities due to the magnitude of unknowns of industrial solar development. It is the approach with the greatest potential for best protections and outcomes, as well as local support.

Thank you for your time and tremendous effort in developing the Solar Development PEIS, and, again for this opportunity to participate as a Cooperating Agency, and comment.

Sincerely,

Saguache County Commissioners

Sam Pace, Chair Mike Spearman Linda Joseph

Thank you for your comment, Kylan Frye.

The comment tracking number that has been assigned to your comment is SolarD11830.

Comment Date: May 2, 2011 16:37:53PM
Solar Energy Development PEIS
Comment ID: SolarD11830

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State: UT
Zip: 84103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: HWI_SolarPEIS_Comments.doc

Comment Submitted:

25 YEARS
HAWKWATCH INTERNATIONAL
1986 - 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
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Argonne, IL 60439

2 May 2011

To whom it may concern:

Thank you for the opportunity to provide some insight and suggestions for the Solar Energy Development Programmatic EIS. As a non-advocacy, science-based organization, we support thoughtful development of our resources to support a growing demand for renewable energy. This involves being aware of the repercussions of development on our shared wildlife resources. We appreciate the time and resources that went into preparing this document and feel that it offers a strong basis on which we can responsibly develop renewable energy on public lands.

We firmly support the SEZ-only development strategy proposed in the EIS, with prioritizing development near areas that are already disturbed or developed and close to existing transmission infrastructure. We feel that this type of directed development will allow for necessary renewable energy projects while reducing overall impacts on the environment.

Additionally, the authors of the PEIS did a satisfactory job of including wildlife-related issues in considering the development zones, with providing adequate reference to considerations that should be given to species that occur near the zones. We acknowledge the references to raptors and their habitat in Chapter 4, including the emphasis placed on diurnal raptors. We wish to provide some feedback about considerations for an individual species that might be impacted from development that was not specifically addressed in the document, namely Burrowing Owls.

Burrowing owls are small owls that are highly terrestrial and nest in burrows underground. They are of particular concern with respect to SEZ development since solar construction involves scraping up to 80% of the vegetation from the surface, thereby creating a significant ground disturbance for any Burrowing Owls in the area. Burrowing owls have varying levels of conservation concern throughout its range, as they are a species of concern in several western states (including California and Utah) state endangered in Colorado and protected under the Migratory Bird Treaty Act at the federal level. We encourage more consideration to be given to these terrestrial birds, given their conservation status throughout the range of SEZ development.

HawkWatch International (HWI) is a 501(c)3 non-profit science-based raptor conservation organization. We thank you for the opportunity to share our insights and support for the PEIS.

Sincerely,

Kylan Frye
Conservation Biologist
801-484-6808 Ext 106
kfrye@hawkwatch.org

Thank you for your comment, Scott Flint.

The comment tracking number that has been assigned to your comment is SolarD11831.

Comment Date: May 2, 2011 16:41:53PM
Solar Energy Development PEIS
Comment ID: SolarD11831

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Last Name: Flint
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Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: CEC_DFG_SolarPEISletter04_29_2011_FINALwSign.pdf

Comment Submitted:

The attached file represents joint comments on the DOE-BLM Draft Solar PEIS from the California Energy Commission and the California Department of Fish and Game. The original letter has been mailed and is postmarked May 2, 2011.

CALIFORNIA ENERGY COMMISSION
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SACRAMENTO, CA 95814-5512

Main website: www.energy.ca.gov

DEPARTMENT OF FISH AND GAME
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April 29, 2011

Ms. Linda Resseguie, Project Manager
BLM Draft Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, Illinois 60439

Dear Ms. Resseguie:

The California Energy Commission (Energy Commission) and the California Department of Fish and Game (Fish and Game) (or collectively, "the Agencies") appreciate this opportunity to comment on the Draft DOE-BLM Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar DPEIS or DPEIS) announced in the December 17th, 2010 *Federal Register* Notice of Availability. The Energy Commission and Fish and Game have participated in the scoping process for the Solar DPEIS, and have been cooperating agencies during the development of the DPEIS. The Energy Commission led the California Interagency Working Group for the Solar DPEIS, and Fish and Game has participated jointly with the Energy Commission in these efforts. Our comments here are limited to the California portion(s) of the Solar DPEIS.

The Renewable Energy Action Team (REAT) Agencies, which include the United States Fish and Wildlife Service, the United States Bureau of Land Management (BLM), the Energy Commission, and Fish and Game, have also initiated development of the Desert Renewable Energy Conservation Plan (DRECP or Plan) to accelerate the permitting and development of new renewable energy projects, while conserving natural communities, and associated species and their habitats. We offer these comments to promote and enhance the ongoing synergies between state and federal efforts.

BACKGROUND

The DRECP is intended to result in an efficient and effective biological mitigation and conservation program providing renewable energy project proponents with permit timing and cost certainty under the federal (ESA) and California Endangered Species Acts (CESA) while preserving, restoring and enhancing natural communities and ecosystems that support covered species within the DRECP Plan Area. The DRECP encompasses more than 22,587,000 acres in a seven-county area. All of the lands within the DPEIS are within the Plan

Area boundary. A program-level Environmental Impact Report will be prepared to comply with the California Environmental Quality Act (CEQA), which will accompany the DRECP as it undergoes final public review and moves toward formal adoption. The REAT Agencies are parties to the DRECP Planning Agreement. The creation of the DRECP was mandated in California by Executive Order S-14-08, and reinforced by the Secretary of Interior's Secretarial Order 3285 (March 2009). A Memorandum of Understanding on Renewable Energy between the State of California and the Department of Interior signed by Governor Schwarzenegger and Department of Interior Secretary Salazar merges the work efforts of both orders and provided an impetus for the DRECP Planning Agreement (May 2010).

Participation by the U.S. Fish and Wildlife Service will contribute to efficiencies under the federal ESA. The commitment to use the DRECP process as a basis for amending BLM land use plans introduces additional siting and permitting benefits. The DRECP is to be a Natural Community Conservation Plan under the California Natural Community Conservation Planning Act (NCCPA) and a Habitat Conservation Plan under the ESA. In its simplest form, the DRECP will identify areas for renewable energy generation and transmission facility development and create a network of biological conservation areas providing benefits to covered species and their habitats found in the Plan Area.

Because of the primacy of the DRECP in all of the resource planning for renewable energy in the California desert, our comments are necessarily in the context of the potential for the DPEIS and the DRECP planning effort to be mutually reinforcing.

The Energy Commission and Fish and Game review of BLM's DPEIS for solar energy development have identified the following issues. Also, the Agencies have noted that many of the specific technical comments we provided in July, 2010 have not been adequately incorporated to the current draft, and the current draft brings up new issues meriting comment. Attached for your consideration are specific technical comments prepared by the Energy Commission and Fish and Game (Attachment 6).

GENERAL COMMENTS

Proposed Solar Energy Zones

All four proposed solar energy zones (SEZs) in the preferred and SEZ only alternatives in California are within the geographic planning boundary of the DRECP. The initial proposed study areas were co-located with selected Competitive Renewable Energy Zones (CREZs) from the Renewable Energy Transmission Initiative (RETI):

- Imperial East Solar Energy Zone
- Iron Mountain Solar Energy Zone
- Pisgah Solar Energy Zone
- Riverside East Solar Energy Zone

We appreciate BLM's inclusion of these CREZs in the solar energy zones and the linkage this creates between our State and federal efforts. Differences between a CREZ area and the solar energy study area are due, in part, to land ownership/management responsibility; only BLM-managed lands were included in the proposed solar energy study areas. As a result, blocks of land within a solar energy study area have been excluded because they are privately owned or managed by the California State Lands Commission, as have adjacent private lands potentially suitable for solar and other renewable energy development. We believe this fact will limit the effectiveness of the Solar PEIS in facilitating renewable energy development in California since projects located on adjoining private land may not be able to tier-off the document to assist with CEQA compliance. In addition, the transmission line routes, which are necessary to move power from generation facilities to the load centers, have been excluded.

In general, the Energy Commission and Fish and Game support designation of three of the four Solar Energy Zones in their reduced acreage configurations, as preferred for solar development in California. Support for designation of the Imperial East Solar Energy Zone, Pisgah Solar Energy Zone, and Riverside East Solar Energy Zone is further based on the judicious application of the Policies, Design Features, and the Potentially Applicable Mitigation Measures as identified in Chapter 5 of the DPEIS.

The Energy Commission and Fish and Game have commented previously and continue to recommend that the Iron Mountain Solar Study Area, and now Solar Energy Zone, be eliminated from further consideration. This recommendation is based upon its remote location in the Eastern Mojave, which contradicts a preference for development to occur first in areas that have already been impacted and avoiding, wherever possible, undisturbed and remote areas, and to preserve the high conservation value of the public lands in this area. This includes value for wildlife habitat connectivity. The Agencies, as a matter of policy, would like to encourage the development of additional renewable energy facilities in the Western Mojave, to the extent feasible, because of its location closer to load centers, and often in closer proximity to existing and upgradable transmission line infrastructure. There appear to be some areas of the Iron Mountain Solar Energy Zone that may be suitable for development. If the BLM were to continue consideration of the Iron Mountain Solar Energy Zone, the Agencies recommend deferring a decision on configuration of such a site to the DRECP process or at a minimum to a separate federal designation process completed in conjunction with, and consistent with, the DRECP planning effort.

Designation of Other Areas for Solar Development

The currently identified preferred alternative in the PEIS includes the identified SEZ's (approximately 339,000 acres), plus an additional area that exceeds 1,766,000 suitable for solar outside of the SEZ. To date, the DRECP planning effort in California has recognized and included the PEIS identified SEZ (with the exception of Iron Mountain) in its evaluation of potential development areas, and has identified lands adjacent to these SEZ that may also be suitable for renewable development.

The Agencies have been providing comments since 2009 on earlier iterations of the DPEIS. Most recently, we provided extensive comments on Chapter 7 of the preliminary PDEIS. At that time, we had not been made aware that the SEZ alternative was not in fact the preferred alternative, and accordingly we focused all of our comments on specific issues with the four SEZs. In those earlier joint comments, the agencies provided maps and information that were available to us at the time that indicated areas that we believed should receive additional consideration for solar energy development. These areas were not added to the four SEZs that appeared in the Preliminary Solar PEIS.

The review of this Solar DPEIS is first opportunity the Agencies have had to review the "other areas", which actually comprise more than 80% of the overall Solar Development Area of the preferred alternative, that are identified in the DPEIS. In contrast to Chapter 9, which provided detailed analysis of the SEZs with site-specificity, these areas do not have the level of detail necessary to provide meaningful comment and analysis of the impacts of the potential development. On review, it appears that while some of the identified areas may be suitable for solar energy development, other of these areas could be in conflict with lands that have high wildlife value and are being considered in the DRECP for potential conservation through additional protection or management actions.

Our concerns about the potential conflicts between preliminarily identified conservation opportunities for the DRECP and the Solar Energy Program (preferred alternative) of the PEIS are depicted in the attached maps 1-3 (Attachments 1, 2 and 3), in which the BLM lands emphasized for solar energy facility development are shown within the DRECP Area. Biological information, based on GIS layers that Fish and Game is contributing to the preliminary DRECP conservation framework, is also shown. An explanation for each of the five layers accompanies the attached maps (Attachment 4). Overlap of these layers with the Solar PEIS preferred alternative's lands indicates a potential conflict between the conservation planning efforts of the DRECP and the Solar PEIS preferred alternative designation of those lands as emphasized for development. Overlap of four of these layers with the BLM Solar Energy Program areas appears significant. While the bighorn sheep range layers do not show a high level of overlap, the proximity of these active ranges (see inset in Map 2, or vicinity near the Pisgah SEZ) to the BLM Solar Energy Program lands is cause for concern, as connectivity between these ranges is important for the viability of bighorn sheep populations.

The analyses the REAT Agencies have initiated for the overall DRECP Conservation Strategy will be more detailed that those in the Solar DPEIS. The Agencies recommend deferring a decision or the initiation of BLM land use plan amendments for the lands identified that are outside of the SEZs, or not including these additional lands in the NEPA preferred alternative, pending further analysis associated with the DRECP Planning effort.

<u>Integration of the Solar PEIS and the DRECP in California</u>

The DRECP Planning effort is scheduled to be complete in 2012 and is moving forward on schedule with the hard work and collaboration of the Agencies, BLM and USFWS. One of the next DRECP products will be an initial focused conservation strategy in the June 2011

timeframe which will include maps of areas with lower biological value. This will provide an indication of the areas that are potentially suitable for renewable energy development, and will include both public and private lands. As noted above, the Agencies' initial comparison of vegetation, individual species occurrence data, and wildlife habitat connectivity data to be used in the preliminary conservation analysis for the DRECP with the areas proposed in the preferred alternative of the DPEIS indicates substantial conflicts.

For the future designation of additional solar or other renewable energy zones, the Agencies recommend a joint state/federal approach that would address the designation of private land areas directly adjacent to some of the identified SEZ on public lands, and considers the addition of new SEZs in the Western Mojave. This approach would provide a larger area to consider for potential renewable energy development in California, and would help to redirect the siting of projects from high value public lands to relatively more disturbed private lands. For the desert areas of California, the DRECP planning effort is the appropriate vehicle to facilitate future SEZ designations, and the DRECP, with the ongoing and focused involvement of the BLM California Office, will contribute to resolving outstanding solar energy siting issues.

As a starting point for the designation of additional solar energy zones, the specific areas identified in our joint comment letter on the proposed solar energy study areas, dated September 14, 2009, remain viable for consideration (copy attached as Attachment 5), with the caveat that the more recent GIS analysis we provide in Attachments 1-4 is considered. An exception is the case of the Pisgah SEZ, in which the results of our analysis and the permitted project development in its vicinity indicate that expansion we called for in the 2009 letter of the Pisgah SEZ boundary directly to the north and west could impact sensitive areas or the conservation targets of the DRECP. Direct conflicts between solar project development and resource values in the recommended area of expansion of the Pisgah SEZ area to the west, which is bisected by Interstate 15 and includes disturbed lands, could be minimized if the boundary is developed in collaboration with the REAT partner process. However, as indicated in the attached maps, expansion to the north could directly impair habitat connectivity and impact areas of high conservation value. The GIS analysis, and our comments in Attachment 6, underscore our concern that siting of individual projects, whether in the proposed SEZ complex or any other future administrative configuration, always consider habitat and range connectivity, and the cumulative impacts of solar installations on those resource elements.

The BLM California Office has committed to and has initiated scoping for a California Desert Conservation Area (CDCA) amendment that would allow BLM to consider plan amendments for recommending additional conservation and development that align with the DRECP and the DRECP Conservation Strategy. We anticipate that land-use plan amendment processes would occur in 2013 or early 2014 upon completion of the DRECP. It would therefore seem redundant to initiate specific land use plan amendments in California upon completion on the Solar PEIS and prior to completion of the DRECP, as the completion of the DRECP would most certainly then trigger further amendments and/or changes to proposed or recently adopted amendments in the subsequent CDCA land use amendment process.

As California-specific issues were not fully addressed or were considered outside the scope of the Solar PEIS, it is recommended that whichever Solar PEIS alternative is eventually adopted, its implementation is closely coordinated with DRECP development and implementation, through the BLM California Office's direct participation in the REAT.

In closing, the Agencies thank you for the opportunity to comment on the DPEIS. The State of California values the standing and ongoing partnership with the federal agencies and individuals who participate with the REAT, and with the Department of the Interior. The Agencies remain committed to work with BLM and the California Office of the BLM, to coordinate our joint planning processes and efforts to responsibly and efficiently site and permit renewable energy facilities in appropriate locations in California.

Sincerely,

Original signed by

ROBERT B. WEISENMILLER, Ph.D.
Chairman
California Energy Commission

Original signed by

KEVIN W. HUNTING
Chief Deputy Director
California Department of Fish and Game

cc: Jim Abbott, CA BLM
Darrin Thome, USFWS

Enclosures

MAP 1

BLM Solar DPEIS Solar Development Areas within the Desert Renewable Conservation Plan (DRECP) Area:

Potential Conflicts With Priority Mitigation Lands, Sensitive Habitats and Areas of Rare Species Richness

Mitigation Acres within BLM Solar Development Areas

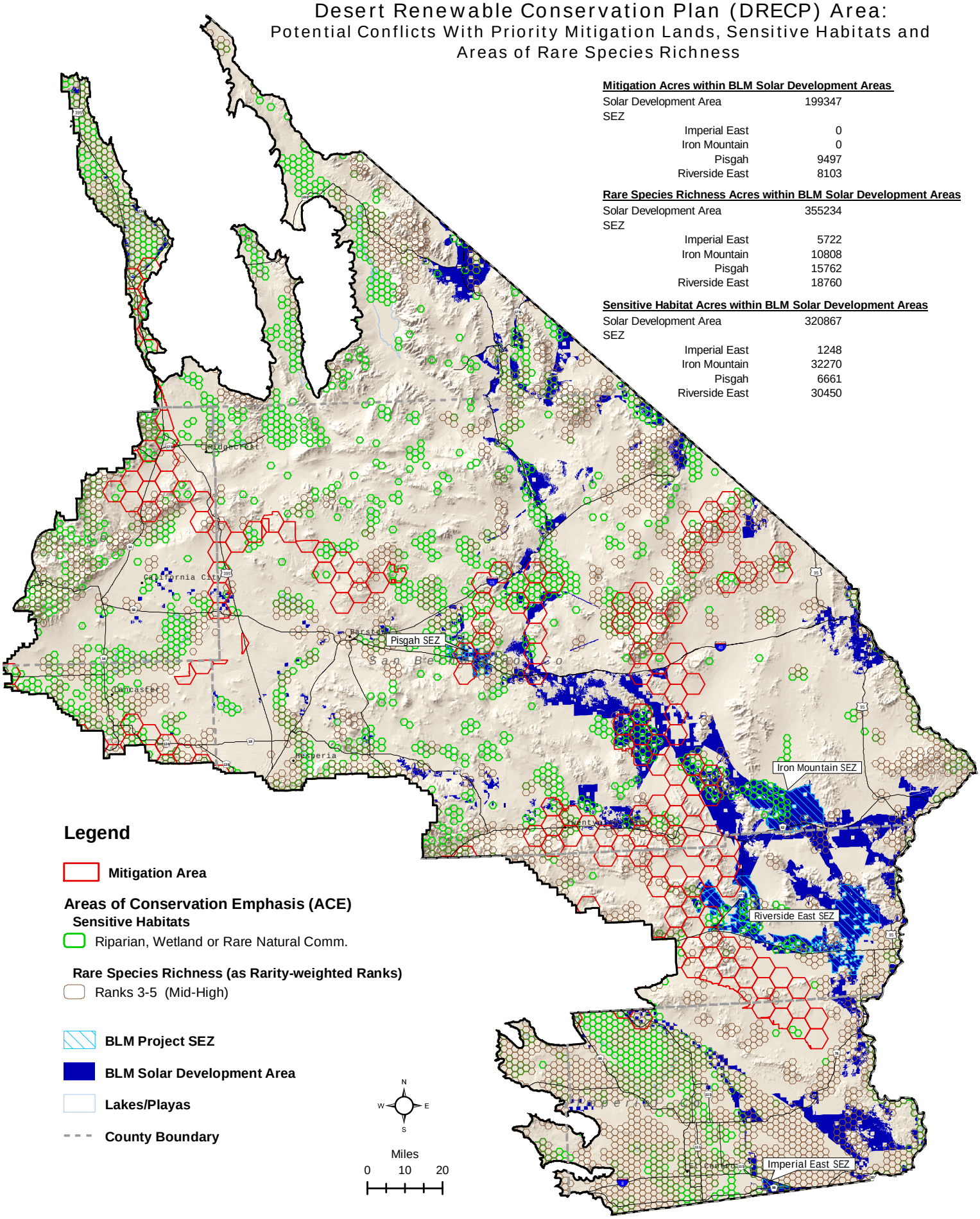
Solar Development Area	199347
SEZ	
Imperial East	0
Iron Mountain	0
Pisgah	9497
Riverside East	8103

Rare Species Richness Acres within BLM Solar Development Areas

Solar Development Area	355234
SEZ	
Imperial East	5722
Iron Mountain	10808
Pisgah	15762
Riverside East	18760

Sensitive Habitat Acres within BLM Solar Development Areas

Solar Development Area	320867
SEZ	
Imperial East	1248
Iron Mountain	32270
Pisgah	6661
Riverside East	30450

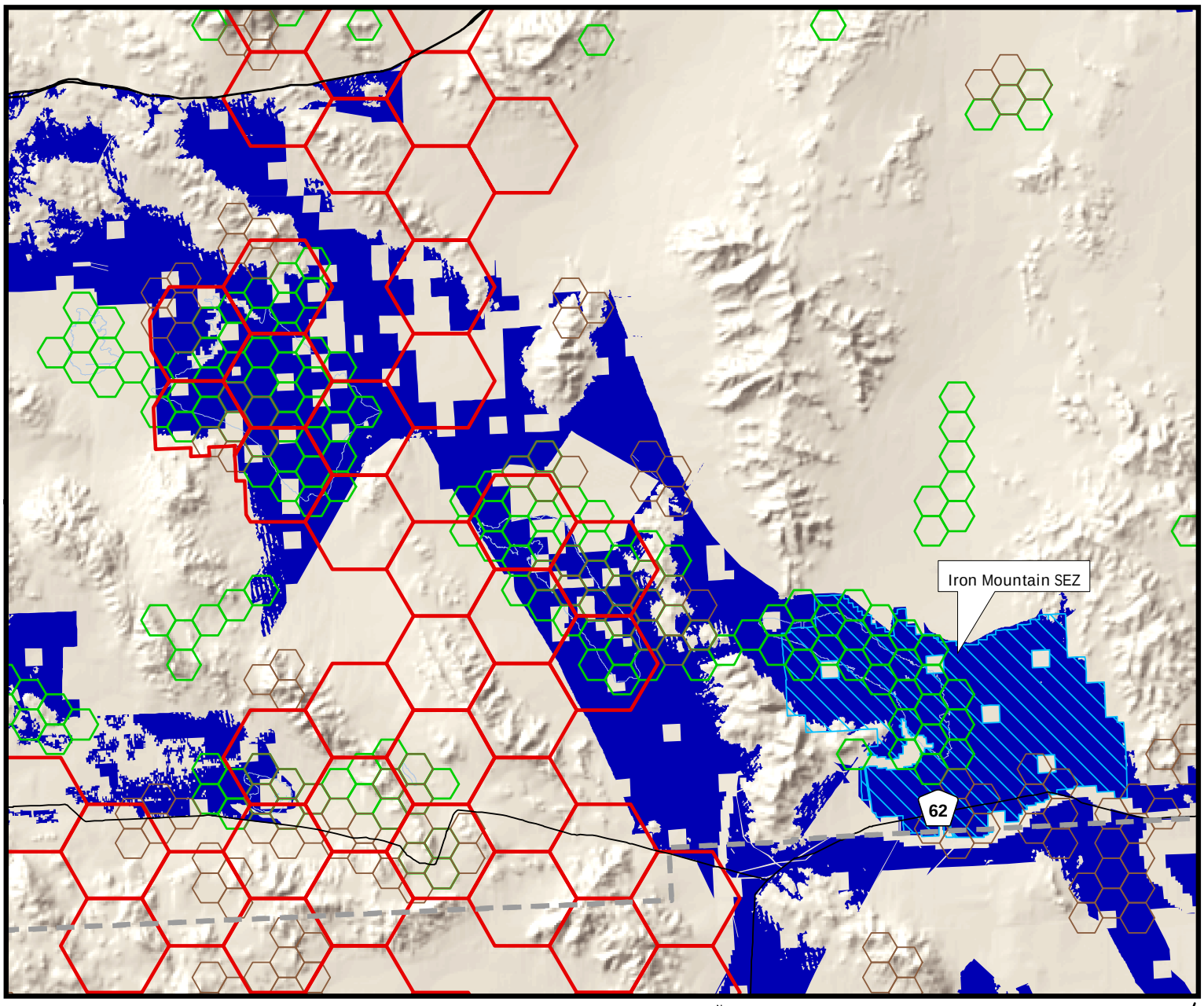


ATTACHMENT 1

MAP 2

BLM Solar DPEIS Solar Development Areas within the Desert Renewable Conservation Plan (DRECP) Area:

Potential Conflicts With Priority Mitigation Lands, Sensitive Habitats and Areas of Rare Species Richness



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Legend

Mitigation Areas

Areas of Conservation Emphasis (ACE)

Sensitive Habitats

Riparian, Wetland or Rare Natural Comm.

Rare Species Richness (as Rarity-weighted Ranks)

Ranks 3-5 (Mid-High)

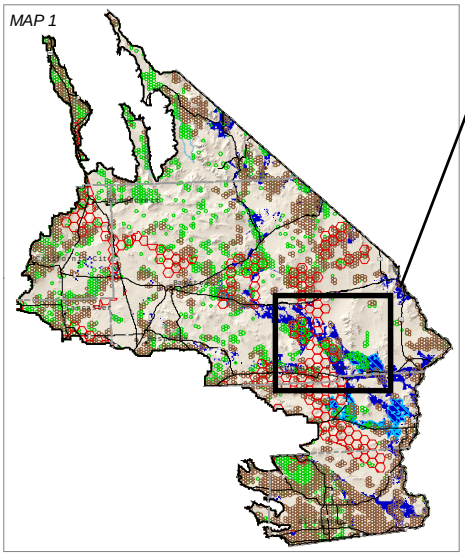
BLM Project SEZ

BLM Solar Development Area

Lakes/Playas

County Boundary

MAP 1

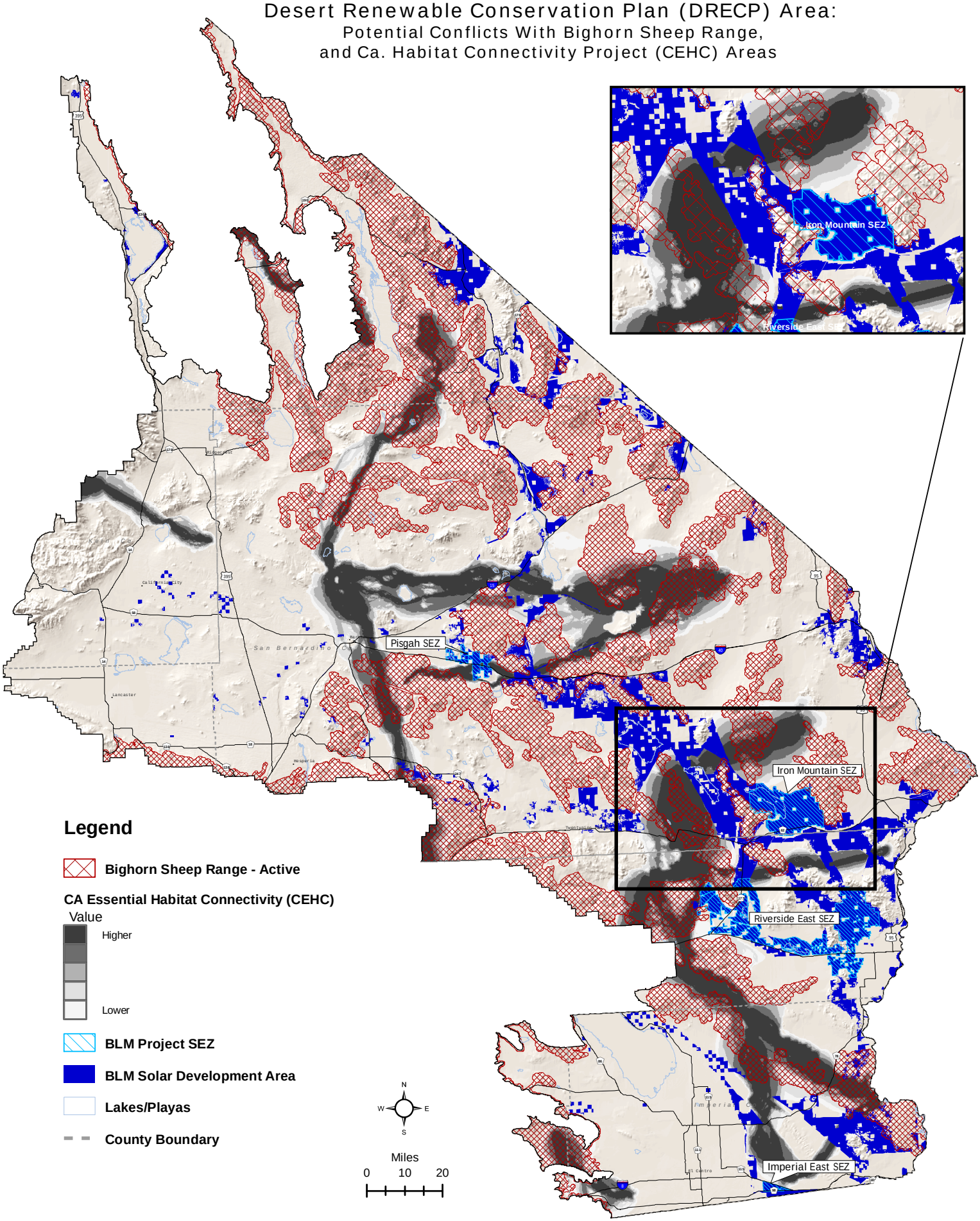


ATTACHMENT 2

MAP 3

BLM Solar DPEIS Solar Development Areas within the Desert Renewable Conservation Plan (DRECP) Area:

Potential Conflicts With Bighorn Sheep Range, and Ca. Habitat Connectivity Project (CEHC) Areas



ATTACHMENT 3

ATTACHMENT 4

Explanation of Information Depicted in Maps 1-3

Maps 1-2

1. Mitigation Areas (red hexagons)
(From *Interim Mitigation Strategy* [IMS] *As Required by SB X8 34 by California Department of Fish and Game*, September 2010, available at http://www.drecp.org/documents/. Literature cited in the following discussion is presented on page 29 of the IMS).

Mitigation Target Areas (MTAs, "Mitigation Areas" on maps 1 and 2) were developed by the California Department of Fish and Game (CDFG) for the Interim Mitigation Strategy (IMS), a statutory requirement for the implementation of the Desert Renewable Energy Conservation Plan (DRECP). The MTAs are an identification of generalized target sub-areas for initial priority acquisition under the IMS. The MTAs were developed through collaboration between desert land trust experts, BLM staff, and CDFG biologists. These sub-areas were known to contain high-quality habitat with parcels that may potentially be available for acquisition under the provisions of sections 2069, 2099 and 2099.5 of the Fish and Game Code). The selected MTAs are intended only for habitat acquisition under the provisions of these Code sections and do not necessarily correspond with mitigation areas yet to be defined after more detailed analyses under the DRECP Conservation Strategy. However, it is anticipated that the DRECP Conservation Strategy conservation areas will include portions of the areas designated here as IMS MTAs.

The MTAs were developed using ArcGIS 9.3. The sub-regions were selected using 25-square-mile hexagons, which is one of the methods used to display composite spatial data by CDFG - e.g., Bird Species of Special Concern data (WFO 2008). To identify appropriate MTAs within these sub-regions, the areas were further refined using a standardized, sequential comparison with a series of GIS data layers to select the hexagons with the highest conservation value. The process included examination of the following data:

Hexagons that intersected at least one of the following GIS layers were retained:
1. Areas of Conservation Emphasis II (ACE II) - The DRECP includes portions of the ACE II ecoregions: Mojave, Sonoran, and Colorado Deserts, Sierra Nevada, and Southern California Mountains and Valleys. Areas with the highest biological value were retained.
2. California Essential Connectivity Areas (CEHC).
3. Potentially available lands for conservation - hexagons with unclassified or State-owned lands in BLM's Federal and State Surface Estate layer were retained.
4. Mohave ground squirrel core areas and corridors.
5. Active Bighorn sheep range.
6. California Condor final critical habitat and historic range.
7. Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)
8. BLM Areas of Critical Environmental Concern (ACEC), Desert Wildlife Management Areas (DWMA).
9. BLM Wildlife Habitat Management Areas (WHMA): dunes and playas, dry wash woodlands, bighorn sheep, and multiple-species.
10. USFWS Critical Wildlife Habitat: arroyo toad (USFWS 2005), California condor (1974), Coachella Valley fringe-toed lizard (USFWS 1980), desert tortoise (USFWS 1994), and Peninsular

bighorn sheep (USFWS 2009)
11. TNC Ecologically Essential Habitat - Ecologically Essential and Ecologically Intact areas were retained.
12. Biological input from CDFG and USFWS staff.

Hexagons were dropped that overlapped entirely with the following:
13. Fully protected lands (Black and Veatch 2008).
14. Military lands; hexagons were cropped at military land boundaries
15. CDFG owned lands

Hexagons were also examined against known proposed renewable energy projects. Depending on the area, hexagons were dropped if they overlapped more than 50% with proposed solar projects, BLM Solar Energy Zones, and proposed wind energy projects. Due to the scale size of the hexagons i.e. 25 square miles, some hexagons were retained even though they had more than a 50% renewable energy project footprint if there were no other options to maintain connectivity or reduce fragmentation for target CESA Listed and Candidate Species. Acquisition immediately adjacent to renewable energy projects may be appropriate in some cases, and will be approved by CDFG on a case-by-case basis. The following layers were examined:

16. Solar Energy Study Areas for the Bureau of Land Management (BLM 2009).
17. Renewable Energy Project Applications in California (BLM 2010).
18. Competitive Renewable Energy Zones (CREZ) (CEC 2010).
19. Solar Projects (CEC 2010).
20. Wind Projects (CEC 2010).
21. Department of Fish and Game Renewable Energy Project Applications (CDFG 2010).

Within the resulting areas, individual parcels will be evaluated for potential value as mitigation for target CESA Listed and Candidate Species. Acquisition/restoration/enhancement areas will be further refined and prioritized for desert tortoise using the USFWS's desert tortoise spatial decision support system.

2. Areas of Conservation Emphasis (ACE) Sensitive Habitats (green hexagons)
CDFG mapped sensitive habitats by 2.5 square mile hexagon grid statewide, for the Areas of Conservation Emphasis – II project. Sensitive habitats included riparian, wetland, and rare natural communities. Dataset shows presence or absence of each sensitive habitat type per hexagon, but does not rank hexagons by sensitive habitat extent or quality.

Wetland types include palustrine, estuarine, lakes and ponds. Presence of vernal pools and flooded agriculture also separately denoted.

3. Areas of Conservation Emphasis (ACE) Rarity-weighted Species Richness **(brown hexagons)**
CDFG mapped rarity-weighted richness (RWI) by 2.5-square-mile hexagons for the Areas of Conservation Emphasis – II project. RWI is based on CNDDB presumed extant occurrences (as of July 2009); additional museum records from the California Academy of Sciences, the Museum of Vertebrate Zoology at UC Berkeley, and the Consortium of California Herbaria (records from 1999-2009 only); and additional CDFG datasets (BIOS, other CDFG regional and Headquarters branch

data). Special status species included in RWI calculations included all State- and Federally-listed or Candidate species, CDFG species of special concern, CDFG fully-protected species, and CNPS List 1B and List 2 plants.

All documented and presumed extant occurrences with accuracy ±1 mile or better were included to incorporate as many known occurrences as possible, and a 1-mile buffer was added to all occurrence points and polygons to standardize accuracy. Any hexagon with >5% area covered by a buffered documented occurrence was considered a presence.

Rarity-weighted species richness is a metric of “irreplaceability" based on the presence of special status species weighted by their degree of rarity. Areas with a high RWI support rare species with few documented occurrences; these areas would be expected to support unique habitats or suites of species that are limited in distribution and likely of high conservation concern. The RWI was calculated by taking the inverse of the number of hexagons occupied by each rare taxon (RWI = Sum of [1/# hexes per taxon]), so that taxa with the smallest distributions have the largest values. All RWI values were then summed per hexagon by taxonomic group. Data for each taxonomic group were normalized separately to give each taxonomic group equal weight (maximum value of 1). The normalized values were summed to determine total rarity-weighted richness. Index values are ranked into five classes using Jenks Natural Breaks Optimization method. For the examination of the overlap between areas with a high RWI, only the top three classes (3-5) are shown.

Verified species occurrences mapped by CNDDB and museum data tend to be spatially biased toward areas with high levels of survey effort, which may result in particularly high rare species richness values in well-surveyed areas. Conversely, surveys have not been conducted in a comprehensive and consistent manner across the entire landscape, and current maps of verified rare species occurrences are expected to have high rates of omission. For this reason, counts of rare species richness would be expected to be underestimates in some hexagons, particularly those for which no survey data are available. Furthermore, RWI values may be biased by level of survey effort for certain species or in certain areas of the State. Rarity-weighted richness best represents the "irreplaceability" of areas supporting narrow-ranging species and habitats. Wide-ranging species that are rare within their range would have low RWI values although they may be of high conservation concern. A separate metric should be used to identify the areas of highest concern for wide-ranging species.

The ACE-II project report is currently in preparation for public release, but additional details are available upon request.

Map 3

4. Active Bighorn Sheep Range (red cross-hatch layer)
Active Bighorn sheep ranges, 2009, CDFG unpublished data.

5. California Essential Habitat Connectivity (light to dark polygons)
The California Department of Transportation (Caltrans) and CDFG commissioned the California Essential Habitat Connectivity Project because a functional network of connected wildlands is essential to the continued support of California's diverse natural communities in the face of human development and climate change.

The layer used in Map 3 depicts areas essential for ecological connectivity between them (Essential Connectivity Areas). This coarse-scale map was based primarily on the concept of ecological integrity, rather than the needs of particular species. Essential Connectivity Areas are placeholder polygons that can inform land-planning efforts. It is important to recognize that even areas outside of Natural Landscape Blocks and Essential Connectivity Areas support important ecological values that should not be dismissed as lacking conservation value. Furthermore, because the Essential Habitat Connectivity Map was created at the statewide scale, based on available statewide data layers, and ignored Natural Landscape Blocks smaller than 2,000 acres, it has errors of omission that should be addressed at regional and local scales

Due to the broad, statewide nature of the CEHC map, and its focus on connecting very large blocks of mostly protected natural lands, the network omits many areas that are important to biological conservation. The purpose of the map is to focus attention on large areas important to maintaining ecological integrity at the broadest scale. Natural areas excluded from this broad-brush Essential Connectivity Network should not be deemed as unimportant to connectivity conservation or to sustaining California's natural heritage.

Supplementary information: http://www.dot.ca.gov/hq/env/bio/program_efforts.htm

ATTACHMENT 5

CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov

DEPARTMENT OF FISH AND GAME
1416 Ninth Street
Sacramento, California 95814

Main website: www.dfg.ca.gov

September 14, 2009

Ms. Linda Resseguie, Project Manager, BLM
Solar Energy PEIS Scoping
Argonne National Laboratory
9700 S. Cass Avenue – EVS/900
Argonne, Illinois 60439

Dear Ms. Resseguie:

The California Energy Commission (Energy Commission) and the California Department of Fish and Game (Fish and Game) appreciate this opportunity to comment on the solar energy study areas announced in the June 30, 2009 *Federal Register* Notice of Availability. In the solar programmatic environmental impact statement (Solar PEIS), these study areas will be analyzed in depth for significant environmental impacts and economic viability. The results of this analysis will then be used to designate solar energy zones in which large-scale solar energy generating facilities would receive priority for accelerated siting and permit processing.

California has also initiated planning efforts to accelerate the permitting and development of new renewable energy projects, while protecting sensitive wildlife habitat. We offer these comments to improve the synergies between state and federal efforts.

In November 2008, Governor Schwarzenegger issued a renewable energy executive order[1] directing the California Natural Resources Agency to lead state-agency efforts to facilitate environmental permitting of Renewable Portfolio Standard-eligible energy projects located in the Mojave and Colorado Desert regions of California. The Energy Commission and Fish and Game have been working closely with the Bureau of Land Management (BLM) California Office and U.S. Fish and Wildlife Service (USFWS) Region 8 to implement this executive order.

[1] Executive Order S-14-08, See http://gov.ca.gov/executive-order/11072/.

One implementation activity will be to prepare a Desert Renewable Energy Conservation Plan (DRECP), which will identify areas where renewable energy development should be directed and where habitat conservation would occur to offset the environmental impacts from development of utility-scale renewable energy generating facilities. A program-level Environmental Impact Report will be prepared to comply with the California Environmental Quality Act (CEQA) and which will accompany the DRECP as it undergoes final public review and moves toward formal adoption. Similar to Secretary of Interior Salazar's Order[2] to identify and prioritize acceptable sites for renewable energy development on BLM-managed lands, the Governor's Executive Order is focused on renewable energy development in California's desert regions.

All four solar energy study areas were proposed within the geographic boundaries of the DRECP. As shown in the list below and enclosed maps, the proposed study areas in California have been co-located with selected competitive renewable energy zones (CREZs) from the Renewable Energy Transmission Initiative (RETI):[3]

- Imperial East Solar Energy Study Area: CREZ 30, Imperial South
- Iron Mountain Solar Energy Study Area: CREZ 37, Iron Mountain
- Pisgah Solar Energy Study Area: CREZ 43, Pisgah and CREZ 45, Barstow
- Riverside East Solar Energy Study Area: CREZ 36, Riverside East

We appreciate BLM's inclusion of these CREZs in the solar energy study areas and the linkage this creates between our state and federal efforts. Differences between a CREZ area and the solar energy study area are due, in part, to land ownership/management responsibility; only BLM-managed lands were included in the proposed solar energy study areas. As a result, blocks of land within a solar energy study area have been excluded because they are privately owned or managed by the California State Lands Commission. We believe this fact will reduce the effectiveness of the Solar PEIS in facilitating renewable energy development in California since projects located on adjoining private land may not be able to tier-off the document to assist with CEQA compliance. We also believe that limiting the scope of the review solely to federal land raises issues regarding the usefulness of the cumulative impacts analysis. In addition, the CREZ conceptual transmission line routes, which are necessary to move power from generation facilities to the load centers, may have been excluded.

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[2] Order 3285, See http://www.doi.gov/news/09_News_Releases/SOenergy.pdf.

[3] http://www.energy.ca.gov/2009publications/RETI-1000-2009-001/RETI-1000-2009-001-F-REV.PDF

Comments

Pursuant to the Governor's Executive Order, California currently has a goal of obtaining 33 percent of its electricity from renewable generation by 2020. To meet this ambitious RPS goal will require extensive development of solar, wind, geothermal and other renewable resources. Limiting the Solar PEIS in California to four study areas, and excluding private land, results in a project scope that is overly narrow and which will not facilitate the most economic and environmentally preferred development outcome. For example, none of the solar study areas are located in the western Mojave Desert which is more developed than other California desert areas, is closer to existing transmission infrastructure and load centers, and has more previously disturbed land that can be developed without the magnitude of environmental impacts that can occur when undisturbed land is developed.

The Renewable Energy Action Team (REAT) agencies will soon be working with a comprehensive group of stakeholders to create a DRECP that will identify areas for renewable development and areas to conserve, and will ultimately result in a California Endangered Species Act (CESA) permit for renewable energy projects within the DRECP planning area. The DRECP will also likely provide the basis for one or more large-scale Habitat Conservation Plans (HCPs) pursuant to Section 10 of the Federal Endangered Species Act (FESA). We believe that expanding the number of solar study areas in the Solar PEIS will serve to better coordinate the work of the Solar PEIS with the DRECP and lead to improved development and conservation plans for the Mojave and Colorado Deserts in California. We request that the California solar energy study areas be expanded to include the following as study areas, with the following caveats. First, we recognize that further study may determine that some of the areas we are proposing for review may not be appropriate for development for a variety of reasons, e.g., potential impact to biological resources – the suitability of these areas will be further evaluated through the DRECP planning process. Second, in recommending these areas for further study we have not had the benefit of input from the broad range of stakeholders who will be participating in the DRECP's development. Based upon this additional analysis and input, we may reach a conclusion that some of the areas we are asking to be studied should be removed from further consideration, and we may also determine that areas not identified would be good candidates for development.

Regardless, we believe it is important to perform a more robust analysis in the Solar PEIS and as a consequence, recommend the following be added to the current solar study areas.

The individual areas that we are requesting be examined in the Solar PEIS possess some or all of the following attributes, which indicate they could be suitable for

development: 1) have been previously identified in the RETI process as possessing significant renewable resource development potential; 2) have proximity to existing transmission line infrastructure; 3) have proximity to load centers; and 4) are located in areas that have been more heavily impacted by development and possess greater amounts of previously disturbed land.

These areas are numbered and shown on the enclosed maps. The boundaries shown are approximate but correspond closely to the general area the Energy Commission and Fish and Game believe warrants further joint study by BLM and the State.

1. Pisgah Expansion -- We recommend that the BLM extend the boundary of the Pisgah solar study area to the west and to the north. This expanded area would encompass private land immediately to the west and adjacent to the Pisgah CREZ; some of this land is highly disturbed due to former agricultural activities. The area is crossed by Interstate 15 and several high voltage transmission lines. The area north of Interstate 15 includes a mixture of BLM and private land with minimal slope that could accommodate a large amount of generating capacity and is adjacent to the Barstow CREZ.

2. Searles Valley -- We recommend that BLM add the area south of Searles Lake and State Highway 178 within the Searles Valley to the solar energy study areas. This area would be located to the north, west, and east of the Trona Pinnacles National Natural Landmark Area of Critical Environmental Concern (ACEC) so an appropriate buffer area would have to be established. The Searles Valley is one of the most highly impacted and industrialized areas of the Mojave Desert. There is a power plant in the community of Trona with an existing transmission line that runs to the west. The area is bounded on three sides by the China Lake Naval Air Weapons Station. The area recommended for further study is almost entirely managed by BLM. It is also located close to the Inyokern CREZ and a proposed solar thermal project, solar photovoltaic, and wind lease applications on BLM land, and RETI solar proxy projects.

3. Harper Lake Area Expansion -- The area shown on the map significantly expands the area around Harper Dry Lake but would exclude any ACECs. It is part of the area covered by the Kramer CREZ. We recognize there may be issues regarding significant impacts to Mojave ground squirrel, including connectivity issues between core population areas. Consequently, after further study, parts of the recommended study area could be determined to be inappropriate for development. However, given the current and proposed solar development adjacent to Harper Lake and the proximity of existing transmission lines, this area warrants further study. BLM is the majority land owner in the area and the region is served by two major highways. There is some previously disturbed land and the slope aspect of much of the land appears suitable for solar development.

4. Imperial South – For this proposed BLM solar energy study area, we recommend expanding the area to be studied to the northwest which would effectively double its size. BLM manages more than 90 percent of the land in this northwest expansion area. This area is being recommended, because it has been identified as having low biological resource potential, and the area has excellent access to existing transmission line infrastructure.

5. Eastern Shore of the Salton Sea -- This area is a mixture of BLM, private, and State-managed land with BLM and private land predominating. It borders the southeastern shore of the Salton Sea and extends south toward the Imperial Sand Dunes, which is a protected area. It is recommended for study, because it has been identified as having low biological resource value. This is also an area that has the potential for geothermal resource development. If it can be determined that solar development would not inhibit geothermal development in this area, this area merits review in the Solar PEIS.

6. Southwestern Shore of the Salton Sea -- This is part of the Imperial North CREZ. State Highway 86 bisects the area. The land is predominantly privately owned with several BLM parcels, and it appears to be highly disturbed. There is good transmission access, and as with the Eastern Shore of the Salton Sea, if this area can be developed without inhibiting geothermal development it appears to warrant further review.

7. Western Mojave (areas not yet mapped) -- The State is evaluating large areas of the Western Mojave for its suitability for renewable energy development. The proposed areas are not shown on the enclosed maps. The areas under consideration overlap several CREZs including the Fairmont, Tehachapi, Kramer, and Victorville CREZs. Obviously, there are areas within the Western Mojave that should be excluded from development due to factors such as zoning incompatibility and significant impacts to biological resources. However, this area possesses several distinct advantages for potential solar projects such as high solar insolation, proximity to load centers and transmission infrastructure, large tracts of previously disturbed land, and greater general development. Much of this area is also privately owned, which results in BLM being reluctant to include it for study, but which also means less public land is used for development if projects are located on private land. If private land ownership is problematic for BLM regarding including this large region as a solar study area, then BLM should consider including a smaller portion of the region, specifically the area where BLM ownership is significant, specifically the area north and west of Kramer Junction, bounded on the south by State Highway 58 and on the east by US Highway 395. If it is found that this area does not support high value habitat for the State Threatened Mojave ground squirrel, or that it is not critical for maintaining connectivity between Mojave ground squirrel core population areas, it would be an area where development could take advantage of proximity to existing transmission line infrastructure. The State proposes to work jointly with the BLM to designate additional solar study areas within the Western Mojave.

<u>General comments</u>

- Solar energy projects which straddle both BLM-managed and private/state-managed land have been proposed by several developers. By excluding non-BLM-managed lands, BLM will not be able to accelerate permitting of these projects, because state and local agencies would not be able to tier-off of the Solar PEIS for their environmental analyses, nor would BLM be able to use the Solar PEIS for projects on which BLM would be providing a Section 7 Federal Endangered Species Act nexus for the entirety of a project with mixed land ownership, a common scenario in the California desert. Instead, local lead agencies will need to prepare their own CEQA analysis and environmental document, and BLM would have to prepare a focused NEPA document that could not tier-off of the Solar PEIS. Similarly, state and local agencies would need to prepare their own environmental studies of solar energy projects that are inside a solar energy study area, but

located on private or State Lands Commission-managed land. If the California portion of the Solar PEIS was developed as a CEQA-equivalent document, all solar energy projects within the final, designated solar energy zones could benefit from accelerated approvals and permit processing. In areas where the Energy Commission and Fish and Game have proposed incorporating significant amounts of private lands into the proposed BLM solar study areas, the State will participate in the joint environmental analyses of these areas through the DRECP planning process, as a cooperating agency on the Solar PEIS effort, and as lead for the purposes of achieving CEQA equivalence.

- Riverside East Study Area – The Riverside East Study Area includes McCoy Wash in Eastern Riverside County. Although not identified in the BLM Northern and Eastern Colorado Desert Plan as an area of high biological diversity, this area contains an exceptional example of Desert Dry Wash Woodland. Desert Dry Wash Woodland provides habitat for numerous resident and migratory sensitive bird species, such as southwestern willow flycatcher, summer tanager, LeConte's thrasher, and gila woodpecker. In addition, it provides habitat for desert mule deer, and mountain lions. We are not recommending that this area be removed from the study area but that the analysis and any ranking of areas that occurs in the Solar PEIS should recognize the importance of focusing development in preferred areas that have already been impacted and avoiding, whenever possible, undisturbed areas and areas of high biological value.

- Iron Mountain -- The Energy Commission staff provided comments in November 2008 on the proposed RETI CREZs, including Iron Mountain. In those comments the staff expressed concern over the development of this and other CREZs based upon their remote location in the eastern Mojave. In these comments staff indicated a preference for development to occur in the Western Mojave, to the extent feasible, where there has been more development and which is located closer to load centers, and often in closer proximity to transmission line infrastructure. We agree that it is desirable to avoid development in pristine areas. While we do not recommend that Iron Mountain be eliminated as a solar energy study area, the analysis and any ranking of areas that occurs in the Solar PEIS should recognize the importance of focusing development in preferred areas that have already been impacted and avoiding, whenever possible, undisturbed and remote areas.

We would like to thank you for the opportunity to provide comments on the Solar PEIS and look forward to working together collaboratively as your work continues. The Energy Commission and Fish and Game have appreciated the close and productive working relationship that has developed between our agencies, the BLM (California Office), and the USFWS (Region 8) on the solar power plant applications and the work of the REAT on the DRECP. We look forward to working with BLM on all aspects of renewable energy development in California in the future. Questions on these comments can be directed to Terrence O'Brien, Deputy Director of Siting, Transmission and Environmental Protection at the Energy Commission at (916) 654-3933 or tobrien@energy.state.ca.us or Kevin Hunting, Deputy Director at the California Department of Fish and Game at (916) 653-1070 or khunting@dfg.ca.gov.

Sincerely,

KAREN DOUGLAS
Chairman,
California Energy Commission

For KEVIN W. HUNTING
Deputy Director
California Department of Fish and Game

cc: Jim Abbott, CA BLM
Darrin Thome, USFWS

Enclosures

Legend for Maps Recommending Additional Solar Energy Study Areas in Southern California

Renewable Energy Transmission Initiative (RETI)

- Draft Conceptual RETI Wind Projects
- Draft Conceptual RETI Solar Projects
- BLM Wind Lease Application
- BLM Solar Lease Application
- BLM Solar Energy Study Areas
- Draft Conceptual RETI Transmission Trunk Lines to connect a Competive Renewable Energy Zone to the Transmission Grid
- Draft Conceptual RETI Substation to collect energy from projects in a Competive Renewable Energy Zone

Renewable Project Data Sources

Bureau of Land Management solar and wind right of way applications at http://www.blm.gov/pgdata/content/ca/en/fo/cdd/alternative_energy/SolarEnergy.html

Renewable Energy Transmission Initiative Phase 1b Final Report at http://http://www.energy.ca.gov/reti/documents/index.html

Prohibited, Restricted & Limited Lands

- Category I Lands - Energy Development Prohibited or Restricted by Policy including National Park Service (NPS), and Bureau of Land Management and US Forest Service Wilderness Areas.

Other Features

- Community
- Road
- Historic Route 66
- County Boundary
- Water Body
- Dry Lake Bed
- The Wildlands Conservancy (Catellus)
- Area of Critical Environmental Concern
- Draft Conceptual RETI Competitive Renewable Energy Zone Boundary
- CEC/DFG Proposed Study Area Expansion

Substations

- Imperial Irrigation District
- Los Angeles Dept. of Water & Power (LADWP)
- Southern California Edison (SCE)
- Western Area Power Administration
- Metropolitan Water District
- All Others

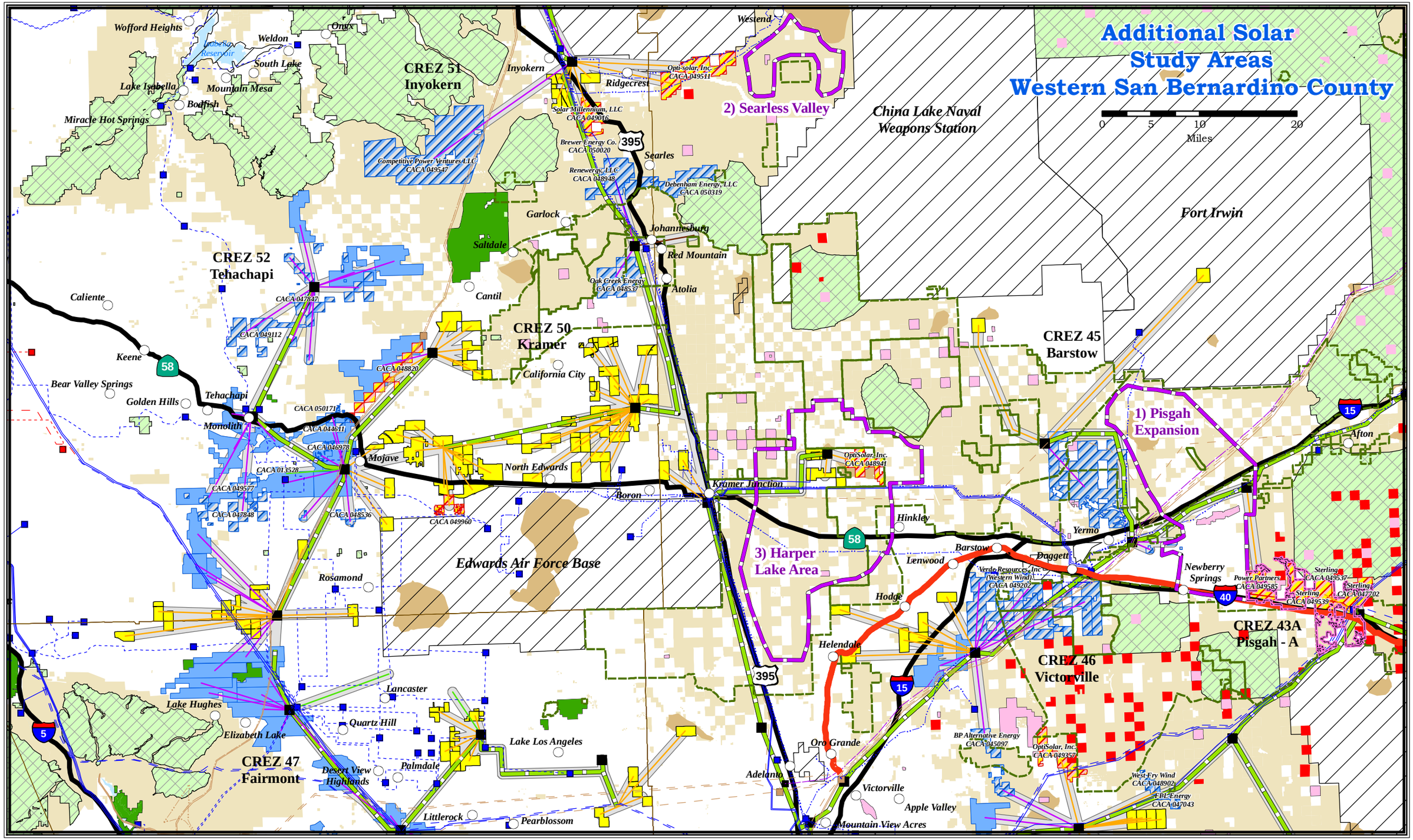
Land Ownership

- State Owned Lands
- Bureau of Indian Affairs (BIA)
- Bureau of Land Management (BLM) and US Forest Service (USFS)
- Bureau of Reclamation (BOR)
- Department of Defense (DOD)
- US Fish and Wildlife Service
- CA State Parks
- Private Land

Transmission Lines

(Colorized according to Utility Ownership)

- 12 kV - 59 kV
- 60 kV - 92 kV
- 110 kV - 161 kV
- 220 kV - 287 kV
- 345 kV - 500 kV
- 345 kV - 500 kV DC


Additional Solar
Study Areas
Western San Bernardino County
0 5 10 20
Miles
CREZ 51
Inyokern
CREZ 52
Tehachapi
CREZ 50
Kramer
CREZ 45
Barstow
CREZ 46
Victorville
CREZ 43A
Pisgah - A
CREZ 47
Fairmont
1) Pisgah
Expansion
2) Searless Valley
3) Harper
Lake Area
China Lake Naval
Weapons Station
Fort Irwin
Edwards Air Force Base
Wofford Heights
Weldon
Onyx
South Lake
Lake Isabella
Mountain Mesa
Bodfish
Miracle Hot Springs
Inyokern
Ridgecrest
Westend
Searles
Garlock
Saltdale
Johannesburg
Red Mountain
Atolia
Cantil
California City
Caliente
Keene
Bear Valley Springs
Golden Hills
Tehachapi
Monolith
Mojave
North Edwards
Boron
Kramer Junction
Hinkley
Yermo
Barstow
Daggett
Lenwood
Hodge
Helendale
Oro Grande
Adelanto
Victorville
Apple Valley
Mountain View Acres
Newberry
Springs
Afton
Rosamond
Lancaster
Lake Hughes
Quartz Hill
Elizabeth Lake
Lake Los Angeles
Desert View
Highlands
Palmdale
Littlerock
Pearblossom
Solar Millennium, LLC
CACA 049016
Opti-solar, Inc.
CACA 049511
Brewer Energy Co.
CACA 050020
Competitive Power Ventures LLC
CACA 049547
Renewergy, LLC
CACA 048948
Debenham Energy, LLC
CACA 050319
Oak Creek Energy
CACA 048537
CACA 047847
CACA 049112
CACA 048820
CACA 050171
CACA 044611
CACA 046978
CACA 013528
CACA 049577
CACA 047848
CACA 048536
CACA 049960
OptiSolar, Inc.
CACA 048941
Verde Resources, Inc.
(Western Wind)
CACA 049202
Power Partners
CACA 049585
Sterling
CACA 049537
Sterling
CACA 049539
Sterling
CACA 047702
BP Alternative Energy
CACA 045097
OptiSolar, Inc.
CACA 049357
West Fry Wind
CACA 048902
FBL Energy
CACA 047043
395
58
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40
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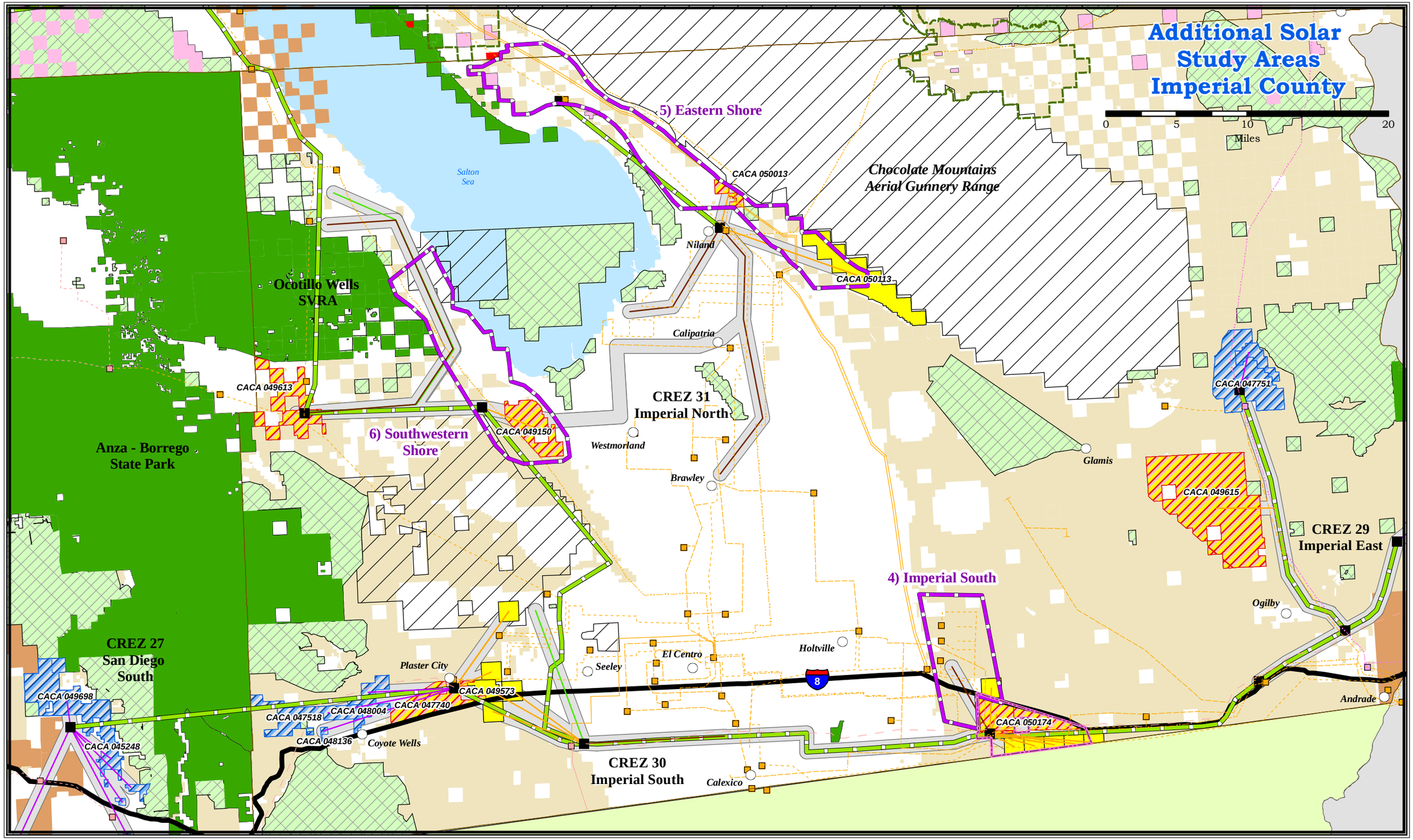
Additional Solar Study Areas Imperial County
0
5
10
20
Miles
5) Eastern Shore
Salton Sea
CACA 050013
Chocolate Mountains Aerial Gunnery Range
Niland
CACA 050113
Ocotillo Wells SVRA
Calipatria
CACA 049613
CREZ 31 Imperial North
CACA 047751
6) Southwestern Shore
CACA 049150
Westmorland
Anza - Borrego State Park
Brawley
Glamis
CACA 049615
CREZ 29 Imperial East
4) Imperial South
Ogilby
CREZ 27 San Diego South
Holtville
El Centro
Seeley
Plaster City
8
CACA 049698
CACA 049573
CACA 047740
CACA 048004
CACA 047518
CACA 050174
Andrade
CACA 045248
CACA 048136
Coyote Wells
CREZ 30 Imperial South
Calexico

ATTACHMENT 6

Standard Review Form for
Draft Solar Energy Development PEIS (Issued December 2010)

Reviewer's Name: David Bise/Amy Golden **Reviewer's Organization**: California Energy Commission

Reviewer's email address: dbise@energy.state.ca.us **Reviewer's Telephone numbers**: (916) 654-5043

Primary Disciplinary Area: Biological Resources

Section(s) or Chapter(s) Reviewed: Volume 3 - Chapter 9, Parts 1 and 2, , Water Resources, Biology, Cumulative Impacts

EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
9.1.1.2	9.1-4/10	Mentions that no acreage impacts for transmission lines was assessed. Buildout of the SEZ would necessitate construction or upgrading of transmission lines. Specific analysis of these impacts cannot be adequately assessed at this time, but likely impacts from t-lines should be acknowledged within all SEZs.	
9.1.1.2	9.1-4/20	Paragraph references access from State Route 98. Will this route be able to support increased traffic during height of construction or would upgrades be required?	
9.1.1.3	9.1-8	Table 9.1.1.3-1 references potential water usage from wet cooled facilities. Projects under CEC jurisdiction will likely not be approved with wet cooling unless the project has access to reclaimed, non-potable water or impacts from a dry cooled project would actually be higher than that of a wet-cooled project. Section later states that wet cooling is likely to be infeasible, but should be stated here as well. This comment applies to all SEZ sections in respect to discussion of wet cooling.	
9.1.1.3	9.1-9	Discussion of wetland minimization and avoidance should mention that mitigation of Army Corps or CDFG-jurisdictional waters will require acquisition of at least 1:1 for impact acreage.	
9.1.1.3	9.1-13	Table states that less than 1% of suitable habitat within the region of the SEZ would be impacted (within 50 miles of the center of the SEZ). However, the preferred alternative of the PEIS allows for submittal of applications on BLM	

		outside of the SEZ. Also, private lands may also allow for solar or other development outside of the PEIS process. So if the preferred alternative was accepted and impacts on private land were considered, the likely extent of impacts to various habitat types would be higher. This is a global comment for all SEZ sections that refer to the extent of habitat impacts within the respective SEZ regions (within a 50 mile radius).	
9.1.9.2.2	9.1-63/10	Line assumes that the maximum disturbance for an individual facility would be 3,000 acres. Several fast-track projects proposed or approved exceed this acreage limit.	
9.1.10	*9.1-71/9*	Line states that no direct or indirect effects are assumed for new access roads or transmission lines. New access roads may only be constructed within project boundaries. However, the PEIS has acknowledged the likely need for new or upgraded transmission lines at full buildout of the SEZ. Therefore, direct and indirect impacts from t-lines will likely occur.	
9.1.10.2.1	*9.1-79*	This reflects the previous comment on impacts to habitat within the SEZ region. The actual impact within 50 miles of the SEZ would likely be higher given the PEIS preferred alternative and the potential for projects to be constructed on private lands.	
9.1.10.2.1	*9.1-80*	Fourth paragraph refers to wetland communities that could be impacted by a drawdown in groundwater levels. Other communities such as wash scrub habitats are not classified as wetlands but are dependent on groundwater levels. All groundwater dependent vegetation communities should be included in this paragraph.	
9.1.11.1.2	*9.1-90/7*	Similar comment regarding likely impacts to habitat for plant and animal species in the region will likely be higher than stated based on potential impacts on private lands and BLM land outside of designated SEZs.	
9.1.11.2.1	*9.1-91/29*	Ravens should be removed from this discussion and from Table 9.1.11.2-1. While ravens are protected by the MBTA, ravens numbers in the desert are actually augmented by anthropological food and water sources. Ravens have been shown to feed on special-status wildlife species including desert tortoise. Approved projects are required to prepare raven management plans by USFWS, BLM, and CEC. Plans may in some circumstances require removal of offending ravens.	
TABLE 9.1.11.2-1	9.1-92	Neotropical migrant category in table should be replaced with passerine category or others as applicable. Many species listed under this category are	

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		year-round residents that do not migrate.	
TABLE 9.1.11.2-1	9.1-99	Add burrowing owl to the birds of prey section of table (global comment for all SEZ tables)	
9.1.11.2.1	9.1-102/41	Golden eagle should be listed as protected under the Bald and Golden Eagle Act. This act prevents any direct take of the species (Global comment for all SEZ sections)	
9.1.11.2.2	*9.1-103/44*	See previous comments on how impacts to habitats are calculated within SEZ regions. Note should be added to all SEZ sections with estimated impacts that impacts would likely be higher if BLM's preferred alternative were approved and considering potential projects on private lands.	
9.1.11.2.2	*9.1-104/2*	Avian collision could also occur from impacts with solar structures, especially for projects with tall power towers.	
9.1.11.2.3	*9.1-104/41*	Include opuntia species in this list as providing habitat for cactus wren	
9.1.11.2.3	*9.1-105/1*	Direct take of golden eagles must be avoided under the eagle protection act. Current guidelines do not allow for issuance of a take permit.	
9.1.11.3.1	*9.1-106/15*	Add desert kit fox to list of mammals potentially impacted with SEZs (global comment.) Species is a special status species in California and take of the species is not permitted. Avoidance and minimization measures are required for this species on projects with CEQA jurisdiction.	
9.1.11.3.1	*9.1-106/34*	Include desert kit fox and American badger in list of special status mammals and include in Table 9.1.11.3-1. Approved projects under CEQA must consider impacts to these species and incorporate avoidance and minimization measures.	
9.1.12.1	*9.1-120/25*	Include desert wash habitats as unique habitats that may be impacted	
9.1.12.2	*9.1-147/46*	Include American badger, western burrowing owl, and desert kit fox in special-status species listings	
9.1.12.2	*9.1-148/17*	See previous comments regarding likelihood of needed t-line upgrades or new construction of t-lines and discussion of subsequent impacts.	
9.1.22.2.1	*9.1-268*	Update approval status of projects as applicable (global comment for all SEZ sections)	
9.1.22.2.1	*9.1-270*	Imperial project is now proposed to be 100% PV.	
9.1.22.2	*9.1-278/18*	Cumulative impact discussion should consider additional impacts from adoption of the preferred alternative which would allow consideration of projects outside of the designated SEZ's. Cumulative impacts also have to	

		address potential impacts to movement corridors or areas that provide connectivity to preserved areas of habitat (global comment for all SEZ sections).	
9.3.1.1	9.3-1/30	Update project acreage and project description for Calico. Project is now primarily a PV project and is 4,613 acres in size.	
9.3.2.1	9.3-21/23	Update project acreage to agree with approved project (see previous comment).	
9.3.3.1	9.3-23/13	There are additional issues concerning scenic resources. For example, impacts of Calico on the scenic vista of Route 66 was considered in final decision.	
9.3.3.2.2	9.3-29/13	Same as previous comments regarding transmission lines and the likely need to upgrade or construction new transmission lines because of SEZ development.	
9.3.9.2.2	9.3-66/4 TABLE 9.3.9.2-2	Temporary irrigation may be needed for the restoration of temporary impact areas as defined by each projects restoration plan.	
9.3.9.3	9.3-69/39	See previous comments regarding wet cooling of projects. Projects under CEC jurisdiction will likely not be able to utilize wet cooling unless a project has access to a reclaimed water source or the applicant can show that dry cooling would actually have a larger environmental impact than dry cooling.	
9.3.10	9.3-71/10	See previous comments regarding transmission lines.	
9.3.10.1	9.3-77/11	Section refers to lack of wetlands in SEZ. However, there are extensive drainages that are subject to a streambed alteration agreement with CDFG. Therefore, a permit for impacts to drainages will likely be required for most projects even if wetlands are not present within a project area.	
9.3.10.2.1	9.3-78/17	See previous comments regarding calculations of impacts with the SEZ region. Consideration of impacts on private lands outside of the SEZ and potential projects considered on BLM lands outside of SEZs under the PEIS preferred alternative would result in additional impacts to the region.	
9.3.10.2.1	9.3-79/22	Projects could also affect downstream sand recruitment by blocking sand transport corridors with solar fields.	
9.3.11	9.3-83/27	See previous transmission line comments (global comment)	
9.3.11.1.1	9.3-84/25	Mojave fringe-toed lizard is a BLM sensitive species and a California state species of special concern. Therefore, it has additional protections from other non special-status herpetofauna. Approved projects have had to include minimization and avoidance measures as well as compensatory mitigation for	

		impacts to this species.	
9.3.11.1.2	9.3-84/16	See previous comments regarding calculation of impacts to habitat in SEZ region (global comment).	
9.3.11.2.1 TABLE 9.3.11.2-1	9.3-91/31	Remove common raven from this list and table. Ravens have to be managed as part of mitigation program of projects such as Calico to minimize impacts of this species on special-status species such as desert tortoise.	
TABLE 9.3.11.2-1	9.3-92	Re-classify birds taxonomically under neotropical migrant heading as appropriate. Most species listed under this heading are not migratory.	
TABLE 9.3.11.2-1	9.2-98	Loggerhead shrike is a California state species of special concern.	
TABLE 9.3.11.2-1	9.3-101	Golden eagle is a year-round resident. Golden eagle protection act requires no direct take of eagle individuals. Some habitat loss may be allowed. See USFWS draft guidelines on take permit from Jan 2011.	
TABLE 9.3.11.2-1	9.3-102	Add burrowing owl under birds of prey in this table.	
9.3.11.2.1	9.3-105	Golden eagles are year-round residents in these areas and are often found in areas with suitable nesting and foraging habitat in proximity to one another. Projects such as Calico are required to determine distance of project to nesting sites according to USFWS survey protocol. The species is protected by the federal eagle act which prohibits direct take of the species.	
9.3.11.2.2	9.3-106/30	See previous comments regarding calculation of impacts in SEZ region.	
9.3.11.2.3	9.3-107/22	Remove common raven from this list.	
9.3.11.2.3	9.3-107/33	Change should be avoided to must be avoided for take of golden eagles.	
9.3.11.3.1 TABLE 9.3.11.3-1	9.3-108/41	Add desert kit fox to this list and TABLE 9.3.11.3-1.	
TABLE 9.3.11.3-1	9.3-110	American badger is a species of special concern in California and projects subject to CEQA are required to consider project-related impacts to this species.	
9.3.12.1.1	9.3-123/43	Desert tortoise definitely occurs within the SEZ. It may or may not occur within any project footprint proposed within the SEZ given the habitat suitability and	

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		level of disturbance.	
TABLE 9.3.12.1-1	9.3-140	Mojave fringe-toed lizard is a California state species of special concern	
TABLE 9.3.12.1-1	9.3-142	The SEZ is not within the known range of Mohave ground squirrel. Known range is limited to west of the Mojave River.	
9.3.12.1.1	9.3-147	Number of tortoise within the SEZ is likely much higher than this number. The original Calico project was estimated to impact over 100 tortoises by itself.	
9.3.12.1.2	*9.3-152/24*	Known occurrences of western burrowing owl associated with Calico project.	
9.3.12.1.2	*9.3-152/37*	SEZ is outside of the known range of this species.	
9.3.12.1.2	*9.3-153/5*	Washes and other lowland habitat within the SEZ also provide important seasonal foraging habitat for sheep.	
9.3.12.2.1	9.3-157/10	Desert tortoise does occur within the SEZ	
9.3.12.2.1	9.3-157/27	See previous comment, number of tortoise within SEZ likely to be much higher than 260 based on results of Calico surveys.	
9.3.12.2.2	9.3-171/10	Burrowing owls found on Calico site	
9.3.12.2.2	9.3-171/40	SEZ is outside the known range of Mohave ground squirrel	
9.3.22.2.1 and TABLE 9.3.22.2-1	9.3-304/28	Update acreages with approved decision acreage and MW.	
9.3.22.2.1	9.3-306/4	Substation now proposed to be located adjacent to existing substation.	
9.3.22.2.1	9.3-308/24	Mojave solar station now approved with construction expected to begin in April 2011.	
TABLE 9.4.1.3-1 (Vegetation)	9.4-10	Revegetation plan should also address salvaging of cacti, yucca, and native trees to be used during revegetation of temporarily disturbed areas. Harvesting of native desert plants is regulated under California Native Plant Protection Act (Fish and Game Codes 1900-1913) and California Desert Native Plant Act of 1981 (Food and Agricultural code 80001 et seq).	
TABLE 9.4.1.3-1 (Vegetation)	9.4-10	Groundwater dependent vegetation includes other communities such as wash scrub, more developed microphyll woodland along desert washes, and playas.	

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TABLE 9.4.1.3-1 (Amphibians and Reptiles)	9.4-11	Discuss avoidance of potential Couch's spadefoot toad breeding areas, typically areas that can pond and hold water for a minimum of 9 consecutive days.	
TABLE 9.4.1.3-1 (Birds)	9.4-12	Avian impacts can also occur from collision with mirrors due to glint and glare. Other potential impacts: electrocution along transmission lines, habitat modification, harm from hypersaline conditions if foraging near evaporation ponds.	
TABLE 9.4.1.3-1 (Mammals)	9.4-12	Add Nelson's bighorn sheep, desert kit fox, American badger	
TABLE 9.4.1.3-1 (Mammals)	9.4-13	Corridors for bighorn sheep and mule deer should be maintained for movement between known or potentially occupied demes. Box culverts beneath I-10 provide important linkages.	
TABLE 9.4.1.3-1 (Mammals)	9.4-13	Siting of power plants and transmission facilities should not interfere with movement of bighorn sheep metapopulations and loss of spring foraging habitat on alluvial fans and bajadas should be minimized. Regional mitigation plan should take into account preserving critical wildlife movement linkages between ACECs, DWMAs, and Wilderness Areas.	
TABLE 9.4.1.3-1 (Aquatic biota)	9.4-13	Include desert washes in water bodies and stream sections as areas to be avoided.	
9.4.9.2.2	9.4-74/23	See previous comments on restrictions on wet-cooled projects under CEC jurisdiction	
9.4.10.3	9.4-93/17	Ironwood and palo verde are also phreatophytes and are highly groundwater dependent (global comment when discussing groundwater dependent vegetation in PEIS).	
9.4.11.1.1	9.4-96/8	Couch's spadefoot toad is a BLM Sensitive species, move to SSS section.	
9.4.11.1.1	9.4-96/22	Mojave fringe toed lizard is a BLM sensitive species and California species of special concern	
TABLE 9.4.11.1-1 (Amphibians)	9.4-97	10 to 12 consecutive days of ponding	
9.4.11.1.3	9.4-103/35	Sand dunes and sand transport corridors should be avoided	
9.4.11.1.3	9.4-103/46	See previous comment. Avoid sand transport corridors and sand dunes.	

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9.4.11.2.1	9.4-104/25	Other birds addressed in I-10 project staff assessments for CEC:brewer's sparrow, vermillion flycatcher, purple martin, yellow-breasted chat, yellow warbler, gilded flicker.	
9.4.11.2.1	9.4-104/29	Remove reference to common raven here.	
TABLE 9.4.11.2-1 (Shorebirds)	9.4-105	Consider netting over any evap ponds that are constructed to exclude shorebirds and other wildlife from drinking or landing in pond water. use at least 1.5-inch mesh netting (Global comment for all SEZ sections in PEIS)	
TABLE 9.4.11.2-1	9.4-106	See previous comments about use of neotropical migrant heading in impact tables.	
TABLE 9.4.11.2-1	9.4-108	See previous comments about removing discussion of protections for common raven.	
TABLE 9.4.11.2-1 (Birds of Prey)	9.4-116	Include burrowing owl in table	
9.4.11.2.1	9.4-119/16	Remove common raven	
9.4.11.2.1	9.4-119/32	Golden eagle is year-round resident. Protected by eagle act. No take allowed.	
9.4.11.2.2	9.4-121/8	Replace reptiles species with bird species	
9.4.11.2.3	9.4-121/35	Replace “should be avoided” with “must be avoided”	
9.4.11.2.3	9.4-121/36	USFWS is not issuing take permits for golden eagle.	
9.4.11.3.1	9.3-123/25	Include desert kit fox in this list	
9.4.11.3.1	9.3-123/37	Add hoary bat to this list	
TABLE 9.4.11.3-1 (Mammals)	9.4-126	Add desert kit fox to table	
9.4.11.3.3	9.4-134/31	Avoid stabilized and partially stabilized sand dunes	

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9.4.11.4.1	9.4-135/1	Add Corn Springs Wash	
9.4.11.4.1	9.4-135/2	Desert sink scrub occurs on the margins of Palen Dry Lake	
9.4.11.4.1	9.4-135/34	Add McCoy and Corn Springs washes	
9.4.11.4.3	9.4-137/21	Avoid impacts to major desert washes	
9.4.12.1 Affected Environment	9.4-140/44	Other CNPS List 1, 2, or State ranked 1 plants that the I-10 solar projects addressed include: chaparral sand verbena, angel trumpets, Arizona spurge, flat-seeded spurge, Harwood's eriastrum, white-margined penstemon, lobed cherry, and jackass clover.	
9.4.12.1 Affected Environment	9.4-141/3	Include loggerhead shrike in this list.	
TABLE 9.4.12.1-1		Fix labels (have mammals listed under bird section	
TABLE 9.4.12.1-1 (Bighorn sheep)	9.4-165	Bighorn sheep are difficult to detect in ranges with very low number of individuals. Nearby occupied WHMAs include in the Palen and Granite Mountains. Recent surveys also suggest bighorn sheep may occur in the Little Maria Mountains. Also in December 2009 DNA testing of scat found in the Little Maria Mountains was confirmed to be that of a male bighorn sheep. Source: CEC June 2010, Blythe Solar Power Plant Revised Staff Assessment.	
TABLE 9.4.12.1-1 (Bighorn sheep)	9.4-165	Sheep do use lowland areas seasonally. In the spring, when annual plants are available, bighorn tend to disperse downhill to to bajadas and alluvial fans to forage. Sheep are capable of crossing large expanses of lands between mountain ranges; for example, 5 peninsular BHS ewes were documented on the Imperial Valley Solar 2 site which is about 7 miles from the nearest mtn range. Telemetry data have documented animals traveling across the flats approximately 10 to 12 miles between Old Dad's and Marble Mountains. Also, DFG captured and moved a ram from the Colorado River near Parker to the Whipple Mtns. and he eventually traveled back down to the river area approximately 150 air miles (300 miles on land). Source: CEC June 2010, Blythe Solar Power Plant Revised Staff Assessment.	

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9.4.12.1.2	9.4-171/22	Include Couch's spadefoot toad as BLM sensitive	
9.4.12.1.2	9.4-171/27	Include Yuma myotis as BLM Sensitive	
9.4.12.1.2	9.4-173/44	Known occurrences of Mohave fringe-toed lizard from sand dunes of Palen and Genesis solar projects, immediately north of I-10 between Desert Center and Blythe. Aeolian corridors identified as Palen Dry Lake-Chuckwalla Valley and Palen Pass sand corridors.	
9.4.12.2.1	9.4-180/45	Global change of CDGF to CDFG	
9.4.12.2.2	9.4-187/11	MFTL known to occur on sand dunes in association with Ford and Palen Dry Lakes.	
9.4.12.3	9.4-198/34	Conduct protocol surveys as appropriate not just pre-disturbance surveys	
9.4.12.3	9.4-199/1	Add Corn Springs Wash	
9.4.12.3	9.4-199/4	Abram's spurge is another species that could occur along margins of playas and washes.	
9.4.12.3	9.4-199/19	Habitat compensation required for loss of desert tortoise habitat (global comment for all SEZ sections)	
*9.4.22.2.1*TABLE 9.4.22.2-1	9.4-376	Update Rice status (now approved by CEC) and status of EIS for fast-track projects	
9.4.22.4.11	9.4-399/24	Need to discuss cumulative impacts to movement corridors and connectivity impacts including potential impacts from preferred alternative and development of private lands adjacent to SEZs.	

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Standard Review Form for
Draft Solar Energy Development PEIS

Reviewer's Name: Serge Glushkoff **Reviewer's Organization**: California Department of Fish and Game

Reviewer's email address: sglushkoff@dfg.ca.gov **Reviewer's Telephone numbers**: (916)539-5669

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Regulatory oversight, ecology

Section(s) or Chapter(s) Reviewed: Volume 3, Chapter 9, Parts 1 and 2

EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
General		The California Energy Commission (CEC) and Department of Fish and Game (CDFG) provided jointly prepared comments on the solar energy study areas announced in the June 30, 2009 *Federal Register* Notice of Availability, in a joint letter to Argonne National Laboratory dated September 14, 2009. In that letter, CDFG and CEC outlined site- and regionally specific recommendations for further joint study by BLM and the State of California (State). The overall BLM Solar Energy Development complex has evolved since the initial scoping, and a great deal of valuable information is provided in this PEIS. The following comments add to and in some cases reiterate those presented in 2009, the scope of which reflects the substantial range of additional information and analysis included in the Draft Solar Energy Development Programmatic Environmental Impact Statement (PEIS). Currently, our chief concern with the PEIS pertains to its relationship to the pending federal-State interagency Desert Renewable Energy Conservation Plan (DRECP), a southern California desert region-wide natural community conservation plan/habitat conservation plan (NCCP/HCP). We present this concern in our joint CEC/CDFG letter to BLM, to which these comments are appended. That letter presents in broad terms our premise that the DRECP will provide a more effective framework and means for informing decisions about where to site solar energy developments and establish corresponding conservation approaches in the desert regions of California than would be possible through the larger-scale approach of the described in the PEIS. The following comments supplement those in the letter and respond in more detail to the specific attributes of the PEIS relative to potential impacts of SEZ and solar energy development alternatives.	

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General/ Chapter 9		CDFG is concerned that the majority of SEZ acreage, and the PEIS preferred alternative acreage of the Solar Energy Development Program, are still not being proposed in areas of the western Mojave Desert. The western Mojave Desert is more developed than other desert areas, and is closer to existing transmission infrastructure and load centers, Solar facilities sited near existing transmission infrastructure and in developed areas result in fewer impacts to species and natural communities. Solar facilities so situated require fewer new transmission facilities and previously disturbed land can usually be developed with lower impacts than in the generally higher-value habitats within the four proposed SEZ's.	
General/ Chapter 9		The primary regulatory focus for this PEIS is federal, but the document should also provide accurate information on State of California requirements, since proponents will also be held to those standards for Incidental Take Permits and Lake Streambed Alteration Agreements pursuant to California Fish and Game Code statutes. The document does often refer to state requirements or designations, but does not always do so consistently or correctly. A general review of all sections dealing with state jurisdictions, designations and procedures will improve this document's utility and accuracy.	
General/ Chapter 9		All State Waters that comprise ephemeral, intermittent or perennial streams or lakes are subject to statutory law, per Section 1600 *et seq*. of the California Fish and Game Code. This basic statutory parameter should be clearly referenced to accurately characterize the scope of environmental review and permitting requirements required for project development for sites with drainages of any kind. The document should not risk misleading proponents and other readers that reliance only on federal (U.S. Army Corps of Engineers, USACE) definitions of wetlands is the sole means by which to evaluate the habitat value and permitting nexus of features affected by surface and ground water. The jurisdictional criteria of Section 1600 *et seq.* of the Fish and Game Code, and California Fish and Game Commission policy, differ from those of USACE. The document does reference this requirement in Chapter 5, pg. 42, but only to the extent of noting that ephemeral drainages can be jurisdictional pursuant to State statutes and regulations. The reference does not note that features subject to Section 1600 *et seq.* jurisdiction include all components of streams and lakes, (i.e., beds, banks and floodplains) and not just the thalweg, active channel or lake basin. The jurisdictional determination of what may appear to be marginal features in arid desert environments is ultimately made by CDFG staff at the time a project is formally proposed. Consequently the document should recommend early	

		consultation and/or formal notification to CDFG staff for proper jurisdictional demarcation. The document should also note that if impacts to streams and lakes are avoided altogether by having no project footprint in any component of a lake or stream, then no LSAA (Lake and Streambed Alteration Agreement) or equivalent process will be necessary. This is also valuable information because, in addition to protecting fish and wildlife resources, outright avoidance of these features would reduce project proponent's permitting obligations and thereby likely result in shorter a shorter environmental review and permitting period.	
General		There is no mention of mitigation for species that meet the definition of "endangered" or "rare" pursuant to California Public Resources Code Section 15380 in the California Environmental Quality Act (CEQA) Guidelines. These include but are not limited to species for which survival and reproduction in the wild are in jeopardy from one or more causes, populations exist in such small numbers that it may become endangered if the environment worsens, or endangerment is likely within the foreseeable future.	
General/ Chapter 9		There are categorization and/or omission errors of listed or "rare" species in tables in sections 11 and 12 for all four SEZ's. Information should be added for some species not previously addressed in the special status species section. The PEIS does not follow the process for designation of California special status species typically used in conjunction with CEQA. Thus, there are several species not correctly identified in the PEIS as warranting consideration under California State law and regulation. With some exceptions, species classified in this document as "rare"were selected on the basis of State status codes S1 and S2 in California or a species of concern by USFWS or the State of California ("CA-SC" in this document) or California Native Plant Society (CNPS) lists 1 and 2, which are the categories that State and local agencies will have to consider pursuant to CEQA. California fully protected (FP) species must be correctly identified throughout the PEIS. These are species with critical state permitting constraints. Fish and Game Code sections 3511, 4700, 5050, and 5515 prohibit take or possession of fully protected species at any time. For plant species, CDFG recommends that potential impacts to S3 species also be considered. For example, one plant species, *Ayenia compacta*, which is designated	

		as S3 and CNPS List 2.3, which indicates it would be disclosed and impacts to it mitigated under CEQA, but would not be addressed by confining consideration to S1- and S2-designated species only). CDFG also recommends that potential impacts to avian Watch List (WL) species be considered. These are species identified in the California Bird Species of Special Concern Report (see Shuford and Gardali, eds., 2008. California Bird Species of Special Concern) as species that are not on the current special concern list that (1) formerly were on the 1978 (Remsen 1978) or 1992 (CDFG 1992) special concern lists and are not currently listed as State threatened and endangered, (2) have been removed (delisted) from either the State or federal threatened and endangered lists (and remain on neither), or (3) are currently designated as "fully protected" in California. We have identified species in the WL category below. Although consideration of this designations is not be legally required, or consistent with BLM definitions (see discussion in the PEIS Appendix A, pg. A-55, footnote 2), noting the presence or occurrence of these species at specific sites provides an additional and useful level of habitat assessment. USFWS no longer maintains a list of SC species; however, USFS does. As such, the PEIS should consider indicating this designation for the appropriate species within species lists. Also, the PEIS should review and redesignate all the species that are still designated in the PEIS as "FWS-SC"; some of them no longer have FWS status, and some should instead now be "FWS-BCC" (Birds of Conservation Concern).	
General/ Chapter 9		Although hunting of the Nelson bighorn sub-species *Ovis canadensis nelsoni* is allowed, it is limited to an annual quota that has ranged between 15-25 animals per year (Fish and Game Code sections 4900 *et seq*.). All bighorn sheep are State of California fully protected species, meaning that take, with the exclusion of the limited hunt and scientific research, cannot be authorized.	
General/ Chapter 9		CDFG recommends the PEIS fully analyze the potential loss of connectivity among species populations and natural communities in both the SEZ development and cumulative impacts sections. Retaining essential connectivity between natural areas was not discussed in detail, or mentioned in Impact Summary tables, for the Iron Mountain or Pisgah SEZ's; the areas where the threat to retaining connectivity	

		appears most acute. It is mentioned briefly – one sentence - in the desert tortoise and bighorn sheep discussions for these sites. We recommend the following, and associated GIS layers, for the wildlife impacts and cumulative impacts sections: Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. Also, the following information referenced in the PEIS supports the connectivity areas identified in Spencer et al. This model should also be referenced for both DT and bighorn sheep and in the cumulative impact sections: Bare, L., Bernhardt, T., Chu, T., Gomez, M., Noddings, C., and Viljoen, M. 2009. Cumulative Impacts of Large-scale Renewable Energy Development in the West Mojave: Effects on Habitat Quality, Physical Movement of Species, and Gene Flow, A Group Project Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Environmental Science and Management, University of California, Donald Bren School of Environmental Science and Management, Santa Barbara, Calif., May 8, 2009.	
General/ Chapter 9		Reference to mitigating under the California Endangered Species Act (CESA) and CESA consultation should be removed for all fully protected species. Except for purposes of scientific research, the California Fish and Game Code prohibits take of these species, and the document must not convey the impression that take can be mitigated through the CESA or CESA consultation.	
General/ Chapter 9		When calculating percentage of “potentially suitable habitat” by various species to discuss impact assessment, clarify if this is by multi-state species range or the species range within California. It is important to note that significantly reducing the range of a listed (or non-listed) species solely in California , or jeopardizing its potential future existence in California, could result in State-mandated regulatory project changes/actions and new species listings.	
General/ Chapter 9		Specially designated areas discussed in Chapter 9 should not be limited to those with a federal designation; mitigation lands with fee title or conservation easement held by the State, Ecological Reserves, Wildlife Areas, and State Parks should also be included to fully illustrate the extent of special designations at a landscape level. They should also be depicted on the special designated area maps for each SEZ.	

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General: All		Conduct global search for "CDGF," and replace with "CDFG" (California Department of Fish and Game).	
Chapter 9 9.1.12 9.2.12 9.3.12 9.4.12	9.1-119 / footnote 9, 9.2-123 footnote 4, 9.3-121/ footnote 7, 9.4-139 / foot-note 7	All references to species designated in California statute as fully protected (e.g. sections 3511 and 5515 of the California Fish and Game Code) should consistently reflect that these species are subject to a prohibition of take. Most parts of the document have does so but there are still some that appear to imply that take of these species can be mitigated pursuant to CESA. Footnotes that define fully protected species as "having the strictest take provisions" imply that there may be project-related forms of take that can be authorized.	
Chapter 9: All		Cumulative impact analysis should include impacts on State and federal lands that are adjacent to or near the SEZ's. This should at a minimum include mitigation lands with fee title or conservation easement held by the State, Ecological Reserves, Wildlife Areas, and State Parks. Geographic extent of the cumulative impacts analysis (pages 9.1-265, 9.2-305, 9.3-301, 9.4-373) should address this issue.	
9.1.1		We note that the overall area of this SEZ has not been expanded as previously recommended by CEC/DFG (Scoping Comments 2009, items 4-6) (i.e., Imperial South, Salton Sea Eastern Shore, and Salton Sea Southwestern Shore). These areas were identified by these agencies as Study Areas, i.e. areas that had been identified as potential areas for utility scale renewable energy development on the basis of biological sensitivity data. Of the four SEZ's, Imperial East poses the lowest incidence of biological resource concerns. CDFG notes that more information will ultimately be required about potential adverse effects on water birds from solar installations placed near to water bodies, but still hopes that expansion of this particular SEZ may be considered in future planning.	
Table 9.1.1.3-1	9.1-9 Vegetation	Avoidance of wetlands, riparian habitats, desert dry washes and sand dune habitats and sand transport areas to the "extent practicable" related to take of State-listed species may not be adequate mitigation for impacts pursuant to CEQA; "full mitigation" is the standard to be met pursuant to CESA. Wetlands that will be impacted should be replaced at ratios that are based on levels of impact and the value of the habitat being impacted or lost. Also, it is not adequate to state "Consultations with the USFWS and CDGF would be necessary to determine the appropriate mitigation ratio to acquire, enhance, and preserve desert tortoise compensation	

		lands," as take authorization in the form of State incidental take permits will be required if take of individuals is desired by project applicants.	
TABLES 9.1.1.3-1 and 9.1.11.2-1	9.1-10, 11, 94	Bird focal species list includes common raven. Expansion of desert raven populations poses a risk to the native desert fauna as they prey on desert tortoise and other species. Raven control plans are currently required for many sites as a part of conservation planning within the DRECP process. CDFG recommends deleting the reference to raven as a desert focal bird species, particularly the statement about avoidance of impacts to its potential nesting habitats. Inclusion of raven on focal species list implies it is a species of concern. If it is included, there must be mention of concerns over increased predation on desert tortoise and other species due to increases in raven populations associated with development, and more context provided about how its presence is generally an indication of site degradation rather than viability or diversity. A discussion of the need for raven management to counteract possible increases in raven populations associated with development would be useful.	
9.1.10	9.1-81/44-46	If avoidance is not possible, then direct habitat mitigation based on levels of impact and the value of the habitat being impacted or lost. The AAC was not lined in this section of the canal partly because of the high value of these wetlands, so the mitigation levels for this area are expected to be relatively high.	
TABLE 9.1.11.2-1	9.1-95	Horned lark is CA-WL, CA-S3 and should also be listed in TABLE 9.1.12.1-1	
TABLE 9.1.11.2-1	9.1-96	Loggerhead shrike is CA-SC, CA-S4 and should also be listed in TABLE 9.1.12.1-1	
TABLE 9.1.11.2-1	9.1-98	Golden eagle is a State of California fully protected species (CA-FP, CA-S3) and should also be listed in TABLE 9.1.12.1-1	
TABLE 9.1.11.2-1	9.1-99	Prairie falcon is a State of California WL species (CA-WL, CA-S4) and should also be listed in TABLE 9.1.12.1-1	
TABLE 9.1.11.3-1	9.1-105/36	Desert or Nelson's bighorn sheep is a BLM-S species and should also be listed in TABLE 9.1.12.1-1	
9.1.11.3.1	9.1-105/ 39	The desert bighorn sheep is also a State fully protected species, and should be included in Section 9.1.12. Suggest addition of information that although hunting of the desert or Nelson bighorn sub-species is allowed, it is limited to an annual quota of 15-25 animals/year, and that all bighorn sheep are State of California fully protected species.	
TABLE	9.1-107	American badger is CA:SC, CA-S4 and should also be listed in TABLE 9.1.12.1-1	

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9.1.11.3-1			
Table 9.1.11.3-1	9.1-107/Big game	Text should note that because the section of canal between drops 3 and 4 is the only unlined section left, it will be utilized by deer for water. Solar facilities could make it difficult for the deer to get to the canal for water or push them to the lined sections where they could drown.	
Table 9.1.11.3-1	9.1-113	Spotted bat is CA:SC, CA-S2 and should also be listed in TABLE 9.1.12.1-1	
9.1.12	9.1-119/20	USFWS no longer maintains a list of SC species, but USFS does. Thus, you need to check all the species designated "FWS-SC"; some of them no longer have FWS status, and some should be instead "FWS-BCC" or Birds of Conservation Concern.	
TABLE 9.1.12.1-1	9.1-133	Colorado Desert fringe-toed lizard: add "CA-SC"	
TABLE 9.1.12.1-1	9.1-134	California black rail: add "FWS:BCC"	
TABLE 9.1.12.1-1	9.1-134/ California black rail	CDFG believes the potential impacts to this species are underestimated. If only looking at acreage, the relative impact is small, but this species does not occur in the entire potential suitable habitat and therefore where it is known to occur has higher value. This is a California fully protected species and therefore if the species occurs, no direct take is allowed. Compensatory mitigation in lieu of avoidance cannot be considered. This species has been recorded in the wetlands between drops 3 and 4 of the AAC.	
TABLE 9.1.12.1-1	9.1-135	Ferruginous hawk: add "CA-WL"	
TABLE 9.1.12.1-1	9.1-136	White-faced ibis: add "CA-WL"	
TABLE 9.1.12.1-1	9.1-137/Yuma clapper rail	CDFG believes the potential impacts to this species are underestimated. If only looking at acreage, the relative impact is small, but this species does not occur in all of the potential suitable habitat and therefore where it is known to occur has higher value. This is a California fully protected species and therefore if the species occurs, no direct take is allowed. Compensatory mitigation in lieu of avoidance cannot be considered.	
9.1.12.1.4	9.1-147/10	Indicate that California fully protected species designation does not allow take.	
9.1.12.2.1	9.1-149/22	Reference to mitigating under CESA and CESA consultation should be removed for this and all California fully protected species. State law prohibits take of these species, and the document must not convey the impression that take can be allowed	

		or mitigated through the CESA or CESA consultation. Further rectify by stating that take of this species must be avoided.	
9.1.22.2	9.1-267/19-20	This cumulative impacts section should include an assessment of reasonably foreseeable impacts from the projects that are known to be in the bidding or research phase. While it is necessary to acknowledge that there are uncertainties related to the total number of currently pending applications on and in the vicinity of BLM land, it is also reasonable to assume that some of the projects will ultimately proceed with permitting and construction.	
FIGURE 9.1.22.2-1	9.1-271	The cumulative impacts map should include non-federal lands, both protected and unprotected.	
9.2	General	Iron Mountain SEZ has been viewed for some time by CEC/DFG as an area that should be a low priority for solar energy development given its current relative isolation and lack of development (Scoping Comments to BLM, 2009, page 7). The U.S. Fish and Wildlife Service have also identified it to be in a high value Mojave desert tortoise Habitat Corridor. A large portion of this area also overlaps with high value riparian zones identified the Areas of Conservation Emphasis (ACE II) conservation priority model developed by CDFG (Map 1). We recommend the elimination of this SEZ from the BLM Solar Energy Development Program.	
9.2	General	Development of the Iron Mountain SEZ alone may not have a substantial impact on connectivity, but cumulative effects of full development of the proposed projects in and around the SEZ are likely to decrease connectivity substantially. Retaining essential connectivity between natural areas was not discussed in detail, or mentioned in Impact Summary table. It is mentioned briefly – one sentence - in the desert tortoise and bighorn sheep discussions for these sites. Discussion of connectivity issues is essential for programs of this scope and size.	
Table 9.2.1.3-1	9.2-6/ Lands and Realty	This suggests that 1200 acres of state lands could be developed for solar energy in a manner compatible with surrounding land use. This would not be the case if these are mitigation lands, Ecological Reserves, Wildlife Areas, or State Parks. Ownership of adjacent lands should be clarified and any associated restrictions associated with these state lands should be disclosed.	
TABLE 9.2.1.3-1	9.2-11/ Amphibians and Reptiles	Include dune habitat and sand transport systems as a specific habitat type that needs consideration in the SEZ-Specific Design Features.	

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TABLE 9.2.1.3-1	9.2-12 9.2-124/38-45	Although bighorn sheep may not be groundwater dependent in this vicinity, drawdown of their water sources may still have an effect. This likely impact needs to noted and considered in siting and water use strategies within the SEZ.	
7.2.7.2	9.2-51/42-43	Although the document states that Danby Lake may not be a suitable location for construction, because lakebed sediments are often saturated with shallow groundwater and likely collapsible, there should also be acknowledgment of the wildlife value of Danby Lake, including the active dunes at the southwest corner of the lake.	
9.2.9.2.1	9.2-63/43	Ephemeral drainages, and all state waters that comprise a lake or stream, are subject to State statute pursuant to California Fish and Game Code Section 1600 *et. seq.* It may not be possible to mass grade these areas, and the potential direct and offsite impacts associated with modification to drainage patterns (sediment and surface flow impacts) should be evaluated and mitigation measures identified. The reference to the state requirement for a formal lake or streambed alteration notification to the California Department of Fish and Game is correct, but there is no tentative mitigation approach suggested.	
9.2.9.3	9.2-70/3-4	Support for dry-cooling or very low water use technologies should be explicitly advanced at this programmatic level, given what is known about water availability in this area.,.	
9.2.10.3	9.2-80/25	Recommendation should stipulate that a plan be developed for agency review, rather than "approved and implemented."	
9.2.11.1.2	9.2-91/26-29	The potential for indirect effects from water drawdown in springs in the SEZ region is not included.	
9.2.11.1.3	9.2-92 /4	After " and portions of Danby Lake" add, " including seasonal wetland habitat and sand dune habitat and its associated sand transport systems"	
TABLE 9.2.11.2-1	9.2-126	Horned lark is CA-WL, CA-S3 and should also be listed in TABLE 9.2.12.1-1	
9.2.11.3.1	9.2109/ 35-39	California fully protected species need to be clearly identified as such. Emphasizing the big game aspect of desert bighorn sheep may diminish its actual significance as a species of conservation concern. This species will likely be a covered or planning species in the DRECP.	
9.2.12	9.2-123/ 12-13,	Should include California fully protected species, and also state that no take is allowed for any species with a fully protected designation. This is different than a	

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	footnote 4	"take provision" as described in footnote 4.	
TABLE 9.2.11.2-1	9.2-126	Golden eagle is a State of California fully protected species (CA- FP, CA-S3) and should also be listed in TABLE 9.2.12.1-1	
TABLE 9.2.11.2-1	9.2-126	Prairie falcon is CA-WL, CA-S3 and should also be listed in TABLE 9.2.12.1-1	
TABLE 9.2.11.3-1	9.2-126	American badger is CA:SC, CA-S4 and should also be listed in TABLE 9.2.12.1-1	
TABLE 9.2.11.3-1	9.2-126	Spotted bat is CA:SC, CA-S2 and should also be listed in TABLE 9.2.12.1-1	
TABLE 9.2.12.1-1	9.2-141	Mojave Desert fringe-toed lizard: add "CA-S3"	
TABLE 9.2.12.1-1	9.2-142	Ferruginous hawk: add "CA-WL"	
TABLE 9.2.12.1-1	9.2-143	Hepatic tanager: add "CA-WL"	
TABLE 9.2.12.1-1	9.2-126	• Arizona pholistoma (*Pholistoma auritum* var. ***a****rizonicum*) CA-S1 (CNPS List 2.3); • long-eared owl (*Asio otus*) CA-SC, CA-S3; • northern harrier (*Circus cyaneus*) CA-SC, CA-S3 • horned lark (*Eremophila alpestris actia)* CA:WL • golden eagle (*Aquila chrysaetos*) CA:FP, CA:WL • prairie falcon (*Falco mexicanus*) CA:WL • spotted bat (*Euderma maculatum*) CA:SC • American badger (*Taxidea taxus)* CA:SC	
9.2.12.1.1	9.2-149/5	The desert tortoise is a species listed as threatened under the ESA throughout its entire range in CA, AZ, NV and UT, with the exception of AZ south and east of the Colorado River.	
9.2.12.1.1 9.2.12.2.1	9.2149/34 9.2-156/1	The desert tortoise analysis for this SEZ appears to conflict with the stated objectives for SEZ site selection, specifically "no Threatened and Endangered species conflicts." The analysis for this SEZ states that between several hundred to over one thousand desert tortoise could be impacted by development in this SEZ and that the SEZ may provide important connectivity between desert tortoise critical habitat units. This also appears to conflict with the general mitigation measures indicating solar facilities should not be located in areas of important biological resources.	

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9.2.12.2.1	9.2155/30	Connectivity: Iron Mountain SEZ is in an area that separates two Desert Tortoise Critical Habitat Areas: Chemehuevi to the northeast and the Pinto Mountains to the southwest. This is at a point where the eastern and western critical habitat areas are closest (approximately 18 miles; the next closest potential corridor area is near Baker, where there is also a number of pending BLM renewable energy leases). The Iron Mountain SEZ area may be (or may have been in the past) a critical corridor for DT between these two regions. Development in the SEZ and adjacent BLM lands is likely to effectively cut off this corridor. The area of the SEZ is not identified as an Essential Connectivity Area (Spencer et al 2010) for wildlife, presumably due to existing barriers, but the areas immediately to the north and south are. The area is also identified as an area of moderate connectivity for the DT under current conditions (Bare et al 2009). Under climate change scenarios and maximum solar development, the area is likely to substantially lose most of its value as a corridor, effectively cutting off migration through the area. This should be discussed more thoroughly in the Cumulative Impacts section.	
9.2.12.2.1	9.2-156/2, 22, 44	While the statement that CESA provides authority to CDFG to regulate impacts on state listed species is correct, this section should more clearly indicate that it would be an incidental take permit that would need to be applied for and secured before any take of animals could occur. Defining this legal requirement as just a consultation process undervalues its significance and rigor for project applicants. Rectify by including the following language: "Therefore, formal application for an incidental take permit, or a determination of consistency with a USFWS section 7 permit, would also be required for incidental take of desert tortoises in the SEZ." This rectification should be applied in multiple places within the document when similar reference to CESA incidental take authorization is made.	
9.2.12.2.3	9.2-166/39	Bighorn sheep is also a State fully protected species, and needs to be identified as such throughout the document.	
9.2.22.2	9.2-305/ 41	Potential cumulative impacts to wildlife should be discussed more thoroughly. There will be likely substantial habitat fragmentation and blockage of dispersal corridors, particularly for bighorn sheep and desert tortoise (see Spencer et al 2010 and Bare et al 2009).	

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9.2.22.2	9.2-307/ 13-14	To be more meaningful, the cumulative impacts section should include at least some form of assessment of projects in the bidding or research phase. Project such as Leopold Companies, Inc (CACA 049002) may not have been classified as "Reasonably Foreseeable" based on the stated criteria at the time of preparation of the EIS text. It is unclear whether this stage should be considered "Reasonably Foreseeable" and thus should be included in the Cumulative Analysis. This comment pertains to the corresponding sections in the other SEZ analyses also, but is mentioned only here because of the particularly strong interest in limiting impacts to the Iron Mountain vicinity.	
FIGURE 9.2.22.2-1	9.2-309	To be more meaningful, the cumulative impacts map should include non-federal lands, protected and non-protected. Impacts accumulate at a landscape level regardless of land ownership.	
9.2.22.4.10	9.2-327/9	In addition to avoidance of outright development within the shores of Danby Lake, offsite impacts to its function within the landscape also need to be considered. Interruption of surface and groundwater flows to the lake may need formal regulatory review through LSA (lake and streambed alteration) notification(s) pursuant to sections 1600-1616 of the California Fish and Game Code.	
9.3		A large portion of the Pisgah SEZ overlaps with an area (Area 2) identified in the Interim Management Strategy of the Desert Renewable Energy Conservation Plan (DRECP) and Areas of Conservation Emphasis (ACE II) conservation priority model developed by CDFG (*Interim Mitigation Strategy As required by SB X8 34*, California Department of Fish and Game, September 2010, Figures 3 and 4). The SEZ is within an area of high connectivity as noted in the California Essential Habitat Connectivity (CEHC) Project (CDFG and California Department of Transportation, Attachment 4). This can be seen in Maps 1 and 3 (Attachments 1 and 3) of the cover letter that accompanies this Table.	
9.3	General	Retaining essential connectivity between natural areas was not discussed in detail, or mentioned in Impact Summary table. It is mentioned briefly – one sentence - in the desert tortoise and bighorn sheep discussions. We recommend that potential reductions in connectivity be emphasized both for development of the SEZ alone and in the cumulative impacts sections. Development of this SEZ may cut off connectivity around the north side of Pisgah Crater (Spencer et al 2010). The permitting of the other planned energy developments in the vicinity could also cut off connectivity south of Pisgah Crater and north of Highway 15. Much of the approximately 4,600-acre SES Solar #3 and SES Solar #6 permitted project cited in	

		the DPEIS (now known as the Calico Solar owned by K Road Power Holdings, LLC) are already within the northeast quadrant of the Pisgah SEZ, and the application for a wind energy project near Troy Lake (Power Partners SW, enXco) remains pending with BLM for an approximately 10,000 acre footprint. We recommend that final configurations of siting within the remainder of this and all other SEZ's should ensure that habitat and range connectivity is maintained, with onsite and nearby offsite projects considered. The area is also identified as an area of high connectivity for the DT under current conditions (Bare et al 2009). Under climate change scenarios and maximum solar development, the area may substantially lose its value as a corridor. DT dispersal between Ord-Rodman and areas to the east will be disrupted. Cumulative impacts to the value of the area as a wildlife corridor should be addressed.	
Table 9.3.1.3-1	9.3-5/ Lands and Realty	This would not be the case if these are mitigation lands, Ecological Reserves, Wildlife Areas, or State Parks. Clarify the ownership and any associated restrictions associated with these state lands.	
Table 9.3.1.3-1	9.3-13/ Special Status Species (cont'd.)	Mojave Tui Chub is a State fully protected species pursuant to California Fish and Game Code Section 5515, meaning project related take cannot be authorized under any circumstances, CESA permit or otherwise. Reference to mitigating under CESA and CESA consultation should be removed for this and all California fully protected species. State law prohibits take of these species, and the document must not convey the impression that take can be allowed or mitigated through the CESA or CESA consultation. Consultation may be provided only for minimization or avoidance. Further rectify by stating that take of this or any other fully protected species must be avoided.	
Table 9.3.1.3-1	9.3-7, 9, 12 7:Water Resources 9:Reptiles and Amphibians 12:Special Status Species	The appropriate mitigation for impacts to shorebirds and other resources that utilize Troy Lake is to remove it from the SEZ or otherwise formally ensure that it is not impacted.	

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9.3.11.1.3	9.3-85/ 36-37	To "e.g., Troy Lake…..toad" add "and sand dune areas that may be habitat to a number of reptile species including Mojave fringe-toed lizard".	
9.3.12.1.1	9.3-123/ 21-46	Mojave Tui Chub is a State fully protected species pursuant to California Fish and Game Code Section 5515. Reference to mitigating pursuant to CESA and CESA consultation should be removed for all fully protected species. Except for purposes of scientific research, California State law (sections 3511 and 5515 of the California Fish and Game Code) prohibits take of these species, and the document must not convey the impression that take can be mitigated through the CESA or CESA consultation.	
Table 9.3.12.1-1	9.3-124	Horned lark is CA:WL and should also be listed in TABLE 9.3.12.1-1	
Table 9.3.12.1-1	9.3-124	Loggerhead shrike is CA-SC and should also be listed in TABLE 9.3.12.1-1	
Table 9.3.12.1-1	9.3-124	Golden eagle is a State of California fully protected species (CA: FP) and should also be listed in TABLE 9.3.12.1-1	
Table 9.3.12.1-1	9.3-124	Prairie falcon is CA:WL and should also be listed in TABLE 9.3.12.1-1	
Table 9.3.12.1-1	9.3-124	American badger is CA:SC and should also be listed in TABLE 9.3.12.1-1	
Table 9.3.12.1-1	9.3-124	Add the following species to the special status species table: horned lark, loggerhead shrike, golden eagle, prairie falcon, and American badger.	
Table 9.3.12.1-1	9.3-137	Arroyo chub: add "CA-SC"	
Table 9.3.12.1-1 9.3.12.2.1	9.3-138 9.3-156-157/ 41-4	Groundwater withdrawals should be avoided in the habitats of this and other listed State and federal species. For fully protected species, the state legal standard is limited to avoidance, rather than mitigation for take. As written, this statement contemplates mitigation, which may imply the possibility of take. .	
9.3.12.2-1	9.3-156/ 46	Reference to mitigating under CESA and CESA consultation should be removed for this and all fully protected species. State law prohibits take of these species, and the document must not convey the impression that take can be mitigated through the CESA or CESA consultation.	
9.4	General	CDFG recommends that sensitive habitats in the proposed Riverside SEZ not be	9.4

		exposed to development. This includes the vicinities of Palen Lake and Palen Dunes, Ford Dry Lake, and McCoy Wash. Portions of the SEZ are likely to presently have moderate value as wildlife corridors, particularly the area around Ford Dry Lake (Bare et al 2009 and Spencer et al 2010) and the area west of Palen Lake (Spencer et al 2010). A moderately important desert tortoise corridor was identified as passing through the SEZ from Chuckwalla DTMA (Bare et al 2009). Potential disruption of these corridors should be addressed in more detail in 9.4.12.1.1, 9.4.12.2.1, and the Cumulative Impacts section 9.4.22.4.11. If the PEIS addresses these concerns, significant impacts to sensitive habitats and corridor connectivity within the Riverside SEZ would likely be avoided	
9.4	General	McCoy Wash has previously been identified by CEC/DFG as habitat that contains an exceptional example of Desert Dry Wash Woodland. This aggregation provides habitat for numerous resident and migratory sensitive bird species, such as southwestern willow flycatcher, summer tanager, LeConte's thrasher, and gila woodpecker and mammals such as desert mule deer and mountain lions. We recommend that this area be removed from the SEZ, and that the analysis and any ranking of areas that occurs in the Solar PEIS should recognize the importance of focusing development in preferred areas that have already been impacted and avoiding, whenever possible, undisturbed areas and areas of high biological value such as McCoy Wash.	
9.4 General	9.4-9/ 9.4-13 9.4-41/ 8-9	This SEZ should be redesigned to exclude McCoy Wash, the Palen Dunes, and the sand transport areas associated with the dunes in a formal way (rather than "to the extent practicable."	
Table 9.4.1.3-1	94-6/ Lands and Realty	This suggests that State lands in the vicinity could be developed for solar energy in a manner compatible with surrounding land use. This would not be the case if these are mitigation lands, Ecological Reserves, Wildlife Areas, or State Parks. Ownership of adjacent lands should be clarified and any associated restrictions associated with these state lands should be disclosed.	
TABLE 9.4.1.3-1	9.4-10	Reword mitigation measure to "All wetland, riparian, playa, dry wash woodland, sand dune, and chenopod scrub habitats within the SEZ should be avoided. All sand transport areas should also be avoided."	
TABLE 9.4.1.3-1	9.4-11, 12	See comments for 9.1-10, 11, 94	
Table	9.4-14/	The appropriate mitigation for impacts to shorebirds and other resources that utilize	

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9.4.1.3-1	Special Status Species	Palen and Ford Dry lakes is to remove them from the SEZ or otherwise formally ensure that those areas are not impacted.	
TABLE 9.4.1.3-1	9.4-15	The desert tortoise is listed as threatened pursuant to both ESA and CESA.	
9.4.9.2.1	Page 9.4-72/15	Rather than stating that disturbance to McCoy Wash should be minimized, the mitigation should be modified to avoid and/or preclude impact altogether. Failure to explicitly prohibit disturbance of McCoy Wash would conflict with the general stated goal of the EIS to plan projects to avoid impact to unique biological communities.	
9.4.9.2.2	9.4-76/ 10-12	Does this mean that wet-cooling won't be allowed? If so, state it clearly, or explain likely scenarios for cooling requirements**.**	
9.4.9.3	9.4-78	Change to "Wet-cooling would not be permitted." (see comment for pg. 9.4-76/10-12)	
9.4.10.3	9.4-93, 9.4-198/ 37, 46	The phrase "to the extent practicable" appears throughout document. It is too vague. Suggest deletion of this phrase from the entire document.	
9.4.11.1.2	9.4-96/36	This list of impacts does not include the effects of shielding on sand dunes, and discussion of this problem is absent from Chapter 5 or Appendix A, Section 2.2, of the entire document.	
9.4.11.1.3	9.4-103/ 46-47	Add Palen Dunes to this list of important ecological landscape features.	
9.4.11.2.2	9.4-120/ 17	Impacts of "treatment ponds" on birds need to be discussed in this section. Discussion on impacts of treatment ponds on mammals is also needed.	
9.4.11.3.1	9.4-122/ 29-31	Mountain lions are no longer a game species, and California law prohibits their hunting (Fish and Game Code, sections 4800(a) and 4800(b); it is a "specially protected" mammal under state law. Although the non-game status of this species is clarified in a footnote, it is still erroneous to reference it as "big game species." in California.	
9.4.11.3.1	9.4-123/ 12	Bighorn sheep is a California fully protected species.	
TABLE 9.4.12.1-1	9.4-143	The table needs to include "Fully Protected" status.	

9.4.12.2.1	Page 9.4-180/10	This analysis states that when using lower density estimates, the SEZ may support up to 2,865 tortoises, as well as pose connectivity impediments between the Chuckwalla DWMA/Critical Habitat and the Pinto Mountains DWMA/Critical Habitat. Impacts to such high numbers of tortoise and of this general magnitude may not be feasible to mitigate. This also appears to conflict with the general mitigation principles in the EIS such as the statement that solar facilities should not be located in areas of important biological resources. The analysis should consider these basic concerns and more explicitly acknowledge the magnitude of this particular impact, beyond the standard referral to the requirement for federal and state permits.	
TABLE 9.4.12.1-1	9.4-143	Horned lark is CA:WL and should be also be listed in TABLE 9.4.12.1-1	
9.4.12.2.1	9.4-180/ 16-19	Areas that provide important connectivity for desert tortoise or other special status species should be avoided.	
TABLE 9.4.12.1-1	9.4-143	Golden eagle is a State of California fully protected species (CA: FP) and should also be listed in TABLE 9.4.12.1-1	
TABLE 9.4.12.1-1	9.4-143	Prairie falcon is CA:WL and should also be listed in TABLE 9.4.12.1-1	
TABLE 9.4.12.1-1	9.4-143	American badger is CA:SC and should also be listed in TABLE 9.4.12.1-1	
TABLE 9.4.12.1-1	9.4-143	Add the following species to the special status species table: horned lark, golden eagle, prairie falcon, and American badger.	
TABLE 9.4.12.1-1	9.4-143	Add the following species which were documented in the CNDDB in the vicinity of the project, to the special status species table: • angel trumpets (*Acleisanthes longiflora*), CA-1.3, CNPS List 2.3 • banded gila monster (*Heloderma suspectum cinctum*), CA-SC • brown-crested flycatcher (*Myiarchus tyrannulus*), CA-WL • California ayenia, (*Ayenia compacta*), CA-S3, CNPS List 2.3 [Note: this species is S3 but because it is CNPS List 2.3 it needs to be addressed under CEQA) • Colorado River cotton rat (*Sigmodon arizonae plenus*), CA-SC • Darlington's blazing star (*Mentzelia puberula*) CA-S2, CNPS List 2.2 • desert sand-parsley (*Ammoselinum giganteum*) CA-SH, CNPS List 2.3 • elf owl (*Micrathene whitneyi*), CA-E, CA-S1 (New CNDDB record from Corn Spring quad) • gilded flicker (*Colaptes chrysoides*) CA-E, CA-S1	

		• Las Animas colubrina (*Colubrina californica*) CA-S2, CNPS List 2.3 • pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*) CA-SC, CA-S3 • Robison's monardella (*Monardella robisonii*), CA-S2, CNPS List 1B.3 • slender-spined all-thorn (*Koeberlinia spinosa* ssp. *tenuispina*), CA-S2, CNPS List 2.2 • Sonoran yellow warbler (*Dendroica petechia sonorana*), CA-S1, CA-SC • Southwestern willow flycatcher (*Empidonax traillii extimus*), ESA-E, CA-E • Summer tanager (*Piranga rubra*), CA-S2, CA-SC • Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), CA-E, CA-S1 • Yellow-breasted chat (*Icteria virens*), CA-SC- CA-S3 • Yuma clapper rail (*Rallus longirostris yumanensis*), ESA-E, CA-T, CA-S1, CA-FP • Yuma myotis (*Myotis yumanensis*), BLM-S, CA-S4	
TABLE 9.4.12.1-1	9.4-160	Crissal thrasher: add “CA-S3”	
TABLE 9.4.12.1-1	9.4-161	Ferruginous hawk : add “CA-WL. CA-S3”	
TABLE 9.4.12.1-1	9.4-161	hepatic tanager: add “CA-WL”	
TABLE 9.4.12.1-1	9.4-162	Loggerhead shrike: add “CA-S3”	
TABLE 9.4.12.1-1	9.4-165	Pallid bat: add “CA-S3”	
TABLE 9.4.12.1-1	9.4-166	Spotted bat: add “CA-SC”	
TABLE 9.4.12.1-1	9.4-167	Western mastiff bat: add “CA-S3”	
TABLE 9.4.12.1-1	9.4-168	Western yellow bat: add “CA-S3”	
TABLE 9.4.12.1-1	9.4-143	Add the following species to the special status species table: horned lark, golden eagle, prairie falcon, and American badger.	
9.4.12.2.1	9.4-180/ 16-19	Areas that provide important connectivity for desert tortoise or other special status species should be avoided.	

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9.4.12.2.1	9.4-181/ 8	Change “may be needed” to “shall be needed.”	
9.4.12.3	9.4-198/ 46	The recommendation to avoid impacts to desert playa and wash habitats "to the extent practicable" is suitable for federal standards but is problematic for California Environmental Quality Act requirements which call for mitigation according to level of impact.	
9.4.12.3	9.4-199/ 8-10	Note that the mechanism of disturbance to sand dunes is not only due to direct disturbance of dunes but to sand transport systems; if sand transport is blocked by new construction or obstruction, the sand dunes will not be replenished with source material and will not persist over time.	
9.4.22.4.10, 9.4.22.4.11	9.4-397/ 30, 398/34	This section lacks discussion of potential impacts to wildlife dispersal corridors associated with cumulative impacts, particularly in reference to desert tortoise and bighorn sheep.	

ATTACHMENT 6

Standard Review Form
Draft Solar Energy Development PEIS

Reviewer's Name: Eric Veerkamp, AICP **Reviewer's Organization**: California Energy Commission

Reviewer's email address: eveerkam@energy.state.ca.us **Reviewer's Telephone numbers**: 916-654-4611

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Land Use

Section or Chapter Number and Date of Reviewed Document: Volume 3 - Chapter 9, Parts 1 and 2,

EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
Vol. 3, Parts 1 and 2, CA	Page 9.1-27, line 17-23	Figure 9.1.3.1-1 (page 26). This comment is closely intertwined with comments on text (same EIS Section), page 9.1-1 and Figure 9.1.1.1-1 (page 2). A discussion of features surrounding the Imperial East site on page 9.1-1 have no reference to the figure in which they appear. In the same vein, other somewhat similar features are discussed and shown in the figure on page 26. It would be clearer if all features, such as the Juan de Anza Bautista Trail and East Mesa ACEC appeared in the first figure and were referenced accordingly (less searching). The suggestion here is also that an additional figure illustrating the Imperial East site (and surrounding features) at a smaller scale would be helpful to the reader.	
Same	Page 9.1-2	While Figure 9.1.1.1-1 identifies the Section 368 corridor located in close proximity to the Imperial East site, there is no indication whatsoever that it is a transmission corridor (although it is clear in the text that it is a transmission corridor). Considering the significance of the 368 corridor (it covers 80% of the site) with respect to its potential to induce policy changes and/or the relocation of transmission facilities (and perhaps even facility buildout), the corridor should be more prominently identified to facilitate discussion of these issues. NOTE: this comment would also hold true for other figures for the remaining SEZ's that contain references to a 368 corridor.	

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Appendix-I	Page I-1	The study area ecoregions described in this section, beginning with the Coast Range could benefit from additional description of each region's location within the greater six-state area. For example, on page I-12, line 1, Central Valley, it would be beneficial to the reader to know that the California's Central valley is located between approximately Redding on the north and Bakersfield on the south. Each description could benefit from a small amount of additional detail.	

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Standard Review Form
Draft Solar Energy Development PEIS

Reviewer's Name: Eugenia Laychak **Reviewer's Organization**: California Energy Commission

Reviewer's email address: elaychak@energy.state.ca.us **Reviewer's Telephone numbers**: 916-654-4543

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Regulatory Oversight

Section or Chapter Number and Date of Reviewed Document: Volume 3 - Chapter 9, Parts 1 and 2,

EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
		Vol.1	
3.7.3	3-51/9	Delete ~~CEC,CDFG, BLM, and USFWS 2009~~ citation and replace with: REAT 2010	
	3-55/19	Replace/update reference with: Renewable Energy Action Team (California Energy Commission, California Department of Fish and Game, U.S. Department of Interior Bureau of Land Management, and Fish and Wildlife Service). *Best Management Practices and Guidance Manual: Desert Renewable Energy Projects*. California Energy Commission, Siting, Transmission and Environmental Protection Division. REAT-1000-2010-009-F	
		Vol. 3	
9.1.18.3	9.1-229/31	Add and delete the following text (underline/strikeout): "to follow CEC guidelines (for projects under the CEC's jurisdiction) and other laws/regulations for interacting with Native Americans, including federal, the California Environmental Quality Act and related guidelines, state regulations and policies governing treatment of Native American remains and artifacts, and tribal consultations for proposed local land use planning decisions ~~in addition to Federal requirements~~ (REAT 2010 ~~CEC2009a~~). …"	
9.1.18.3	9.1-300/15	Replace/update reference with: Renewable Energy Action Team (California	

		Energy Commission, California Department of Fish and Game, U.S. Department of Interior Bureau of Land Management, and Fish and Wildlife Service). *Best Management Practices and Guidance Manual: Desert Renewable Energy Projects*. California Energy Commission, Siting, Transmission and Environmental Protection Division. REAT-1000-2010-009-F	
9.2.18.3	9.2-267/33-35	See comments above for section 9.1.18.3. Also, the BMPs manual is not currently referenced in the 9.2 reference section and should be.	
9.3.18.3	9.3-267/22-24; 9.3-333/37	See section 9.1.18.3 comments above.	
9.4.18.3	9.4-335/11-13; 9.4-412/5	See section 9.1.18.3 comments above.	

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Standard Review Form
Preliminary Draft Solar Energy Development PEIS

Reviewer's Name: James W. Reede, Jr., Ed.D **Reviewer's Organization**: California Energy Commission

Reviewer's email address: jreede@energy.state.ca.us **Reviewer's Telephone numbers**: (916) 653-1245

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Regulatory Oversight

Section or Chapter Number and Date of Reviewed Document: Chapter 3, Volume 9, Parts 1 & 2

EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
9.3-1	11	Census data for San Bernardino is incorrect. Text shows population at 2,086,645. 2010 US Census shows population 2,035,210 with 20% growth since 2000	
9.4-1	21	Census data for Riverside County is incorrect. Text shows population of 84, 443 persons. 2010 US Census shows 2,189,641.	
Volume 3 Chapter 9		Population data used throughout the DPEIS is from multiple sources which leads to inconsistencies of estimates. 2010 US Census data should be used for consistency to determine populations in areas of study.	

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Standard Review Form
Draft Solar Energy Development PEIS

Reviewer's Name: ____Sarah Allred_____ **Reviewer's Organization**: _California Energy Commission

Reviewer's email address: _sallred@energy.state.ca.us_ **Reviewer's Telephone numbers**: 916-654-5008

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): ___Cultural Resources_____

Section or Chapter Number and Date of Reviewed Document: _Chapter 3, Volume 9, Parts 1 & 2_____

EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
Section 9.1.17.1.5 **Section 9.2.17.1.5** **Section 9.3.17.1.5** **Section 9.4.17.1.5**	**p. 9.1-219** **p. 9.2-255** **p. 9.3-257** **p. 9.4-321**	While the PEIS states the quantity of known cultural resources surveys conducted within each SEZ area, it would be more meaningful to also include a *percentage* of the SEZ area that has been covered by the prior surveys in order to better understand extent of prior investigation and to assess the potential sensitivity of the area for the presence of cultural resources. For instance, page 9.1-219 states that one archaeological survey was conducted within the Imperial East SEZ; Page 9.2-255 states that at least three linear surveys have been conducted within the Iron Mountain SEZ; Page 9.3-257states that at least 19 previous surveys have been conducted within the Pisgah SEZ; and Page 9.4-321 states that at least 109 previous surveys have been conducted in the vicinity of the proposed Riverside East SEZ. How many acres do these prior survey areas comprise relative to the overall acreage of each respective SEZ?	

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EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
Section 9.1.17.2 **Section 9.2.17.2** **Section 9.3.17.2** **Section 9.4.17.2**	**p. 9.1-220, Lines 9, 10** **p. 9.2-258, Lines 9, 10, 11** **p. 9.3-259, Lines 24, 25** **p. 9.4-324, Lines 9, 10, 11**	The first sentence of each of these paragraphs states, **"Direct impacts on significant cultural resources could occur in the proposed [Imperial East SEZ; Iron Mountain SEZ; Pisgah SEZ; or Riverside East SEZ]; however, as stated in Section [9.1.17.1, 9.2.17.1, 9.3.17.1, 9.4.17.1] further investigation is needed in a number of areas."** The referenced sections (9.1.17.1, 9.2.17.1, 9.3.17.1, and 9.4.17.1), however, do not appear to contain any such statement or description about the need for further investigation. It should also be noted that a general statement that direct impacts may occur across an entire SEZ area does little to identify areas of high potential impacts or what type of further investigation is needed. The language is so broad as to be ineffective to an analysis intended to identify areas best suited for solar energy projects, with the least environmental impact.	
Volume 3, Chapter 9	**General Comment regarding Cultural Resources Section for California SEZs**	The PEIS provides only a preliminary cultural resources assessment of each SEZ based on very limited information. While some background research regarding the presence of cultural resources within each SEZ was conducted for this PEIS, the PEIS readily acknowledges that the available background data were limited and that further investigation is necessary for each site-specific project. The PEIS discloses the fact that the development of solar energy facilities within the SEZs could produce diverse impacts on cultural resources in and around the areas where solar facilities are proposed to be built. The PEIS also clearly outlines the site-specific NEPA analyses and Section 106 review process that would be required for proposed individual solar projects. It is important that applicants for site-specific projects within the SEZs recognize the more general and limited nature of the PEIS cultural resource assessment and that full cultural resources investigations would still be necessary once a project-specific APE is established. As the completion of cultural resources investigations are often critical-path items with respect to project schedules and timelines, the establishment of schedules for site-specific project siting and permitting cases should take into account all the requirements necessary for the satisfactory completion of the cultural resources investigations and compliance process. Investigations should also address related facilities, such as	

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EIS Section	Page/Line	Comment/Suggested Revision	Action *(for use by ANL)*
		transmission linears, substations, and access corridors. Given that the goal of the Solar PEIS is to facilitate environmental permitting for individual solar development projects and to enable accelerated siting and permit processing, and given the fact that the cultural resource investigation process can be lengthy (particularly if archaeological sites are identified within a given project area and need to be evaluated and/or mitigated), it should perhaps be made clearer in the PEIS that the project applicants must have completed a good portion of the Section 106 review process (i.e., early consultations, records searches, surveys, and resource evaluations) prior to submitting an application for a permit/license, if accelerated siting and permit processing is desired; otherwise, the amount of time needed to meet cultural resource compliance on site-specific projects may likely extend well beyond the desired siting and permit processing time frame.	

Thank you for your comment, Michael Mantell.

The comment tracking number that has been assigned to your comment is SolarD11832.

Comment Date: May 2, 2011 16:43:28PM
Solar Energy Development PEIS
Comment ID: SolarD11832

First Name: Michael
Middle Initial:
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Privacy Preference: Don't withhold name or address from public record
Attachment: CDREWG letter to Dir. Bob Abbey re. comments on the draft PEIS (00147819).PDF

Comment Submitted:

Please see the attached letter from the California Desert & Renewable Energy Working Group which offers comments in response to the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States released in December 2010.

Please contact me if you have any questions.

Sincerely,
Michael Mantell, Chair
California Desert & Renewable Energy Working Group

California Desert & Renewable Energy Working Group
c/o Resources Legacy Fund
555 Capitol Mall, Suite 675
Sacramento, CA 95814

May 2, 2011

Mr. Robert Abbey
Director, Bureau of Land Management
United States Department of the Interior
1849 "C" Street, NW
Washington D.C. 20241

Dear Director Abbey:

The California Desert & Renewable Working Group (CDREWG) is pleased to offer these comments in response to the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States released in December 2010 (Draft Solar PEIS).

The CDREWG, a dialogue between representatives of the renewable energy industry, the electric utility sector, and the environmental community, seeks to protect ecosystems, landscapes, and species while supporting the timely development of renewable energy resources in the California desert. For the past two years, we have been working together to improve planning and permitting for large-scale solar energy development on public lands in the California desert. The recommendations we offer are based on our extensive experiences as renewable energy industry, environmental, and utility stakeholders, and are the result of hours of thoughtful discussion within our group.

Notwithstanding our diversity, the members of the CDREWG agree that the solar energy plan outlined in the Draft Solar PEIS falls well short of the goals articulated by Interior Secretary Salazar for solar energy development on public lands. On June 29, 2009, the Secretary said:

> This environmentally-sensitive plan will identify appropriate Interior-managed lands that have excellent solar energy potential and limited conflicts with wildlife, other natural resources or land users…. With coordinated environmental studies, good land-use planning and zoning and priority processing, we can accelerate responsible solar energy production that will help build a clean-energy economy for the 21st century.

The two most significant shortcomings of the Draft Solar PEIS are: 1) its failure to evaluate adequately the suitability of the proposed Solar Energy Zones (SEZs) for solar energy development from a technical, environmental, transmission, and cultural perspective and, as a result, 2) the plan‘s failure to provide a strong basis for planning or clear permitting benefits to developers for siting projects in the SEZs. The recommendations we are providing below address both of these shortcomings. We urge the Secretary to evaluate these recommendations and adopt them as a part of the final Solar PEIS.

Our recommendations are provided in addition to detailed comments on the draft Solar PEIS being provided to the Bureau of Land Management (BLM) by many of the members of the CDREWG. This letter is the result of a process of negotiation and compromise with the undersigned stakeholders and represents areas of agreement, taken as a whole package, for a comprehensive solar energy program on public lands.

I. Adopt a comprehensive Solar Energy Program that facilitates and greatly incentivizes development in Solar Energy Zones (SEZs) and Areas for Facilitated Development (AFDs).

As part of the final Solar PEIS, the Bureau of Land Management (BLM) should set up a clear process to identify, study, and designate Areas for Facilitated Development (AFDs), a term we use to distinguish these areas from the SEZs addressed in the Solar PEIS. As we make clear in this letter, AFDs would be created in addition to the SEZs adopted in a final Solar PEIS, would be identified pursuant to comprehensive technical, environmental, transmission and cultural criteria, and would be subjected to thorough environmental and other reviews. Accordingly, they would deliver multiple benefits to applicants who site projects within them as described more fully in Section IB below and in Appendix A. In this section, we make specific recommendations on how to identify, study, designate and prioritize development in AFDs, outline a process for considering ―Variance Applications, ” (applications for land outside SEZs and AFDs), and offer some additional guidance on implementation.

A. Identify Areas for Facilitated Development.

The Bureau should identify AFDs that are suitable for solar energy development based on evaluations of technical, environmental, transmission, and cultural and transmission considerations, as outlined below. We believe that the BLM must embrace an integrated, forward-looking approach to solar energy development conducted at a landscape scale that starts with concurrently identifying appropriate areas for development and for conservation. In order to be determined suitable for designation as an AFD, an area must be assessed against all four of the requirements outlined below.

1. Technical considerations: A number of technical factors determine the suitability of land areas for large-scale solar energy development: the quality of the solar resource, measured as insolation (generally, kWh/m2/day), terrain, and proximity to existing load and infrastructure.

Insolation: Solar developers generally prefer areas with insolation greater than 6.0 kWh/m2-day. Above this threshold value, higher insolation values provide significant benefits for solar generation facilities. For instance, a reduction of 1 kWh/m2-day in insolation is equivalent to approximately a 10% reduction in efficiency and, in turn, a proportional increase in costs and land use footprint (due to the need for additional solar collection equipment to provide the same quantity of energy). Different types of insolation are most relevant to the different large-scale solar generating technologies. For concentrating solar technologies, direct normal insolation is most relevant, while, for photovoltaic (PV), global tilt insolation is the appropriate measure of the solar resource. We recommend that the BLM analyze both the direct normal insolation and the global tilt insolation for any areas being considered for AFDs.

Terrain: Most solar generating technologies must be sited on relatively flat ground to ensure that the solar collectors can utilize the solar resource effectively. Depending on the technology, the required slope can range from less than 2% up to over 5%, although lower slopes are generally better for siting solar generation. Many solar generation facilities that use tracking systems typically require slopes lower than 3%, as the land must be uniform for the automated adjustment of the solar collectors to function properly and ensure that the sunlight is efficiently harnessed for energy. Specifically, the PEIS states that parabolic trough facilities require the slope to be less than 2%, and preferably less than 1% to use the technology, while developers generally prefer to site power tower facilities on sites with lower slopes, as the Draft Solar PEIS notes, the technology is "fairly tolerant of slope change [and] … [i]f good reasons exist to use lands with higher slopes, power tower facilities may be engineered to accommodate slope change across a site." For PV, construction will be more complex on steeply sloped land (>5%). However, PV facilities could be engineered to accommodate more steep slopes (in the range of 7-10%) if good reasons exist to use the site.

Proximity to infrastructure: To the extent that lands close to infrastructure (transmission, roads, etc.) are available and appropriate for development, siting in these locations may reduce the overall costs for developing new infrastructure to reach and serve new solar generation facilities. In addition to reducing the development costs, proximity to existing infrastructure reduces the environmental footprint of the generation facility, resulting both in less disturbance and, in turn, less mitigation required based on the smaller footprint. As new AFDs are being considered, we request that the BLM catalog the existing infrastructure serving these areas, as outlined in Section I.A.4 of this document.

2. Environmental considerations: The public lands managed by BLM in the California desert offer some of the region's most intact landscapes, wildlife corridors and ecological resources, and represent significant conservation value. Moreover, human understanding of these arid ecosystems and species, and how they may be affected by various conservation, management and development actions, is constantly evolving. Given these realities, we recommend the final Solar Program be designed to accommodate both a near-term least conflict approach and a long-term landscape-scale approach for identifying potential AFDs and areas for conservation.

The Least Conflict Approach: The Least Conflict Approach can provide near-term assistance for identifying those areas that may be most appropriate to develop from an ecological perspective and that should be further analyzed first as potential AFDs. These are areas that provide comparatively less ecological value and have the potential to provide low conflict as AFDs. Examples include areas near the Chocolate Mountains and in the West Mojave, as discussed in Section I.E. of this document. The criteria for identifying Least Conflict areas are included in Appendix B.

The Landscape-Scale Assessment Approach: The Landscape-Scale Assessment Approach should be used to identify other potential AFDs that may be appropriate for development based on landscape-scale ecological assessments now underway and planned in the future, such as the as the Desert Renewable Energy Conservation Plan (DRECP) in California, BLM Ecoregional Assessments, and landscape-level multi-species habitat conservation plans (MSHCPs). This approach is used to ensure protection of ecological values, by identifying which areas must be protected to meet specified ecological goals, while also promoting solar development. The overarching goal of the landscape-scale assessment should be to contribute to the persistence, distribution and diversity of the ecoregional biota and all its natural components and processes today and in the future, while pursuing and accommodating renewable energy development and adapting to climate change.

The landscape-scale assessment should:

- Contain an evaluation of both public and private lands in a geographic area that makes sense from a biological perspective and other critical issues such as water availability and soil conservation.
- Clearly define objectives that guide selection of conservation targets/goals, structure of impact analyses, and the targets and measures selected for monitoring.
- Evaluate the impact of various planning scenarios on the biodiversity and ecosystem function goals as well as on the target species.
- Implement and improve upon existing conservation and recovery plans.
- Assess the degree of intactness and disturbance.
- Result in a conservation reserve design[1] that best satisfies this suite of biological goals while also meeting renewable energy goals.

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[1] From an ecological perspective, the following must be considered as part of developing the reserve design under the landscape-scale assessment:

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant populations of federal or state threatened and endangered species, significant populations of sensitive, rare and special status species, and rare or unique plant communities.
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes and allow for long-term shifts in distribution of native species in response to climate change
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.

- Include an adaptive management framework.
- Address technical, cultural, and transmission objectives as outlined in these comments.

The Solar PEIS states that ―all BLM-administered lands are not appropriate for solar energy development." The landscape-scale assessment should incorporate and build off of the areas that are excluded from solar development to the extent they have been identified by the Solar PEIS as inappropriate for solar energy development based on environmental criteria. Those areas are detailed in the Draft Solar PEIS in Table 2.2-2 Areas for Exclusion under the BLM Solar Energy Development Program Alternative, beginning on page 2-8.

3. Cultural considerations: Performing adequate cultural resources evaluation and consultation is essential to reducing the concerns of local Native American tribes with traditional and cultural ties to these landscapes and whose members continue to use public lands for cultural and religious purposes. Litigation on several projects, as well as comments received from tribes on ―fast track" projects, illustrate the urgent need to improve the agency's current cultural resources practices. It is in the interest of all stakeholders that these important issues be addressed and that cultural resource evaluation and government to government consultation improve significantly going forward.

As the BLM begins identifying potential AFDs, the Bureau must consult with State Historic Preservation Officers, Native American Tribes and other parties as required under Section 106 of the National Historic Preservation Act and other laws to determine if there are significant cultural resources within potential AFDs. The purpose of these consultations will be to identify and avoid investing further resources on potential AFDs where there are high densities of cultural resources.

4. Transmission considerations: Transmission upgrades and additions will most likely be needed to safely and reliably interconnect and deliver renewable energy resources from remote, prime resource areas of the state to population centers. State and regional transmission planning efforts have identified some likely transmission upgrades and additions needed to meet today's renewable energy goals, based upon best available information but largely without thorough evaluation of biological resources and cultural resources. Uncertainty remains as to the precise location, amount, and type of renewable energy projects that will be developed to meet these goals and where those projects will be sited. Identification of AFDs and related transmission upgrades and additions (as necessary) will provide greater certainty, resulting in a more orderly, rational, timely, and cost-effective state and regional transmission planning and permitting process as well as result in the least-impacts to biological resources.

• Areas that support a geophysical or other ecosystem process upon which sensitive biological resources depend.

When evaluating potential AFDs, the BLM should:

- Identify transmission upgrades and additions, including collectors, network upgrades, downstream upgrades, corridors, and related infrastructure (such as roads), sufficient to support renewable energy development in the AFD.

- Utilize existing roads and transmission rights-of-ways wherever possible, consistent with all applicable reliability planning criteria required by North American Electricity Reliability Corporation (NERC), Western Electricity Coordinating Council (WECC) and the California Independent System Operator (CAISO).

- Coordinate with the CAISO's Revised Transmission Planning Process (RTPP) to ensure that transmission upgrades and additions needed to support renewable energy development in areas identified by BLM as potential and designated AFDs are considered for inclusion as ―policy driven projects".

- Coordinate with the WECC regional transmission planning efforts to ensure consistency and compatibility across the western region.

- Analyze transmission upgrades, additions, new or expanded corridors, and related infrastructure in sufficient detail so as to facilitate timely permitting by local, state and federal entities.

5. Size: In addition to the criteria outlined above, we recommend that AFDs be at least 5,000 acres in size and designed to accommodate more than two projects.[2] We also encourage the identification of AFDs adjacent to appropriate private lands that may be appropriate for solar development consistent with the above criteria.

B. Study and Designate Areas for Facilitated Development

To give stakeholders confidence that a more orderly and efficient solar program is within reach, the Department of Interior must set, publish, and keep to a firm timetable for the identification and implementation of AFDs, one that specifies exactly when environmental review documents, mitigation plans and cultural surveys will be completed for each AFD as outlined below.

Once it has been determined that a potential AFD is suitable for solar energy development, BLM should take a number of important steps to facilitate that development and ensure that the full range of benefits associated with development in AFDs – environmental review, ESA compliance, mitigation, cultural review, among others – are delivered to all stakeholders.

[2] The 5,000 acre minimum is intended to apply to AFDs that are solely on public lands. There should be no minimum acreage for AFDs on public lands that are being considered adjacent to and in conjunction with private lands suitable for solar development.

Environmental review: Proposed new AFDs should be analyzed through a new NEPA/land use amendment process pursuant to the National Environmental Policy Act (NEPA) and the Federal Land Planning and Management Act (FLPMA). BLM should conduct a thorough environmental review of the proposed AFD so future reviews of applications within its borders can tier off that environmental impact statement (EIS) and utilize an environmental assessment (EA), instead of a new EIS as would be required based on the analysis provided in the Draft Solar PEIS. This has been identified by developers as a major benefit of AFDs. In the process of preparing the EIS on the proposed AFD, the BLM should seek a Section 7(a)(2) consultation with US Fish and Wildlife Service to provide for faster project-level Endangered Species Act permitting once the area is designated – another major benefit. The Department should establish strict schedules for the completion of EAs on applications within designated AFDs after Notices of Intent (NOIs) are published, and the expectation should be that all DOI agencies should complete their work within those schedules. The Department should also establish inter-agency teams to: expedite service to projects in AFDs; provide a single point of contact for all Interior agencies responsible for coordinating environmental reviews and consultations; ensure timely performance of agencies; and facilitate stakeholder reviews.

Mitigation: While completing an EIS for each proposed AFD, state and federal agencies should consider the environmental impacts of multiple solar facilities within the AFD at once and develop a mitigation plan that both simplifies and improves the mitigation process. An AFD-wide mitigation plan will not only increase permit efficiencies and financial predictability for developers, it will also enhance the ability of state and federal agencies to invest in larger scale conservation that benefits sensitive species through higher quality habitat, improved connectivity between habitat areas, and better long-term protection. In the California desert, the DRECP will also provide a framework for developing such mitigation plans. To the extent that public lands are used to mitigate for the impacts of solar development whether in or out of the AFDs and SEZs, the BLM must ensure that any mitigation lands are protected to provide enduring conservation benefits.

Cultural review: The EISs that designate AFDs will be accompanied by cultural surveys and models that ensure AFDs have low densities of cultural resources and identify areas of significant cultural resources to be avoided. Cultural surveys must be based on thorough and complete consultation with State Historic Preservation Officers and other consulting parties, thorough and complete consultation with Native American tribes as required under Section 106 of the National Historic Preservation Act and other laws, and an analysis of the cumulative impacts of development within the AFD. Addressing cultural issues for the entire AFD will simplify the permitting process for developers and lower the cost of compliance with cultural resource protection laws by reducing the risk of encountering resources requiring avoidance or on site data recovery.

Facilitate transmission permitting: As part of the process of studying AFDs, BLM should identify and, to the maximum extent possible, analyze the interconnection, network upgrades, downstream facilities, corridors, and other infrastructure (e.g., roads) needed to support renewable energy development in the AFD. BLM should request the CAISO and

California Public Utilities Commission (CPUC) to enter into a memorandum of agreement (MOA) with the Bureau to formalize coordination regarding both planning and permitting for the BLM's new solar program, ensure that the transmission projects described immediately above are considered for inclusion in the Revised Transmission Planning Process, and obtain the assistance of the CAISO and the CPUC in identifying and analyzing those projects. The BLM should seek similar MOAs with the relevant regulators and transmission planners in the other five states within the PEIS study area that will result in prioritized consideration of necessary lines.

Application Processing: Given the substantial public investment required to prepare an AFD for solar energy development, and the urgency of expanding clean energy production in the United States, it is important that the BLM take steps to ensure that only the most viable projects be considered for siting in these areas. Applicants seeking to locate a project in an AFD should be allowed nine months to demonstrate compliance with all technical and financial screening criteria, and should be rejected if they cannot meet these criteria. Moreover, applicants should be required to make a deposit into escrow sufficient to cover processing costs.

C. Establish a clear process to evaluate and designate new AFDs

Over time, it will be important to reassess the need for additional solar development on public lands. We believe that renewable energy will steadily become a larger portion of the national electric portfolio. Consideration of moving California's Renewable Portfolio Standard beyond 33% to 40% or 50%, for example, is already underway. Given this reality, BLM's Solar Program needs to outline a process for adding new AFDs to the system as the need for large-scale solar development increases beyond what is foreseen in the Solar PEIS, as we expect it will.

We recommend that, at least every five years, the BLM, in conjunction with the states and the Department of Energy, review the need for additional public lands for solar development and the capacity of existing AFDs and SEZs to meet that need. These assessments should look at new "Reasonably Foreseeable Development" scenarios (such as high, medium and low), incorporating any new state or federal policies that will affect projections, as well as reviewing experience to date with build-out of the existing AFDs and SEZs. The reassessment process should be open and transparent, with opportunities for substantial stakeholder involvement.

In addition to considering the amount of renewable energy needed across a six-state region to meet policy mandates, the assessment should consider technological advances in solar energy generation systems, identify where new energy is going to be needed, at what levels, and what other constraints exist. These additional factors will influence not just whether new AFDs are needed, but where it is most logical to site them in terms of transmission, load and solar resources. It may be, for instance, that additional AFD capacity remains in some states, but not proximate to where demand is greatest.

In addition to regular analyses, we recommend that the BLM establish a formal petition process to allow the public to request 1) a new assessment of need for new AFDs, 2) the

expansion or retraction of an existing AFD, or 3) the creation of a new AFD. Through an open, transparent NEPA process, the BLM, in cooperation with the Department of Energy and the states, should develop criteria for evaluating whether or not to accept a petition. Petitions must be subject to rigorous intake requirements, including:

- Submitted by a State, Tribe, or member of the public
- Submitted with adequate data to support petition
- Nomination fee paid

New areas proposed for AFD designation should be evaluated for their suitability for solar energy development based on both landscape-scale and actual site-specific evaluations of technical, environmental, transmission and cultural and transmission considerations, as outlined in Section I.A. above.

D. Implementation Steps

We recommend that the BLM adopt a solar program built upon ―Areas for Facilitated Development" (AFDs) as outlined above, and take full advantage of processes already underway to expedite the development of this program and solar development more generally.

Specifically, *without waiting for completion of the Solar PEIS,* we strongly recommend that the Department complete the National Environmental Policy Act (NEPA) analysis for the area near the Chocolate Mountains that is already underway, *see* 75 Fed. Reg. 6698-99 (February 10, 2010) and continue to pursue that area as a possible new AFD. In addition, we recommend that a similar analysis of areas in the West Mojave potentially suitable for designation as a new AFD be launched by June 30, 2011 and that both analyses (Chocolate Mountains and West Mojave) be completed by June 30, 2012,. Both analyses would be consistent with the ―Least Conflict Approach" outlined in Section I.A.2 above.

In addition, the Department of Interior should actively support completion of the Desert Renewable Energy Conservation Plan (DRECP), a joint NCCP/HCP that will provide the scientific foundation for the establishment of the next AFDs in California. The DRECP will essentially zone the California desert region, identifying areas that are most appropriate for renewable energy development and areas that must be protected for conservation. Through the DRECP, some areas will be taken off the table for development to provide conservation assurances, additional areas for solar development will be identified and BLM land use plans amended to reflect the addition of new AFDs. It is critical that the final Solar Program be designed to facilitate the adoption of a final DRECP.

In other states, the Bureau should use data from its own Rapid Ecological Assessments, as well as data from numerous existing landscape-scale evaluations of ecoregions and wildlife corridors from private and public sources, to inform the selection of new AFDs

and SEZs, and to examine the suitability of the SEZs proposed in the Solar PEIS for designation as AFDs.

In some cases, it will be appropriate to ‗upgrade' a SEZ into an AFD through additional analysis. That additional analysis should only be undertaken where the investment is justified—that is, where the SEZ is not already ―filled up," or where a zone could be expanded, provided there is interest in pursuing its development.

With regard to the proposed SEZs in California, we recommend that the Iron Mountain SEZ[3] be eliminated from further consideration.

E. Establish a clear process for considering Variance Applications

The solar energy program outlined above focuses on guiding solar projects to AFDs or SEZs through clear incentives. However, we also believe that the Department must have a clear process for considering Variance Applications, which we define as new applications for individual solar energy projects outside AFDs or SEZs submitted after the date of issuance of the Solar PEIS Record of Decision (ROD). These comments emphasize the importance and benefits of focusing development within SEZs and AFDs. The variance process provides an opportunity for exceptions to be considered while not undermining, but rather strengthening, the directed development approach we advocate. For example, variances may be needed in the near-term because sufficient AFDs may not yet have been designated or in order to allow a project to proceed on a small area of public lands outside of the existing SEZs and AFDs, if appropriate. Nonetheless, variances need to be limited in time and place so that the exceptions do not become the rule or take away from the directed development framework.

The Solar PEIS must outline a clear process and criteria for considering Variance Applications. The process established must ensure that Variance Applications meet criteria that are consistent with the principles we outline for suitable AFDs (as set forth above in Section I.A), including economic, technological, cultural and environmental criteria. Our group is working to come to consensus on specific criteria that meet this goal for BLM's consideration and, once we do, we will forward them to the agency and the Department.

We believe that once the program outlined here is implemented, new AFDs will ultimately result in a diminishing need for new applications outside AFDs. In its review of the need for new AFDs (see Section I.D below), BLM should also assess the degree and extent to which Variance Applications are needed over time.

We also recommend that, at the time of application, applicants for variances be required to establish reimbursable accounts sufficient to reimburse BLM for all costs associated with accepting, reviewing, and processing a Variance Application including: conducting environmental review and related consultations; conducting cultural resource inventory

[3] The conservation groups also oppose designation of Pisgah SEZ.

and related consultations; and conducting inventories for sensitive wildlife habitat or wild lands. To encourage developers to pursue new applications in SEZs and AFDs, and to reflect the reduction in administrative costs associated with development in those areas, application fees for Variance Applications should be higher than for applications in SEZs or AFDs.

In addition, we recommend that the BLM require variance applicants to assume all risk associated with a Variance Application and to understand that their financial commitments in connection with their applications will not be a determinative factor in the Bureau's evaluation process. The Solar PEIS and ROD should also provide that any lands found unacceptable for solar energy development as a result of the environmental review and screening of a Variance Application will be excluded from solar energy development by an amendment of the underlying resource management plan (RMP) at the cost of applicant.[4]

Finally, any and all data collected for processing a Variance Application should be made publicly available, provided that business and trade secrets are not compromised.

II. Transition to the new Solar Energy Program (Pending Applications)

The last question we want to address is how to proceed with Pending Applications. For purposes of these comments, the term ―PendingApplications" refers to Right of Way applications on file as of February 2011. For any new applications filed after March 1, 2011, the BLM's decision on each of those individual applications will be governed by the terms of the Solar PEIS ROD. This rule should not apply to adjustment of an existing project application to a nearby area to avoid environmental or cultural conflicts, even if this technically requires a new application.

On June 30th, 2009, the BLM published maps of 24 Solar Energy Study Areas (SESA) and additional lands that the BLM proposed to open to solar development (blue lands) and to exclude from solar development (―pink" lands). Any application filed after June 30, 2009, on ―pink" lands should be rejected on issuance of the ROD, except where a more recent application is filed to partially relocate an existing project application to a nearby area to avoid conflicts.

To improve the processing of other pending applications, the existing guidance for the administration of solar energy development on public lands must be improved and revised through such measures as:

1. A time limit (or ―shelf life") needs to be set for pending first in line applications to reach NOI readiness. Applications that have not reached NOI readiness within that window should be rejected. When and if second in line and subsequent applications become first in line applications, they will be subject to this same requirement.

[4] This language should not be construed to say that the applicant should be required to pay rent on the land excluded from development.

2. The BLM shall establish a new processing fee structure at a level sufficient to dampen speculation. All applicants must pay these fees in full into escrow before application processing begins.
3. The BLM must clearly define all POD requirements and enforcement mechanisms in regulation.
4. The BLM needs to adopt and use enhanced criteria-based screens for economic, technological, and environmental viability, using the environmental screens proposed by our group (CDREWG) in December 2010, instead of those adopted in IM 2011-061.[5]
5. DOI needs to coordinate with the Department of Energy, Treasury, and other federal agencies to apply screens within their expertise to ensure that limited public resources are focused on only the most viable applications.

In addition to implementing the improvements outlined above, we recommend that the BLM sequence pending applications for consideration as follows:

- Pending Applications should be required to demonstrate compliance with technical and financial screening criteria within six months of notice provided upon issuance of Solar PEIS ROD. Those that cannot demonstrate such compliance should be rejected.

- Pending Applications should be subject to environmental screening as follows:
  1) Early outreach prior to NOI (as provided under the February 2011 IM).
  2) Project Rating according to environmental criteria proposed in the December 2010 CDREWG letter, based on available data. Pending Applications should be grouped by likelihood of conflict as described in screens (high, medium and low) and applicants notified.
  3) All pending applications, regardless of when filed, that are determined by the BLM to be in ―high-conflict" areas following consultation with the applicant and stakeholders, should be rejected.

Applicants with Pending Applications outside a SEZ that are in ―medium" or ―low" conflict areas should be given the option to move their applications to land not already under application in a SEZ or AFD (when designated) in the same state before any other new applications are accepted by BLM in those areas. AFD applications resulting from an applicant's decision to move, as outlined herein, will receive first priority for processing once that AFD is established. Applicants who choose not to exercise the option to move their applications must comply with shelf-life and other requirements.

[5] In expanding the application of these criteria from the 2011 projects to future projects, industry members of our group have concerns about including Wildlife Habitat Management Areas (WHMAs) in the list of high conflict areas. Environmental members of our group have concerns about not including the provision regarding National Park Service lands outlined in the IM referenced above.

Appendix A.
Benefits Associated With Areas for Facilitated Development (AFDs)

- BLM permitting will be faster and easier.
    - EISs that designate AFDs will allow for tiering for projects within their borders so that only EAs will be necessary.
    - Interior Department (DOI) will establish schedules for completion of EAs after NOIs are published and all other DOI agencies will complete their work within those timeframes.
    - DOI will establish inter-agency teams composed of at least BLM, FWS and the Solicitor's Office to expedite service to developers of projects in AFDs. Teams to provide "one-stop shopping" with, at a minimum, one singular point of contact for all DOI agencies responsible for coordinating environmental reviews and consultations, ensuring timely performance of agencies, facilitating stakeholder reviews, etc.
- FWS review and consultation will be facilitated.
    - EISs that designate AFDs will be accompanied by § 7(a)(2) consultations.
    - BLM and the Service will coordinate from the beginning in reviews of projects.
    - FWS will take into account the fact that AFDs were chosen to have fewer conflicts and fewer cumulative impacts and may decide that development in those areas should have lower mitigation ratios.
    - Developers will be able to mitigate biological impacts through funding conservation priorities that are identified in a regional mitigation plan. In completing a deeper analysis of AFDs, state and federal agencies will have the ability to consider the environmental impacts of multiple solar facilities within the AFD at once, and develop a mitigation plan that has the following benefits:
        - Permit efficiencies for the developer;
        - Greater financial predictability for developers;
        - Mitigation site planning, management, and monitoring efficiencies;
        - The ability to focus on large scale conservation in order to provide benefits to sensitive species through higher quality habitat, improved connectivity between habitat areas, and better long-term protection;
        - The ability to leverage and assist ongoing conservation efforts, and
        - Mitigation planning that will be more proactive and less reactive, more systematic and less haphazard, multifunctional rather than single purpose, large scale rather than small scale, and better integrated with other planning efforts, resulting in larger scale, more meaningful and cost-effective conservation that advances regional environmental goals.
    - The mitigation plan should be developed as part of analysis to allow for a tiered EA under NEPA and will need to consider:
        - Cumulative impacts of development within a SEZ (or AFD).
        - Ongoing conservation planning priorities (e.g., recovery plans for

threatened or endangered species, BLM Resource Management Plans, and, in California, the conservation priorities developed as part of the Desert Renewable Energy Conservation Plan.

- Permitting of needed transmission will be facilitated.
    - In the process of designating AFDs, BLM will identify and, to the maximum extent possible, analyze interconnection, network upgrades, downstream facilities, corridors and other infrastructure needs such as roads sufficient to support projected solar energy development in the proposed areas.
    - BLM will participate in the CAISO's Revised Transmission Planning Process (RTPP) to ensure that transmission projects needed to support AFDs (as well as final zones designated by the BLM following completion of the Solar PEIS) are considered for inclusion in the RTPP plan.
    - BLM will request of the CAISO and CPUC that they enter into MOA with the Bureau to formalize coordination regarding both planning and permitting and the BLM's new solar program, adopted following the Solar PEIS process such that the transmission projects described immediately above are included in the RTPP and that the CAISO and CPUC will assist BLM in identifying and analyzing the activities listed in bullet #1 of this subsection.
    - BLM shall seek similar MOAs with the relevant regulators and transmission planners in the other five states within the PEIS study area that will result in prioritized consideration of necessary lines.
- Development on appropriate private lands will be encouraged by BLM.
    - To encourage development on *appropriate* private lands, if a project is in an AFD and its footprint is also on BLM land, offer all permitting incentives to the project as if it were fully on BLM land.
- Potential additional reductions in the cost of doing business on public lands that could be provided include:
    - A reduced capacity charge on energy generated within AFDs.
    - The imposition of a surcharge on rental fees outside those areas.
    - Provision of a longer phase in period for rental payments.

Appendix B.
The Least Conflict Approach:

We offer the following criteria to evaluate BLM lands that would provide minimal conflict as Areas for Facilitated Development:

- Mechanically disturbed lands such as fallowed agricultural lands.
- Brownfields, idle or underutilized industrial areas.
- Locations adjacent to urbanized areas and/or load centers where edge effects can be minimized.
- Locations that minimize the need to build new roads and that meet the one or more of the following transmission sub-criteria: transmission with existing capacity and substations is already available; minimal additional infrastructure would be necessary, such as incremental transmission re-conductoring or upgrades, and development of substations.
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of BLM-managed land. This combination of public and private lands could allow for a conjunctive use area, allowing for the expansion of renewable energy development onto private lands.
- Locations that have been repeatedly burned and invaded by fire-promoting non-native grasses.

In addition, the following areas should be *avoided* when identifying Areas for Facilitated Development because of the high degree of conflict that a proposal for development would cause:

- Lands within one mile of lands designated by Congress, the President or the Secretary for the protection of sensitive resources and values (e.g., units of the National Park System, Fish and Wildlife Service Refuge System, National Forest System, and the BLM National Landscape Conservation System), which would be adversely affected by development.
- Lands that have been formally proposed by federal agencies for designation as wilderness, or proposed for a national monument or wilderness designation in S.2921 (111th Congress).
- Lands that were originally part of a renewable energy right of way application and were eliminated from a ROW application by BLM or the applicant due to resource conflicts *prior to or following the finalization the PEIS*. For example, where the final project represents a smaller or different footprint to avoid wildlife habitat, rare vegetation or desert washes, the excluded portion of the right of way should no longer be available for development.
- Lands that have conservation value and were purchased with federal, state or private funds, and donated or transferred to the BLM for conservation purposes.
- Lands purchased with federal, state or private funds, and donated or transferred to the BLM expressly as mitigation for project impacts.
- Lands that have been: inventoried by trained citizen groups, conservationists and/or agency personnel using BLM protocols; found to meet Congress‘ definition of ―wilderness characteristics;” and publicly identified as of November

19, 2010. Maps of these lands in the six study areas can be found at found at http://www.nrdc.org/land/sitingrenewables/default.asp.

Thank you for providing us this opportunity to comment on the draft PEIS for Solar Energy Development in Six Southwestern States. We look forward to discussing these recommendations with you and working with you to ensure the success of the Bureau Solar Energy Program.

Sincerely,

Darren Bouton
First Solar, Inc.

Barbara Boyle
Sierra Club

Laura Crane
The Nature Conservancy

Kim Delfino
Defenders of Wildlife

Pamela Pride Eaton
The Wildnerness Society

Shannon Eddy
Large-scale Solar Association

Sean Gallagher
kRoad Power

Garry George
Audubon California

Arthur Haubenstock
BrightSource Energy

Michael Mantell, Chair
California Desert & Renewable Energy Working Group

Nino Mascolo
Southern California Edison

Mark Tholke
enXco

Peter Weiner
Solar industry attorney

Wendy Pulling
Pacific Gas & Electric

Johanna Wald
National Resources Defense Council

V. John White
Center for Energy Efficiency
& Renewable Technologies

Thank you for your comment, Kevin Kingma.

The comment tracking number that has been assigned to your comment is SolarD11833.

Comment Date: May 2, 2011 16:58:34PM
Solar Energy Development PEIS
Comment ID: SolarD11833

First Name: Kevin
Middle Initial:
Last Name: Kingma
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I will limit my comments because everyone knows "this horse race is fixed". This PEIS is merely a move to disregard normal procedures for approving public land use. It furthers the questionably legal and certainly environmentally harmful processes of "fast tracking", having the DOI head, Ken Salazar, sign off on a project to supposedly prevent any subsequent challenge to it, and finally, of declaring that the overwhelming need to switch immediately to alternative fuels outweighs the environmental harm caused by scraping pristine desert lands in order to build a mega-energy project.

NEPA requires that and EIS considers all possible alternatives. But, the PEIS makes no mention of the real preferred alternatives. Distributed local solar energy generation saves public lands and prevents the need for building more transmission lines. Also, the EPA has listed many contaminated sites that could be used for alternative energy development.

In summary, I oppose all alternatives listed in the PEIS. I disagree with the PEIS as a process. Giving a citizen a choice between a kick in the shins or poke in the eye is not really a choice or an example of democracy, and it is under that light only that I would chose the alternative that spares the most public land from destruction.

Thank you for your comment, Steven McCarroll.

The comment tracking number that has been assigned to your comment is SolarD11834.

Comment Date: May 2, 2011 16:59:17PM
Solar Energy Development PEIS
Comment ID: SolarD11834

First Name: Steven
Middle Initial:
Last Name: McCarroll
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City: Conejos
State: CO
Zip: 81129
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Conejos County has concerns over a large part of BLM Lands being utilized for Solar projects at a lose of County Revenues in the form of PILT payments to the County. Conejos County.

It is vital that any any company coming in are adequately bonded to cover any negative impact .

Some Conejos County elected officials would like to see more micro solar projects vs. the large solar developments. They feel that the small projects would be more benefical to the citizens of this county.

Thank you for your comment, Ian Black.

The comment tracking number that has been assigned to your comment is SolarD11835.

Comment Date: May 2, 2011 17:11:25PM
Solar Energy Development PEIS
Comment ID: SolarD11835

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Comment Submitted:

2 May 2011

U.S. MAIL & INTERNET FORM

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue, EVS/240
Argonne, IL 60439

Re: Comments of enXco, Inc. on Solar Energy Development Draft Programmatic Environmental Impact Statement

To whom it may concern:

Thank you for the opportunity to comment on the Solar Energy Development Draft Programmatic Environmental Impact Statement (PEIS) prepared by the U.S. Department of Energy, Energy Efficiency and Renewable Energy Program (DOE) and the U.S. Department of the Interior, Bureau of Land Management (BLM) pursuant to the National Environmental Policy Act (NEPA).

enXco, Inc. is one of the oldest and largest full service renewable energy companies in the United States, with more than two decades of experience. enXco undertakes three core activities: development, operations and maintenance, and asset management services. Since 2002, enXco has been an affiliate of EDF Energies Nouvelles, a French company that specializes in renewable energy with a gross installed capacity of over 3,805 megawatts (MW) worldwide.

enXco's development team has successfully developed projects for clients such as Xcel, MidAmerican, PG&E and SDGE. To date, enXco has developed nearly 2,000 MW of wind projects and has 89 MW of solar photovoltaic (PV) capacity in operation or under construction in the United States and Canada. enXco has six solar PV projects under application on BLM-administered lands, each of them located within a proposed Solar Energy Zone (SEZ) of the PEIS.

enXco headquarters are located in San Diego, California, with regional development offices in Minneapolis, Minnesota; San Ramon, California; Portland, Oregon; and Denver Colorado. enXco also operates a state-of-the-art Operations Control Center in Chandler, Minnesota, monitoring nearly 3,000 turbines across the nation. The company has over 800 employees located in 17 states.

1. Introduction and Summary of Comments.

The statement of purpose and need of the PEIS declares that BLM designed its proposed solar energy program to further its ability to meet certain requirements for facilitating solar energy development on BLM-administered lands. Those requirements are:

- The Energy Policy Act of 2005 (Public Law 109-58), which seeks approval of 10,000 MW of renewable energy generation on Public Lands by 2015;
- Executive Order 13212, which directs executive departments and agencies to "take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy"; and
- Secretarial Order 3285A1, which announced the policy goal of identifying and prioritizing solar development within SEZs. [1]

The PEIS meets these mandates only half-way. It identifies and assesses potential impacts to SEZs, but it fails to create standards that will expedite solar energy projects and prioritize solar development within SEZs. Indeed, as demonstrated throughout this comment letter, many of the mitigation measures and design features proposed by the PEIS will prevent, rather than promote, development within SEZs, and no attempt is made to analyze the effect of such measures on the solar industry. This is a significant shortcoming, given that "the proposed program has been designed to meet the requirements of Order 3285A1 to identify and prioritize development in locations best-suited for such development, called solar energy zones (SEZ)."[2]

As with most, if not all of its industry peers, enXco favors the preferred Solar Energy Development Program Alternative of the PEIS because the SEZ Program Alternative would exclude a substantial portion of the United States' solar resource from development, with severe consequences for the solar industry as a whole, as demonstrated by many other solar industry comments on the PEIS. However, if and when the preferred alternative hopefully is adopted, it must breathe life into Secretarial Order 3285A1 by incentivizing development within SEZs along the lines proposed below.

[1] Draft PEIS, page 1-7. All subsequent page references are to the PEIS unless indicated otherwise.
[2] Page ES-3.

a. PEIS mitigation measures and design features must facilitate rather than hinder development within SEZs without compromising environmental values.

Two notions are implicit within the concept of an SEZ: it creates a place where development is preferred; and, by doing so, it reduces development pressure on lands outside the SEZ. Both notions cannot be met without prioritizing development within SEZs. Prioritization is largely a function of the types of mitigation imposed on development within an SEZ; the more difficult project siting becomes because of mitigation requirements, the less likely developers are to build projects within the SEZ. The PEIS should recognize this fact by subjecting development within SEZs to carefully crafted minimization and offsite mitigation measures, rather than hindering development within the SEZs as it currently does through the application of categorical, cursorily analyzed avoidance standards.

Placing greater emphasis on minimization and offsite mitigation within SEZs is appropriate because avoidance will have already been achieved over the vast majority of BLM-administered lands currently open to solar development. Approximately 78 percent of BLM-administered lands presently available for solar energy development would be excluded from solar development under the preferred Solar Energy Development Program Alternative; approximately 99.4 percent of BLM-administered lands presently available for solar energy development would be excluded from solar development under the SEZ Program Alternative. Many of the criteria for avoiding such lands are based on environmental concerns, such as visual resources, wilderness status, and other sensitive and high conservation-value designations.[3] And many of the lands excluded for purely technical reasons (e.g., a slope of more than 5 percent) undoubtedly include resource values as well. A reduced emphasis on avoidance and a greater emphasis on minimization and offsite mitigation within SEZs would affect only 3 percent of lands available for development under the preferred Solar Energy Development Program Alternative. Such a policy is an entirely appropriate mechanism for incentivizing development within SEZs.

As a corollary to this policy, BLM should also consider using the PEIS as a vehicle to identify areas within the BLM-administered lands excluded from solar energy development that could be set aside as potential offsite mitigation lands for impacts caused by development within the SEZs, possibly along the lines of California's Senate Bill X8 34 (Padilla) (SB 34) and California's Desert Renewable Energy Conservation Plan, provided such lands have low wind energy development potential.

[3] See Table ES.2.2 and page 1-7, ls. 37-39.

Based on both energy and environmental considerations, and refined through public comment after being announced in the Federal Register on June 30, 2009,[4] the SEZs identify those BLM-administered lands best suited for solar development. As such, they are concrete manifestations of the national energy priorities expressed in the Energy Policy Act of 2005, Executive Order 13212, and Secretarial Order 3285A1. Proposed SEZ mitigation strategies therefore must be carefully weighed against the national energy policies and priorities the SEZs embody. To properly strike this balance, the mitigation measures and design features of the PEIS need to reduce their emphasis on categorical avoidance within SEZs and place a greater emphasis on minimization and offsite mitigation. This approach is appropriate because it would apply to only 3 percent of lands available for development under the preferred Solar Energy Development Program Alternative, an alternative which avoids development of the vast majority of BLM lands currently available for solar energy ROWs.

enXco's comments in Section 2(a), below, reflect the recommendations above only insofar as they relate to the SEZs in which enXco's projects are potentially impacted. However, we recommend that the BLM and DOE consider extending such policies to all SEZs.

b. Omission of certain policies from consideration in the PEIS will inadvertently hinder development within SEZs.

As discussed in Section 2(b), below, the addition of several policies to BLM's proposed solar energy program would greatly facilitate development within SEZs. The first would extend SEZ status to any project partially (but still primarily) located within an SEZ if it met a series of prescribed criteria. Another proposal would establish new, solar-specific co-location policies, designed to prevent the "stranding" of solar energy projects within SEZs. The third proposal would include a provision in the PEIS stating that the BLM will not administer public lands for enhancement as offsite mitigation lands pursuant to California's SB 34 if such lands lie within an SEZ.

[4] 74 FR 31307.

2. Comments.

a. Many proposed design features and policies will prevent rather than promote development within SEZs.

i. Proposed Riverside East SEZ VRM restrictions are too stringent.

1. Introduction

As BLM is aware, the Federal Land Policy and Management Act (FLPMA) requires BLM to inventory and manage public lands for scenic values.[5] While visual resource inventory (VRI) classifications establish the relative scenic values of public lands, Visual Resource Management (VRM) classifications are the standards by which VRI values are actually managed. A VRM class designation therefore may differ from a VRI designation in order to balance other land use needs under the multiple use mandate of FLPMA.[6] Of the four VRM classes, VRM Class I is the most restrictive; its objective is to preserve the existing character of the landscape. VRM Class IV is the least restrictive; its objective is to provide for management activities that require major modification of the existing character of the landscape.

As proposed, the PEIS would impose a VRM Class II designation over much the Riverside SEZ to mitigate potential visual resource impacts, primarily out of a concern for visual impacts to Joshua Tree National Park.[7] This mitigation measure/design feature would prohibit utility-scale solar development within 40 percent of the Riverside East SEZ, including enXco's Desert Harvest solar PV project (CACA 49491), even though BLM and enXco have expended considerable time, effort and funds to process the right-of-way (ROW) application, which enXco filed before segregation of the Riverside SEZ lands on June 30, 2009.

enXco acknowledges the visual resource concerns raised by the proximity of the Riverside East SEZ to Joshua Tree National Park and is prepared to address them at the project level. Such concerns need not prohibit development of projects within the SEZ such as the Desert Harvest project. As explained below, BLM energy policies and VRM guidance – as well as the facts of the PEIS itself – provide for a more balanced approach that would allow development of projects

[5] 43 U.S.C. § 1711(a).
[6] BLM Instruction Memorandum (IM) No. 2009-167 (7 July 2009), page 1.
[7] Page 9.4-29.

like Desert Harvest while addressing the visual resource concerns associated with Joshua Tree National Park.

2. Summary of proposed VRM restrictions for the Riverside East SEZ

Almost all of the Riverside East SEZ is subject to VRI Class II or Class III visual inventory values.[8] As in most of its SEZ-specific visual resources analyses, the PEIS states that the visual impacts of utility-scale solar development within the Riverside East SEZ would be consistent with VRM Class IV objectives because it will require "major modification" of the existing landscape.[9] The PEIS determines that such development is likely to cause "moderate to strong visual impacts on highly sensitive visual resources areas, including Joshua Tree NP" and other specially-designated areas near the SEZ.[10]

As mitigation for these sensitive visual resource impacts, the PEIS recommends that over 79,630 acres (40 percent) of the Riverside SEZ be managed subject to VRM Class II objectives.[11] Another 19,967 acres (10 percent) of the Riverside East SEZ would be subject to a VRM Class III designation.[12]

3. A VRM Class II designation would prohibit solar energy development.

A VRM Class II designation would prohibit utility scale solar development within 40 percent of the Riverside East SEZ because it is a highly restrictive classification. The VRM Class II objective is:

> to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.[13]

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[8] Page 9.4-220.
[9] Pages 9.4-223, 9.4-224.
[10] Page 9.4-296.
[11] Page 9.40-297.
[12] Id.
[13] BLM Manual 8431, Visual Resource Contrast Rating, Appendix 2.

Utility-scale solar energy projects within the Riverside East SEZ cannot be redesigned to meet such a stringent objective. As the PEIS itself states:

> Given the large scale, reflective surfaces, and strong regular geometry of utility-scale solar energy facilities, and the typical lack of screening vegetation and landforms within the SEZ viewsheds, siting the facilities away from sensitive visual resource areas and other sensitive viewing areas is the primary means of mitigating visual impacts.[14]

Prohibiting the siting of solar generation facilities appears to be the objective of the VRM Class II management requirement. Indeed, this is why the BLM Solar Energy Development Program Alternative of the PEIS excludes VRM Class II lands from utility-scale solar development.[15]

4. <u>The visual resources impacts of the Riverside East SEZ would affect a small, less-frequented portion of Joshua Tree National Park</u>.

The PEIS recommends VRM Class II management of much of the Chuckwalla Valley because it determines that solar development within the Riverside East SEZ would be perceptible from 9 to 15 percent of Joshua Tree National Park.[16] The affected lands lie on the eastern-most extreme of the park, for the most part along those portions of the peaks and slopes of the Eagle Mountains and Coxcomb Mountains that face outside the park. While the affected lands are inside the park, a significant portion of them lack a wilderness designation.[17]

Only a small number of visitors frequent this portion of Joshua Tree National Park because, as stated in the PEIS, most facilities and recreational uses are in the western side of the park.[18] As the NPS itself notes, "there are no roads or visitor access points into the park in that area, and the number of visitors to that area, while unknown, are likely to be low."[19]

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[14] Page 9.4-296, ls. 38-42.
[15] Page 2-8.
[16] Page 9.4-231.
[17] For example, compare PEIS Page 9.4-226 to the Joshua Tree National Park wilderness map at http://www.nps.gov/jotr/naturescience/wilderness.htm.
[18] Page 9.4-231.
[19] National Park Service, <u>First Solar – Desert Sunlight Solar Farm Project, Draft Environmental Impact Statement</u> (24 November 2010). Because of their isolation, activities in the affected lands most likely consist primarily of overnight backcountry camping. Backpacking overnight is the least common activity in the park; only 2 percent of

Finally, the PEIS fails to observe that views of the Chuckwalla Valley from Joshua Tree National Park are already substantially impacted by the former Eagle Mountain Mine (which was removed from Joshua Tree National Monument in 1950 by Public Law 837), the town of Desert Center, the Colorado River Aqueduct, and an existing 230kV transmission line, among other existing uses within the valley.

ii. BLM policy and guidance provide for a more balanced approach regarding visual impacts to Joshua Tree National Park.

BLM guidance provides that VRM classes should balance visual resource inventory values with land use priorities: "The VRM class designations may be different than the VRI classes assigned in the inventory and should reflect a balance between protection of visual values while meeting America's energy and other land use, or commodity needs."[20] And,

> When amending the LUP, the VRM class decisions should fully consider the VRI values and the newly proposed land use in context with national management priorities … For example, [in the wind context] balanced consideration would be given to visual resource values and wind energy objectives when determining the appropriate VRM class designation.[21]

Such "balanced consideration" is absent from the PEIS analysis of the Riverside East SEZ. As proposed, and as segregated from surface entry and mining, the SEZs are an expression of national renewable energy land use policies embodied by the Energy Policy Act of 2005, Executive Order 13212, and Secretarial Order 3285A1. Nonetheless, the PEIS proposes to categorically prohibit solar development within a substantial portion of the largest SEZ to protect views from a small portion of Joshua Tree National Park that most park visitors do not see. enXco recognizes that the resource values of that portion of the park are high. But the PEIS's failure to examine less restrictive visual resource solutions prevents the BLM from striking an appropriate balance between national renewable energy priorities and visual resource values. The national renewable energy mandates of the 2005 Energy Policy Act and Secretarial Order 3285A1 require more balanced consideration along the lines described below.

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visitors engage in it, and only 5 percent of visitors actually sleep in the backcountry. National Park Service Social Science Program, Joshua Tree National Park Visitor Study (Spring 2004), pages 21, 25.

[20] IM No. 2009-167 (7 July 2009), page 1.

[21] Id., Attachment 1, FAQ No. 27.

1. enXco recommends an appropriately mitigated VRM Class IV designation within the Riverside East SEZ.

A more balanced approach would assign a VRM Class IV designation within the Riverside East SEZ and propose additional minimization and offsite mitigation measures for solar development in close proximity to sensitive visual resources, rather than prohibiting solar development altogether. BLM's renewable energy VRM guidance anticipates and supports this approach: "Depending on national priorities, there may be situations where areas of high and medium visual values will be managed under the VRM Class IV objective allowing for major modification. It is possible and feasible to induce major modification within an area of high scenic value and protect the scenic integrity within a VRM class IV that will serve the best interests of the BLM, private industry, and the American public."[22] The PEIS fails to heed this guidance and explore its implementation in the context of the Riverside East SEZ and Joshua Tree National Park in particular.

a. Reduce impacts by 40 percent or more by imposing a height limit for solar energy generation facilities in northern Chuckwalla valley.

Because of its uncompromising approach, the PEIS fails to consider effective measures that could substantially minimize the visual effects of solar development on Joshua Tree National Park. For example, the PEIS determines that development within the Riverside East SEZ could be seen from as much as 15 percent of the park.[23] However, this impact could be reduced by 40 percent simply by limiting solar development within the western half of the SEZ to PV and parabolic trough arrays lower than 7.5 meters in height, such projects being visible from only 9 percent of the park.[24] Impacts could be further reduced by limiting development to PV technologies, which can be as low as 7 feet in height, are less reflective, and lack steam turbine generators.[25] For example, the Desert Sunlight solar PV project would be visible from less than 5 percent of the park's geographic area.[26] Height restrictions are not without precedent in the PEIS; Afton SEZ design features restrict the height of power tower technologies to reduce visual

[22] IM No. 2009-167 (7 July 2009), Attachment 1, pp. 1-5, -8, -9, FAQ Nos. 19 and 31.
[23] Page 9.4-231.
[24] Id.
[25] Pages 9.4-222, 9.4-237.
[26] BLM, Desert Sunlight Solar Farm Project Final Environmental Impact Statement (April 2010), page 4.14-8.

impacts, for example.[27] Such minimization measures in conjunction with the general visual design features proposed in the PEIS should obviate the need to prohibit development through a VRM Class II designation.[28]

b. Consider a VRM Class II buffer around Joshua Tree National Park that does not include advanced solar development applications.

Another more balanced potential minimization measure would involve limiting a VRM Class II designation to within a prescribed distance from the boundary of Joshua Tree National Park. The buffer would not include solar energy development ROW applications accepted before the SEZ lands were segregated on June 30, 2009. The standard could trace the outer boundaries of such projects or could be a buffer of uniform width no wider than the narrowest point between the park and the project located closest to it, a distance which appears to be 1.5 miles.

c. Implement offsite mitigation to offset visual impacts.

Mitigation measures altering the design of solar energy projects cannot avoid all visual impacts (as stated above, it is for this reason that a VRM Class II designation would effectively prohibit solar development). In such instances, BLM guidance recommends consideration of offsite mitigation "to enhance the BLM's ability to fulfill its mission of providing multiple uses on the public lands, while ensuring its resource management objectives are met."[29] Given DOI's energy priorities, the PEIS should consider the use of programmatic visual offset mitigation to minimize visual impacts to Joshua Tree National Park caused by utility-scale solar development within the Riverside East SEZ. Of particular relevance in this context, BLM's offsite mitigation guidance states:

> Offsite mitigation may be appropriate for mitigating impacts from large development projects or closely associated smaller projects that could have undesirable cumulative effects, particularly where onsite mitigation is expected to be insufficient and it is unlikely important resource management objectives can be

[27] See page 12.1-14.
[28] Generation tie lines associated with a project should not be subject to the height limitation due to high voltage engineering constraints and the relative transparency of such structures from a distance. However, their visual effects could be reduced through a more clearly stated co-location policy such as the one proposed in Section 2(b)(ii) of this letter.
[29] IM No. 2008-204 (30 September 2008), page 1.

> achieved. This may include large projects areas such as: … Wind farms or solar arrays.[30]

The PEIS expends half a page explaining the mechanics of offsite visual impact mitigation, and converts the same language into a programmatic design feature to be applied to all utility scale solar projects on BLM lands.[31] But the PEIS fails to apply offsite mitigation as a programmatic solution to the potential visual resources impacts of the Riverside East SEZ.

enXco requests that the PEIS perform such an analysis. Considerations could include enhancement or inter-agency exchange of other BLM-administered lands located adjacent to Joshua Tree National Park but outside the Riverside East SEZ, such as the Pinto Mountain Desert Wildlife Management Area and BLM lands adjacent to the Eagle Mountain Mine, and/or the potential exclusion of solar development ROWs from BLM lands located to the north of the Riverside East SEZ, with the intention of their forming a linkage between Joshua Tree National Park and the Palen/McCoy Wilderness, consistent with the ROW exclusion policy proposed in Appendix A of the PEIS.[32]

2. Conclusion regarding proposed Riverside East VRM restrictions.

The PEIS exhaustively identifies potential visual resources impacts to Joshua Tree National Park. But mitigating such impacts by applying a prohibitive VRM Class II designation to much of the Riverside East SEZ is too heavy-handed. This is particularly the case when viewed in light of the national energy policies and priorities of the Energy Policy Act of 2005, Executive Order 13212, and Secretarial Order 3285A1 that the Riverside East SEZ embodies. A more balanced approach, like the one suggested above, would mitigate visual resources impacts to Joshua Tree National Park without categorically prohibiting development of solar energy generation facilities like enXco's Desert Harvest project. Such an approach better aligns with existing BLM policies and procedures than imposing a VRM Class II standard.

Exhibit A, attached hereto, includes conforming edits reflecting the comments above.

As a final note, we should add that the PEIS proposes similar VRM Class II restrictions that would prohibit solar energy development within 20 percent of all SEZs. Another 12 percent

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[30] Id., Attachment, page 1-3.
[31] Page A-89.
[32] Pages A-31, A-32.

would be affected by a VRM Class III designation. enXco recommends that the BLM reconsider these proposals along the same lines as the analysis of the Riverside East SEZ above.

iii. Natural drainage, lake bed and flood plain limitations are overly restrictive within SEZs.

1. Natural drainage limitations are too broad, internally inconsistent and infeasible.

Although required by numerous design features of the PEIS [33], categorical avoidance of dry washes and other natural drainage features is infeasible for utility-scale solar energy development. As illustrated in the map attached hereto as Exhibit B, dry washes thoroughly pervade the western deserts like capillaries under skin. Utility-scale solar installations need hundreds to thousands of contiguous acres for development and, as a consequence, will almost always encounter natural drainage features. Categorically requiring avoidance of natural drainages at a programmatic level is therefore inherently impracticable, and categorically limiting avoidance to "practicable" instances is specious because natural drainages are unavoidable. If left in their current form, such measures will create an unrealistic presumption of avoidance that will be extremely difficult, if not impossible, to meet at a project-specific level.

Instead, the PEIS needs to address potential dry wash and other natural drainage impacts in the same manner it addresses impacts to species whose habitat is too widespread to avoid. Specifically, rather than categorically requiring avoidance of natural drainages where practicable regardless of occupying sensitive species (if any), the PEIS should acknowledge – just as it does with desert scrub habitat in multiple instances – that the widespread presence of dry washes and other natural drainages throughout the western deserts makes categorical avoidance infeasible.[34] Instead, the PEIS design features should provide that potential impacts to dry washes and other natural drainages be reduced by minimizing disturbance in the area of direct effect where feasible and, where minimization is not feasible, through offsite habitat mitigation as part of the Ecological Resources Mitigation and Monitoring Plan required by the programmatic design features of the PEIS.

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[33] See pages A-41 ls. 5-10, A-123, A-124, A-126, A-127, A-148, A-149, A-158, A-159.

[34] For examples of application of this policy to desert scrub habitat within the Riverside East SEZ, see pages 9.4-180 l. 29, 9.4-183 l. 7, 9.4-185 l. 45, 9.4-186 l. 24, 9.4-187 l. 28, 9.4-189 l. 28, 9.4-190 l.6, 9.4-190 l. 40, 9.4-191 l. 29, 9.4-193 l. 2; 9.4-193 l. 34, 9.4-194 l. 24, 9.4-195 l. 13, 9.4-196 l. 2, 9.4-196 l. 37, 9.4-197 l. 27.

The form and stringency of such minimization and offsite mitigation measures would depend on the specific biological resources associated with a given project. Most minimization and offsite mitigation requirements would be developed through coordination and permitting with state resource agencies (e.g., the California Department of Fish and Game (CDFG) regarding California's Streambed Alteration Program), and, where applicable, with the U.S. Army Corps of Engineers regarding the Clean Water Act Section 404 permitting program. At a minimum, such a policy should apply within SEZs because of the national energy priorities they embody, as discussed in Section 1, above.

Finally, a proposed programmatic design feature prohibits installation of solar facilities and components within natural drainages: "Solar facilities or components (e.g., heliostats, panels, dishes, and troughs) shall not be placed in natural drainage ways."[35] In addition to being infeasible for the same reasons discussed above, this provision is inconsistent with the many programmatic and SEZ-specific design features that require avoidance of dry washes and other natural drainage features where practicable, but do not prohibit development within them. The PEIS should remedy this and other potential inconsistencies by expressly stating in Section A.2.2 of the PEIS (and elsewhere in the document, as necessary) that "SEZ-specific design features control in the event of a conflict between the terms of a programmatic design feature and an SEZ-specific design feature, including instances where the SEZ feature is more permissive."[36]

Exhibit A to this letter includes conforming edits reflecting the above recommendations.

2. Troy Lake development limitations are overly restrictive.

enXco seeks to develop a solar PV energy facility over a portion of approximately 1,550 acres of Troy Lake that lie within the Pisgah SEZ. enXco's application is serialized as ROW application CACA-49585. Multiple design features specific to the Pisgah SEZ state that development on or in the vicinity of Troy Lake should be avoided to address potential water resources and wildlife concerns. Like other SEZs, the Pisgah SEZ has been identified through a protracted assessment process as an area ideally suited for solar development. Given its potential for renewable energy development, a categorical recommendation of avoidance of a substantial portion of the Pisgah SEZ should not be made unless it is likely to be the only means of mitigating a clear and well-substantiated danger to high-risk natural resources. That is not the case here.

[35] Page A-41 ls. 12-13.
[36] Such language would also play an important role in properly incentivizing development within SEZs along the lines proposed in Section 1, above.

For example, with regard to water resources impacts, the PEIS states that "land disturbance activities in the vicinity of Troy Lake could potentially disrupt natural drainage patterns of the ephemeral washes and lead to erosion, as well as affecting natural groundwater recharge and discharge properties."[37] Avoidance is not required to address these impacts. Drainage pattern concerns are already mitigated by the Drainage, Erosion and Sedimentation Control Plan programmatic design feature, which requires development to preserve pre-project hydrographs.[38] The same is true for erosion concerns, which are mitigated by the programmatic design feature requiring adoption of a Stormwater Management Plan that prevents increased soil erosion.[39] Finally, Troy Lake groundwater recharge and discharge concerns could be avoided by developing a new Pisgah SEZ-specific design feature that requires development to adhere to engineered performance standards that preserve pre-project recharge and discharge rates.

The PEIS's recommendation of avoidance of development on or near Troy Lake as mitigation for potential wildlife impacts is similarly disproportionate, given that the PEIS does not identify Troy Lake as potential habitat for any state or federal listed species. It does identify Troy Lake as potential habitat for four sensitive plant species, but this alone should not be grounds for recommending avoidance of development altogether, particularly when the assessment has been made at a programmatic, "desktop" level without any ground-truthing. Rather, given the large portion of the SEZ occupied by the lake and the implicit resource trade-offs inherent in the notion of establishing SEZs, Pisgah SEZ design features regarding Troy Lake should mirror the design feature we have proposed for dry washes, discussed above. Specifically, such measures should recommend minimization to the extent feasible, rather than avoidance, and offsite mitigation if minimization is infeasible.

Exhibit A includes conforming edits reflecting the above recommendations.

3. Prohibition of development within 100-year flood plains is overly restrictive.

A proposed programmatic design feature prohibits development within 100-year floodplains.[40] This standard is more stringent than most applicable laws; development frequently occurs within 100-year floodplains when adequately engineered, as the PEIS itself acknowledges: "for project sites falling within the 100-year floodplain, project structures would need to meet the

[37] Page 9.3-63, ls. 28-30.
[38] Page A-48.
[39] Id.
[40] Page A-48 ls. 23-24.

development criteria for building in a floodplain (e.g., inhabitable structures would have to be built above flood elevation)."[41] A categorical prohibition is also premature, given that the extent of 100-year flood plains within the lands studied by the PEIS are relatively unknown: "Because the six-state study area has large areas that have not been evaluated for 100-year flood potential, affected environments and future project-specific impacts would need to be addressed during site specific project planning."[42]

A design feature prohibiting development within 100-year flood plains is unnecessary because the PEIS already contains project-specific design features that sufficiently regulate 100-year flood plain development. The PEIS includes a programmatic design feature that reminds ROW applicants and the BLM of the need to comply with Executive Order 11988, which allows development within floodplains if certain findings are made.[43] Specifically, Executive Order 11988 requires the BLM to consider alternatives that avoid adverse effects and incompatible development in floodplains whenever BLM considers a proposal for development within a floodplain.[44] If the BLM finds that the only practicable alternative is to allow development within the floodplain, it must ensure the development is designed to minimize potential harm to or within the floodplain and explain why the action is proposed within the floodplain.[45]

The PEIS also contains programmatic design features requiring project proponents to perform hydrological studies that identify and model any 100-year floodplain features on site, develop a Drainage, Erosion and Sedimentation Control Plan that demonstrates no increase in off-site flooding potential, and develop a Stormwater Management Plan that maintains the pre-development flood hydrograph for all storms up to and including the 100-year rainfall event.[46]

In short, the programmatic design feature prohibiting development within 100-year floodplains should be deleted because the PEIS already adequately regulates potential 100-year floodplain development at the programmatic level through its invocation of Executive Order 11988 and flood-specific design features. At a minimum, this policy should apply within SEZs.

Exhibit A includes conforming edits reflecting the above recommendation.

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[41] Page 5-29, ls. 26-29.
[42] Page 4-49 ls. 17-20.
[43] Page A-47, ls. 9-12.
[44] Executive Order 11988 (24 May 1977), Section 2(a)(2).
[45] Id., Sections 2(a)(2); 3(b).
[46] Pages A-47, ls. 41-43, A-48, ls. 26-30.

iv. Prohibition of development within occupied sensitive species habitat is overly restrictive.

A proposed programmatic design feature prohibits project facilities and activities within or near occupied habitats of special status animal species.[47] Another design feature requires project facilities and activities to be excluded or modified within sensitive habitats.[48]

Neither of these standards can be met. It is highly unlikely that any utility-scale solar development project can be developed on BLM-administered land without occurring within or near sensitive habitats or occupied habitats of special status animal species. The observed special status wildlife and desert tortoise maps of the Biological Technical Report of the approved Blythe Solar Power Project, attached hereto as Exhibit C, are a powerful case in point. The BLM could not have approved the Blythe Solar Power Project (or, in all likelihood, any of the other 2010 fast track solar ROW projects) under such standards. The Blythe Solar Power Project mitigated its impacts to sensitive species and habitats primarily through offsite mitigation. Other BLM ROW projects should have the opportunity to do so as well, particularly those proposed within an SEZ. The BLM cannot meet the renewable energy policy mandates of the 2005 Energy Policy Act, Executive Order 13212 and Secretarial Order 3285A1 unless both standards are deleted from the PEIS. At a minimum, this policy should apply within SEZs.

Exhibit A includes conforming edits reflecting the above recommendations.

v. The apparent prohibition of solar-specific land use plan amendments subsequent to approval of the PEIS is ill-advised and should be deleted.

The PEIS states that, "To be considered further, [ROW] applications must conform to the existing land use plan as amended by the Solar Programmatic Environmental Impact Statement (PEIS), including all solar ROW exclusions identified in Table 2.2-2."[49] Either this is a statement of the obvious (that all proposed ROW projects must comply with the applicable land use plan, either as is, or as amended) or it is a prohibition of solar project-specific land use plan amendments requested after adoption of the ROD for the PEIS. If the latter, then it is ill-advised. The programmatic, high-level nature of the PEIS cautions against prohibiting subsequent solar-specific land use plan amendments; it is unlikely that the PEIS can anticipate BLM's solar land use needs with sufficient detail at the state, district and field office level to obviate the need for

[47] Pages A-56, ls. 24-29; A-60, ls. 10-14.
[48] Page A-56, ls. 31-34.
[49] Page A-27, ls. 9-13.

subsequent solar-specific land use plan amendments. In addition, if in the future a consensus arose that such an amendment were indeed required, the language above could constitute grounds for requiring a supplemental EIS for the entire PEIS, rather than a NEPA document associated with the specific land use plan in question. The mere existence of the PEIS will create a substantial administrative presumption against such amendments in the future. That presumption should be sufficient. We recommend deletion of the statement, per the conforming edit proposed in Exhibit A to this letter.

vi. Other design features requiring revision.

In addition to making conforming changes to implement the comments above, Exhibit A to this letter proposes revisions to a series of other policies and design features that could have unwarranted adverse impacts on solar development if left unchanged. Exhibit also includes a brief justification for each proposed change.

b. Certain omissions from analysis will inadvertently hinder solar development.

i. Partial SEZ designation of currently proposed projects must be avoided.

The BLM Las Vegas Field Office is currently processing an enXco ROW application filed in September 2008 for the solar development of approximately 1,400 acres of BLM-administered lands near Dry Lake, Nevada (NVN 86159). Approximately 52 percent of the proposed project site lies within the Dry Lake SEZ. To avoid subjecting this and other similarly situated projects to administrative inconsistencies, enXco recommends that the PEIS include a policy of either expanding SEZ boundaries to comprehend the full extent of any proposed project lying partially within an SEZ or consistently administering that project as though it lies wholly within the SEZ, provided that (i) at least 40 percent of the project site lies within the SEZ as proposed in the Draft PEIS; (ii) BLM accepted the project's solar ROW application prior to segregation of SEZ lands on June 30, 2009; and (iii) there are no characteristics unique to the portion of the project lying outside an SEZ that warrant its continued exclusion from the SEZ.

Exhibit A to this letter includes conforming edits reflecting the recommendation above.

ii. Inadequate co-location policies.

The clustering of utility-scale solar energy projects in high value solar resource areas such as SEZs greatly complicates the routing of generation tie lines between a project and the nearest transmission corridor. For example, a solar project approved close to an existing transmission

corridor can effectively strand other proposed projects located "behind" it by preventing the generation tie lines of the other projects from co-locating with its own generation tie line route. This results in significant financing and power contracting constraints that can prevent a project from moving forward. Thus, without robust generation tie line co-location policies in place, later projects within an SEZ face significantly more risk than their predecessors. Two of enXco's BLM solar energy projects presently face such constraints.

The PEIS addresses these concerns to a limited degree. For example, Appendix A of the PEIS proposes the following co-location design feature: "Consolidation of access and other supporting infrastructure shall be required for single projects and for cases in which there is more than one project in close proximity to another in order to maximize the efficient use of public land."[50] Other proposed programmatic design features generally recommend co-location of transmission facilities to minimize habitat disturbance and fragmentation.[51] We laud BLM's effort to address an issue that is and shall continue to be of critical importance to projects within SEZ lands. However, the PEIS still fails to address the more complex realty issue of co-location of generation tie lines between projects and transmission corridors.

The co-location of generation tie lines is a realty issue that the BLM alone must solve. Indeed, Congress requires it. As stated in FLPMA, "In order to minimize adverse environmental impacts and the proliferation of separate rights-of-way, the utilization of rights-of-way in common shall be required to the extent practical, and each ROW or permit shall reserve to the Secretary concerned the right to grant additional rights-of-way or permits for compatible uses on or adjacent to rights-of-way granted pursuant to this Act."[52] Multiple Part 2800 regulations implement this provision.[53]

BLM must adopt a firm, well defined co-location policy because it is the only agency capable of resolving the matter. Public utilities, the agencies that govern them, and interconnection system operators control and regulate transmission lines and substations. But none of them control the physical routing of generation tie lines from a project to the grid. That is the unique province of the agency that governs the lands over which generation tie lines are constructed. BLM should consider generation tie lines in the same manner it treats the project itself.

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[50] Page A-36, ls. 39-42.
[51] Pages A-56, ls. 36-39 ; A-71, ls. 42-45.
[52] 43 U.S.C.A. § 1763.
[53] See 43 C.F.R. 2802.10(b), 2805.15(b),(e).

Without clearer, more robust co-location leadership from the BLM, projects proposed within the SEZs are still more likely to maximize rather than minimize adverse environmental impacts through the proliferation of separate ROWs. They will also continue to run a risk of failure due to potential "stranding" by other adjacent ROW authorizations. To that end, enXco proposes inclusion of the following additional co-location policies in the PEIS within each of the corresponding Appendix A section titles listed below:

1. *A.2.1. Proposed Administration Policies*

Within SEZs, BLM will exercise the United States' retained right to require common use of an authorized ROW or overlapping ROWs in order to allow co-location of generation tie lines in accordance with 43 C.F.R. 2802.10(b) and 43 C.F.R. 2805.15(b),(e), if doing so reduces environmental impacts and /or prevents "stranding" of one solar energy development project by another, provided that shared obligations within the common/overlapping generation tie line path are set forth in a written agreement between the original ROW grant holder and other ROW grant holders seeking co-location. Under the terms of the agreement, any party seeking co-location must proportionately mitigate any adverse impacts to existing facilities within the ROW as a consequence of the co-location of its facilities. In addition, in the event of the bankruptcy or dissolution of one of the parties to the agreement, the agreement must ensure the other parties enjoy continued rights to all installed generation tie line facilities.

2. *A.2.1.2.1 Pre-application Meeting*

For solar energy projects proposed within an SEZ, the BLM authorized officer will assess and discuss potential generation tie line co-location needs during the pre-application meeting. The BLM authorized officer shall ensure that such considerations are made in light of planned and/or otherwise foreseeable development rather than on a sequential, "first-come, first-served" basis.

3. *A.2.1.2.2 Application Analysis and Sufficiency*

Entities seeking to develop a solar energy project on BLM-administered lands within an SEZ shall, in conjunction with BLM staff, contact any other entities pursuing neighboring, serialized solar development ROW applications to assess and discuss potential generation tie line co-location needs.

4. *A.2.1.2.3 NEPA Analysis and Compliance with Other Laws and Regulations for Proposed Projects*

To facilitate co-location of generation tie lines, NEPA analyses of solar energy ROW applications within SEZs shall clearly distinguish the separate impacts and mitigation measures of a project's generation tie line from the impacts and mitigation measures of its solar energy generating facility. The analysis shall also assess whether the project as proposed will result in potentially adverse direct, indirect or cumulative lands and realty impacts as a result of failing to allow co-location of other generation tie lines within its proposed generation tie line route.

5. *A.2.1.2.4 ROW Authorization*

All solar energy ROW authorizations within an SEZ shall include a provision specifying that the BLM authorized officer may change the terms and conditions of the authorization to facilitate the co-location of generation tie lines of other solar development authorizations in accordance with 43 C.F.R. 2802.10(b) and 2805.15(b),(e). Furthermore, in instances where the BLM authorized officer determines that requiring the design of a generation tie line path to allow co-location of future generation tie lines will reduce environmental impacts and /or prevent "stranding" of one solar energy development project by another, the BLM authorized officer shall ensure the ROW as designed and authorized allows such co-location and contains additional stipulations stating that (i) shared obligations within the common generation tie line path shall be set forth in a written agreement between the ROW grant holder and other ROW grant holders seeking co-location; (ii) under the terms of the same agreement, any party seeking co-location must proportionately mitigate any adverse impacts to existing facilities within the ROW as a consequence of the co-location of its facilities; and (iii) in the event of the bankruptcy or dissolution of one of the parties to the agreement, the agreement must ensure the other parties enjoy continued rights to all installed generation tie line facilities.

Exhibit A to this letter contains conforming edits reflecting this recommendation.

iii. DRECP MTAs should not be implemented in SEZs.

SB 34 was enacted on 22 March 2010 to facilitate project mitigation actions for certain proposed renewable energy projects in the California desert that are seeking federal American Recovery and Reinvestment Act funding. In September 2010, the CDFG finalized an Interim Mitigation Strategy pursuant SB 34. The Interim Mitigation Strategy assigned Mitigation Target Area (MTA) designations to certain lands within the boundaries of the proposed Desert Renewable

Energy Conservation Plan that the CDFG determined to be potential targets for acquisition (if private) or enhancement (if public) as conservation land.

Portions of two of enXco's solar projects lying within SEZs are subject to an MTA designation (Desert Harvest (CACA 49491) within the Riverside East SEZ and Troy Lake Soleil (CACA 49585) within the Pisgah SEZ). The conservation goals of an MTA conflict with the solar energy development goals of an SEZ and create uncertainties for potential investors in instances where the two overlap. enXco therefore requests that the PEIS include a statement that the BLM will not administer public lands for enhancement as MTAs pursuant to SB 34 if such lands lie within an SEZ. If, for some reason, the BLM still considers implementation of MTA enhancement measures within an SEZ feasible, enXco encourages the BLM to exclude any such enhancement actions from SEZ lands that are subject to active solar development ROW applications accepted prior to the segregation of SEZ lands on June 30, 2009.

Exhibit A to this letter includes conforming edits reflecting this recommendation.

c. **Other Comments**.

i. <u>More land should be open to development in Utah</u>.

The three Utah SEZs comprise approximately 19,000 acres in two counties. Furthermore, these counties are not in areas of large populations or high electricity demand. There are many more BLM lands in the St. George Field Office District, the Fillmore Field Office District and the Moab Field Office District that the PEIS should consider, particularly because they are closer to population centers. In addition, non-SEZ lands open to solar ROW applications under the preferred alternative are relatively few and in counties that face transmission constraints. Additional locations should be identified.

ii. <u>The PEIS should consider existing transmission capacity</u>.

Some SEZs are located in areas of has known transmission constraints and bottlenecks. It is unlikely that more than 100 MW of solar could be built on any land in the Utah SEZs without cost prohibitive upgrades to the existing transmission system. While additional capacity may eventually be added in the long-term future, the PEIS should acknowledge present day transmission constraints, given the rate at which the solar industry continuous to grow.

iii. A 5 percent slope screening criterion is overly restrictive

A 5 percent slope screening criterion is a reasonable number for measuring east to west, but a slope as high as 10 percent south to north can be acceptable for PV development. The PEIS should make apply this distinction to its preferred alternative screening criteria.

iv. A solar radiation criterion of 6.5kwh/square meter/day is too high.

The PEIS suggests an unreasonably high solar radiation criterion of 6.5kwh/square meter/day to screen developable lands. This is a very high number to suggest. If it were an accurate commercial standard, little to no solar PV development would be occurring in the eastern half of United States, which is not the case. A 4.75 kwh/square meters/day is a more reasonable number to assume.

3. Conclusion

enXco sincerely appreciates the efforts of BLM and DOE to promote environmentally responsible solar energy development of BLM-administered lands through the PEIS process. The important modifications we have discussed above will ensure that the PEIS meets the mandates of the Energy Policy Act of 2005, Executive Order 13212, and Secretarial Order 3285A1 by expediting and prioritizing solar development without compromising environmental values, a balance which the multiple use mandate of FLPMA is ideally suited to strike.

Thank you for your time and consideration.

Sincerely,

Ian Black // acb

Ian Black
Solar Development
enXco - an EDF Energies Nouvelles Company

Enclosures
- Exhibit A: Proposed Revisions
- Exhibit B: Desert Washes
- Exhibit C: Blythe Observed Species

Exhibit A

Proposed Revisions

Exhibit A.

Proposed Revisions to Appendix A of the Solar Energy Development Draft PEIS [1]

Page, lines	Proposed revision (**additions** / ~~**deletions**~~)	Comment
	SOLAR ENERGY DEVELOPMENT POLICIES	
A-26	[Section A.2.1.1] • SEZ boundaries shall be expanded to comprehend the full extent of any proposed project lying partially within an SEZ, or BLM shall consistently administer such a project as though it lies wholly within the SEZ, if (i) at least 50 percent of the project site lies within the SEZ as proposed in the Draft PEIS; (ii) BLM accepted the project's solar ROW application prior to segregation of SEZ lands on June 30, 2009; and (iii) there are no characteristics unique to the portion of the project lying outside an SEZ that warrant its continued exclusion from the SEZ. •	Please refer to Section 2(b)(i) of enXco, Inc.'s 15 April 2011 comment letter regarding partial SEZ designation of currently proposed projects.
A-26	[Section A.2.1.1] • Within SEZs, BLM will exercise the United States' retained right to require common use of an authorized ROW or overlapping ROWs in order to allow co-location of generation tie lines in accordance with 43 C.F.R. 2802.10(b) and 43 C.F.R. 2805.15(b),(e), if doing so reduces environmental impacts and /or prevents	Please refer to Section 2(b)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding additional co-location policies for inclusion in the PEIS.

[1] enXco's proposed revisions to Appendix A of the PEIS will require justification in the text of the PEIS drawn from enXco's comment letter and this Exhibit A.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	"stranding" of one solar energy development project by another, provided that shared obligations within the common/overlapping generation tie line path are set forth in a written agreement between the original ROW grant holder and other ROW grant holders seeking co-location. Under the terms of the agreement, any party seeking co-location must proportionately mitigate any adverse impacts to existing facilities within the ROW as a consequence of the co-location of its facilities. In addition, in the event of the bankruptcy or dissolution of one of the parties to the agreement, the agreement must ensure the other parties enjoy continued rights to all installed generation tie line facilities.	
A-26	[Section A.2.1.1] • Public lands within an SEZ shall not be managed for enhancement as mitigation target areas pursuant to California Senate Bill X8 34 (Padilla), enacted 22 March 2010 or as conservation lands under the California Desert Renewable Energy Conservation Plan.	Please refer to Section 2(b)(iii) of enXco, Inc.'s 15 April 2011 comment letter regarding implementation of mitigation target areas within SEZs.
A-27	[Section A.2.1.2.1] • For solar energy projects proposed within an SEZ, the BLM authorized officer will	Please refer to Section 2(b)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding additional co-location policies for inclusion in the PEIS.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	assess and discuss potential generation tie line co-location needs during the pre-application meeting. The BLM authorized officer shall ensure that such considerations are made in light of planned and/or otherwise foreseeable development rather than on a sequential, "first-come, first-served" basis.	
A-27; Lines 9-13	~~To be considered further, applications must conform to the existing land use plan as amended by the Solar Programmatic Environmental Impact Statement (PEIS), including all solar ROW exclusions identified in Table 2.2-2.~~	Please refer to Section 2(a)(iv) of enXco, Inc.'s 15 April 2011 comment letter regarding apparent prohibition of solar-specific land use plan amendments.
A-30	[Section A.2.1.2.2] • Entities seeking to develop a solar energy project on BLM-administered lands within an SEZ shall, in conjunction with BLM staff, contact any other entities pursuing neighboring, serialized solar development right-of-way applications to assess and discuss potential generation tie line co-location needs.	Please refer to Section 2(b)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding additional co-location policies for inclusion in the PEIS.
A-32	[Section A.2.1.2.3] • To facilitate co-location of generation tie lines, NEPA analyses of solar energy ROW applications within SEZs shall clearly distinguish the separate impacts and mitigation measures of a project's generation tie line from the impacts and mitigation measures of its solar energy generating facility. The analysis shall also assess whether the project as proposed will	Please refer to Section 2(b)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding additional co-location policies for inclusion in the PEIS.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	result in potentially adverse direct, indirect or cumulative lands and realty impacts as a result of failing to allow co-location of other generation tie lines within its proposed generation tie line route.	
A-34	[Section A.2.1.2.4] • All solar energy ROW authorizations within an SEZ shall include a provision specifying that the BLM authorized officer may change the terms and conditions of the authorization to facilitate the co-location of generation tie lines of other solar development authorizations in accordance with 43 C.F.R. 2802.10(b) and 2805.15(b),(e). Furthermore, in instances where the BLM authorized officer determines that requiring the design of a generation tie line path to allow co-location of future generation tie lines will reduce environmental impacts and /or prevent "stranding" of one solar energy development project by another, the BLM authorized officer shall ensure the ROW as designed and authorized allows such co-location and contains additional stipulations stating that (i) shared obligations within the common generation tie line path shall be set forth in a written agreement between the ROW grant holder and other ROW grant holders seeking co-location; (ii) under the terms of the same agreement, any party seeking co-location must proportionately mitigate any adverse impacts to existing facilities within the ROW as a consequence	Please refer to Section 2(b)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding additional co-location policies for inclusion in the PEIS.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	of the co-location of its facilities; and (iii) in the event of the bankruptcy or dissolution of one of the parties to the agreement, the agreement must ensure the other parties enjoy continued rights to all installed generation tie line facilities.	
	DESIGN FEATURES	
A-37; Lines 43-44; A-38; Lines 1-6	Contact with grazing permittees shall be initiated at the earliest possible time to explore whether modifications could be made to a solar development proposal to minimize impacts on grazing use, especially impacts related to water availability, livestock improvements, access road location, and movement of livestock between pastures. ~~Compensation for or relocation of range improvements shall also be discussed. The ROW applicant and permittee/lessee shall be strongly encouraged to enter into an agreement that addresses mitigation and compensation for range improvements.~~	We acknowledge the importance of engaging with stakeholders such as grazing permittees in the attempt to minimize impacts, but questions of compensation arising from such conversations should be addressed by presently applicable law and the particular facts of each proposal, rather than presumed at such a programmatic level.
A-39; Lines 13-14	To the extent practicable, p~~P~~ublic access ~~through or~~ around solar facilities shall be retained to permit continued use of public lands and non-BLM administered lands.	We acknowledge the importance of ensuring continued access to public lands. However, granting public access through a utility-scale energy generation facility would create substantial safety and security risks that outweigh this policy objective. Given the programmatic nature of the PEIS and the likely clustering of utility-scale solar facilities in areas of high insolation, we also recommend that the provision be limited to practicable instances.
A-39; Lines 19-23	Replacement by the BLM of acreage lost for off-highway vehicle use shall be considered as part of the analysis of project-specific impacts. Any process for designating a replacement route would	Such mitigation should be the responsibility of the BLM as a consequence of its management of multiple-use priorities under FLPMA; it should not be an obligation of a solar energy generation project proponent.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	include the consideration of the designation criteria for routes as specified in 43 CFR 8342.1 and would be consistent with existing land use plans.	
A-39; Lines 39-44	~~As part of the evaluation of impacts from the development of solar energy facilities, their potential for impacting the operation of existing military installations, either because they displace species onto an installation or because they increase the significance of special status species populations on the installation, shall be included as part of the environmental impact analysis of the solar energy project.~~	The Draft PEIS contains little substantive information justifying such a measure. The effect on military operations of potential displacement of sensitive species by utility-scale solar energy generation projects on BLM-administered lands is too speculative an assumption to be required at such a remote, programmatic level. Categorically imposing such a measure on all BLM solar projects is therefore inappropriate.
A-41; Lines 5-10	Land disturbance (including crossings) in natural drainage systems and groundwater recharge zones, specifically ephemeral washes and dry lake beds, is ~~are~~ to be ~~avoided,~~ minimized or compensated. Any structures crossing drainages must be located and constructed so that they do not decrease channel stability or increase water volume or velocity. Developers shall obtain all applicable federal and state permits.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding the infeasibility of avoiding natural drainage systems. At a minimum, this recommended edit should apply within SEZs.
A-41; Lines 12-13	~~Solar facilities or components (e.g., heliostats, panels, dishes, and troughs) shall not be placed in natural drainage ways.~~	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding the infeasibility of avoiding natural drainage systems. At a minimum, this recommended change should apply within SEZs.
A-45; Lines 21-23	In areas of high seismic activity (especially those having soils with a high liquefaction potential) or in areas that encompass 100-year floodplains, the most effective design feature is to alter the location or scope of the proposed project. However, such alterations may not be required for appropriately engineered facilities.	The western deserts, California in particular, are strewn with fault lines and 100-year floodplains. Many projects will encounter them. Retaining such language in the PEIS would create a presumption of avoidance, which may not be feasible given the limited nature of the solar resource and the various other design constraints faced by utility-scale solar energy generation projects. The PEIS should instead rely on performance-specific engineering standards to ensure avoidance of seismic and

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
		floodplain hazards. Please refer to Section 2(a)(ii)(3) of enXco, Inc.'s 16 April 2011 comment letter regarding the infeasibility of a 100-year floodplain avoidance design feature and an explanation as to why other proposed design features will serve to adequately address the underlying concern. At a minimum, this recommended change should apply within SEZs.
A-48; Lines 23-24	~~Siting in identified 100-year floodplains shall not be allowed within the development.~~	Please refer to Section 2(a)(ii)(3) of enXco, Inc.'s 15 April 2011 comment letter regarding the infeasibility of this design feature and an explanation as to why other proposed design features will serve to adequately address the underlying concern. At a minimum, this recommended change should apply within SEZs.
A-56; lines 5-15	Projects ~~shall~~should be sited and designed to avoid direct and indirect impacts on important, sensitive, or unique habitats in the project vicinity, including, but not limited to, waters of the United States, wetlands (both jurisdictional and nonjurisdictional), springs, seeps, streams (ephemeral, intermittent, and perennial), 100-year floodplains, ponds and other aquatic habitats, riparian habitat, remnant vegetation associations, rare or unique biological communities, crucial wildlife habitats, and habitats supporting special status species populations (including designated and proposed critical habitat). For cases in which impacts cannot be avoided, they shall be minimized and mitigated appropriately. Project planning shall be coordinated with the appropriate federal and state resource management agencies.	Requiring avoidance in the first sentence is inconsistent with the second sentence, which allows for minimization and mitigation. In addition, categorical avoidance should not be mandatory, for the reasons stated in Section 2(a)(ii) of enXco's 15 April 2011 comment letter.
A-56; Lines 24-29	~~Project facilities and activities, including associated roads and utility corridors, shall not be located in or near occupied habitats of special status animal species. Buffer zones shall be established (e.g.,~~	Please refer to Section 2(a)(iii) of enXco, Inc.'s 15 April 2011 comment letter regarding the infeasibility of this design feature.

Page, lines	Proposed revision (**additions** / ~~**deletions**~~)	Comment
	~~identified in the land use plan or substantiated by best available information or science) around these areas to prevent any destructive impacts associated with project activities.~~	
A-56; Lines 31-34	~~Buffer zones shall be established around sensitive habitats, and project facilities and activities shall be excluded or modified within those areas (e.g., identified in the land use plan or substantiated by best available information or science).~~	Please refer to Section 2(a)(iii) of enXco, Inc.'s 15 April 2011 comment letter regarding the infeasibility of this design feature.
A-60; Lines 10-14	~~Project activities shall not be located in or near occupied habitats of special status animal species. Buffer zones shall be established around these areas (e.g., identified in the land use plan or substantiated by best available information or science) to prevent any destructive impacts associated with project activities.~~	Please refer to Section 2(a)(iii) of enXco, Inc.'s 15 April 2011 comment letter regarding the infeasibility of this design feature.
A-62; Lines 42-44	~~Demonstration of compliance of the project with the regulatory requirements of the BGEPA for bald and golden eagles. The plan should be developed in coordination with the USFWS.~~	Demonstration of compliance with the regulatory requirements of BGEPA should not be required of every utility-scale solar energy generation project on BLM-administered lands; the standard is overinclusive, as many projects may pose little or no risk of take of bald or golden eagles. The requirements of BGEPA and its implementing regulations sufficiently regulate the matter. Additional BLM requirements are unnecessary.
A-63; Lines 31-41	At the project level, recommendations contained in *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocol* and *Other Recommendations in Support of Golden Eagle Management and Permit Issuance* shall be considered in project planning, as appropriate. In addition, Instruction Memorandum [IM] 2010-156, the *Bald and Golden Eagle Protection Act–Golden Eagle National Environmental Policy Act and Avian*	Please update this standard to reflect current BGEPA guidance.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	Protection Plan Guidance for Renewable Energy, shall be adhered to until programmatic permits from the USFWS are available. The analysis of potential impacts on, and mitigation for, golden eagles should be made in coordination with the USFWS, and the initiation of interagency coordination on golden eagle issues should occur early in the planning process.	
A-64; Lines 17-19	Ecological monitoring programs shall provide for monitoring ~~during all project phases, including periods prior to construction (to establish baseline conditions) and~~ at intervals during construction, operations, and decommissioning.	Requiring ecological monitoring before construction begins effectively amounts to imposing a design feature requiring ecological monitoring before the project is approved, which a design feature cannot do. Current BLM, USFWS and other federal, state and local statutes, programs and policies sufficiently govern pre-construction ecological monitoring matters. In addition, requiring continuous monitoring throughout the entire 30-year term of a utility-scale solar energy generation project would be prohibitively expensive and unnecessary given the availability of statistical methods.
A-65; Lines 42-46; A-66; Lines 1-4	Where practicable, m~~M~~eteorological towers and solar sensors shall be located to avoid sensitive habitats or areas where wildlife (e.g., sage-grouse) is known to be sensitive to human activities; applicable land use plans or best available information and science shall be referred to in order to determine avoidance distances. Installation of these components shall be scheduled to avoid disrupting wildlife reproductive activities or migratory or other important behaviors. Guy wires on meteorological towers shall be avoided where practicable. If guy wires are necessary, permanent markers (bird flight diverters) shall be attached to them to increase their visibility.	Avoidance may not be practicable in all instances. The use of guyed towers is oftentimes ecologically advantageous because they can be installed with much lighter equipment than monopoles. They are also subject to fewer siting constraints than monopoles. The proposed revisions are sufficiently broad to capture both concepts.
A-68; Lines	~~To minimize the potential for bird strikes, applicants~~	The FAA has not yet incorporated AVWS into its obstruction marking and

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
39-44	~~shall use audio visual warning system (AVWS) technology f~~For any structures exceeding 200 ft (60 m) in height,. ~~If the FAA denies a permit for use of AVWSs,~~ applicants shall coordinate with the USFWS and appropriate state natural resource agencies to identify obstruction marking , lighting or other air safety measures that meet~~s~~ the minimum FAA safety requirements and minimize~~s~~ the possibility of bird strikes.	lighting circular as an approved technology.
A-71; Lines 42-45	Habitat disturbance shall be minimized ~~by using helicopters for construction to lessen the need for access roads, and~~ by locating transmission facilities in previously disturbed areas where practicable. Existing generation tie line or utility rights-of-way and corridors and other support structures shall be used to the maximum extent feasible.	Helicopter construction methods are feasible under limited circumstances and should not be categorically required as a programmatic design feature. Such determinations should be made at the project-specific level in consultation with the BLM and other trustee agencies. In addition, please refer to Section 2(b)(ii) of enXco, Inc.'s 15 April 2011 comment letter proposing co-location policies for addition to the PEIS.
A-77; Lines 22-26	Solar energy development and related activities proposed on BLM-administered lands and connected actions shall abide by VRM policies and procedures defined in BLM's Manual M-8400, *Visual Resource Management,* and Handbooks H-8410-1, *Visual Resource Inventory*, and H-8431-1, *Visual Resource Contrast Rating*. Other policy requirements and clarifications are available in IM 98-164, ~~and~~ IM 2009-167 and IM 2008-204.	Please refer to Section 2(a)(i) of enXco, Inc.'s 15 April 2011 comment letter regarding the use of off-site mitigation to address visual impacts.
A-78; Lines 11-14	Project developers ~~shall~~ should consult with the BLM in the early phases of project planning to help determine the proposed project's potential conformance to the applicable RMP's VRM class designation and other potential constraints, thus avoiding costly unforeseen planning implications and re-design.	This design feature should be recommended, but it should not be mandatory. In addition, its value as a design feature is questionable, given that it would not apply to until after the BLM approved the project. Such matters are instead governed by the pre-application meeting requirements of IM 2011-061.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
A-78; Lines 16-20	A qualified and licensed professional landscape architect with demonstrated experience with the BLM's VRM policies and procedures shall be a part of ~~the developer's and~~ the BLM's respective planning team~~s~~, evaluating visual resource issues as project siting options are considered. The visual issues shall be addressed throughout the planning and design process, and the final project plans shall reflect intended methods for mitigating visual impacts.	It seems inappropriate and possibly outside the authority of the BLM to require a solar development ROW applicant to hire a licensed landscape architect (or anyone else, for that matter) as part of the applicant's development team. This should instead be an internal policy of the BLM with regard to the hiring of third party environmental consultants. Any VRM related deficiencies in the quality of an applicant's submittal documents can be rectified through BLM's authority to issue a deficiency notice and /or deny the application under 43 CFR 2804.25(b) and 43 CFR 2804.26(a)(6).
A-84; Lines 33-39	~~In order to minimize night-sky impacts from hazard navigation lighting associated with solar facilities, the applicant shall use AVWS technology for any structures exceeding 200 ft (61 m) in height. If the FAA denies a permit for use of AVWS, the~~ The applicant shall limit lighting to the minimum required to meet FAA safety requirements. The use of red or white strobe lighting shall be prohibited unless BLM approves its use because of conflicting mitigation requirements.	The AVWS design feature is unwarranted given that the exclusion criteria of the PEIS already prohibit utility-scale solar energy generation development on VRM Class I and VRM Class II lands. In addition, the FAA has not yet incorporated AVWS into its obstruction marking and lighting circular as an approved technology.
A-99; Lines 21-24	To address impacts to local issues, the BLM may include stipulations in the ROW authorization ~~or require solar developers to enter into mitigation agreements with individual local jurisdictions and county agencies, as necessary~~.	This design feature and others like it could substantially increase the permitting and environmental burdens of a solar energy generation project on BLM-administered lands. Such mitigation agreements will require approval by the legislative body of the local government in question and may be subject to separate environmental impact review under state statute. The provision also inappropriately defers mitigation of the effects of BLM's solar energy development program by lacking any performance standards by which such mitigation agreements would be entered into. Any such mitigation should be imposed and administered solely by the BLM according to specific, measureable and substantially justified standards.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
A-99; Lines 44-46; A-100; Lines 1-6	If the BLM authorized officer concludes that the project is likely to have a substantial impact on the economic or social conditions of local communities, the BLM may include stipulations in the ROW authorization ~~or require solar developers to enter into mitigation agreements with individual local jurisdictions and county agencies, as necessary, to address local issues~~. Also, project developers shall work with state, local, and Tribal agencies to develop community outreach programs that would help communities adjust to changes triggered by solar energy development. Such programs could include any of the following activities:	See preceding comment.
A-108; Lines 45-46; A-109; Lines1-7	For projects to be located within SEZs, applicable SEZ-specific design features will be required in addition to the programmatic design features. The SEZ-specific design features have been established to address specific resource conflicts within individual SEZs identified through the course of the PEIS impact analyses. The proposed SEZ-specific design features for all the proposed SEZs are listed in Table A.2-2 (note that the SEZ-specific design features common to all SEZs are listed at the end of the table). These design features are proposed as elements of BLM's Solar Development Program. With the signing of the Record of Decision (ROD) for the Final PEIS, the design features that are carried forward in the ROD will be required for all development within the applicable SEZs. SEZ-specific design features control in the event of a conflict between the terms of a programmatic design feature and an SEZ-specific design feature, including instances where the SEZ-specific design feature is more permissive.	Please refer to Section 2(a)(ii)(1) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	PISGAH SEZ DESIGN FEATURES	
A-123	Land disturbance activities should ~~avoid~~ minimize or compensate for impacts to ~~the extent possible in the vicinity of~~ Troy Lake and ephemeral washes onsite.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-123	[water resources] Facilities proposed in the vicinity of Troy Lake shall be designed according to standards that preserve pre-project Troy Lake groundwater recharge and discharge rates.	Please refer to Section 2(a)(ii)(2) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-123	~~All~~ Impacts to ~~playa~~, ~~chenopod scrub,~~ sand dune and sand transport areas~~, and desert dry wash~~ habitats ~~shall~~ should be avoided to the extent practicable, and any impacts should be minimized and mitigated. Impacts to playa, chenopod scrub and desert wash habitats should be minimized and mitigated. ~~A buffer area shall be maintained around riparian areas, playas, and drywashes to reduce the potential for impacts on these habitats on or near the SEZ.~~	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-123	*Wildlife (Amphibians and Reptiles)*: Implement design features and other mitigation measures to reduce the potential for effects on amphibians and reptiles~~, especially for those species that depend on habitat types that can be avoided (e.g., Troy Lake, which could provide habitat for the red-spotted toad)~~.	Please refer to Section 2(a)(ii)(2) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-124	~~Development~~ Impacts of land disturbance within the area of Troy Lake should be ~~avoided~~minimized or compensated.	Please refer to Section 2(a)(ii)(2) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
A-124	*Wildlife (Mammals)*: Development within the ephemeral drainages should be ~~avoided~~ minimized or compensated in order to reduce impacts on species such as the round-tailed ground squirrel, white-tailed antelope squirrel, little pocket mouse, long-tailed pocket mouse, and any other mammal species that inhabit wash habitats.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-124	*Special Status Species*: Disturbance of desert playa and wash habitats within the SEZ should be ~~avoided or~~ minimized or compensated to the extent practicable. ~~In particular, development should be avoided in and near Troy Lake in the western portion of the SEZ. Avoiding or m~~Minimizing or compensating disturbance of these habitats could reduce impacts on 11 special status species.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
	RIVERSIDE EAST SEZ DESIGN FEATURES	
A-126	Land disturbance activities should ~~avoid~~ minimize or compensate impacts to ~~the extent possible near the regions surrounding~~ Palen Lake, Ford Dry Lake, and McCoy Wash.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-126	~~All~~ Impacts to wetland, riparian, playa, dry wash (including dry wash microphyll woodland), and chenopod scrub habitats within the SEZ should be ~~avoided to the extent practicable, and any impacts~~ minimized and mitigated. Impacts to sand dune and sand transport areas-should be avoided to the extent practicable, and any impacts minimized and mitigated. ~~A buffer area should be maintained around wetland, riparian, playa, and dry wash communities to reduce the potential for impacts on~~	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	~~these communities on or near the SEZ.~~	
A-127	*Wildlife (All)*: ~~To the extent practicable, avoid~~ Minimize or compensate impacts to ephemeral drainages, Palen Lake and Ford Dry Lake, wetlands, McCoy Wash, and the Colorado River Aqueduct.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-127	*Special Status Species*: Disturbance of desert playa and wash habitats within the SEZ should be ~~avoided or~~ minimized or compensated ~~to the extent practicable~~. ~~In particular, development should be avoided in and near Ford Dry Lake, Palen Lake, and McCoy Wash within the SEZ.~~ ~~Avoiding or~~ ~~m~~Minimizing or compensating disturbance of these habitats could reduce impacts on 9 special status species.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-128	*Visual Resources:* Within the SEZ, in areas west of the northwest corner of Section 6 of Township 006S Range 017E, and in areas north and west of the northwest corner of Section 30 of Township 005S Range 018E, visual impacts associated with-solar energy development in the SEZ should be consistent with VRM Class II management objectives, as determined from KOPs to be selected by the BLM within Joshua Tree NP and the Palen-McCoy WA, except that areas north of the northern boundary of Township 005S Range 015E and west of the western boundary of Township 004S and Range 016E and 1.5 miles or more from the boundary of Joshua Tree NP should be consistent with VRM Class IV management objectives, provided solar energy development within such areas are limited to	Please refer to Section 2(a)(i) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.

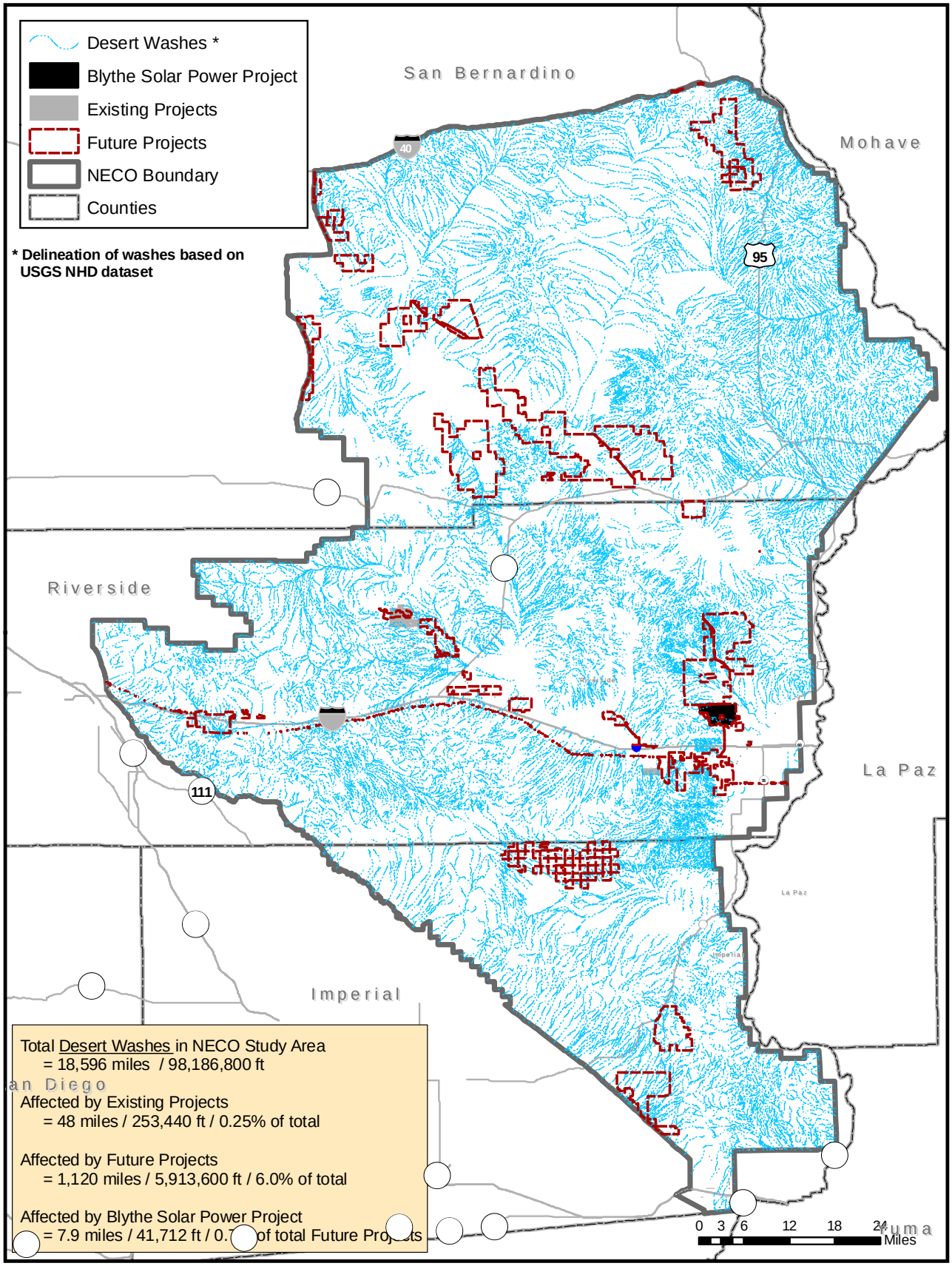
Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
	non-thermal technologies less than 24.6 feet (7.5 meters) in height . Within the SEZ, in areas visible from and within 3 mi (4.8 km) of the Rice Valley or Big Maria Mountains WSAs, visual impacts associated with solar energy project operation should be consistent with VRM Class II management objectives, as experienced from KOPs (to be determined by the BLM) within the WSAs, and in areas visible from between 3 and 5 mi (4.8 and 8.0 km);visual impacts should be consistent with VRM Class III management objectives. Because onsite mitigation is unlikely to feasibly mitigate all visual impacts within the SEZ, BLM shall employ offsite mitigation measures to offset visual impacts within Chuckawalla Valley consistent with IM 2008-204, such as inter-agency exchange or enhancement of other BLM-administered lands and/or the exclusion of solar development rights-of-way from other BLM lands.	
	DRY LAKE SEZ DESIGN FEATURES	
A-148	Land-disturbance activities should ~~avoid~~ minimize or compensate impacts to ~~the extent possible in the vicinity of the~~ ephemeral washes and the dry lake present on the site.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-148	Absent appropriate engineering standards, s ~~S~~iting of solar facilities and construction activities should avoid areas identified as being within a 100-year floodplain, which totals1,569 acres [6.3 km2] of the proposed SEZ.	Please refer to Section 2(a)(ii)(3) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
A-148	All impacts to dry wash, dry wash woodland, chenopod scrub, and playa communities within the SEZ should be ~~avoided to the extentpracticable, and any impacts~~ minimized and mitigated. Any yucca, cacti, or succulent plant species that cannot be avoided should be salvaged.	Please refer to Section Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-149	*Wildlife (All)*: ~~The~~ Impacts to dry lake and wash habitats, which could provide potential breeding sites for amphibians, including Great Plains and red-spotted toads, should be ~~avoided~~ minimized or mitigated.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-149	*Wildlife (Mammals)*: To the extent practicable, t~~T~~he fencing around the solar energy development should not block the free movement of mammals, particularly big game species.	Solar energy facilities must be fenced for safety and security purposes which may be compromised by allowing for the free movement of large mammals.
A-149	*Special Status Species*: ~~Avoiding or~~ M~~m~~inimizing or mitigating disturbance to desert wash, playa, and desert pavement habitats on the SEZ could reduce or eliminate impacts on 14 special status species.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
	AFTON SEZ DESIGN FEATURES	
A-158	Land-disturbance activities should minimize or mitigate impacts on ephemeral streams located within the proposed SEZ.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-158	Absent appropriate engineering standards, s~~S~~iting of solar facilities and construction activities should avoid the areas identified as within a 100-year floodplain that total 1,654 acres (6.7 km2) within the proposed SEZ.	Please refer to Section 2(a)(ii)(3) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.

Page, lines	Proposed revision (additions / ~~deletions~~)	Comment
A-158	~~All i~~Impacts to wetland, dry wash, playa, and riparian communities within the SEZ should be ~~avoided~~ minimized or mitigated to the extent practicable. Impacts to succulent and dune communities within the SEZ should be avoided to the extent practicable. Any yucca, agave, ocotillo, cacti (including *Opuntia* spp., *Cylindropuntia* spp., and *Echinocactus* spp.) and other succulent plant species that cannot be avoided should be salvaged.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-158	*Wildlife (All)*: Impacts to w~~W~~ash, riparian, playa, rock outcrop, and wetland habitats should be ~~avoided~~ minimized or mitigated.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.
A-158	*Wildlife (Mammals)*: To the extent practicable, t~~T~~he fencing around the solar energy development should not block the free movement of mammals, particularly big game species.	Solar energy facilities must be fenced for safety and security purposes which may be compromised by allowing for the free movement of large mammals.
A-159	Impacts to w~~W~~etlands and streams located within the SEZ should be ~~avoided~~ minimized or mitigated to the extent practicable.	Please refer to Section 2(a)(ii) of enXco, Inc.'s 15 April 2011 comment letter regarding this proposed revision.

Exhibit B

Desert Washes



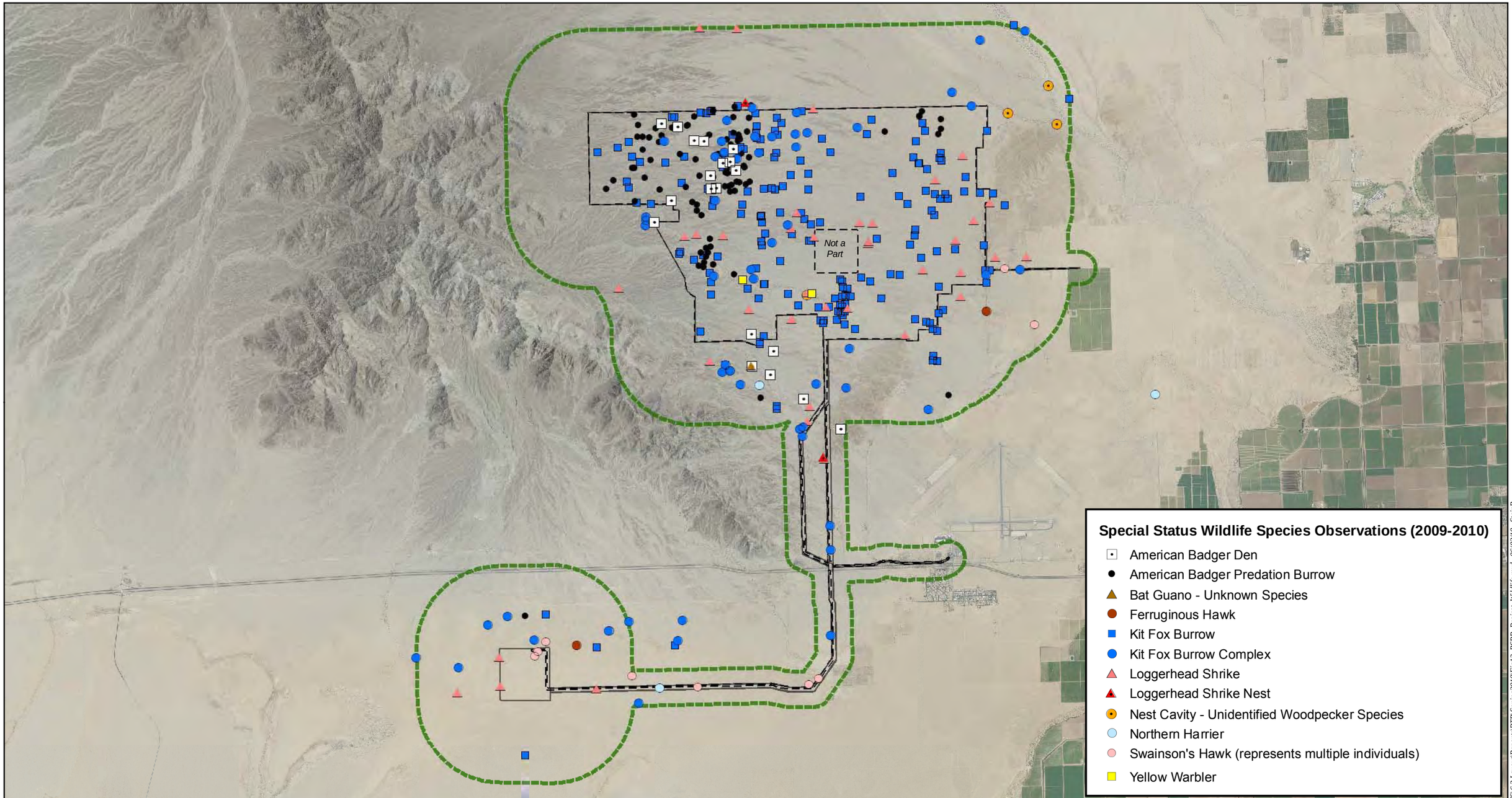
SOURCE: CEC RSA June 2010

Blythe Solar Power Project PA/FEIS

Figure 17
Desert Washes

Exhibit C

Blythe Observed Species



Map Location

Legend

- Proposed Project Study Area
- Project Disturbance Area
- Proposed Project BRSA

Source: NAIP 2009; AECOM 2009-2010

N W E S

1 inch = 6,000 feet

0 6,000 12,000 Feet

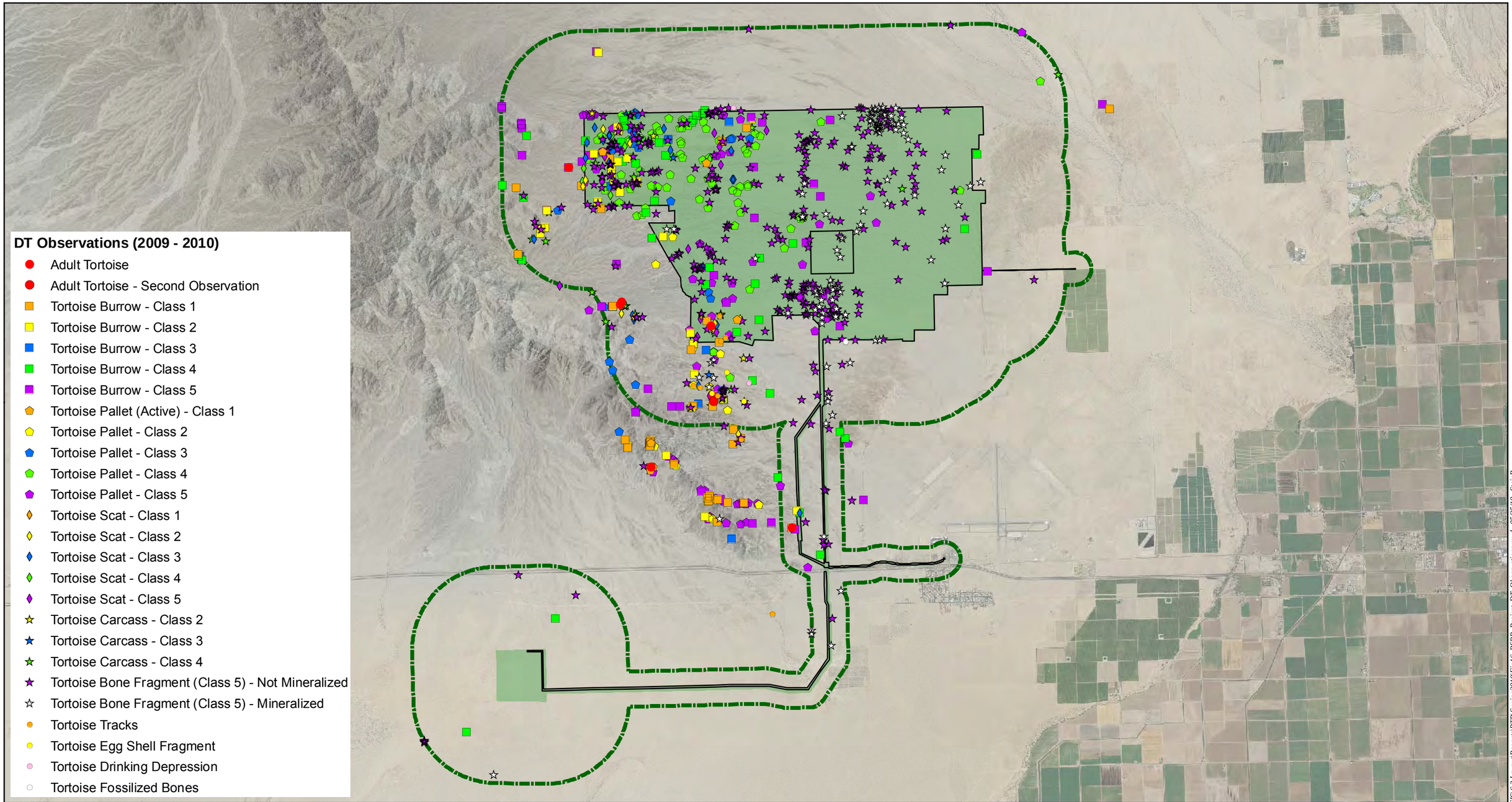
Blythe Solar Power Project
Biological Technical Report

Figure 12
Proposed Project
Special Status Wildlife

AECOM

Date: June 2010

Path: P:\2009\09080082 Sol Mil Blythe\6.0 GIS\6.3 Layout\Reports\BTR\Spring2010\Fig12_BSPP_Project_Wildlife.mxd, 06/02/10, SteinB



Map Location

Legend

- Proposed Project Study Area
- Proposed Project Disturbance Area
- Proposed Project BRSA

Source: NAIP 2009; USGS; AECOM 2009

N W E S

1 inch = 6,000 feet

0 6,000 12,000 Feet

Blythe Solar Power Project
Biological Technical Report

Figure 16
Proposed Project Desert Tortoise Observations

AECOM

Date: June 2010

Path: P:\2009\09080082 Sol MI Blythe\6.0 GIS\6.3 Layout\Reports\BTR\Spring2010\Fig16_BSPP_Project_DT_Observations.mxd, 05/25/10, SteinB

Thank you for your comment, Howard Wilshire.

The comment tracking number that has been assigned to your comment is SolarD11836.

Comment Date: May 2, 2011 17:20:22PM
Solar Energy Development PEIS
Comment ID: SolarD11836

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Attachment: Review DPEIS.doc

Comment Submitted:

May 2, 2011

Review of **Draft Programmatic Environmental Impact Statement, Solar Energy Development in Six Southwestern States**, U.S. Department of the Interior, Bureau of Land Management and the U.S. Department of Energy.

I will focus my comments on the impacts of utility-scale solar power plant development on resource requirements, principally land and water, exclusive of biological and other resources, and on the impacts of climate change on power plant operations.

A general problem with the assessment of land and water resource use by the different technologies is stating resources as functions of the nameplate capacity, e.g. acres/MW or gallons of water/MW. The nameplate capacities are poorly described, are not standardized, their limitations not described, and they are not site-specific. Furthermore, the nameplate capacity is treated as a constant for particular technologies, which ignores site-specific variations. For all the reader knows, the maximum power production of any given technology is measured at high noon on a perfectly clear day at the equator.

A more objective assessment should use actual power produced per year, acres/MWh/yr. If assessments are made for as-yet unbuilt facilities, the methods used for estimating (guessing) the power to be produced should be fully explained and their limitations noted (probably in the form of a range of values). Calculating capacity factors in terms of nameplate capacities is, at best, misleading and should be altogether abandoned.

The use of significant figures for estimates of resource use, e.g., 0.044 afy (for the Imperial Valley project) is ridiculous, and should all be converted to believable numbers.

It is stated (p. F-21) that the environmental impact assessment requires definition of engineering parameters and resource requirements. One would expect that comparisons of resource use for different technologies would compare facilities with similar engineering parameters. This is not the case, however, for the comparisons made on p. F-21: (1) a "typical" 250-MWe parabolic trough facility with 3 hours thermal energy storage (TES); (2) a proposed 250-MWe "solar only" parabolic trough facility (for which Table F.2.2-2 lists a parasitic load of 11% natural gas consumption), and (3) a proposed 177-MWe compact linear fresnel reflector facility. Not only do the engineering parameters of these three examples differ (Table F.2.2-2), but the two proposed plants are subject to changes in resource requirements. The same type of problem is also mentioned on p. F-77, where a proposed, but not yet approved, project (Topaz Solar Farm) provides data considered to be representative of similarly sized utility-scale facilities, "<u>although they may not anticipate parameters and requirements for future proposed facilities</u>." (emphasis added)

Claims (p. F-39) that TES can increase capacity factors of trough and power towers from 25% to more than 70% are exaggerated. This is based on achieving 18 hours of TES as graphed in Fig. F.2.2-6. However, Footnote 49 indicates practical limitations on the length of time heat can be stored in molten salt systems, with a practically feasible TES of 6 hours.

Presentation of TES options do not indicate what increased land uses are entailed. For example (p. 3-12), TES option must provide land for large-volume storage tanks, transfer pumps, and heat exchangers, and enlarged solar field area, which must be expanded proportionally to the additional hours of operation expected to be provided by the TES system. This implies additional water usage as well.

The downsides of TES are well-described on p. F-41, and the 50% increase in O&M costs, including manpower requirements show why this highly touted option is not widely used. The implicit and explicit increases in complexity that these add-on facilities create, reduce overall plant capacity due to increases in parasitic loads. It would be better to fully describe these limitations than to indicate how future studies may solve the problems—they may not.

Use of existing facilities for resource use calculations (for example average land area required for trough designs is ~5 ac/MW p. 3-3) is not done correctly. The SEGS plants, 9 in number, in California are used as an example, but (p. F-12), SEGS I has 3-hour TES; SEGS II-VII use natural gas-fired boilers to augment solar production, and SEGS VIII and IX maintain minimum temperature of the Heat Transfer Fluid during downtime with natural gas-fired heaters. How much of the production is solar and how these 9 plants can be treated as one is not explained. A solar only facility with the same power output would require more land, and since these facilities are water cooled, probably more water.

Giving water consumption in terms of two (arbitrary) values of operational hours (30% and 60%) (p. 3-4) is not helpful, and would be usefully replaced by consumption/MWh/yr

IMPACTS OF CLIMATE CHANGE OF AND ON UTILITY-SCALE SOLAR POWER PLANTS

p. 1-16 states that "The BLM will consider and analyze relevant climate change impacts as part of the PEIS process, including the anticipated climate change benefits of solar energy."

Climate change is mentioned in 7 volumes of the PEIS. The "assessment" is mainly a repetitious boiler plate review of general effects of climate change with very little information of a site-specific nature, and no consideration given to the potential impacts of climate change on the operation of facilities.

The focus of discussion is GHG emissions from equipment use, which is judged to be of little consequence to general climate parameters. The loss of the vegetative carbon sink is briefly discussed, but no site-specific data are provided. Soil disturbance also releases CO_2, but is not discussed, and no data that would allow the reader to infer the magnitude of that problem are provided.

In its haste to assess impacts that utility-scale solar development may have on the climate, the BLM has missed almost entirely a more significant potential problem: the effects of climate change as is demonstrably occurring on the operation of these facilities, the availability of resources to maintain the production rates claimed on the basis of present day production

potential, and how impending problems might affect the expectations of massive solar development.

The PEIS correctly states that climate trends are extending drought conditions in the southwest,[1] and some models predict permanent drought conditions with increasing temperatures in southwestern North America.[2]

The conditions described indicate increasing problems with water availability, particularly surface and shallow aquifer water. Many of the deeper aquifers in desert basins contain "fossil" waters accumulated in past geologic times and are not replaceable. Thus, any use of those waters constitutes overdraft of the resource. Even aquifers that under today's conditions receive recharge are in a state of overdraft, so accommodating new demands from solar plants requires reallocation of the resource.

p. F-38 describes performance penalties for solar power plants resulting from present day climates: during the hottest 1% of the day, power production of a trough facility is reduced about 5% to 17.6%, and for power tower facilities from 1.3% to 6.3%. It is possible that the efficiency penalties are much worse: a technical study of hybrid air cooled power plants of the type that can be used with parabolic trough systems found a 37% drop in production output on hot days with air cooling compared to wet cooling.[3]

With ongoing increase in temperature in the southwest, the length of time that high temperature may enlarge. Air cooling depends on an ambient air temperature that is less than the temperature of the material to be cooled. Anything approaching equivalent temperatures requires shutdown of the plant. This can be combated by installing hybrid air/water cooling, but that is both expensive and would have to be done in the face of diminishing water supply. At best, water use in a hybrid system reduces water use only by 50%, so the longer extended hot periods become, the greater the overall water use compared to dry cooling alone.

Considering the threat of prolonged hot and dry periods on plant operations, it would seem circumspect to analyze the potential scope of these problems—bearing in mind that abrupt climate changes in climate are well-documented.[4]

ENDNOTES

1. Richard Seager, Persistent Drought in North America: A Climate Modeling and Paleoclimate Perspective, *Lamont-Doherty Earth Observatory of Columbia University*, 2007

2. U.S. Global Change Research Program, *Climate Change Impacts in the United States, A State of Knowledge Report from the U.S. Global Change Research Program*, 2009; Richard Seager and G.A. Vecchi, Greenhouse Warming and the 21st Century Hydroclimate of Southwestern North America, *Proceedings of the National Academy of Sciences*, vol. 107, no. 50, 2010; Seth

Shulman, Dust Bowl 2: Drought Detective Predicts Drier Future For American Southwest, *Grist*, 12 August 2010
3. Greg Mines, Evaluation of Hybrid Air-Cooled Flash/Binary Power Cycle, *Idaho National Laboratory*, October 2005

4. U.S. Geological Survey, *Abrupt Climate Change, Final Report, Synthesis and Assessment Product 3.4*, U.S. Climate Change Science Program and the Subcommittee on Global Change Research, 2008; G.T. Narisma and others, Abrupt Changes in Rainfall During the Twentieth Century, *Geophysical Research Letters*, vol. 34, L06710, doi:10.1029/2006GL028628, 2007

(Mailed copy signed)

Howard Wilshire Ph.D. (Geology)
3727 Burnside Rd.
Sebastopol, CA 95472

Thank you for your comment, Joshua Hart.

The comment tracking number that has been assigned to your comment is SolarD11837.

Comment Date: May 2, 2011 17:31:52PM
Solar Energy Development PEIS
Comment ID: SolarD11837

First Name: Joshua
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Attachment: LetterInyoCoPlanDeptSolarPEIS5-2-11.pdf

Comment Submitted:

Planning Department
168 North Edwards Street
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May 2, 2011

Draft Solar Energy Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, IL 60439

RE: Draft Solar Programmatic Environmental Impact Statement

To Whom It May Concern:

The Inyo County Board of Supervisors submitted comments regarding the draft Solar Programmatic Environmental Impact Statement (PEIS). As indicated, the PEIS is not consistent with the County's plans and policies.

For the last several months, I have been attempting to ascertain why portions of Inyo County are proposed to be excluded in the Preferred Alternative from solar development in conflict with the County's planning. Bureau of Land Management (BLM) staff has informed me that these exclusion areas are due in part to "special recreation management areas" (SMRA), but BLM staff cannot explain what SMRA are or how they were developed. It is not clear that SMRAs are an appropriate screening tool for any alternative, but this determination cannot be made with the information available. This information is essential for meaningful public review of the draft Solar PEIS.

Thank you. Please call me at (760) 878-0263 or email me at jhart@inyocounty.us to clarify this issue or if you have any questions.

Sincerely,

Joshua Hart, AICP
Planning Director

cc: Board of Supervisors, Inyo County
Kevin Carunchio, County Administrative Officer
Randy Keller, County Counsel
Bob Abbey, BLM
Jim Abbot, BLM
Ashley Conrad-Saydah, BLM
Linda Resseguie, BLM
Hector Villalobos, BLM

Thank you for your comment, Brett Shawcroft.

The comment tracking number that has been assigned to your comment is SolarD11838.

Comment Date: May 2, 2011 17:41:55PM
Solar Energy Development PEIS
Comment ID: SolarD11838

First Name: Brett
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State: CO
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Country: USA
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Attachment:

Comment Submitted:

I am a permittee with an allotment that lies within the area (Mogote, La Jara Creek) being considered for solar development. When studying these areas, displacement of grazing should be a point of consideration. Opting for rock outcroppings or other obscure areas to develop rather than destroying grazing for livestock and wildlife should be the preferred alternative. Planning in this manner is a win for both grazing animals and human needs for alternative energy power. Fencing that is sensitive to livestock and wildlife should be constructed and maintained by the leasee of the solar development rather than adding a burden on the grazing permittee.
Thank you for considering my comments on this issue.

Thank you for your comment, Anthony Dominguez.

The comment tracking number that has been assigned to your comment is SolarD11839.

Comment Date: May 2, 2011 17:42:29PM
Solar Energy Development PEIS
Comment ID: SolarD11839

First Name: Anthony
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hello and I feel sorry for any entity compelled to have to work withthe Barstow Field office regarding that office!! they can't even follow thier own rules under administrative codes and none of them are familiar with the BLM aquisition manuel! as far as time lines for request for information they wont even respond to a simple approved plan of operation approved back in 1999!!! for Anlex rock and Minerals INC> all entities should just buy private lands for any development, the local BLM wont even submit case files to the director for a consisitency hearing!!! good luck working on BLM land controled by THE BARSTOW BLM>>>>>