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VIA OVERNIGHT USPS & INTERNET

Solar Energy PEIS
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Re: Comments of the Solar Energy Industries Association and the Large-scale Solar Association on the Supplemental Draft Solar PEIS

When we prepared our comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States ("Draft PEIS" or "DPEIS"), the fledgling utility-scale solar industry and the Bureau of Land Management ("BLM") were still celebrating their accomplishments of 2010. With nine projects and an expected 3,671 megawatts ("MW") approved for development, the immediate future for large-scale solar development on public lands was promising. The prospect of federal loan guarantees, though limited in duration, further shored up confidence that the solar industry could radically change our energy supply chain to fight climate change and maximize the utility of our public lands.

Even at a time when confidence was high, however, our clients, the Solar Energy Industries Association ("SEIA") and the Large-scale Solar Association ("LSA"), and their member companies (collectively, the "Solar Industry"),[1] had significant concerns that the Draft PEIS, intended to facilitate near-term utility scale solar energy development on public lands, would instead foreclose the possibility of significant new development. Our prior comments noted that the proposed Solar Energy Zone ("SEZ") approach was underdeveloped and consequently too restrictive. Among our many recommendations, we called for a flexible process for approving applications in areas outside of SEZs (other than in high conflict areas) that would remain in place at least until BLM designated SEZs of sufficient size and number in areas where development would be feasible.

When the Department of the Interior ("DOI") announced in July, 2011, that BLM and the Department of Energy ("DOE") would prepare a supplemental draft of the PEIS ("Supplemental Draft PEIS" or "SDPEIS") to "address key issues . . . including developing well defined criteria for identifying solar energy zones; incentives for encouraging developers to site their projects in the zones and a variance process for those who wish to develop facilities outside such zones; [and] additional surveys of biological and cultural resources in the zones",[2] the Solar Industry had expectations that the SDPEIS would respond to its

[1] As noted in our May 2, 2011 comment letter on the Draft PEIS, LSA and SEIA are coalitions of solar companies that seek to promote the environmentally responsible development of solar energy and associated transmission. SEIA and LSA are committed to working with the Department of the Interior ("DOI"), Department of Energy ("DOE"), and other federal agencies, environmental and conservation organizations, Native American tribes, state agencies, and other stakeholders to achieve this goal.
[2] BLM, Salazar Approves Major Renewable Energy Projects, Identifies Next Step in Solar Energy Development (July 14, 2011) (News Release), *available at* http://www.blm.gov/wo/st/en/info/newsroom/2011/july/NR_07_14_2011A.html.

concerns. We were thus surprised to find in the Supplemental Draft that instead of increasing the number and size of zones, BLM reduced the already limited opportunities for development in SEZs by over 50 percent (in terms of acres); instead of creating a temporary and manageable variance process to bridge the gap between where SEZs were and where they needed to be, BLM adopted demanding new criteria that appear to lack a peer-reviewed scientific basis; and instead of conducting additional surveys to reduce the potential for resource conflicts in the proposed zones, BLM relied on unverified concerns in comment letters to take more land out of development. The end result was a planning document that in many ways poses an even greater threat to the future of solar development than the original draft.

The additional impediments to solar development proposed in the SDPEIS come at a particularly tough time for the Solar Industry. Financing has become increasingly more difficult to secure and rampant underbidding by new speculators in the market has interfered with efforts by more experienced developers to finish what they started and apply the lessons learned from the first round of development to new projects. Now is not the time to put more challenges in front of the Solar Industry if it is to meet the national goals established by and for DOE, BLM, and DOI.

Despite lingering concerns about the current state of the PEIS, we appreciate the significant amount of work that has gone into its development and recognize that BLM has a pressing need to finalize a program that will provide a foundation for a holistic approach to the simultaneous development of multiple utility-scale solar projects on public land. On behalf of the Solar Industry, we have therefore focused our comments on constructive suggestions that BLM and DOE can implement without further delaying the release of the PEIS. From the perspective of the Solar Industry, these changes are essential if the PEIS is to accomplish its primary objective: to facilitate environmentally responsible and technically and economically feasible utility-scale solar siting, permitting, and development over the long-term.

The SDPEIS strongly suggests that BLM is leaning towards the Modified Program Alternative, which in contrast to the Modified SEZ Alternative and the original SEZ Program Alternative, would allow for at least some development outside of SEZs. This development throws the variance process in particular into sharp relief and has also shifted our focus to the exclusion area criteria. As a result, some of our comments here will address material that appeared in both the original Draft and the Supplemental Draft. In sum, those comments are as follows:

1. Pending Applications: Due to some potentially confusing statements in the SDPEIS, the Solar Industry believes that BLM must clarify that pending applications, as that term is defined on page 1-9, will be evaluated under existing policies and not subject to the design requirements, mitigation requirements, or any other criteria that will apply to future applications, as required by the forthcoming Record of Decision ("ROD") for the PEIS and/or the PEIS itself.

2. New Zones: Even with the prospect of approval for pending applications and the 285,000 acres made available for development within the proposed SEZs, BLM should recognize that the SDPEIS does not provide sufficient development opportunities. The SDPEIS took zones that were already too small and too few and whittled them down even further. Subtracting acres in zones that have pending and approved applications, only 223,884 acres are now actually available for new projects and these acres have not been allocated pursuant to a plan to facilitate clustered development. With a median size of only 5,873 acres, most SEZs can support only one or two utility-scale projects. In addition, some potentially useful zones are already full. For example, of the 5,717 developable acres in the Imperial East SEZ, only 1,770 are not subject to

an existing application. The recognition that zones are inadequate should provide a basis for BLM's priorities in implementing the PEIS in the immediate future.

3. Flexible Variance Process: BLM should adopt a workable variance process that will avoid the creation of a de facto moratorium on new solar projects on public lands while BLM locates, studies, and approves much needed new SEZs. The variance process proposed in the SDPEIS, and the lands the SDPEIS would open to variance applications, are not sufficient. Although the SDPEIS makes 20 million acres of land available in variance areas, only 1.2 million acres are in California, near load and transmission. The Final PEIS should relocate a significant amount of the variance acres to areas where renewable energy generation facilities are in demand. In addition, BLM should clarify that the "factors" listed for obtaining a variance are largely just individual considerations for BLM's process when deciding whether to grant a variance.[3] Even with this clarification, certain variance application factors (located in low, not moderate, resource conflict areas, caps on the number of desert tortoise, and requirements to minimize transmission and infrastructure development and water use) should be eliminated or significantly modified. These factors, as drafted, are not essential to ensure smart from the start development across the entire area of the PEIS.

4. Height and Technology Limitations in SEZs: The proposed height and technology limitations are excessive, as they would exclude even efficient alternative photovoltaic ("PV") technologies (e.g., PV with trackers) and thereby provide perverse incentives to increase project footprints. Furthermore, the presumption that taller technologies will have greater impacts on visual resources is questionable. The 10 foot height limit and PV-only limitations on more than 25% of the SEZ acreage should consequently be eliminated, with visual considerations applied only on a case-by-case basis in the National Environmental Policy Act ("NEPA") environmental review process to mitigate actual visual impacts exacerbated by project height.

5. Exclusion Areas: BLM should not identify exclusion areas based on arbitrary, and misguided, assumptions about the technical and economic limits of solar energy generation technologies. Along these lines, BLM should not exclude lands based on technological factors including slope and insolation. In addition, BLM must provide more concrete definitions for exclusion criteria that are currently vague and subjective. Some limits on the currently unbridled discretion of BLM staff to designate exclusion areas are also needed. More generally, as noted in the Solar Industry's comments on the Draft PEIS, BLM needs to provide transparency regarding what lands are excluded and for what reasons.[4] A map depicting the exclusion areas associated with each

[3] For a few of the variance factors, it would make sense to apply them as requirements. For example, applicants should be required to demonstrate technical and financial capabilities, as is the case under existing BLM policies. A requirement that provides some limitations on development that conflicts with desert tortoise populations should also be imposed, but, as explained in more detail below, Desert Tortoise Variance Requirement Option 2 is not the appropriate solution.

[4] *See* DPEIS at 2-9 to 2-10 (recognizing that the exclusion areas maps represent an amalgam of the following considerations: slope greater than or equal to 5%; average solar insolation of less than 6.5 kWh/m2/day; critical habitat for threatened or endangered species as designated by the USFWS; "and the following areas designated under various BLM programs: Areas of Critical Environmental Concern (ACECs); Desert Wildlife Management Areas (DWMAs); flat-tailed horned lizard habitat, Mohave ground squirrel habitat; ROW exclusion and avoidance areas, No Surface Occupancy (NSO) areas, and Special Recreation Management Areas (SRMAs)"); *id.* at 2-10 (recognizing that "Exclusion areas that could not

exclusion criteria would most effectively convey this information. Finally, BLM should not exclude areas from development based on criteria that it has previously identified as a medium conflict indicator without a transparent and sound scientific basis for determining that such conflicts are too difficult to resolve.

6. The Importance of Transmission in Selection of Zones: BLM should establish a clear process for the expedited selection of new zones that additionally takes into account existing transmission or the prospects for development of new transmission. BLM's current pledges to participate in regional transmission planning efforts do not provide the meaningful commitment that is required. (*See, e.g.*, SDPEIS at p. 2-25.) When it comes to creating much needed new SEZs, BLM cannot wait for other proceedings that might identify one or two additional zones, but are otherwise focused on different purposes and needs. BLM should already be studying the areas surrounding the locations of leading transmission proposals so that it will be in a position to approve the development of projects almost as soon as decisions regarding transmission are made.

7. Transmission Analysis: BLM should expand its transmission analysis to include additional factors. Thermal rating, without a power flow analysis, provides BLM with only a partial picture of what existing variables already constrain transmission. In relying exclusively on this consideration, BLM overlooks "parallel" or loop flow (power from a source to sink will travel multiple paths). The approach taken in the SDPEIS also ignores the required contingency analysis, which will conclude that a line is "full" to cover a contingency even if the line could, under normal conditions, physically carry additional capacity. Finally, the model transmission analysis that BLM proposes to follow does not take into account the massive queue that has built up in California and other western states. Developers have already spoken for significant amounts of hypothetical transmission.

As drafted, the SDPEIS offers (1) inadequate zones, (2) a troubling and uncertain variance process, and (3) arbitrary exclusions. For the reasons given above and below, immediate action is needed to address these issues. If these issues cannot be addressed, the Solar Industry would urge the DOI and the BLM to adopt the No Project Alternative. The following discussion provides guidance on how we believe these issues can and should be addressed in a manner consistent with BLM's other priorities.

I. PENDING APPLICATIONS

The SDPEIS states that pending applications will be subject to "continued processing under existing policies,"[5] including the February 2011 Instruction Memoranda (Nos. 2011-059 to 2011-061) (hereinafter "IM 2011-059" and "IM 2011-061", respectively).[6] The rest of the SDPEIS is consistent with this statement, with the exception of a statement on page 1-11, which says:

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be mapped due to lack of data would be identified during pre-application consultations with local BLM staff or site-specific evaluation of individual ROW applications").

[5] SDPEIS at p. 1-9 (Table 1.7-1).

[6] Available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-59.html; http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-061.print.html.

> Pending applications on lands proposed as exclusion areas for utility-scale solar energy development in the Final Solar PEIS are likely candidates for denial.

BLM should delete this sentence. The PEIS otherwise makes clear that *all* applications[7] that qualify as pending applications, as that term is defined on pages 1-9 and 1-10 and in Table 1.7-1, should be subject to existing policies and not subject to the PEIS ROD. In light of the fact that BLM is not making sufficient lands available to support state and federal renewable generation development goals in the near term, it is critical that viable pending applications are treated fairly in the permitting process and not rejected out-of-hand because of lines subsequently drawn in the PEIS. These applications will undergo site-specific review as required by NEPA.[8] They were furthermore considered by BLM and have been consistently exempted from the requirements of the forthcoming PEIS ROD in both drafts of the PEIS. Any retroactive change in the status or approval process applicable to these projects could considerably stall the near-term development of utility-scale solar facilities—a result that could have significant environmental consequences not previously considered in the PEIS. Consistent with applicable legal requirements, BLM must consequently continue to process these applications under the framework in place before they came within the scope of the PEIS.[9]

At the same time, consistent with Instruction Memorandum No. 2011-060,[10] the Solar Industry strongly encourages BLM to seek confirmation of financial and technical capability from applicants for projects in the five states other than California (where such an audit was already performed in 2011) to winnow out speculative applications. (*See* Attachment B at p. 3 (May 2, 2011 Solar Industry Comment Letter).) This exercise will give BLM a better sense of the amount of land being made available for solar projects under the PEIS—and the generating capacity of the program—and requires a minimal expenditure of resources.

II. THE VARIANCE PROCESS MUST BE CLARIFIED AND MADE MORE FLEXIBLE

The SDPEIS provides a set of Variance Application Factors that will be "considered" by BLM when evaluating variance applications. Certain factors, however, describe "requirements" that applicants would need to satisfy to move an application forward. The Department has indicated that the variance factors will generally be treated as circumstances to be considered when evaluating an application. The Solar Industry views this interpretation as being essential to the success of the Solar Program, and further notes that if the variance factors were instead applied as requirements, virtually none of the 20 million acres classified as variance areas would be available for development. To ensure that variance lands represent a real option for siting projects, something that is critical in light of the limited amount of land

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[7] BLM should clarify that "pending applications" include second and third in line applications filed before the applicable deadlines. BLM should also clarify that amendments to previously approved applications are pending applications for the purposes of the SDPEIS.

[8] The PEIS should make clear that in performing this NEPA review, BLM will not rely on the maps or the resource determinations of the PEIS to inform its pending project NEPA analyses. Those analyses should not, explicitly or implicitly, tier off of the PEIS.

[9] We note that Appendix A does not contain the universe of known pending applications as BLM has defined that term. The Final PEIS should correct Appendix A and present a complete list. For clarity the list should include both "first in line" and later in line applications that qualify as "pending" based on their filing date.

[10] Available at: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-060.print.html.

available in SEZs, BLM should further clarify that the factors should be evaluated individually, not cumulatively.

Establishing that the factors are "considerations" and not requirements is, however, only the first step in the process of providing much needed clarity on how the variance factors will operate. Certain factors are somewhat ambiguous or outright inappropriate. We therefore urge the following modifications:

A. Minimal conflict factors

The SDPEIS states that BLM will, when evaluating a variance application, consider "Documentation that the proposed project will be located in an area with low resources value and where minimal conflict with adjacent lands is likely (e.g. . . . brownfields . . . ;. . . . fallowed agricultural lands; [etc.])."[11] While these types of "minimal conflict" lands would be ideal sites for development and could be awarded special preference, in practice they generally do not exist on BLM land. Nor do we know of project land potentially "adjacent" to such lands.[12]

The failure to provide a workable variance process would essentially impose a moratorium on new utility-scale solar projects for the foreseeable future. To avoid this bleak future, BLM should ensure that the variance process is not unduly burdensome. Instead of requiring that variance projects be located in minimal conflict areas, BLM should allow the siting of such projects in the designated variance areas (i.e., not exclusion areas) that additionally do not meet any of the "high conflict" criteria set forth in BLM's Instruction Memorandum on pre-application and screening criteria for solar and wind energy applications (IM 2011-061) (describing characteristics of high, medium, and low conflict lands).

BLM has adopted most of the medium conflict criteria in the Instruction Memorandum as exclusion area criteria. The PEIS would therefore, for the most part, leave only the low conflict lands available for development. Even this approach, however, would be significantly less restrictive compared to the least/minimal conflicts standard in the SDPEIS. Specifically, under the Instruction Memorandum, as modified to account for the exclusion criteria in the SDPEIS, BLM could, and should, allow projects in the following areas:

- Lands specifically identified for solar or wind energy development in BLM land use plans;
- Previously disturbed sites or areas adjacent to previously disturbed or developed sites;
- Locations that minimize construction of new roads and/or transmission lines;
- Lands adjacent to designated transmission corridors;
- Lands that are not excluded due to their visual resource classification, subject to review and additional mitigation where required;
- Lands identified as suitable for disposal in BLM land use plans;
- Lands with wilderness characteristics outside Wilderness and Wilderness Study Areas that have been identified in an updated wilderness characteristics inventory, where conflicts can be resolved;

[11] SDPEIS at p. 2-35 (lines 8-16).
[12] A group of solar companies and environmental groups previously suggested that a "low conflict" approach would involve certain lands that would be "minimal" conflict and "avoid" certain lands that were high conflict, but no company has *ever* suggested that "minimal" conflict lands alone would qualify for a variance.

- Department of Defense operating areas, including areas with significant radar, airspace, or land use conflicts, where conflicts can be resolved;
- Areas where project development may adversely affect lands acquired for conservation purposes, where conflicts can be resolved;
- Areas with relatively low conflict characteristics that are adjacent to private lands that might be used for development; or
- Areas within groundwater basins that have been over appropriated by state water resource agencies, where a project proposes small or insignificant groundwater uses or commits to provide mitigation measures that will reduce the project impacts to an insignificant level.

In addition, we discuss below certain exclusion area factors (criteria that are akin to the medium conflict criteria in the Instruction Memorandum) that are inappropriate. To the extent that any of the criteria identified below are removed from the exclusion area criteria list, that change should open up those lands to variance applications, to the extent that those lands do not meet other exclusion area or high conflict area criteria.

If these standards are applied instead of the least/minimal conflict standards, variance projects might have a real chance of being sited and approved in appropriate areas. It is absolutely necessary for Solar Industry to have a real variance development option, at least initially, to compensate for the inadequate size and number of existing zones.

B. Desert Tortoise "Variance Process Requirements"[13]

The SDPEIS describes two options for "Desert Tortoise Variance Process Requirements." Option 1 would not impose any special variance requirements and would "consider all variance applications within the range of desert tortoise on a case-by-case basis in coordination with the [United States Fish and Wildlife Service ('USFWS')]." (SDPEIS at p. 2-35.) In stark contrast, Option 2 states that applicants for projects within the range of desert tortoise, outside of proposed connectivity areas, "*must provide*" documentation that tortoise density for the proposed project site is less than or equal to five tortoises per square mile, that the number of tortoises that would need to be translocated would be less than or equal to 35, and that the project will maintain at least one three mile wide, minimally disturbed connectivity corridor. (*Id.* at p. 2-35.) Applications within "proposed" connectivity areas will generally be discouraged, unless applicants can, after surveying an area three to four times larger than the proposed project site, identify a location for the project where tortoise density is less than or equal to two tortoises per square mile and native vegetation communities are degraded. (*Id.* at pp. 2-35 to 2-37.) The Solar Industry favors Option 1, because Option 2 has several unsupported, rigid requirements that have no place in the permitting process and no scientific basis.

The Solar Industry understands that the USFWS revised Desert Tortoise Recovery Plan ("DTRP") issued in May 2011 supports translocation density and movement corridor limitations. However, we have seen *nothing* in the revised DTRP to support the restrictive numerical limits in Option 2. The proposed numbers appear to have been pulled from thin air; no publically available or peer review document

[13] The title of this subsection on page 2-35 illustrates why the Industry has valid concerns about BLM's intent with regard to how it will use the variance "factors."

appears to justify them.[14] The desert tortoise Proposed Connectivity Areas map on page 2-36 similarly lacks a meaningful explanation and/or demonstration of widespread support from the scientific community. Indeed, a recent US Geological Survey ("USGS") study of the published literature concluded that "[p]ublished scientific information on the effects of any form of renewable energy development . . . is scant," and the limited research done to date has largely focused on the impacts of wind farms on birds and bats.[15] Neither the DTRP nor the recent USGS article serves as a basis for the lines drawn on the Proposed Connectivity Areas map.[16]

A search of the Mojave Desert Ecosystem Program Voyager GIS database further does not reveal a layer consistent with the Proposed Desert Tortoise Connectivity Areas as mapped in Figure 2.2-2. The reasonableness of the proposed connectivity area boundaries consequently cannot be assessed using publicly available information. It is furthermore impossible to assess the impact of the proposal on specific lands because the map is so small and obscured by certain features, such as highway labels. To ensure that public participants can make thoughtful, informed comments on this map, BLM must provide a description of the base layers and GIS processing techniques.

Given what some SEIA and LSA member companies know from their specific development experiences, the representations made in the Proposed Connectivity Areas map are questionable. BLM must explain the basis for the Proposed Connectivity Areas map (Figure 2.2-2) before drastically departing from its prior determinations. If BLM cannot provide a scientific basis for the map, then it should be removed from the PEIS.

The Solar Industry does not intend to develop solar projects in high-density desert tortoise areas and agrees that such areas should be avoided. However, rigid numerical requirements with no foundation in scientific evidence are improper and unjustified. The USFWS has not hesitated to intervene in specific areas where it has had concerns about connectivity.[17] Similarly, BLM has previously taken movement corridors and the contributions of a project to habitat fragmentation into account. The "new" emphasis on connecting functional habitat in the revised DTRP is not new to these agencies and BLM has provided no

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[14] Indeed, in the Revised Biological Opinion for the Ivanpah Solar Energy Generation System ("ISEGS"), issued *after* the revised DTRP, USFWS explained that linkage areas must be determined on a case-by-case basis and further determined that a 1.4 mile linkage area would be sufficient for that project. (USFWS, Biological Opinion on BrightSource Energy's Ivanpah Solar Electric Generating System Project at 72 (June 10, 2011), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/needles/lands_solar.Par.71302.File.dat/ISEGS_Reinitiation,%20Final%20BO.pdf.) The Desert Sunlight Biological Opinion also has a narrower requirement.

Three mile-wide connectivity corridors are not present throughout the range of desert tortoise even under natural and historical conditions. The Mojave population of desert tortoise has historically been well connected even in the presence of connectivity corridors much narrower than three miles. Stating that connectivity corridors of this size are *required* for the continued genetic flow of the desert tortoise thus directly contradicts best available science (Murphy et al. 2007; Hagerty and Tracy 2010).

[15] Jeffry E. Lovich & Joshua R. Ennen, *Wildlife Conservation & Solar Energy Development in the Desert Southwest, United States*, BioScience, Dec. 2011, at 982.

[16] Indeed, the PEIS should not rely on the USGS study at all, given that the study itself relies on the Draft PEIS to support observations about the desert tortoise, such as the observation that the species' "very presence at a site may be sufficient to exclude [utility-scale solar energy development] in special cases . . . ." *Id.* at 984.

[17] Industry remains quite concerned regarding the scientific basis behind the connectivity issue.

explanation for its proposed departure from case-by-case, site specific evaluations in coordination with the USFWS to determine whether desert tortoise considerations, including the feasibility of translocation, should work to prohibit development in a particular area. Again, at this time, the Solar Industry unanimously favors Option 1 over the arbitrary numeric limits that would apply under Option 2. At the very least, procedural safeguards—not numeric criteria—should be used to address potential conflicts between utility-scale solar projects and desert tortoise populations.

C. Transmission and infrastructure minimization requirements

The requirement to include a transmission plan ("[d]ocumentation that the proposed project will minimize the need to build new roads and/or transmission infrastructure")[18] in the Plan of Development ("POD") (alternatively, the variance application) could significantly and unnecessarily delay the permitting process in states where the transmission planning process is protracted and cumbersome. For example, in California the current wait time for transmission analyses is up to 24 months and utilities only accept applications at certain times of the year.[19] Developers should only be required to include an *estimated schedule for completion* in the POD. Applicants can then be required to submit the transmission analysis when it is available.

Similarly, variances should not be restricted to areas where "minimal" additional infrastructure (transmission, roads) will be needed. This requirement precludes the possibility of expanding existing transmission to new locations and sets up an artificial barrier for variances in areas where solar development would otherwise be allowed and transmission can be built. As BLM recognizes elsewhere in the SDPEIS, "it is likely that most new utility-scale solar energy development will require new transmission capacity . . . ." (*Id.* at p. 2-69.) At the very least, if infrastructure needs are a factor, "minimization" should not be objective. BLM could instead consider whether an applicant can demonstrate that it will optimize the capacity of existing and new infrastructure and avoid duplication in the use of or need for existing and new transmission, transmission interconnect facilities and access infrastructure.

D. Minimize impacts on water

The PEIS additionally proposes to require "[d]ocumentation that the proposed project will minimize impacts on water resources." (SDPEIS at p. 2-37.) Water use and groundwater impacts are site-specific considerations that should be addressed through the NEPA process and other applicable law. Companies should be encouraged to, and in some cases may be required to, optimize their technology's efficiencies with respect to water impacts. On top of this, mitigation measures may be imposed. A general requirement to "minimize impacts on water resources" (whatever that might mean) is an unworkable standard that is not suited to be a programmatic consideration.

E. Additional layers of pre-application process

[18] SDPEIS at p. 2-37.

[19] The California Independent System Operator Corporation ("CAISO") interconnection process currently restricts the submission of new applications to an Annual Interconnection Request window that opens and closes every March. CAISO's interconnection study process starts in June and takes 420 days. These steps must be completed before a developer can sign a Generator Interconnection Agreement.

Although not discussed in the Pre-application Meeting section (SDPEIS at p. 2-33), the Variance Process describes a public outreach requirement that would precede BLM's acceptance of a project for *subsequent* review under NEPA. (SDPEIS at p. 2-40 (describing a "pre-scoping public meeting that falls outside of the NEPA process for variance applications").) The public outreach process should begin with NEPA. The Variance Process should not introduce another layer of public review.

Along these same lines, the SDPEIS should not require Class III cultural resource surveys *before* an applicant may submit an application. (*See* SDPEIS p. 2-38.) Such surveys are extremely expensive. Applicants thus might waste hundreds of thousands of dollars to survey proposed project sites that BLM could reject from the outset for other reasons. For purposes of evaluating a variance application, BLM should instead require Class I or II cultural surveys, which can be used to identify areas of potential effect ("APEs"). The information obtained from these less rigorous protocols is entirely appropriate, and suitable, for use by BLM when evaluating applications. BLM should avoid expensive, premature survey requirements, as requiring developers to invest in a site early on will only discourage them from considering other locations.

F. General comments on the Variance Process

The variance areas should not be further reduced in the Final PEIS, as BLM suggests they will be on page 2-33 ("As the BLM continues to refine the list of proposed exclusions under the modified program alternative . . . the amount of land in variance areas will likely be reduced."). The exclusion areas, as explained in more detail below, are already too large. In addition, further restrictions on the development of utility-scale solar energy generation facilities, which could for the most part be permitted today after complying with NEPA, will expand the scope of the federal action being undertaken in the SDPEIS and could affect the environmental effects in a variety of ways. Unlike restoring opportunities for case-by-case evaluations of project applications (i.e., expanding variance areas), which BLM has analyzed as part of the No Action Alternative, significantly expanding the exclusion areas in the ROD for the PEIS could trigger a requirement to perform additional environmental review.

In general, there is obviously a tension between putting restrictions on variances so as to encourage zonal development, and lessening restrictions on variances (still subject to all biological and cultural screens) because the zones at this time are so inadequate. Until zones are adequate, however, BLM must provide a workable variance program, to ensure that development opportunities on public lands are not unduly constrained and to allow the use of public resources to achieve national renewable energy production objectives.

III. RESTRICTIONS IN PROPOSED ZONES

The current height and technology limitations are excessive, as they would exclude even efficient PV technologies (*e.g.*, PV with trackers), as well as taller, more land efficient power towers, and thereby provide perverse incentives to increase project footprints. Furthermore, the presumption that taller technologies will have greater impacts on visual resources is questionable. Any decision to allow solar development will create some visual contrasts from some vantage point. From a distance or from an elevated position, however, the impact of 10 foot panels on visual resources will not be appreciably different from the impact of 20 foot panels, troughs, or in many cases, power towers.

The 10 foot height limit and PV-only limitations on more than 25% of the SEZ acreage[20] should be eliminated, with visual considerations applied only on a case-by-case basis to mitigate actual visual impacts exacerbated by project height. Applied in this way, BLM could take into account whether height restrictions might mitigate impacts on visual resources based on the location of a project, the layout of its major components, and the number and types of viewers. BLM could further take into account the overall public reaction to a particular project. As recognized by BLM in the DPEIS, "[s]urveys have indicated that solar energy is generally viewed favorably by the public, because it is regarded as a nonpolluting, renewable resource, and it may be that, similar to wind energy projects, utility-scale energy development projects would be viewed less negatively or positively in terms of visual impacts as a result . . . ." (DPEIS at p. 5-162 (citations omitted).)

A blanket prohibition based on presumptions about the site-specific impacts of technology height is inappropriate. Visual impacts are but one of several factors that should be weighed in determining where to site a facility. Other factors include the energy production profile, efficiency of land use, and project viability (probability of obtaining Power Purchase Agreement ("PPA"), experience, financial strength, etc.). Unless a project is proposed in an area "*currently designated* as Visual Resource Management Class I or Class II", visual resource concerns alone should not provide the basis for an effective ban on development. (IM 2011-061 (discussing high conflict criteria; emphasis added).)[21]

IV. EXCLUSION AREAS SHOULD NOT BE BASED ON TECHNICAL CRITERIA OR THE UNBRIDLED DISCRETION OF BLM STAFF

The SDPEIS proposes to defined right-of-way ("ROW") exclusion area as "areas which are not available for location of ROWs under any conditions", a definition taken from BLM Land Use Planning Handbook H-1601-1. (SDPEIS at p. 2-15.) This unforgiving standard must be imposed with caution, particularly in the context of a program that is intended to last for a significant period of time and further intended to address a new and dynamically changing industry. More specifically, the criteria used to identify exclusion areas must include only the elements that are *essential* to preserving environmental values and must further be capable of uniform interpretation. Several of the exclusion criteria do not fit this vision.

A. Technical and Economic Criteria

Chief among the inappropriate criteria are those based on the presumed capabilities of developers' technologies: a 5% slope limit and a minimum insolation requirement of 6.5 kWh/m^2/day. Technology not only exists today, but is being deployed in the market, to make use of both higher slope and lower insolation lands.

As the SDPEIS notes[22], companies are currently building some parts of projects on slopes of up to 10% and in the future may be able to do more. A slope limitation of 5% is therefore antiquated, and does not have a reasonable basis. In addition, companies are now permitting and constructing projects in areas of

[20] Approximately 74,000 acres of SEZ land is restricted by the 10 foot height restriction. This height restriction effectively eliminates development in these areas of the SEZs.
[21] In addition, although we hope that BLM will do away with the unsupported and unnecessarily burdensome variance criteria identified in Section II, to the extent that any of these factors remain in effect BLM should clarify that they will not be applied to projects in SEZs.
[22] SDPEIS at p. D-3 (Appendix D).

the southwest with less than 6.5 kWh/m^2/day (*e.g.*, in the San Joaquin Valley). More broadly, large amounts of solar generation are coming on line in states such as New Jersey, where the insolation is far less than in the Southwest. The assumption that development will be uneconomic in areas with insolation levels of less than 6.5 kWh/m^2/day is not supported by real world evidence.

One compelling reason to drop technical criteria for exclusions areas is that such requirements might create "edge effects" by limiting the flexibility a developer has to modify its proposed project footprint to use adjacent (higher slope) lands to avoid environmentally sensitive areas. Excluding higher slope lands that could be developed in an environmentally-responsible fashion would increase sprawl, by eliminating the potential to maintain the planned size of a unit in one place and creating additional development pressure to generate the forfeited power at sites located elsewhere. At a minimum, if part of a project area exceeds the SPDEIS technology limits (typically, this would involve areas with higher slopes), then BLM should have the flexibility to approve the project as part of a case-by-case determination.

The exclusion of lands with solar insolation levels of less than 6.5 kWh/m^2/day is particularly inappropriate. As recognized in the DPEIS, BLM imposed this threshold based on *assumptions* about where utility-scale development is most economically viable.[23] To set the record straight, Direct Normal Irradiation ("DNI") measurements (represented as kWh/m^2/day) only assess the amount of solar radiation delivered to a particular area directly from the sun. For technologies that use mirrors of lenses for reflection/refraction (concentrating solar power, or "CSP"), DNI is the appropriate measure of the solar resource. These technologies require direct sunlight for efficient operation. However, conventional PV technologies use direct, diffuse, and even ground-reflected solar radiation (collectively, Global Horizontal Irradiation or "GHI"). DNI measurements consequently provide an incomplete assessment of the solar resource in a particular area as far as PV developers are concerned. Additionally, some CSP developers have determined that they can economically develop projects in areas with insolation levels as low as 5.5 kWh/m^2/day. Even if it might be appropriate to limit the development of utility-scale solar power plants on public lands based on a single factor in a developer's complex assessment of a project's economic viability, the 6.5 kWh/m^2/day threshold is not an appropriate or justified standard.

In addition, although the SDPEIS includes maps intended to depict the extent of the areas excluded based on insolation levels, the measurements for a given plot of land cannot be known without a site-specific study. The National Renewable Energy Laboratory ("NREL") solar resource estimates relied on to plot potentially appropriate development are regularly off by as much as 30%. Unlike previously designated Areas of Critical Environmental Concern, Desert Wildlife Management Areas, National Landmarks, etc., BLM cannot plot insolation on a map with certainty. Its usefulness as a screening tool on a programmatic level is consequently very limited.[24]

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[23] DPEIS at p. 2-7 ("That criterion was established on the basis of the *assumption* that at insolation levels below 6.5 kWh/m2/day, utility-scale development would be less economically viable given current technologies." (emphasis added)).

[24] Regarding insolation, BLM should also recognize that the economic viability of a project is not a concern for BLM under NEPA. Consistent with FLPMA, BLM must determine that the approval of a ROW application to develop and operate a utility-scale solar facility represents the highest and best use of the land. Because projects in variance areas will require a site-specific land use plan amendment as part of the ROW grant process, however, this determination is not part of the federal action being contemplated in the PEIS. BLM therefore has the legal authority to do the right thing and remove insolation from the list of exclusion criteria.

The Solar Industry believes that removing the insolation and slope criteria from the exclusion criteria list should not cause any environmental impacts or require further supplementation of the PEIS. Lowering the insolation floor and raising the slope ceiling, or removing these restrictions entirely, will likely increase the number of acres available in the variance area and thereby make additional land available for development after case-by-case NEPA analyses, as discussed below. However, all of the other exclusion criteria in Table 2.2-1 of the SDPEIS would still be in place to protect species, cultural resources and other environmental interests, wherever they are located. In addition, those lands—and much more—would be open to ROW applications for solar power plants under other alternatives considered in the SDPEIS and under existing rules. The proposed changes consequently do not make a decision, irreversible or otherwise, that would open more lands to development; rather, they simply take less land out of the current inventory of potential sites compared to other alternatives considered in the PEIS. The public has had a meaningful opportunity to comment on this and was given notice that the exclusion criteria may be too restrictive to allow sufficient land for solar energy development. (*See, e.g.*, SDPEIS at p. 2-69.) This change would not call into question the SDPEIS' sufficiency as an informational document.

In addition, the impacts assessment that begins on page 2-51 (Table 2.3-2) repeatedly states that although several types of impacts could be significant across the 20 million acres of proposed variance areas, "impacts could be minimized due to the required variance process." In other words, impacts from development in the variance areas are expected to be handled on a case-by-case, site-specific basis. The environmental impacts of moving a project onto higher slope lands and economic impacts of operating a project in an area with a lower insolation rating can be handled through that process.[25] The alternative, arbitrarily imposing technology-based screening criteria to restrict use of the public lands based on assumptions about the technology, would be clearly erroneous—especially in light of the fact that the Solar Industry has demonstrated that the assumptions are wrong.[26]

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[25] To further guard against allegations that removing these exclusion criteria might trigger the need to do a further supplemental review, BLM could instead allow applicants to propose an "override" of the exclusions through the variance process, at least in areas where slope, insolation, and other developer technology constraints are the source of the exclusion. BLM would, of course, still subject these override application to a full site-specific impact review under NEPA. Alternatively, BLM could allow applicants to depart from the slope and insolation exclusion criteria on a case-by-case basis, offsetting any additional land thereby developed by retiring other variance lands in the vicinity of a project that receives insolation or slope exceptions. Either of these options would further reduce the significance of the proposed changes. To be clear, however, the Solar Industry believes that simply deleting slope and insolation exclusion criteria would not "affect the quality of the human environment in a significant manner or to a significant extent not already considered . . . ." *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 374 (1989) (citation and quotation marks omitted) (describing the threshold for requiring a supplemental EIS).

[26] Some stakeholders will undoubtedly suggest that removing the technology-based exclusion criteria would trigger the need for yet another supplemental draft PEIS. Under NEPA, an agency must supplement a draft or final EIS where "[t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns," or where "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(1)(i)-(ii). However, "an agency need not supplement an EIS every time new information comes to light [or a change is made in the project design] . . . . To require otherwise would render agency decision making intractable." *Marsh*, 490 U.S. at 373. Rather, a supplement is required only where new information, or changes in the project, could lead to federal action that will affect the

B. Transparency

The process for excluding areas also needs more transparency. Most of the criteria on pages 2-16 and 2-17 are biological and cultural, and most are based on previously published data. The SDPEIS, however, does not provide clear references to the sources of these exclusions. The SDPEIS also fails to specify the criteria relied upon for particular exclusion area designations ("pink lands" on the various maps) and does not provide detailed maps that might allow companies to determine the basis for excluding specific acreage. BLM needs to add this detail to the final PEIS to ensure that the public has access to relevant information about the impacts of each exclusion.

C. Vague and subjective criteria

In addition, certain biological and cultural reasons for excluding lands require further definition and a sound legal or scientific basis for their imposition. Several of the proposed exclusions are vague and destined to be applied inconsistently across different decision makers. For example,

- Exclusion number 8 would prohibit development on lands "where BLM has made a[n unspecified] commitment to take certain actions with respect to sensitive species habitat, including . . . Mohave ground squirrel habitat . . . [and] fringed-toed lizard habitat." This standard should specifically identify authoritative commitments that could properly prohibit development and how they are established.
- Exclusion number 20 would require the exclusion of "additional lands outside the designated boundaries [of properties listed in the *National Register of Historic Places*] to the extent necessary to protect values where setting and integrity is critical to their designation or eligibility." The application of this standard, as drafted, could result in the exclusion of land based purely on individual staff members' sense of what is "necessary", which would not be a proper basis to prohibit development.
- Exclusion number 21 would preclude development in "areas with important cultural and archeological resources", leaving it to BLM field officers to determine, in their unbridled discretion, whether particular resources meet an undefined notion of "important." Again, this would not provide a proper basis to prohibit development.
- Exclusion numbers 25 ("lands within a solar energy development application found to be inappropriate for solar energy development") and 26 (lands previously proposed for inclusion in a SEZ and later (in the Supplemental Draft) deemed to be inappropriate) should only be excluded if they have been carefully studied in a manner that is equivalent to the detailed study of a project study area *and the study results indicate that the area would have high, if not insurmountable, resource conflicts*; exclusions should not be based on presumptions or unsubstantiated concerns

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quality of the human environment in a significant manner or to a significant extent *not already considered* . . . ." *Id.* at 374 (citation and quotation marks omitted, emphasis added). The impact of not imposing slope and insolation screening criteria was considered in the draft documents as part of the No Action Alternative. In addition, the SDPEIS relies on site-specific mitigation to check the impacts of any projects approved in variance areas, so total acreage is arguably not relevant. Preserving the status quo (case-by-case evaluations) should not have any greater environmental impacts not previously considered.

that development in neighboring areas would cause additional impacts.[27] In some of the applications referenced in footnote e, expanding on exclusion number 25, land was actually dropped for business reasons, not in response to biological, cultural, or other environmental concerns.

- Exclusion number 29, the most unrestrained of them all, could be read to allow BLM state or field offices to require exclusions based simply on ecological or cultural *concerns*, regardless of whether those concerns were substantiated at all. Such unbridled discretion would open the variance process to being controlled by individual preferences and undermines the certainty and consistency that the PEIS is supposed to provide, and that is required of BLM under its statutory authorities.

The listing of an area as being excluded has real and practically permanent consequences for the use of public lands for renewable energy generation projects. Consequently, the decision to exclude land must be based on clearly defined authority that ensures that the PEIS only imposes an absolute ban on development in mapped areas where impacts are truly unmitigatable. All other development decisions should be made on a case-by-case basis as part of BLM's conflicts analysis (*see* IM 2011-061), the NEPA process and any Section 106 consultation process.

D. Medium conflict criteria serving as exclusion criteria

As noted above, in Instruction Memorandum 2011-061, BLM proposed three categories of criteria that would be used to "to assist in prioritizing the processing of solar . . . energy development right-of-way applications." Projects with low potential for conflict would be processed in a timely, or possibly expedited, manner. Projects with a medium potential for conflict included those with resource conflicts that could potentially be resolved. Projects with a high potential for conflict might not be authorized.

The exclusion area criteria in the draft PEIS included all of the high conflict area criteria (or substantially similar criteria).[28] In addition, however, they also included most of the medium conflict area criteria—without providing any explanation of this significant change in policy: i.e., why conflicts in these areas

[27] In addition, this exclusion requires further definition to clarify what projects are included. The language of the exclusion itself states that it would apply only to projects where development was determined to be inappropriate "through an environmental review process that occurred prior to finalization of the Draft Solar PEIS." (SDPEIS at p. 2-17.) Read in isolation, this language would seem to refer to the Draft Solar PEIS published in 2010. However, since Desert Sunlight, approved in mid-2011, is among the projects covered by this exclusion, it may be that BLM intends for it to cover projects that had a complete environmental review before either (1) the publication of the Supplemental Draft or (2) the Final Solar PEIS.

[28] The Draft PEIS did not include exclusion criteria identifying "Lands near or adjacent to lands designated by Congress, the President, or the Secretary for the protection of sensitive viewsheds, 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 may be adversely affected by development." DOE's portion of the SDPEIS only includes as guidance a recommendation to "[a]void impacts on special use lands such as NPS lands, Wilderness Areas, National Wildlife Refuge System lands, ACECs, Wildlife Management Areas, traditional cultural properties and other culturally sensitive sites, critical habitat for special status species, and military operations areas and other regulated military lands."

could potentially be resolved before the solar development ROD becomes final, but not afterwards. To ensure that the PEIS serves its purpose as an informational document describing the rationale for BLM's decisions, it must include some explanation of the reasoning behind banning development on most of the medium conflict lands, especially (1)"Right-of-way avoidance areas;" (2)"Areas where project development may adversely affect National Historic and Scenic Trails and National Recreation Trails;" and (3)"Developed recreation sites and/or facilities . . . ." (*See* SDPEIS at p. 2-16 to 2-17 (exclusion criteria 7, 10, and 18).) We do not contend that all such applications should be granted, for there could be some applications on medium conflict lands where the conflict proves insurmountable and significant. But the very notion of an "Exclusion Area" is that the applicant does not even get to try to resolve these medium conflicts. More explanation for this more drastic and permanent exclusion is necessary.

Finally, just as the SEZs can be reduced over time after a periodic assessment of needs related to SEZs, exclusion areas should also be revisited on a regular basis.

V. A CLEAR AND EXPEDITED PROCESS FOR ADOPTING NEW ZONES MUST BE ESTABLISHED

Regarding the future evolution of the PEIS, BLM should provide developers, local governments, and other interested parties with a clear and expedited process to nominate new zones, particularly until such time as sufficient zones near load and with transmission access have been established to meet federal and state policy objectives. An "open season" for nominating and evaluating new zones should follow the publication of the Final PEIS, with at least biannual open seasons established thereafter. In addition, developers should be allowed to file applications for areas outside of current zones that could be treated as "anchors" for new zones or as independent projects, depending on BLM's assessment of the potential of the area, and without any delay of review or development.

This matter is of critical importance to the success of a zone-based program, and to solar developers. The supplement drastically reduced (by over 50%) the amount of land in SEZs. Of the land that remains, significant portions are taken up by existing applications, proposed height restrictions that would preclude several technologies, and conflicts with Section 368 transmission corridors. The proposed SEZs are additionally too small, with a median size of only 5,873 acres—barely enough for two projects (approximate 683 MW total in each). Six SEZs contain under 5,000 acres and the De Tilla Gulch SEZ contains just 1,064 acres. These SEZs are simply not adequately sized for purposes of facilitating clustered development.

Developers need a process that will allow BLM to quickly add new zones, which in turn is necessary to ensure that sufficient lands will be available to meet Renewable Portfolio Standards ("RPS") goals and provide developers with the flexibility they need to work with the Balancing Area Authorities, the utilities, other transmission owners, and the market to come up with new clusters *that can be built*.

In the near term, BLM needs to diligently pursue the development of new SEZs. Review of the sufficiency of SEZs at least every five years is not enough, and will cause the program to fail to achieve its goals. For the next five years or until the land available for development in SEZs can meet the demand of state RPS and climate change policies, the BLM should instead commit to study potential new zones every year in states with significant renewable energy needs and/or transmission to bring renewable energy to load. In selecting these "SEZ exploration zones", BLM should prioritize the study of lands that have

already been partially studied (e.g., Renewable Energy Development Areas ("REDAs") in Arizona), so that the designation of additional SEZs can be further expedited.[29]

In addition, BLM should clarify that parallel regional planning efforts need not conform to the exact structure of the PEIS. Regional and sub-regional efforts to conduct limited studies of siting options, like the Restoration Design Energy Project ("RDEP") in Arizona, should be allowed to move forward with new innovations. For example, the RDEP intends to undertake studies that might not be sufficient for purposes of establishing SEZs, but will nevertheless provide significantly more information compared to what BLM has collected on the average variance area. These studies could be useful in efforts to identify some of the better variance areas (in other words, they have the potential to create "super variance" areas where BLM might focus developers' or its own efforts to identify new development opportunities outside of SEZs, or areas that might serve as precursors to new SEZs). The objectives and possible outcomes of the RDEP process and similar proceedings that might be undertaken in the future are not incompatible with the PEIS and BLM should make clear that such proceedings are not limited to establishing SEZs, generic variance areas, and exclusion areas as has been done in the SDPEIS. (*See* SDPEIS at p. 2-31.)

BLM should also be looking at developing a zone in the West Mojave *today*. The West Mojave is the area with the best general insolation in the United States, and remarkable proximity to one of the nation's largest load centers. As noted in the Solar Industry's comments on the original DPEIS, with its 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. Finally, the West Mojave has transmission potential, as Southern California Edison's Tehachapi transmission line and the Los Angeles Department of Water and Power Barron Ridge line are both located in the area. In addition, projects in a West Mojave SEZ could potentially access the grid through the planned South of Kramer line, which will serve Abengoa Solar's permitted Mojave project.

Overall, in designating a new SEZ, BLM should base its decision on NEPA studies which demonstrate that resource conflicts are low or can be addressed and development prospects are high. SEZs should ideally be large enough to allow for siting flexibility and the development of multiple projects (ideally 1 GW

[29] In making this recommendation, the Industry does not mean to encourage exclusive reliance on other regional planning processes, such as the Desert Renewable Energy Conservation Plan ("DRECP") process, to designate new SEZs. These processes, at the least the DRECP in its current form, are not focused on creating zones; the DRECP is intended to develop a habitat conservation plan ("HCP"), not a plan for development. In addition, the DRECP will not provide the necessary relief in a timely manner (current expected completion date is 2014, and even that may be ambitious). A PEIS can be prepared (or supplemented) faster than a HCP, which is designed to tackle different issues.

or more).[30] They must be in areas with access to roads and a suitable workforce. They further must be sufficiently close to load or in areas where transmission can be reasonably expected to be available in time to serve the quantity of generation planned for the zone, considering current transmission planning processes and environmental considerations. Many of the current SEZs fail to meet several of these criteria,[31] and they should consequently not serve as models for the development of new zones.

VI. ASSUMPTIONS ABOUT TRANSMISSION THAT WILL BE USED TO JUSTIFY CURRENT AND FUTURE SEZ LOCATIONS ARE INCOMPLETE AND OVERLOOK LOCATIONS WITH GOOD TRANSMISSION OPTIONS

Sound, coordinated planning of transmission for zones is a critical component of smart from the start development. The process for planning construction and use of new transmission is, however, a complicated beast under the best of circumstances. The attempts by BLM and DOE to wade into these issues in the SDPEIS are admirable, but the analysis in the SPDEIS makes several missteps that must be corrected in the Final PEIS.

To start, the NERC data referenced in the Draft PEIS has not been updated since 2009 and is now outdated. BLM should revise this information to reflect the latest developments. In addition, the "hidden capacity" on existing transmission lines that the SDPEIS assumes will be available, if it truly exists, is, in practice, not actually of use to utility-scale projects because such projects cannot secure financing unless and until they have secured firm transmission capacity that will allow them to reliably transmit all of their generation to load centers.

Moreover, the capacity analysis proposed in the SDPEIS and applied to the Brenda SEZ presents, on its own, a misleading view of transmission availability. Thermal rating, without a power flow analysis, provides only a partial picture of the actual availability of transmission capacity as compared to the results one obtains when accepted transmission planning methodologies are applied. Such methodologies incorporate contingency analysis, which look at the complex, system-wide impacts of adding a generation facility to large alternating current grids given stringent regulatory requirements to maintain the integrity of the system even if multiple faults and line failures occur. Generally speaking, contingency analyses typically reveal additional limitations on the ability to add generation that are not apparent from a first-cut thermal analysis. Finally, the model transmission analysis that BLM proposes to follow does not take into account the massive queue that has built up in California and other western states. Developers, both conventional and renewable, have already spoken for significant amounts of hypothetical transmission.

Any analysis that is conducted without power flow modeling and standard contingency analysis will be flawed and counterproductive to facilitating rational development of high quality solar resources in an environmentally responsible manner. Proper analyses of transmission capacity are complex and resource-intensive, and are best undertaken by the responsible transmission planning entities. BLM and

[30] We say "ideally" because other than the Riverside East SEZ most or all of the SEZs are too small to accommodate multiple projects. It is possible that SEZs will need to be smaller, but ideally they should be large, so as to facilitate needed transmission.

[31] Indeed, in addition to the inadequate size of the SEZ, which is addressed throughout this comment letter, there are no available high-voltage power lines less than 25 miles from proposed SEZs. This is a critical oversight that will impact the feasibility of future development in the proposed zones.

DOE should work hand-in-hand with those entities to obtain the information they need to make proper decisions, rather than attempt to undertake this work on their own.

Additionally, at least while pending projects are still in the pipeline and companies are relying on the variance process while they wait for suitable zones for development, BLM has to consider how to facilitate transmission to these projects as well as zones. BLM further should be aware of projects planned on private land that are located near permitted and pending BLM projects. These private land projects could be used to support new transmission to projects on BLM land, but also may be competing with projects on public land for interconnection points and capacity. The transmission analysis needs to take these circumstances into account.

Overall, we recognize that BLM is not in the business of planning transmission. BLM might be able to impact planning processes by developing a relative ranking of zones and some meaningful development portfolios. BLM could then share these portfolios with Western Electricity Coordinating Council ("WECC")/Transmission Expansion Planning Policy Committee ("TEPPC") and other regional planning entities (e.g., Southwest Area Transmission ("SWAT"), California Transmission Planning Group ("CTPG"), and CAISO) and encourage these organizations to consider BLM's plans in their regular planning proceedings.[32]

BLM's ability to influence these proceedings is uncertain. Notwithstanding that fact, transmission considerations will need to be addressed through coordinated inter-agency efforts. Unilateral solutions, such as dedicated transmission lines to SEZs, as proposed in the PEIS, are not generally financially feasible from the perspective of the private sector, and cannot reasonably be expected to occur absent exceptional circumstances.

BLM can and must work to make transmission availability a central element of the solar program. It can make the most significant contributions by facilitating the construction of planned transmission, and by closely coordinating with transmission planning entities to better understand the transmission will likely be made available and its likely timeframe. BLM should coordinate with transmission planning agencies to identify how it can expedite permitting for transmission projects that will serve renewable energy on public and private lands. In addition, BLM should be targeting areas where transmission projects are most likely to be built in the near term (e.g., areas along the SunZia and Transwest lines) for the development of new SEZs.

VII. COMPETITIVE BIDDING AND LENGTH OF ROW TERMS

A. Competitive Bidding

As stated in the Solar Industry's comment letter on May 2, 2011, competitive bidding would most likely increase the costs of developing utility-scale solar projects on public lands, and thereby decrease opportunities for innovation that will help make the most of the public lands that are used for renewable

[32] Such proceedings include regional planning efforts required by the Federal Energy Regulatory Commission's ("FERC") Order No. 1000, the DOE-funded Regional Transmission Expansion Plan ("RTEP"). Other federal, state, and regional proceedings may also be informative, such as Western Area Power Administration planning efforts, National Interest Electric Transmission Corridor designations, and the Western Governors' Association's Western Renewable Energy Zones Phases III and IV.

energy. 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. The Solar Industry strongly opposes BLM's proposal to establish a competitive bidding process for solar ROW applications. Individual companies will be submitting comments consistent with this position in response to BLM's advanced notice of proposed rulemaking on this issue. *See* 76 Fed. Reg. 81,906 (Dec. 29, 2011).

B. Term for ROWs

BLM has determined, by policy (WO IB No. 2006-006), that the initial term of a ROW grant issued under the Federal Land Policy and Management Act of 1976 ("FLPMA") generally should not exceed 30 years. However, the 30 year cap is only a policy. The regulations require only that a ROW grant be limited to a "reasonable term" as established by BLM after considering "(i) The public purpose served; (ii) Cost and useful life of the facility; (iii) Time limitations imposed by licenses or permits required by other Federal agencies and state, tribal, or local governments; and (iv) The time necessary to accomplish the purpose of the grant", 43 C.F.R. § 2805.11(b)(1). BLM has stated in guidance documents that it will consider terms greater than 30 years based on the factors set forth in 43 C.F.R. § 2805.11(b)(1) and whether "the applicant/holder can demonstrate the 30 year term and provision for renewal is not sufficient." BLM Policy and Procedures for Issuance of "Long Term" Right-of-Way Grants and Easements Over Public Lands To Be Transferred Out of Federal Ownership 8 (June 2007).

The PEIS alludes to plans to limit the term of a solar ROW grant to 30 years. (SDPEIS at p. 2-2.) BLM's advanced notice of proposed rulemaking to establish a competitive bidding process and other policies confirm that BLM intends to establish such a rule. 76 Fed. Reg. 81,906 (Dec. 29, 2011). Although BLM is correct in observing, in support of the proposed rule, that Power Purchase Agreements tend to be 25-30 years, this timeframe does not take into account the construction or the decommissioning period for a project. An addition buffer of five to seven years should be built into the ROW grant period to account for these activities.

VIII. DOE REQUIREMENTS

The Programmatic Guidance in DOE's portion of the SDPEIS, similar to BLM's variance process, reads like a set of requirements—not guidance. Requirements to avoid de-shrubbing, avoid siting projects on prime or unique farmland, use technology that will minimize land disturbance, and avoid locations that would involve impacts on surface water bodies, ephemeral washes, playas and natural drainage areas are neither realistic nor required, and may be inconsistent with BLM practices. The Final PEIS should make clear that these components of the Guidance are intended to be just that—guidance, not rules.

IX. MISCELLANEOUS ISSUES

The following miscellaneous issues also warrant comment:

- As noted in the introduction to this letter, BLM appears to have abandoned the possibility that the PEIS would result in a zones-only development program. To the extent that a SEZ-only option is still a possibility, the Solar Industry strongly objects for all of the reasons given in its May 2, 2011 comment letter.

- The Pending Projects list in Appendix A is under- and potentially over-inclusive. As noted above, we strongly recommend that BLM winnow out speculative applications filed by companies that do not intend to develop facilities. In addition, however, we have identified several projects that meet BLM's definition of "pending project" that are missing from the list. Applications that need to be added to Appendix A include:

    1. CACA-049421 (Customer: Solar Partners V, LLC; received by BLM April 27, 2002; acres: 13,920)

    2. CACA-051967 (Customer: BrightSource Energy; received by BLM May 12, 2009; acres: 12,269)

    3. NVN-090476 (Customer: BrightSource Energy; received by BLM January 21, 2011; acres: 15,190)

    4. CACA-053138 (Customer: BrightSource Energy; received by BLM February 14, 2011; acres: 3,054)

    5. CACA-50390 (Customer: SolarReserve; filed August 22, 2008 [second in line application]; SolarReserve notified of status as a first in-line application on May 16, 2011; acres: 8,160)

    6. Sandy Valley III (NVN-[# TBD]) (Customer: Sandy Valley Solar III, LLC; received by BLM October 21, 2011; acres: 10,804)

    7. NextEra Sandy Valley (NVN-[# TBD]) (Customer: Boulevard Associates; received by BLM October 21, 2011; acres: 3,200)

  In addition to the applications identified above, BLM should review its records and update Appendix A to include all of the projects that meet the definition of "pending project" provided on pages 1-9 and 1-10. BLM should also review the information provided for applications on the list, as some solar companies identified discrepancies between the information in Appendix A and what they know to be true.

- Significant data gaps remain in the SDPEIS; BLM has stated that these gaps will be filled in the Final PEIS. This approach will deny public participants the opportunity to comment on significant matters where developer input in particular would be useful.[33] Assuming that a Final PEIS is the next step in this process, we strongly urge BLM to allow a minimum 60-day comment period on

[33] *See* SDPEIS at p. 2-19 ("A final proposal for SEZ-specific design features will be presented in the Final Solar PEIS."); *id* at p. 2-24 ("[I]nitial regional mitigation plans", which "will consider the cumulative impacts of development within a SEZ as well as ongoing conservation planning priorities", "will be presented in the Final Solar PEIS."), *id* at p. C-1 (recognizing that "[s]ome of the items identified in the action plans" ["plans that describe data gaps for individual SEZs and propose data sources and methods for the collection of additional data"] "will be completed by the BLM and presented in the Final Solar PEIS."); *id* at p. C-339 ("The planning-level inventory of water resources will be presented in the Final Solar PEIS."); *id* at p. C-44 (additional inventory and mitigation for vegetation resources); *id* at p. C-49 (additional inventory, avoidance, and mitigation requirements); *id* at p. C-49 (additional Key Observation Points ("KOPs")).

the final document, which would be consistent with the extra FEIS comment periods that BLM has allowed on project-specific EISs.

- On page 2-13, the SDPEIS states that "Transfers other than assignments must be approved by the BLM and may result in requirements for submittal of a new application or a Notice of Termination." BLM should provide clarity regarding the types of transfers, other than an assignment, to which this restriction is intended to apply. In particular, it is unclear whether BLM intends to impose an approval requirement when a new parent company purchases a subsidiary grant holder. Once rights are vested in a granted ROW, BLM should not interfere.

- The analysis of several SEZs concludes that a disproportionate impact on minority and low-income populations could occur whenever such populations are within 50 miles of a SEZ boundary. (*See, e.g.*, SDPEIS at p. C-22.) However, the SDPEIS does not explain the basis for or the relevance of this radius, or the relevant resources (air, visual, traffic) that might be involved in these impacts. This information should be included in the Final PEIS.

- Section C.2.2.4 places a new "Wilderness Characteristic" designation on approximately 11,925 acres in the heart of the Riverside East SEZ based on a 2011 update of the inventory of wilderness characteristics in the areas of the McCoy Mountains. (SPDEIS at p. C-60 (figure C.2.2-3).) On page C-76, the SDPEIS states that as a consequence of this new designation, "additional analysis of the visual values of these areas may be needed to determine if adjustments to the SEZ-specific mitigation identified in the Draft Solar PEIS are warranted." If the additional visual analysis results in a conclusion that the areas should be designated as Visual Resource Management ("VRM") Class II or III consistent (a conclusion that we would strongly disagree with), stringent and prohibitively costly visual resource mitigation requirements could apply to this area (in general and pursuant to the terms of the SDPEIS).

  The Solar Industry does not believe that the 2011 inventory that caused this new designation was conducted or interpreted properly.[34] Specifically, the wilderness characteristic designation is suspect in light of its apparent departure, without explanation, from the 2010 Visual Resources Inventory ("VRI") in the same area, which concluded that the area had VRM Class III characteristics. Even with this information in hand, the DPEIS declined to recommend that VRM classes be assigned to any of the lands within the Riverside East SEZ. (DPEIS at pp. 9.4-220 to 9.4-221.) When one considers the proximity of the area to the Blythe Airport, the recently approved Blythe Solar Power Project,[35] and the Town of Blythe, whether the lands can be deemed to embody the "naturalness[] and outstanding opportunities for either solitude or primitive

[34] There is, admittedly, no way to know for sure if the inventory was appropriate. The SDPEIS does not include the 2011 wilderness inventory or identify where it can be found. To comply with NEPA, BLM should make this document available.

[35] Currently, construction of this project is on hold while the developer attempts to re-permit the project to accommodate a change in technology. However, the developer undertook construction activities (development of roads, installation of fencing, grading, and clearance surveys) from late 2010 to mid-2011.

and unconfined recreation" seems highly unlikely.[36] The SDPEIS does little to allay these suspicions, giving the reader very little information about the 2011 wilderness characteristics inventory and observing only that the 2011 inventory and a 2010 VRI "reached somewhat different conclusions concerning visual resource values on the eastern side of the McCoy Mountains and the western face of the Big Maria Mountains." (SDPEIS at C-76.) This vague statement does not demonstrate to the public that BLM has fully considered its decision on this issue, nor does it provide the public with the necessary information to understand the wilderness characteristics decision.[37]

Significantly, even if BLM has properly characterized the area as having wilderness characteristics, BLM's policy documents require further analysis before it can consider the wilderness characteristics in a land use plan decision. Specifically, BLM must "[c]onsider and document the extent to which other resource values and uses of lands with wilderness characteristics would be forgone or adversely affected if the wilderness characteristics are protected."[38] Given the significant solar resources in the East Riverside SEZ, the national commitment to the development of solar energy on public lands, and the environmental benefits of clean solar energy, it seems likely that the calculus would favor solar development in this particular area.

- Certain design requirements are based on outdated and incorrect assumptions about technologies. Rather than impose hard and fast rules, the PEIS should simply require that the NEPA process take into account the following requirements:

    - Height Restrictions. Rather than a 100 foot limit in areas listed for meeting VRM Class II and III-consistent management objectives, or prohibiting power towers specifically (De Tilla Gulch, Fourmile East, and Gillespie), visual impacts should be assessed on a case-by-case basis. (*See* Attachment A, Item No. 16.)

    - Water Monitoring Requirements. Rather than require "less detailed analyses . . . for photovoltaic [PV] facilities and more detailed analysis for higher water use parabolic trough facilities", additional monitoring requirements should be imposed only on wet cooling projects or not at all. (*See* SDPEIS at p. C-343.)

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[36] BLM Instruction Memorandum No. 2011-154 (July 25, 2011) (Attach. 1 at pp. 4-8, available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/im_attachments/2011.Par.27443.File.dat/IM2011-154_att1.pdf.

[37] In addition, BLM has not explained the impact of the heavily mined McCoy Mountains, which were identified as Class IV lands in the 2010 VRI. This area boarders the proposed wilderness characteristics area, not far from the western boarder of the SEZ in the area impacted by the proposed wilderness characteristics designation.

[38] BLM Instruction Memorandum No. 2011-154 (July 25, 2011) (Attach. 2 at p. 2, available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/im_attachments/2011.Par.28612.File.dat/IM2011-154_att2.pdf).

- Footnote 1 on page 1-5 cites BLM's Land Use Planning Handbook, H-1601-1 (2005)[39] for the proposition that "A variance area is an area to be avoided that may be available for a solar energy right-of-way (ROW) with special stipulations or considerations . . . ." While the Solar Industry would agree that a variance area is an area that may be available for development, it cannot be, and is not, simultaneously an area to be avoided. Indeed, the language in the BLM Handbook actually states that "Right-of-way avoidance areas" are "areas to be avoided but may be available for location of right-of-ways with special stipulations" and distinguishes these areas from exclusion areas, which are "areas which are not available for location of right-of-ways under any conditions . . . ." (*Id.* at App. C, p. 21.) The SDPEIS simply uses the wrong construct to describe variance areas.

X. CONCLUSION

In his State of the Union address, President Obama recognized that while the differences in Congress "may be too deep right now to pass a comprehensive plan to fight climate change", the Administration still has powerful tools of its own for addressing this all-important issue; specifically, its authority to manage the nation's public lands. President Obama announced his intent to direct his Administration to make public lands available for the development of clean energy and more generally spoke of his aspirations for "a future where we're in control of our own energy." SEIA and LSA believe that DOI, BLM, and DOE have already done great work in furtherance of the President's agenda and hope that the President's words provide encouragement to the Departments to continue to devote resources to this lengthy, but extremely worthwhile, planning process.

However, the PEIS still requires work to get to a point where it will provide developers with meaningful and viable development opportunities in the short and long term. As part of this work, we urge the Departments to implement the changes described in this letter. These changes are critical if we are to ensure that the PEIS is more defensible and better designed to accomplish its purposes, and further ensure that it will not arrest the progress of the Solar Industry, which plays a crucial role in the Administration's plan to use public lands to generate clean energy.

Thank you for your time and consideration.

Sincerely,

Peter H. Weiner
of PAUL HASTINGS LLP

Jill E.C. Yung
of PAUL HASTINGS LLP

on behalf of the SOLAR ENERGY INDUSTRIES ASSOCIATION
and the LARGE-SCALE SOLAR ASSOCIATION

Attachment A: Supplemental Draft Solar PEIS – Comments on Appendix C
Attachment B: May 2, 2011 Industry Comment Letter on the DPEIS

[39] Available at http://www.blm.gov/pgdata/etc/medialib/blm/ak/aktest/planning/planning_general.Par.65225.File.dat/blm_lup_handbook.pdf.

Attachment A

Supplemental Draft Solar PEIS –
Comments on Appendix C

Supplemental Draft Solar PEIS – Comments on Appendix C
(Action Plans for Solar Energy Zones to Be Carried Forward)

Ref. #	Page	Text	Comment
1	General Comment	Various text throughout Appendix C.	The lists of "Potential adverse impacts identified in the Draft Solar PEIS" for each SEZ include many of the same elements found under the same heading in the discussions in Appendix B of areas that will be dropped from further consideration for SEZ designation. In light of this overlap, the line between potential impacts that warrant dropping or restricting development within a SEZ is not clear.
2	General Comment	The potential impacts section for several SEZs notes that "Minority populations occur within a 50-mi (80-km) radius of the proposed SEZ boundary; thus adverse impacts of solar development could disproportionately affect minority and low-income populations." (*See, e.g.* C-22; C-169.)	Stated in this way, the observations about potential impacts on minority populations are unhelpful. The PEIS fails to identify what resources (air, visual, transportation) might be impacted by solar development in a way that could have consequences for neighboring minority communities. The PEIS also does not explain the significance of the radius considered or conclude that the same radius is relevant regardless of the resource impacted. The Final PEIS should clarify these matters and identify the size of the population that might be impacted.
3	General Comment	Section 368 energy corridors might interfere with development in SEZs. (*See, e.g.*, C-37 (Imperial East; "A designated Section 368 energy corridor covers about 80% of the SEZ, potentially leaving less than 1,000 acres (4 km^2) available for solar development."); C-57 (Riverside East; same); C-98 (De Tilla Gulch; "A U.S. Department of the Interior Bureau of Land Management (BLM)-designated transmission corridor covers about two-thirds of the SEZ and could limit development in the SEZ because solar facilities cannot be constructed under transmission lines."); C-113 (Fourmile East; same).)	The impacts of Section 368 energy corridors on the total acreage in SEZs needs to be taken into account and transparently presented to the public. BLM should comment on the likelihood of approval for the development of generation facilities in these areas.
4	General Comment	Significant data gaps remain in the SDPEIS and BLM has stated that these gaps will be filled in the FPEIS. (*See* C-1 (recognizing that "[s]ome of the items identified in the action plans" ["plans that describe data gaps for individual SEZs and propose data sources and methods for the collection of additional data"] "will be completed by the BLM and presented in the Final Solar PEIS."); C-339 ("The planning-level inventory of water resources will be presented in the Final Solar PEIS."); C-44 (additional	This approach will deny public participants the opportunity to comment on significant matters where developer input in particular would be useful. To the extent that BLM intends to impose further restrictions on SEZs or new design criteria, BLM should provide a comment period on the FPEIS to ensure that stakeholders have an opportunity to correct any mistaken assumptions and conclusions.

Ref. #	Page	Text	Comment
		inventory and mitigation for vegetation resources); C-49 (additional inventory, avoidance, and mitigation requirements); C-49 (additional KOPs))	
5	C-22 to C-23 Gillespie SEZ	To reduce the visual resource impacts on this area and on Agua Caliente Road from solar development within the SEZ, allowable solar technologies within the SEZ will be limited to photovoltaic systems with height of panels no greater than 10 ft (3.3 m), or technologies with comparable or lower heights and reflectivity.	The SDPEIS imposes this condition despite the fact that "the SEZ Is in an area of low scenic quality . . . ." The conclusion in the SDPEIS that "weak to strong visual contrasts could be observed by visitors to Signal Peak WA, Woolsey Peak 25 WA, and Saddle Mountain SRMA, and travelers on the Agua Caliente Road, 26 Salome Highway and Old U.S. 80" is unhelpful, as it obscures the actual conditions of concern. Are the visual contrasts strong or weak? The evaluation of the resource should be made more internally consistent. (Please see the body of the comment letter for recommendations regarding the height restrictions proposed in the SDPEIS.)
6	C-22 Gillespie SEZ	The SDPEIS concludes that "The potential for impacts on significant paleontological and cultural resources is unknown. Impacts on cultural resources are also possible in areas related to the assumed access road."	Where impacts are possible simply because they are unknown, the PEIS should state only that they are unknown. The conclusion that impacts "are possible" suggests that some evidence points to this possibility.
7	C-53 Riverside East SEZ	"Solar development in the western portion of the SEZ would likely create conflict with existing residential use near Desert Center, Lake Tamarisk Resort, and scattered private residences."	The final Solar PEIS should address the number of residences that might be affected so that developers can use this information to better assess potential impacts of development.
8	C-56 Riverside East SEZ	"Concerns have been expressed in the past over the Salt Song Trail, and solar development within the SEZ is likely to be visible from the trail. Additional features of potential concern include Big Maria, Coxcomb, and Eagle Mountains, Alligator Rock, Black Rock, and McCoy Springs. The Soboba Band of Luiseno Indians and the Quechan have expressed concern over highly sensitive areas within their Tribal Traditional Use Areas."	While these concerns have been raised, the Salt Song Trail, to our knowledge, has not been definitively mapped and current uses have not been documented. To the extent that BLM intends to require developers to take the existence of the trail into account, developers must, at a minimum, know where it is. More generally, BLM should provide some guidance for how it intends to handle incidental impacts on the experience of those utilizing tribal resources near (visible from) potential sites for solar generation facilities.
9	C-58 Riverside East SEZ	"All forms of development within the area identified as needing to meet Visual Resource Management (VRM) Class II-consistent objectives in the Draft Solar PEIS will be limited to 10 ft (3.3 m) or under, and technology will be restricted to either photovoltaic technologies of less than 10 ft (3.3 m), or technologies with comparable or lower height and reflectivity. Within the area of the SEZ that was identified as needing to meet VRM Class III-consistent objectives in the Draft Solar PEIS, the solar development	The current height and technology limitations are excessive, as they would exclude even efficient PV technologies (*e.g.*, PV with trackers) and thereby provide perverse incentives to increase project footprints. Furthermore, the presumption that taller technologies will have greater impacts on visual resources is questionable. Any decision to allow solar development will create some visual contrasts from some vantage point. From a distance or from an elevated position, however, the impact of 10 ft panels on visual resources will not be appreciably different from the

Ref. #	Page	Text	Comment
		will be restricted to either PV technologies of less than 10 ft (3.3 m), or technologies with comparable or lower heights and reflectivity."	impacts of 20 ft panels or troughs. The 10 ft height limit and PV-only limitations on more than 25% of the SEZ acreage should be eliminated, with visual considerations applied only on a case-by-case basis to mitigate actual visual impacts exacerbated by project height.
10	C-83 Antonio Southeast SEZ	"On the western side of the SEZ that was labeled to meet VRM Class II-consistent objectives in the Draft Solar PEIS, all forms of development will be limited to 10 ft (3.3 m) or under, and the technology will be restricted to either photovoltaic technologies of less than 10 ft (3.3 m), or technologies with comparable or lower height and reflectivity. Within the area of the SEZ that was labeled to meet VRM Class III-consistent objectives in the Draft Solar PEIS, the solar development will be restricted to either PV technologies of less than 10 ft (3.3 m) or technologies with comparable or lower height and reflectivity."	See comment no. 9.
11	C-102 De Tilla Gulch SEZ	"The . . . SEZ area is 1,064 acres (4.3 km^2)."	This area is not nearly large enough to constitute a SEZ. Whether this area could support more than one project is questionable. Each project would need to be well under 100MW. Although we do not want to discourage BLM from making appropriate lands available for solar development, we would like to encourage BLM to focus the resources available for future SEZ development projects on options that create more substantial opportunities for development.
12	C-151 Amargosa Valley SEZ	"On the basis of the water impact analysis provided in the Draft Solar PEIS, development within the remaining area of the SEZ may need to be restricted to PV technology or a technology with equivalent or lower water use. Updated analyses taking the revised SEZ boundaries into consideration will be included in the Final Solar PEIS."	Technology limitations are inappropriate. To the extent that water impacts are a concern, the PEIS should place limits on the amount of water that can be used and leave it to the developers to determine whether they can construct or operate within those limits (or, alternatively, secure replacement water).
13	C-243 Afton SEZ	"On the basis of the water impact analysis provided in the Draft Solar PEIS, development within the remaining area of the SEZ may need to be restricted to PV technology or a technology with equivalent or lower water use. Updated analyses taking the revised SEZ boundaries into consideration will be included in the Final Solar PEIS."	See comment no. 12.
14	C-339 Transmission	"An important finding from the SLT analysis is that there appears to be spare capacity available in the existing 500-	This assertion is not true. The error appears to be the result of the omission of a power flow analysis. The most recent, definitive analysis of

Ref. #	Page	Text	Comment
	Analysis	kV network linking the proposed Brenda SEZ to major load areas and potential solar energy markets."	solar renewable development in Arizona showed the need for major upgrades. (*See, e.g.*, Arizona Corporation Commission's recently sponsored study on Renewable Energy Export, 11/1/2011, which concluded that Palo Verde (Delaney) to Colorado River and North Gila to Imperial Valley 500 kV lines were both needed to accommodate increase renewable generation in the state.) The model should be modified to consider "parallel" or loop flow (power from a source to sink will travel on multiple paths); include contingency considerations (contingency coverage requirements that give the appearance that a line has room because that is the case under normal conditions); and account for queue considerations and how to reserve transmission for projects in zones. Alternatively, BLM could turn over its priority projects to WECC/TEPCC and other regional planning entities (e.g., SWAT, CTPG, and CAISO) for analysis in annual planning proceedings.
15	C-343 Groundwater Analysis	The SDPEIS proposes to require "less detailed analyses . . . for photovoltaic [PV] facilities and more detailed analysis for higher water use parabolic trough facilities . . . ."	Additional monitoring requirements should be imposed only on wet cooling projects or not at all. There is no reason to require that certain CSP projects increase their monitoring above the requirements applicable to PV projects. Even presuming that all PV projects will use less water than all CSP projects, more water use does not make a project more likely to violate water use restrictions imposed by the ROW grant and NEPA documents.
16	C-344 Visual Resource Design Features	"No vertical development over 100 ft (30.5 m), including transmission towers and other structures."	Along the same lines as the comments on 10 foot height restrictions and PV only areas, BLM should consider on a case-by-case basis the impact of facility height on visual resources. Actual visual impacts can be significantly affected by site-specific considerations. While it is appropriate for the PEIS to offer a tool box of solutions for mitigating visual impacts (e.g., color treatments), it is not appropriate to bar the use of particular technologies across large areas.

Attachment B

May 2, 2011
Industry Comment Letter
on the DPEIS

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May 2, 2011 76145.00002

VIA OVERNIGHT UPS & INTERNET

Solar Energy PEIS
Argonne National Laboratory
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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.

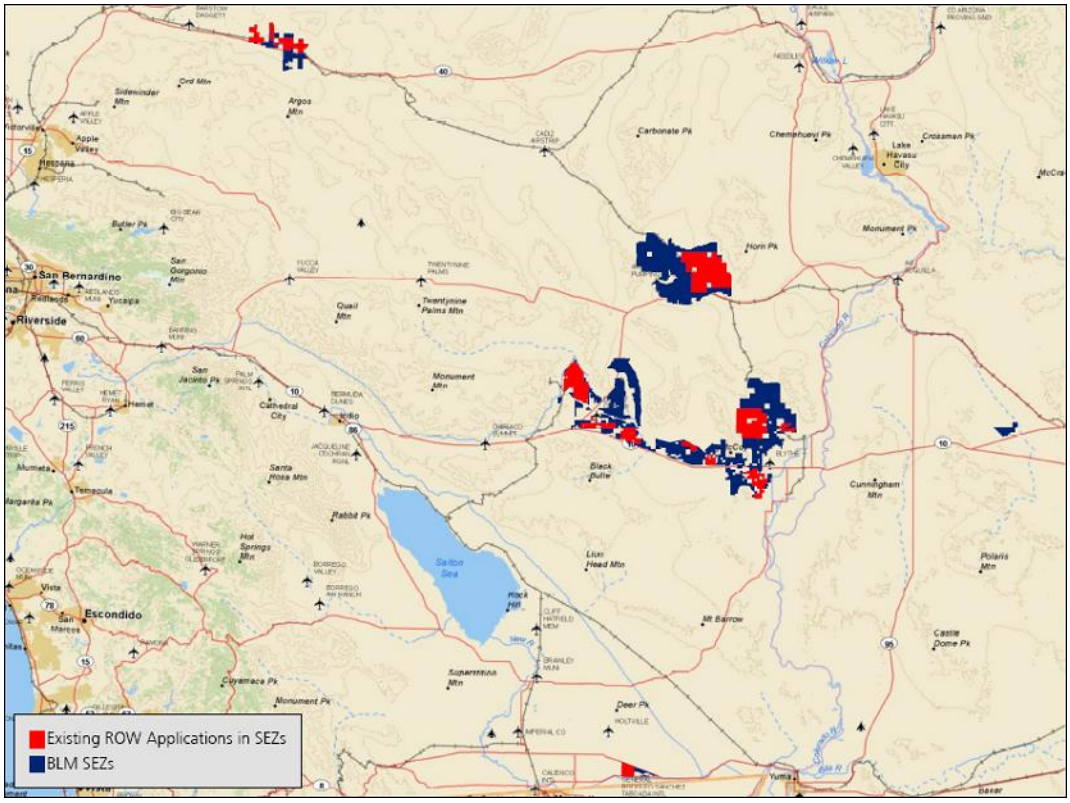

Figure 1. Existing ROW applications in proposed California SEZs.

[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.

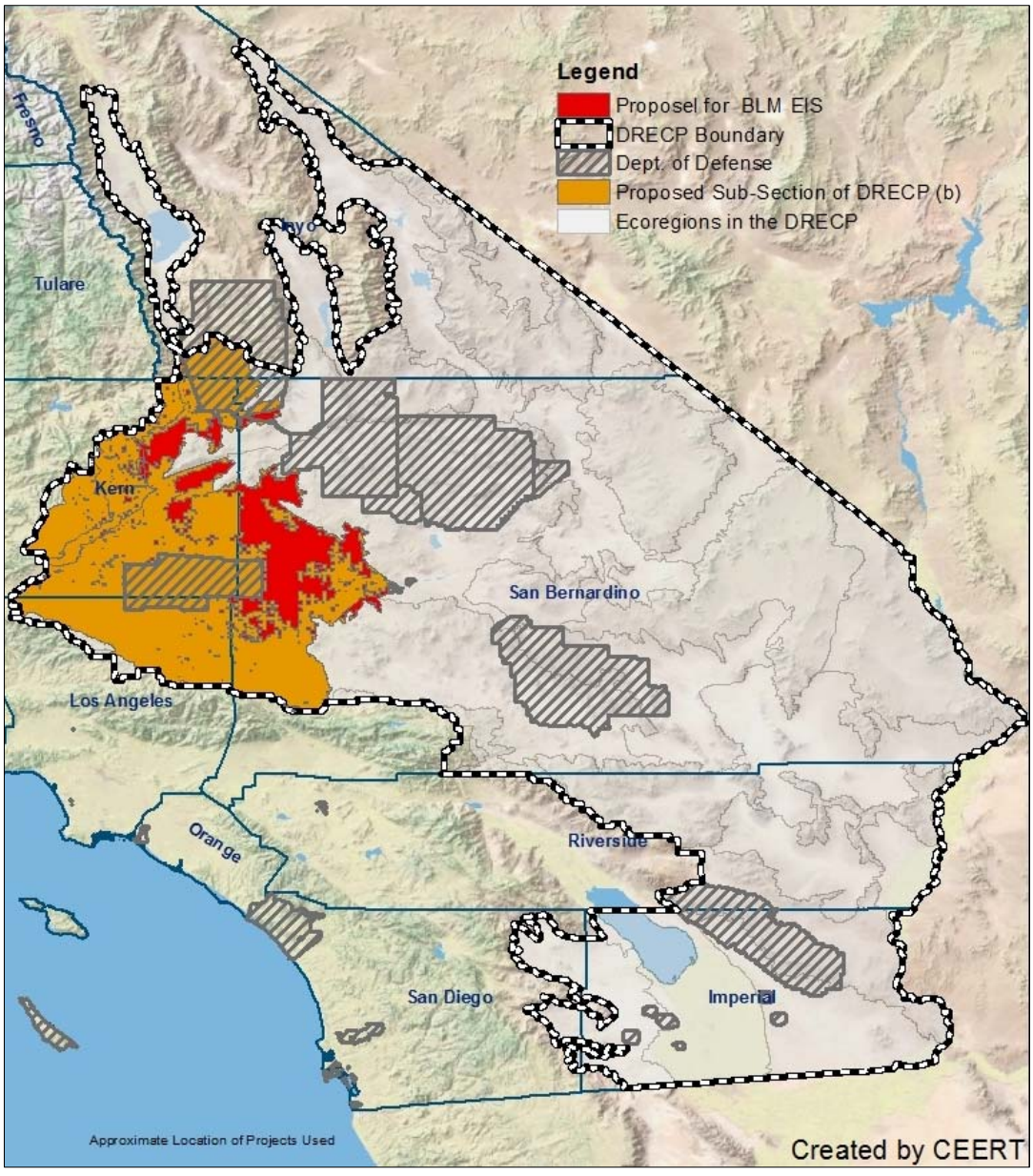

Figure 2. Suggested zone for studying the possibility of SEZs in the West Mojave.

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.

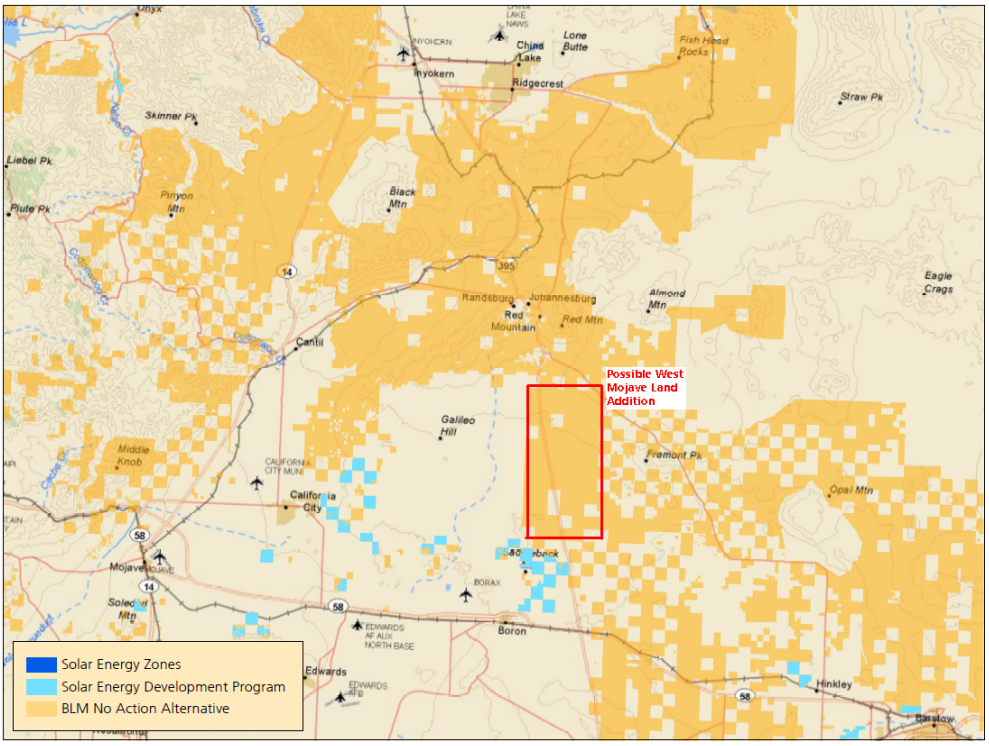

Figure 3. Proposed starting point for SEZ evaluations in the West Mojave.

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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the LARGE-SCALE SOLAR ASSOCIATION, the CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES, and the SOLAR ENERGY INDUSTRIES ASSOCIATION

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.

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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

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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.

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	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

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	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.

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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

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	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.