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Sent via Mail and Solar EIS Website

Solar Energy PEIS
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RE: Comments of the Solar Energy Industries Association and the Large-scale Solar Association on the Final Solar PEIS

After four years of study, numerous stakeholder meetings, and several rounds of public comment, the Programmatic Environmental Impact Statement (PEIS) for Solar Development in Six Southwestern States is nearly complete. As active participants from the beginning, the Solar Energy Industries Association (SEIA) and the Large-scale Solar Association (LSA)¹ commend the Department of the Interior and the Department of Energy for this enormous undertaking.

In addition, we are appreciative of the tremendous effort the Department of the Interior (DOI) and the Bureau of Land Management (BLM) have put into permitting renewable energy projects on public lands. In just three years, BLM has issued the agency's first seventeen permits for utility-scale solar power plants or associated transmission lines on public lands. We hope to see that track record continue after the issuance of the Record of Decision on this solar PEIS.

The Final PEIS in many respects mirrors both the Draft PEIS and the Supplement to the Draft PEIS released by BLM in 2010 and 2011, respectively. Our comments and concerns, therefore, should be familiar to BLM and the Department of Energy (DOE). In addition, some notable changes were made to the Final PEIS, some of which improved the program, and others which did not. We address those changes below, and encourage BLM and DOE to remedy these concerns prior to issuing the Record of Decision. It should be noted that SEIA and LSA are filing concurrently a limited protest on the topic of insolation as an exclusion criterion.

¹ The comments contained in this filing represent the position of SEIA and LSA as organizations, but do not necessarily reflect the views of any particular member with respect to any issue.

Our comments below address the following topics:

- Continued Processing of Existing Applications
- Relaxation of Slope as an Exclusion Criterion
- Solar Insolation as an Exclusion Criterion
- Sage-Grouse Exclusions
- The Need for a Flexible Variance Process
- New Solar Energy Zone Identification Process
- Interplay of the Final PEIS and the California Desert Renewable Energy Conservation Plan (“DRECP”)
- Competitive Bidding
- Performance and Reclamation Bond Requirements
- Design Features
- Transmission Planning for Future Solar Development

I. Continued Processing of Existing Applications

We commend the BLM for explicitly stating that pending applications “will not be subject to any new program elements adopted by the Solar PEIS ROD” (Final PEIS, p. 1-11) and will instead be processed under the rules in place when those applications were filed. This has been an area of great concern to the solar industry, as noted in our prior comments (see, e.g., Comments on the Supplemental Draft Solar PEIS, p. 4-5) and we are heartened by this unambiguous statement of BLM’s intent.

II. Relaxation of Slope as an Exclusion Criterion

The Final PEIS contains an exception to the standard exclusion of any lands with greater than 5% slope. BLM has adopted a recommendation made in the Joint Comments submitted by conservation, utility and solar industry stakeholders² wherein applications may include lands with slope up to 10% where higher slopes inclusions meet all of the following: (1) are proximate to variance lands in the application, (2) are not otherwise excluded from development, (3) allow for the avoidance or minimization of resource conflicts, and (4) do not create any significant new or additional conflicts. In such cases, a land use plan amendment would have to be adopted as part of the project-specific analysis to permit the slope exception. We applaud BLM for adopting this proposal, as it adds to the flexibility a solar developer has to site a project while also minimizing environmental impacts.

² Joint Comments on Supplemental Draft PEIS for Solar Development, pp. 4-5. Submitted January 27, 2011. (“Joint Comments” hereafter.)

III. Solar Insolation as an Exclusion Criterion

Our comments on the Supplement to the Draft PEIS were very clear on the fact that BLM should not use non-environmental factors such as slope and insolation in determining exclusion areas. Despite this, the Final PEIS retains insolation as one of the 32 exclusion criteria that determine where solar energy development is not to occur. (See Final PEIS, p. ES-8) SEIA and LSA are filing concurrently a protest on this issue.

The PEIS is anticipated to be a twenty-year document and technology will change greatly over that timescale. Even with today's technology, solar developers are interested in lands with insolation of less than 6.5 kWh/m²/day. In addition, BLM makes it clear that, while areas with lower insolation values may be considered for future SEZ designations, no individual projects will be permitted to develop on such lands.³ This directly contradicts the statement that developers are within their rights to "request that the BLM amend a land use plan to allow for an otherwise nonconforming proposal."⁴ The section continues, "For example, an applicant may request a land use plan amendment for development in areas with ... lower insolation than previously identified in order to avoid a potential resource conflict or maximize the use of existing transmission."⁵ From this wording, it appears that BLM anticipates only limited circumstances in which development on lower insolation lands is acceptable or desirable to the applicant. To the contrary, solar developers today are installing power plants in areas of lower insolation because those sites are otherwise attractive and provide an economically viable location to build a power plant.

Excluding such lands does not even give the applicant the protections one would get in the variance areas, where it is up to the applicant to prove to BLM that a solar project is acceptable in a given location. BLM must leave the decision about proper insolation up to the developer's expertise. BLM should remove insolation from the list of exclusions altogether. To the extent that solar developers propose projects on lower insolation lands outside the SEZ areas, BLM should consider those applications on a case-by-case basis.

³ The Final PEIS, p. A-123 states: "Under BLM's proposed Solar Energy Program, areas with direct normal solar insolation levels less than 6.5 kWh/m²/day would not be available for individual applications (i.e., they would be excluded). However, in light of expected technological advances, shifting market conditions, and evolving state and Federal policies, the BLM will allow new SEZs in areas with insolation levels lower 6.5 kWh/m²/day as appropriate."

⁴ Final PEIS, p. 6-23.

⁵ *Id.*

IV. Sage-Grouse Exclusions

Item 8 in Table ES.2-2 excludes from solar development any greater sage-grouse habitat as identified by BLM in California, Nevada, and Utah, as well as Gunnison's sage-grouse habitat BLM has identified in Utah. SEIA appreciates that this exclusion "will be subject to change based on the outcome of the BLM's sage grouse planning efforts and resulting plan amendments." (Final PEIS, ES-10, footnote c) However, as SEIA stated in comments to BLM in response to its December 9, 2011 Notice of Intent,⁶ this exclusion results in a further reduction of available land both inside the SEZs and within variance areas.

According to the Final PEIS, greater sage-grouse occupy approximately 7% of the acres within the SEZs and the variance areas combined, but their territory spans across RMPs in California, Colorado, Nevada, New Mexico, and Utah.⁷ Moreover, the Final PEIS requires solar projects in variance areas be "at least 4 mi (6 km) from the nearest lek [breeding ground]."⁸ This is a 1-mile increase, as the Supplement to the Draft PEIS required a 3-mile distance from the nearest lek.⁹ The Final PEIS neither explains nor provides any analysis to demonstrate what led to this change. Similar to the Supplement to the Draft PEIS, the Final PEIS also would require developers that propose utility-scale solar energy projects in variance areas that overlap with greater sage-grouse territory to document that the "[p]roject will not adversely affect Preliminary Priority Habitat; and [the] [p]roject will be mitigated through land acquisition or habitat enhancement at a ratio of at least 1:1 . . . as determined by accepted standards of habitat analysis."¹⁰ This standard should specifically identify authoritative commitments that could properly prohibit development and how they are established. Moreover this biological reason for excluding lands requires further definition and a sound legal or scientific basis for their imposition. This exclusion is vague and destined to be applied inconsistently across different decision makers. Finally, this restriction could constitute a larger portion of public land than expected.

While the potential overlap between RMPs and SEZs may be low, as noted above, rigid conservation strategies may impede solar energy development by further decreasing the already minimal amount of land available for solar development in the PEIS.

⁶ 76 Fed. Reg. 77,008.

⁷ Final PEIS, p. ES-25.

⁸ *Id.* at p. 2-50.

⁹ *Id.* at 2-37.

¹⁰ *Id.*

SEIA and LSA further recommend that BLM fully explore the availability of mitigation measures and proactive conservation practices as an alternative to further reductions within SEZs and variance areas. By using flexible approaches, it should be possible to develop site-specific conservation tools that allow for the protection of sage-grouse and sage-grouse habitat without the need for removing even more land from potential renewable energy development. For example, lands suitable for solar energy development could be subject to adaptive management tools, mitigation banks, or pre-listing or pre-compliance conservation agreements that would keep those areas open for leasing and project siting while meeting the biological needs of sage-grouse. Creative use of existing land and species conservation mechanisms should make it possible to keep all of the lands in the greater sage-grouse territory available for development, with exclusion from solar project siting ebbing used as only a last resort.

V. The Variance Process Must Be Clarified and Made More Flexible

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 Final PEIS is virtually identical to the Supplemental Draft PEIS process, and as such, it is insufficient. 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 individual considerations for BLM’s process when deciding whether to grant a variance. 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.

Like the Supplemental Draft PEIS, the Final PEIS 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 in order to move an application forward. BLM has indicated that the variance factors will generally be treated as circumstances to be considered when evaluating an application. SEIA and LSA view this interpretation as being essential to the success of the Solar Program, and further note 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. BLM should further clarify that the factors will 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 revised factors

in the Final PEIS are somewhat ambiguous or outright inappropriate. We therefore urge the following modifications:

A. Minimal conflict factors

The Final PEIS states that BLM will, when evaluating a variance application, consider “Documentation that the proposed project is in an area with low or comparatively low resource conflicts and where conflicts can be resolved (as demonstrated through many of the factors that follow).”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.

The failure to provide a workable variance process would essentially impose a moratorium on new utility-scale solar projects on BLM lands for the foreseeable future. To avoid this outcome, 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 Final PEIS. Specifically, under the Instruction Memorandum, as modified to account for the exclusion criteria in the Final PEIS, 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 Final PEIS, p. 2-46.

- 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, those changes 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 the solar industry to have a real variance development option to compensate for the inadequate size and number of existing zones.

B. Desert Tortoise “Variance Process Requirements”

In a Joint letter from the solar industry and national environmental groups to the Secretary of Interior,¹² we emphasized that “we do not yet agree on a recommendation for the contents of a Desert Tortoise requirement, except to say that neither Option 1 nor Option 2 is adequate” as it appeared in the Supplemental Draft PEIS.¹³

Since publication of the Supplement to the Draft Solar PEIS, BLM is proposing to exclude from the Solar Energy Program an additional 515,000 acres (2,084 km²) of land that coincides with priority desert tortoise connectivity habitat. In addition to the fact that designated desert tortoise conservation areas will be excluded from BLM’s proposed Solar Energy Program, developers that propose utility-scale solar energy projects in variance areas that overlap priority desert tortoise connectivity habitat identified on U.S. Fish and Wildlife Service (“USFWS”) maps will be required to meet with the BLM and USFWS early in the process.

¹² Joint Comments, p. 7.

¹³ *Id* at p. 2.

Additionally, applicants will be required to work with the agencies to survey an appropriately sized area (which may be three to four times larger than the proposed project area) in an attempt to find a suitable project location or configuration that minimizes impacts on desert. Nevertheless, the BLM and USFWS will discourage applications in the highest priority areas given anticipated high conflict, higher survey costs, and high mitigation requirements.¹⁴

In essence, the Final PEIS excludes large amounts of lands from the variance areas (a total of 500,000 acres for priority desert tortoise connectivity habitat, and it seems to align with Option 2 of the Desert Tortoise requirement as presented in the Supplement to the Draft PEIS. Although we stated in the Joint comment letter that neither Option 1 or Option 2 was acceptable to either environmental groups or solar developers, BLM chose a desert tortoise requirement path close to Option 2 in the Final PEIS.

We continue to oppose the current language, due to the additional burdens it will impose on project developers. Requiring project developers to evaluate an area three- to four-times larger than the project area, to evaluate corridor width, and to commission peer-reviewed tortoise connectivity studies by accredited scientists are all requirements which will lengthen and increase the cost of, rather than streamline the process for permitting solar projects on public lands.

The current language also fails to provide a mechanism for applying new and site-specific data to “ground truth” and reassess the 2009 USGS model assumptions of the associated “Map of FWS-Identified Priority Desert Tortoise Connectivity Areas.” The multi-state 2009 USGS model upon which the map is based does not take on-the-ground-conditions into consideration and, in some instances, directly conflicts with existing project data on file with the BLM as well as with more recent, surface-verified maps prepared for the BLM (i.e., Penrod et al. 2012). The solar program ROD must incorporate the concept of a rebuttable presumption when using such high-level mapping exercises to shape public lands policies. The ROD should also factor in well-substantiated applicant comments on the PEIS and more recent, surface-verified maps where they show the USFWS map to be in error.

C. Transmission access and infrastructure minimization requirements

The Final PEIS states that BLM may advise an applicant not to submit an application or modify its application. When doing so, BLM plans to consider a number of vague and arbitrary considerations, including whether there are “[l]ands within a SEZ that are sufficient to meet the

¹⁴ Final PEIS, pp. 2-48 and 2-49.

potential applicant's needs, including adequate access to available transmission."¹⁵ Solar plant developers assess a variety of factors when determining an appropriate place to build a utility-scale solar plant. In reviewing the many iterations of the Solar PEIS, these experts have determined that BLM is providing insufficient land within the SEZs and inadequate access to transmission within the SEZs. Yet the Final PEIS states that BLM could advise a variance applicant that has spent months or longer researching and carefully choosing a site for its plant, that there is a "sufficient" site with "adequate access to available transmission" elsewhere and potentially in an entirely different state with different permitting rules and regulations. This factor removes what little remaining certainty or confidence solar developers had in the variance process. Without defining or elaborating on the definitions of "sufficient" and "adequate access," BLM is essentially requiring developers to review all of the land within all of the SEZs to determine whether the minimal land available is sufficient (not better) and has adequate (not superior) access to transmission before it can even begin to evaluate land in variance areas. This is overly burdensome and time-consuming to the point where developers may decide to forego development on public lands altogether. We recommend that BLM eliminate this factor from consideration.

In addition, the requirement that proposed projects meet one or more of several transmission sub-criteria¹⁶ could significantly and unnecessarily delay the permitting process in states where the transmission planning process is protracted and cumbersome. For example, the sub-criterion that "new transmission upgrades or additions to serve the area have been permitted or are reasonably expected to be permitted in time to serve the generation project," is unrealistic and completely out of an applicant's control. 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.¹⁷ Another new sub-criterion is that any proposed project be on lands adjacent to designated transmission corridors.¹⁸ As noted above, DOE does not define "adjacent," and provides no guidance as to how it will measure whether land is "adjacent" to a transmission corridor.

Similarly, variances should not be restricted to areas where "minimal" additional infrastructure

¹⁵ Final PEIS, p. 2-44.

¹⁶ Final PEIS, p. 2-46.

¹⁷ 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.

¹⁸ Final PEIS, p. 2-46.

(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 Supplement to the Draft PEIS, “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 Final PEIS additionally proposes to require “[d]ocumentation that the proposed project will be designed, constructed, and operated to use the best available technology for limiting water use that is applicable to the specific generation technology.”¹⁹ 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 use the best available technology ignores several factors – including cost effectiveness – that project developers must take into account when deciding what type of technology to use for a given project. Making the best available water conservation technology the paramount consideration when choosing a generation technology is short-sighted and unrealistic.

E. General comments on the Variance Process

The variance areas are far too small. 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 Final PEIS and could affect the environmental impacts 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

¹⁹ P. 2-47.

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.

VI. 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. In earlier comments, we suggested a five-year cycle for both assessing the need for and identifying new zones. However, given that the existing zones provide such a minimal portion of land, we recommend establishing at least biannual open seasons once the Final PEIS has been published. In addition, developers should be allowed to file applications at any time 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 to the Draft PEIS drastically reduced (by over 50%) the amount of land in SEZs. Thousands more acres were removed in the Final PEIS. Of the land that remains, significant portions are taken up by existing applications, by proposed height restrictions that would preclude several technologies, and by conflicts associated with Section 368 transmission corridors. As mentioned previously, the proposed SEZs are too small, with a median size of only 5,873 acres—barely enough for two projects (approximately 650 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 Standard (“RPS”) goals and provide developers with the flexibility necessary to work with Balancing Area Authorities, 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. SEIA and LSA appreciate BLM and DOE’s recognition that “new or expanded SEZs must be anticipated and planned for ahead of the need so as not to delay solar energy development.”²⁰

²⁰ Final PEIS, p. 2-37.

But in light of the SEZs being proposed, review of the sufficiency of SEZs at least every five years is simply 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, BLM should commit to study potential new zones biannually 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.

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 Final PEIS.

BLM should also be looking at developing a zone in the West Mojave *today*. The West Mojave is the area with both the best general insolation in the United States and remarkable proximity to one of the nation’s largest load centers. As noted in SEIA and LSA’s comments on the original Draft PEIS, 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. 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 evidenced 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 real 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). 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 process, to designate new SEZs. These processes, at the least the DRECP in its current form, are not solely focused on creating zones. The DRECP, which will create a Habitat Conservation Plan (HCP), is intended to identify development areas and an extensive habitat reserve design. In addition, the DRECP will not provide the necessary relief in a timely manner (current expected completion date is 2014). A PEIS can be prepared (or supplemented) faster than a HCP, which is designed to tackle different and more complex issues).

New zones 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, and they should consequently not serve as models for the development of new zones.

VII. Interplay between the PEIS and the Desert Renewable Energy Conservation Plan

The federal agencies and parties to the PEIS have spent countless hours and dollars developing and advising on the creation of a program for solar projects on public lands. As BLM nears the conclusion of this multi-year process, it is imperative that it ensure that the Final PEIS program guidelines and lands are protected against further reduction by subsequent land use planning processes such as California's DRECP. The Final PEIS includes program elements that were the result of carefully crafted and deliberated negotiations among the parties, designed to ensure a viable program for the solar industry, while protecting sensitive species and habitats throughout the program planning area.

The purpose for these negotiated elements and for the overall solar energy program is to provide enduring, long-term guidance and certainty to both industry and conservationists regarding where solar projects and transmission can be built, and where sensitive habitats are to be avoided. To upend any elements of the PEIS in a way that would further reduce either existing SEZs or variance lands acreage or erode the “sanctity of existing projects” concept would introduce a new and precarious level of uncertainty into the planning process. Building utility-scale solar projects and the related transmission takes time – in the case of transmission, up to 10 years. The long-term certainty that is required by the industry to proceed with environmentally-respectful processes cannot sustain a process in which lands identified in the Final PEIS as available for development (or for consideration by the industry for development) are subsequently rendered undevelopable. Yet, this scenario is exactly what the solar industry faces in the DRECP. The industry is too young, faces too many hurdles, and exists in a market too rapidly changing to accommodate mixed or contradictory messaging on the part of the BLM or its sister federal agencies and departments.

SEIA and LSA respectfully request that the PEIS program elements, SEZs, variance lands, and the “existing projects” concept be neither reduced nor eliminated in subsequent land use planning processes.

VIII. Competitive Bidding is Inappropriate for Solar Power Plants

The solar industry has repeatedly expressed its concerns that competitive bidding is inappropriate for solar energy resources at this time. As stated in our comment letter on January 27, 2012 and previously 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 energy. The additional processing time, complications and expense likely in a competitive bidding system does not further the Department’s goals of expanding solar energy deployment on public lands.

Most recently, SEIA filed comments with similar objections in response to BLM’s Advance Notice of Proposed Rulemaking Regarding a Competitive Process for Leasing Public Lands for Solar and Wind Energy Development (ANPR).²¹ Our February 27, 2012 comment letter on the ANPR highlighted the following objections:

²¹ 76 Fed. Reg. 81,906 (December 29, 2011).

- Competitive Bidding Is Inappropriate for Solar Energy Resources
 - Competitive bids are useful to establish a market value for a product or service that cannot otherwise be priced, such as for oil and gas leasing, where the pre-lease market value of the resource is essentially unknown. Conversely, there is nothing unknown about the value of the energy-generating resource for a given solar site because the key determinants – insolation, slope of the land, access to transmission and other factors – are essentially known.
- Competitive Bidding Will Be More Costly and is Inappropriate for a Newcomer to the Electricity Market such as Solar Energy
 - Increased land costs will directly result in increased prices for solar-generated electricity, which means a solar plant will be less likely to win a contract with a utility to provide wholesale electricity, particularly at a time when conventional electric generation appears to be trading at a reduced price.
- Competitive Bidding Undermines Administration Goals and Works at Cross Purposes with Other Federal Programs, including:
 - Policies such as the solar Investment Tax Credit (ITC), the federal loan guarantee program and the Department of Energy's SunShot Initiative
 - Executive Order 13212, "Actions to Expedite Energy-Related Projects," 66 Fed. Reg. 28357 (May 22, 2001)
 - Section 211, of the Energy Policy Act of 2005 (P.L. 109-58) which sets forth the "sense of Congress" that the Secretary of the Interior should seek to have approved non-hydropower renewable energy projects on the public lands with a generation capacity of at least 10,000 MW by 2015.
 - Secretarial Order 3285A1, dated March 11, 2009 and amended on Feb 22, 2010, which "establishes the development of renewable energy as a priority for the Department of the Interior."
 - The January 24, 2012 State of the Union Address, wherein President Barack Obama "direct[ed his] administration to allow the development of clean energy on enough public land to power 3 million homes."
- Competitive Bidding has the Strong Potential to Lengthen and Complicate Siting a Solar Project
 - Complicating the already cumbersome siting process increases costs and the resulting price of electricity generated by solar power plants, making solar energy less competitive compared to other fuel sources and reducing the likely number of megawatts of solar developed on public lands.
- Competitive Bidding is Not an Effective Tool to Weed out Speculators
 - BLM has expressed concerns about speculative applications being filed for renewable energy projects (e.g., Supplement to the Draft Solar PEIS, p. 2-4).

There is nothing to indicate that competitive bidding is needed to help BLM weed out speculative applications.

- FLPMA does not Mandate Competitive Bidding
 - Section 102(a)(9) of FLPMA mandates that “the United States receive fair market value of the use of public lands and their resources” 43 U.S.C. 1701(a)(9), but nothing in this language requires BLM to institute competitive bidding for solar energy resources.
- At a Minimum, Competitive Bidding Should be Deferred
 - If BLM chooses to implement a competitive leasing system, it should not implement such a program until the solar industry has reached maturity and wholesale solar electricity is cost competitive with fossil generation.

In short, competitive bidding will most likely increase various costs associated with developing utility-scale solar projects on public lands, thereby decreasing the solar industry’s ability to compete with other sources of electricity and reducing the number of potential solar projects on public lands. Instead of promoting the efficient use of public lands to achieve national and state renewable energy objectives, competitive bidding would stymie those efforts, in direct conflict with Presidential and Secretarial orders and statutory goals, as discussed above. SEIA and LSA firmly oppose BLM’s proposal to establish a competitive bidding process for solar ROW applications.

SEIA and LSA strongly recommend that, instead of competitive bidding, BLM continue to use the financial and technical capability criteria it adopted in 2011 (see BLM Instruction Memorandum (IM) No. 2011-060)²² to select among competing applications. Where applicants are considered to be equal in their capabilities under these criteria, BLM should process the earliest application filed.

The Final PEIS also contains a warning: “BLM will typically process ROW applications in variance areas on a first-come, first-served basis. However, the BLM has the discretion to apply competitive procedures to variance areas.” (Final PEIS, p. 2-43) While recognizing that this is within BLM’s current authority, SEIA and LSA object to the broad applicability of a competitive structure, particularly when it cannot be anticipated by developers in advance. BLM should clarify in the Record of Decision under what circumstances competitive procedures will be implemented for right-of-way applications in variance areas.

²² Instruction Memorandum 2011-060, “Solar and Wind Energy Applications- Due Diligence,” February 7, 2011 (“IM 2011-060”) available at http://solareis.anl.gov/documents/docs/IM2011-060_Solar_and_Wind_Due_Diligence.pdf

Finally, we note that BLM is exploring some incentives to encourage development within the SEZs (Final PEIS Section 2.2.2.2.3, p. 2-32) and those incentives may or may not be part of the competitive bidding package. However, BLM has not yet determined if the financial incentives presented in this section (and specifically at p. 2-35 and 2-36) will be implemented. In the absence of established details, we cannot analyze the overall efficacy and appeal of the competitive bidding proposal and will save those comments for the forthcoming rulemaking BLM promises.

IX. Performance and Reclamation Bond Requirements Are Onerous and Should Be Scaled Back

SEIA and LSA recognize BLM's vital role in ensuring responsible management of public lands for both present and future generations. As such, BLM must ensure that projects on these lands adequately cover liabilities associated with hazardous materials, decommissioning, and reclamation by requiring performance and reclamation bonds. Unfortunately, the performance and reclamation bond requirements outlined in the Final PEIS (Section 2.2.1.1 at p. 2-8 through 2-11) are inappropriate for solar energy projects and fail to consider the concerns of the solar industry.

In our comments to the Draft PEIS, we addressed proposed performance and reclamation bond requirements.²³ Our previous comments remain valid, and we urge BLM to reconsider the following concerns:

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

The Final PEIS (Section 2.2.1.1 at p. 2-11) indicates that BLM intends to calculate 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 lands 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.²⁴ To avoid, or at least limit, taxpayer liability for unsecured or undersecured surface disturbances caused by mining, BLM now requires a mining project

²³ Draft PEIS Comments, pp. 33-37.

²⁴ 65 Fed. Reg. 69,998 at 70,002 (Nov. 21, 2000).

sponsor to provide financial assurance that it will be able to cover all costs of reclamation.²⁵ 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.²⁶

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 over \$1 billion in capital investment, in effect representing a pre-payment of “fuel cost,” and before it can be built, the power plant must be first be secured by a long-term power contract (called a power purchase agreement, or PPA) with a utility customer at a guaranteed price for the power it generates. The solar power plant is financed by an owner with the financial resources to fund the significant capital investment required to build or acquire the solar facility.²⁷ In addition, the point in time at which a solar power plant is to be decommissioned is predictable, i.e., at the expiration 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 in the out-years. 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.

B. The bonding requirements are not established transparently

In addition, Section 2.2.1.1 of the Final PEIS does not establish a transparent process for calculating the amounts of performance and reclamation bonds. Under the policy, a developer

²⁵ 43 C.F.R. §§ 3809.500-.599

²⁶ 43 C.F.R. § 3809.5 (“Reclamation”)

²⁷ 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).

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 Reclamation Cost Estimate into the bonds that are required for their projects. BLM should provide additional transparency about the relationship between the Reclamation Cost Estimate and the ultimate bonding requirements, perhaps through issuance of an instruction memorandum to field office staff, and make such information available to solar developers.

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

Section 2.2.1.1 of the Final PEIS (at p. 2-9) states that “BLM will not accept a corporate guarantee as an acceptable form of bond.” This policy is unnecessarily restrictive. BLM’s requirements and 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.²⁸

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.²⁹ 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.³⁰ 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

²⁸ 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.”); 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”).

²⁹ 40 C.F.R. Parts 264, Subpart H; 40 C.F.R. Part 265, Subpart H; and 10 C.F.R. Parts 30. 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).

³⁰ See 22 C.C.R. §§ 66264.143(f), .145.

ratios.³¹ 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.³² 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 because the owner will have a PPA and on-going obligations that disincentivize and even preclude easy abandonment of its project.³³

We also are aware that BLM Manual MS-2805, which states that “bonds are normally required” for ROW grants, reflects BLM’s typical practice.³⁴ 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 as 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

³¹ Id. § 66264.143(f).

³² Id. § 66264.143(f).

³³ 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.

³⁴ See BLM Manual MS-2805, Terms and Conditions for FLPMA Grants, § .12D.

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.³⁵ 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; 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.

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

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 is 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 the Final PEIS, BLM elects 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 the 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.

³⁵ See 43 C.F.R. subpt. 3401 ("Bonds").

X. Design Features

Overall, the Design Features included in the Final PEIS are a dramatic improvement from the Draft PEIS and we applaud BLM for its efforts. Specifically, the statement that “due to site-specific circumstances, not all design features as written will apply to all projects” is a key point for the solar industry. (Final PEIS, p. A-5) In addition, the recognition that “the BLM expects that many of the requirements associated with programmatic design features will be met or substantially met for lands in SEZs”

However, there are other design features that still need improvement. They are detailed below.

A. Design features applicable to all solar projects

1. LWC1-1

The reference to a “citizen’s wilderness proposal” on page A-10, line 20 should be clearly defined to mean proposals that met prescribed criteria and were submitted prior to the date of the Draft Solar PEIS.

2. RG1-1 and MR1-1

The language on pages A-11, lines 21-24 and A-22, lines 15-19, implies that developers must evaluate the impacts of their projects on rangeland, grazing, and mineral development as part of the environmental impact analysis for the project and consider options to avoid, minimize, and/or mitigate adverse impacts. It is not appropriate or necessary for a solar developer to address adverse impacts on commercial activities, including grazing or oil and gas exploration in the vicinity of a solar project within the environmental impact analysis for that solar project.

3. R2-1

The language on page A-15, lines 39-42, describing recreational resources is not sufficiently defined. It is not clear what “important” or “unique” recreational resources are. Moreover, it is not clear why such resources should necessarily result in a prohibition of siting solar resources. Definitions should be provided for what constitutes “unique” or “important” recreational resources; the term “shall” on line 39 should be changed to “may;” and the last sentence should be eliminated.

4. SR2-1

The language on page A-19, lines 32-36, is not well-justified and provides unclear guidance. There is no basis for requiring “salvage and restoration” of “soil crusts,” which are not defined,

and any such requirement could be substantially and unduly burdensome. The language in this bullet after the first sentence should be stricken.

5. WR1-1

Page A-23, lines 30-31: the language in this bullet appears to be incomplete. In addition, the language referring to “excessive or unnatural soil deposition or erosion” on line 2 of page A-22 is vague and potentially highly burdensome. The language should identify the specific concerns that are posed by soil deposition or erosion, specifying clearly articulated thresholds, and to require prevention of those specific concerns.

6. WR1-2

Page A-24, line 9, change “shall” to “may.” Not all of the studies listed below that statement should be required for every project. Determining the relationship of the project site hydrologic basin to the basins in the region can be a huge undertaking in some areas. Quantifying physical characteristics of surface water features is not necessary if there will be no impacts to those features.

7. WR3-1

The language on page A-29, lines 2-3, sets up a potentially impossible standard by prohibiting any effect on the long-term decline of groundwater levels, regardless of how small that impact may be and whether the impact is mitigated. The language should be changed to read “to ensure that long-term water use during operations does not substantially and disproportionately contribute to long-term decline of groundwater levels or surface water flows and volumes, considering any mitigation measures that have been taken.”

8. WR4-1

Page A-29, line 33: Requiring developers to continue groundwater and surface water monitoring activities after the project has been decommissioned, is potentially a very large, open-ended obligation. This statement should be augmented with, “for a limited period of time, if appropriate given the specific situation.”

9. ER1-1

Page A-32, line 34: Delete “includes” or reword. This appears to be a typo or grammatical error.

10. ER2-1

ER2-1(a) provides that “Methods to minimize impacts on ecological resources may include, but are not limited to the following...” However, this section does not provide an allowance for

mitigation. BLM should add mitigation as an appropriate strategy for siting and designing projects. In addition, the suggestion that any occupation by special status species is inappropriate is excessive. The language on lines 32-23 on page A-36 should be changed to read "Siting and designing project activities to avoid, minimize, or mitigate project impacts to significant habitat of special status animal species."

11. ER3-2

The language on page A-41, line 46, to A-42, line 1, requires an MBTA permit; no such permit is available, and this language should be stricken.

12. VR1-1(a)

The mandatory language in lines 5-8 on page A-51 is excessive, requiring project siting to avoid areas that are not well-defined if the impact is at a level that is purely subjective (relating to "historic significance or function"). The last sentence of this paragraph should be stricken, as the first sentence of the paragraph provides ample protection, requiring consideration of these concerns as part of the process.

13. VR2-3(b)

This provision contains numerous suggestions that solar equipment be modified to exhibit "appropriate colors" to blend in with the landscape. While this is certainly reasonable for buildings or other structures that would typically be painted, "Color treating solar panel/mirror/heliostat backs/supports to reduce visual contrast with the landscape setting" is a case where the cure may be worse than the disease.

Most industry-provided solar modules have white backs for a reason. The backing of the panel is an integral part of the panel's performance. Cell temperature is an important aspect for power generation from the solar module; the higher the temperature the lower the output. In desert environments, darker colors will run hotter and as a result lose output. Panels that are not white on the back tend to use highly reflective glass in the front instead to keep the cells running cooler. Because any color other than white is not a standard product, specification of such would require a special order product resulting in much higher cost (if it is an option at all). To date we are not aware of any major panel manufacturer that offers back color options. Post-manufacturing color addition would be a double problem. Not only would any color other than white tend to run hotter, but the added coat of paint would add another insulating layer between the cells and ambient air, and may become a maintenance problem due to flaking of paint.

In addition, for projects that use tracker designs, the "back" of the panel would move throughout the day. In the morning the back would typically be facing at a western angle and in the afternoon at an eastern angle, so the background would constantly change. A color selected to match the western background would not necessarily match the eastern background. Also of note is that as the panels track east to west, they are always facing the sun. For a land-based observer, looking at the back of the panels would also mean looking into the sun. The background beyond the panels would be largely lost in that situation. For a fixed panel, the situation is similar. The panels would be facing south with the backs northward. During most daylight hours the sun would be tracking around the panels and would be the dominant feature to a south facing observer.

14. CR2-1 (b)

Add the possibility of mitigation to the bullet point "Requiring that surface disturbance be restricted or prohibited within the viewshed of such property types when their eligibility is tied to their visual setting to protect NRHP-eligible traditional cultural properties, sacred sites, or historic trails from visual intrusion and to maintain the integrity of their historic setting."

15. NA1-1 (b)

"When complete avoidance is not possible, the BLM shall engage in timely and meaningful consultation with the affected tribe(s) and shall attempt to formulate a mutually acceptable plan to mitigate or reduce the adverse effects." Change "possible" to "practicable" or "economically feasible."

B. Design features specific to the Riverside East SEZ

1. 9.4.10.3 SEZ-Specific Design Features and Design Feature Effectiveness

Currently the Final PEIS reads, "Rare species associations listed in Table 9.4.10.1-1 shall be avoided through fencing and flagging of the area, including an appropriate buffer zone." (Final PEIS, p. 9.4-46) This should be amended to say "shall be avoided or mitigated."

2. 9.4.11.3.3 SEZ-Specific Design Features and Design Feature Effectiveness

The existing language states, "Within the SEZ, two north–south wildlife corridors of sufficient width (a minimum width of 1.3 mi [2 km], but wider if determined to be necessary through future site-specific studies) should be identified by the BLM in coordination with the USFWS and CDFG. These corridors should be identified as non-development areas within the SEZ on the basis of modeling data (Penrod et al. 2012) and subsequent field verification of permeability for wildlife." (Final PEIS, p. 9.4-50)

As written, this provision introduces an unacceptable amount of uncertainty regarding where development can proceed within the Riverside East SEZ and gives too much discretion to the U.S. Fish and Wildlife Service to unilaterally designate areas within a SEZ where solar development is not permissible. BLM should remove this in its entirety.

3. 9.4.12.3 SEZ-Specific Design Features and Design Feature Effectiveness

The Final PEIS states, “Pre-disturbance surveys shall be conducted to determine the presence of additional desert playa and wash habitat within the developable area; development within these habitats shall be avoided or minimized to the extent practicable.” (Final PEIS, p. 9.4-87) This provision should allow for mitigation, in addition to avoidance and minimization of impacts.

In addition, a later provision provides that “Occupied habitats for species that are designated as California fully protected species shall be completely avoided. ... This policy applies to any habitats utilized by the golden eagle in the affected area of the revised Riverside East SEZ.” (Final PEIS, p. 9.4-88) It appears that BLM is saying that any acres used by the golden eagle, *including for foraging*, shall be completely avoided. This standard is overly broad, not rooted in scientific evidence, and is a dramatic departure from the process used to permit other solar applications. BLM should clarify that the avoidance standard applies only to golden eagle nesting areas.

4. 9.4.17.3 SEZ-Specific Design Features and Design Feature Effectiveness

The Final PEIS states “Significant resources clustered in specific areas, such as those surrounding Ford Dry Lake or within the DTC/C-AMA area, which retain sufficient integrity, should be avoided.” (Final PEIS, p. 9.4-113) This provision should allow for mitigation, in addition to avoidance of impacts.

5. Water Resources in the Riverside East SEZ

The Final PEIS states, on page A-88, that “full build-out of wet-cooled or dry-cooled technologies is not feasible.” However, there is no justification in the Solar PEIS for the conclusion that full build-out of dry-cooled technologies with appropriate water conservation measures in place is not feasible. This language should be changed to state that “full build-out of wet-cooled technologies is not feasible, and full build-out of dry-cooled technologies would require use of appropriate water conservation measures.”

C. “Special Status” plants in California SEZs

The Final PEIS labels numerous plant species with a California state rank of S1 or S2 as “Special Status” in the Riverside East SEZ.³⁶ A similar table appears in the PEIS for the other California SEZs. In the last column of the Table, the Final PEIS states that avoidance, minimization, translocation or compensation are appropriate mitigation measures for these rank S1 and S2 plants:

Predisturbance surveys and avoidance or minimization of disturbance to occupied habitats on the SEZ; translocation of individuals from areas of direct effects; or compensatory mitigation of direct effects on occupied habitats could reduce impacts.

It is our understanding the BLM has never previously determined that all California rank S1 and S2 plants are “Special Status” plants that require mitigation for impacts under NEPA. As explained below, the BLM should not adopt this position now in the Final PEIS. If the BLM insists on a wholesale adoption of all California rank S1 and S2 plants as “Special Status” in the Final PEIS, then the BLM should, at a minimum, include the following statement at the appropriate locations in the PEIS. For example, BLM could add a footnote to the mitigation column in the various Special Status Species Tables:

Mitigation would not be warranted in cases where a project has evidence that a species does not currently meet the criteria for being a California rank S1 or S2 plant.

In the Riverside East SEZ alone, BLM lists 27 plants as “Special Status” based solely on their designation as California rank S1 or S2. None of these plants are otherwise federally or state “listed” or designated as “BLM Sensitive.” Accordingly, the BLM appears to be significantly expanding the number of species that are determined to be BLM Special Status in the Final PEIS by effectively requiring that all California rank S1 and S2 plants be afforded the same level of protection (and be subject to the same mitigation measures) as plants that are listed or officially designated as BLM Sensitive.

The California rankings referred to in the Final PEIS are published and maintained by the California Natural Diversity Database (CNDDB) Program in close collaboration with the California Native Plant Society (CNPS). The CNDDB is a Natural Heritage Program and is part of

³⁶ See Table 9.4.12.1-1: *Habitats, Potential Impacts, and Potential Mitigation for Special Status Species That Could Be Affected by Solar Energy Development on the Proposed Riverside East SEZ as Revised (a)*. Final PEIS, starts at page 9.4-55.

a nationwide network of similar programs overseen by NatureServe. NatureServe is “a non-profit conservation organization whose mission is to provide the scientific basis for effective conservation action.”

We do not question the value of the CNDDDB Program in providing an important forum for collecting and publishing information on plants. However, the CNDDDB rankings are calculated by a somewhat informal process that is not part of any official regulatory program or subject to public comment. A key criterion for a plant’s rank is simply the number of times the plant has been reported to the Program on official CNDDDB forms by anyone surveying for plants, which means that a plant can be assigned a higher (i.e., more sensitive) rank simply because either no one has looked for it or no one has filled out and submitted the proper CNDDDB forms for the plant. Accordingly, many plants may not, in fact, be rare but are simply under-surveyed and/or under-reported to the CNDDDB Program. In addition, once a plant receives a certain ranking, the CNDDDB Program does not, as a matter of course, update those rankings based on new data pursuant to any particular timeframe, and the process for updating a plant’s rank can take months (if not years) depending on the resources and priorities of the CNDDDB and CNPS organizations. Accordingly, a plant’s current ranking could be based on very old data and a plant that is currently ranked S1, for example, may actually be a rank S3 or S4 if the ranking were updated. A perfect example is the current ranking for Abram’s Spurge. It is listed in the Final PEIS Table 9.4.12.1-1 as a CA-S1 plant; however, it should be ranked S3 or S4 based on current data (see Technical Memorandum attached as Appendix A).

BLM Manual 6840 “Special Status Species Management” presents BLM’s current guidelines for managing special status species (including plants) and it defines BLM “special status species” as:

(1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, ***which are designated as Bureau sensitive by the State Director(s)***. All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species. (emphasis added)

Based on this definition, the numerous California rank S1 and S2 plants in the Final PEIS that are not otherwise “listed” (or proposed for listing) or officially designated as “BLM Sensitive” are currently *not* deemed “Special Status” per BLM Manual 6840. Final PEIS Appendices J and M present the methodologies and data sources used for designating a particular plant species as “special status” in the PEIS, but neither Appendix (nor any other section of the PEIS that we are

aware of) provides an adequate justification for BLM's adoption of California rank S1 and S2 plants as "Special Status Species" based solely on those rankings.

For these reasons, the BLM should not, in the context of the Final PEIS, deem that mitigation is automatically warranted for all CA rank S1 and S2 plants. Doing so is not consistent with current BLM policy governing special status species and is not scientifically supportable.

If, however, the BLM insists on a wholesale adoption of all California rank S1 and S2 plants as BLM "Special Status" in the Final PEIS, then the BLM should, at a minimum, include the following statement at the appropriate locations in the PEIS:

Mitigation would not be warranted in cases where a project has evidence that a species does not currently meet the criteria for being a California rank S1 or S2 plant.

This statement should be included as a footnote to the mitigation column in the various special status species tables.

XI. Transmission Planning for Future Solar Development

SEIA and LSA applaud the work the Department of Energy (DOE) has sponsored to study transmission in the West and the recognition by BLM that transmission is a vital step in expanding solar development on public lands. We are pleased that the existing Solar Energy Zones will be included by the Transmission Expansion Planning Policy Committee (TEPPC) of the Western Electricity Coordinating Council (WECC) as part of the 2012 Study Program.³⁷ We encourage continued work on transmission planning and build-out across the West, especially by DOE. As has been noted many times, the SEZs lack commercial value if there is not a way to effectively transport the electricity generated there to a load center where it will be consumed.

XII. Conclusion

In conclusion, SEIA and LSA appreciate this opportunity to comment on the Final PEIS. It is irrefutable that the Departments, BLM and other agencies have put a tremendous amount of time, thought, and effort into developing this new program for solar development on public lands. Being the first of its kind in the nation, this historic opportunity has the potential to further the Obama administration's goals of increasing renewable energy development while protecting our most sensitive and valued habitat areas. We believe the changes proposed in

³⁷ Final PEIS, p. 2-36.

these comments complement these goals, and we urge BLM and DOE to make the changes identified herein to the Solar Energy Program before issuing the Record of Decision.

Thank you for your ongoing work and consideration of our views.

Sincerely,



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Appendix A

TECHNICAL MEMORANDUM

TO: Kenneth Stein, McCoy Solar, LLC

FROM: Alice E. Karl, Ph.D.

DATE: August 22, 2012

SUBJECT: **Abrams' spurge Analysis**

1.0 Introduction

Abrams' spurge (*Chamaesyce abramsiana*) is currently a CNDDDB Rank S1.2 species. However, the data and discussion presented in this technical memorandum demonstrate that Abrams' spurge does not meet the criteria for a CNDDDB Rank 1 designation. Abrams' spurge also is not currently a U.S. Bureau of Land Management (BLM) special-status plant species. Accordingly, Abrams' spurge should not be treated as a CA-S1 ranked plant.

2.0 Abrams' Spurge Ranking Analysis

Abrams' spurge was initially ranked by the California Native Plant Society (CNPS) in January 2001, when only eight occurrences in California were recorded (Table 1). For most of these, the number of individuals was not recorded, so the population size was unknown, but the geographic range included three counties. Between January 2001 and Fall 2011, another seven occurrences, and a fourth county, were added. During Fall 2011 surveys, another 12 occurrences were added and many thousands of Abrams' spurge plants were found both on the McCoy Solar Energy Project (MSEP) site and in several locations in the region. More than 4,000 individuals of Abrams' spurge were observed on the MSEP north of Interstate-10 (I-10). A short search of likely habitats (swales and playas) in the Blythe area and Chuckwalla Valley found thousands of plants along Ford Dry Lake and also on Hayfield Dry Lake, approximately 20 and 60 miles west of MSEP, respectively. Abrams' spurge was the dominant or co-dominant understory species in both locations.

These survey results demonstrate that Abrams' spurge has been undersampled in California. It grows only in the fall, when relatively few fall plant surveys have been conducted, especially on sites of the magnitude of solar facilities. The Fall 2011 MSEP surveys account for 39% of the known occurrences of the species in California (Table 1), strongly suggesting that if fall surveys were conducted in autumns following sufficient summer rainfall, more Abrams' spurge would be detected. Historically, efforts and funds have primarily been directed toward spring surveys in the desert, when most annuals bloom. There are relatively few species that germinate in response to summer rains and even fewer in low-elevation locations with typically low rainfall and low return for the effort, such as the Blythe area. For example, in 2010 when there was negligible summer rain in Blythe, fall surveys on the Blythe Solar Power Project

(BSPP) immediately south of the MSEP were truncated to a reconnaissance level because summer annuals had failed to germinate. Not unexpectedly, there were no observations of Abrams' spurge¹.

2.1 Ranking Definitions and Methodology

Currently, Abrams' spurge is ranked as follows:

- CNDDDB Element Rank S1.2/G4²
- CNPS Rare Plant Rank 2.2³

The CNDDDB uses the ranking methodology originally developed by the Nature Conservancy and now maintained by NatureServe⁴. All CNDDDB plant ranks are reviewed and ultimately assigned by the Rare Plant Status Review Committee. CNDDDB and CNPS jointly manage the Rare Plant Status Review contributors (botanical experts from government, academia, non-governmental organizations [NGOs], and the private sector) and the ranks are the product of a collaborative effort between CNDDDB and CNPS.

Both CNDDDB and CNPS rankings are discussed below due to the organizations' collaborative effort to determine the rankings, and to provide a more thorough understanding of the ranking methodology.

CNDDDB Ranks

CNDDDB ranks adhere to the following criteria:

"G" or "Global" Ranking

- G1 = Critically Imperiled:** At high risk of extinction due to extreme rarity (often ≤ 5 populations), very steep declines or other factors.
- G2 = Imperiled:** At high risk of extinction due to very restricted range, very few populations (often ≤ 20), steep declines, or other factors.
- G3 = Vulnerable:** At moderate risk of extinction due to restricted range, relatively few populations (often ≤ 80), recent and widespread declines, or other factors.
- G4 = Apparently Secure:** Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 = Demonstrably Secure:** Common; widespread and abundant.

"S" or "State" Ranking

These are identical to the global rankings with the exception that the rank refers to the imperilment status only with California.

Threats Ranking

¹ Graham, W. 2010. Blythe Solar Power Project - fall botanical surveys. Memorandum to Alice Harron, Solar Millennium. 09-AFC-6C BSPP BIO-19 Survey Submittal to the CEC and BLM. 12 pp.

² California Department of Fish and Game, Natural Diversity Database. 2012. Special vascular plants, bryophytes and lichens list. May 2012. Available online at: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf>. 72 pp.

³ California Native Plant Society. 2012. Inventory of Rare and Endangered Plants (online edition, V8-01a). Sacramento, CA. Available online at <http://www.cnps.org/cnps/rareplants/inventory>.

⁴ Faber-Langendoen, D., L. Master, J. Nichols, K. Snow, A. Tomaino, R. Bittman, G. Hammerson, B. Heide, L. Ramsay and B. Young. 2009. NatureServe conservation status assessments: methodology for assigning ranks. NatureServe, Arlington, VA

Decimal places identify the threat ranking in California, similar to CNPS, below.

- .1 = Very threatened in California
- .2 = Threatened in California
- .3 = No current threats known in California

CNPS Rare Plant Ranks

CNPS Rare Plant Ranks adhere to the following criteria⁵:

Rank 1A = Presumed Extinct in California.

Rank 1B = Rare, Threatened, or Endangered in California and Elsewhere. Rank 1B plants are rare throughout their range, with the majority of them endemic to California. Most have declined significantly over the last century. All meet the definitions of Section 1901 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game (CDFG) Code – i.e., they are eligible for state listing.

Rank 2 = Rare, Threatened, or Endangered in California, but More Common Elsewhere.

Except for being common beyond the boundaries of California, Rank 2 plants would be ranked 1B. Rank 1B plants all meet the definitions of Sections 1901, 2062 and 2067 of the CDFG Code – i.e., they are eligible for state listing.

Rank 3 = Plants About Which We Need More Information – A Review List. Rank 3 species are plants for which the necessary information to assign them to a rank or reject them is lacking.

Rank 4 = Plants of Limited Distribution– A Watch List. Rank 4 species are watch list species that are uncommon enough that their status should be monitored regularly.

Decimal places identify the threat ranking in California:

- .1 = Seriously threatened in California (over 80% of occurrences threatened)
- .2 = Fairly threatened in California (20-80% of occurrences threatened)
- .3 = Not very threatened in California (<20% of occurrences threatened).

2.2 Revised, Accurate Rank for Abrams' Spurge

CNDDDB Rank

The new information from the 2011 surveys and all surveys since the initial ranking, which vastly increased the numbers of occurrences and the population size, was incorporated into a re-calculation of the rank for this species. The revised NatureServe/CNDDDB Rank was re-calculated based on requisite criteria from NatureServe⁵:

⁵ NatureServe. 2009. NatureServe Conservation Status Assessments: Rank Calculator Version 2.0.

- Abrams' spurge occurs in four counties in California: San Diego, Imperial, Riverside and San Diego. The **Geographic range extent** in California encompasses approximately 21,000 square miles, which **equals Rarity 1 Factor Group "F" (= 8,000 – 80,000 square miles).**
- **Area of occupancy:** Unknown
- **Number of occurrences:** 28 occurrences in California (includes two not yet entered in CNDDDB data base) which **equals Rarity 2 Factor Group "C" (= 21-30 occurrences).** (Note: If count MSEP occurrences on the solar site as one occurrence, then there are 21 occurrences and still Rarity 2 Factor Group "C".)
- **Population size in California:** Over 8,000-10,000 individuals which **equals Rarity 2 Factor Group "E" (= 2,500-10,000 individuals) or, more likely Group "F" (= 10,000 – 100,000 individuals).** With focused autumn surveys in years of adequate summer rainfall, the population size would probably be at least Group F, if not more (>10,000 individuals).
- **Number of occurrences with good viability:** There are at least eight occurrences with good viability: six in national or state parks and at least two more that are unlikely to be extirpated. **This equals Group "C" (= 4-12 occurrences with excellent or good viability or ecological integrity).** Furthermore, because this species is enhanced by disturbance that produces compacted areas that hold water (tillage, road shoulders, agricultural sites [Arizona]), as long as the seed source is available and there are available microsites, even if (especially if?) disturbed, then the species should persist in areas where it has been found.
- **Trends:** Unknown
- **Threat Impact** – 32.1% of the known populations (9 of 28) are subject to serious to extreme threats, in which the occurrences are likely to be eliminated or seriously degraded. Accordingly, the **Threat Impact is borderline High** (= 31-70% of the occurrences are subject to extreme degradation/elimination), but 8 of these 9 are on the MSEP solar plant site. If all occurrences on the MSEP solar plant site are counted as one, then 9.5% of the known populations (2 of 21) are subject to serious to extreme threats in which the occurrences are likely to be eliminated or seriously degraded, and the resulting **Threat Impact Category is Low.**

The resulting NatureServe Ranks are S3, if the MSEP solar site occurrences are counted separately and S4 if they are combined into one occurrence (Attachments 1 and 2, respectively). The S3 rank is arguable because of undersampling (see above); S4 should be considered a more appropriate ranking, which would agree with the second calculated rank after the MSEP solar site occurrences are counted as one occurrence.

Not only is the species undersampled, but the seed bank is apparently present in some or many locations where the habitat is appropriate but sampling has not occurred (e.g., Hayfield Dry Lake). Also, while disturbance is generally considered a threat, Abrams' spurge populations are not necessarily degraded and actually may be enhanced by lower levels of disturbance that create suitable growth sites (e.g., tillage, road cuts). In southern Arizona and northwestern Sonora, Mexico, Abrams' spurge is "seasonally abundant ...and an urban and agricultural weed"⁶. Accordingly, unless a site is completely bladed, a population may persist in the face of some disturbance, if the seed bank is present and appropriate microsites remain.

CNPS Rare Plant Rank

⁶ Felger, R. 2000. Flora of the Gran Desierto and Rio Colorado of Northwestern Mexico. Univ. of Arizona Press. 673 pp.

According to CNPS⁵, Rare Plant Rank 2 plants would be ranked as 1B plants if except for the fact that they are common outside of California. All Rank 1B plants “are rare throughout their range” and meet the definitions of Section 1901 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the CDFG Code – i.e., they are eligible for state listing as threatened or endangered:

- Per Section 1901 – A species “is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.” A species “is endangered when its prospects of survival and reproduction are in immediate jeopardy from one or more causes.” Under the Native Plant Protection Act, plants can be considered for protection without regard to their distribution outside the state.
- Per Section 2062 - A species is endangered when it “is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes....”
- Per Section 2067 - A species is threatened if “although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required in this chapter.”

Abrams’ spurge does not meet the criteria for listing and therefore does not meet the requirements for a Rank 1B species. It is not rare throughout its range, either globally, where it is seasonally abundant and a common urban and agricultural weed outside California, or in California, where its populations number in the many thousands, and it has been easily found where preferred habitat exists. At best, Abrams’ spurge should be considered a CNPS Rank 3 species, and possibly a Rank 4 species.

Using the same values as those used for the CNDDDB Threat Impact, above, either 32.1% (9 of 28) or 9.5% (2 of 21) of the known populations are subject to serious to extreme threats in which the occurrences are likely to be eliminated or seriously degraded. The former would result in a CNPS Threat Rank of 0.2 (= 20-80% of the occurrences threatened); the latter would result in a Threat Rank of 0.3 (= <20% of the occurrences threatened).

3.0 BLM Special-Status Species

Abrams’ spurge is not currently a BLM special-status plant (i.e., BLM Sensitive or federally or state-listed)⁷. Nor did the NECO Plan identify Abrams’ spurge as a special-status species.

4.0 CEQA Considerations

Under the California Environmental Quality Act (CEQA) §15380, a species is considered to be endangered, rare or threatened if: (1) “its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors;” or (2) “although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (3) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered

⁷ BLM. 2011. BLM Special Status Plants under the jurisdiction of the California State Office as of November 2, 2011. Available online at <http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/botany>. 13 pp.

‘threatened’ as that term is used in the federal Endangered Species Act” (FESA)⁸. A plant species is presumed to be endangered, rare or threatened if it is listed under California Code of Regulations (CCR) Title 14 670.2¹⁰ (i.e., listed under the California Endangered Species Act [CESA]), or 50 Code of Federal Regulations (CFR) 17.12⁹ (i.e., listed under FESA). As discussed above, Abram’s spurge does not meet any of these criteria under CEQA for a threatened, endangered or rare species and is not currently a listed species under CESA or FESA.

Under CEQA §15126.4(a)(3)), mitigation measures are required only for effects that are significant. A significant effect is “a substantial, or potentially substantial, adverse change”¹⁰. For effects to be significant relative to plants, the project must “...threaten to eliminate a plant or animal community” or “substantially reduce the number or restrict the range of an endangered, rare or threatened species” (§15065)¹².

As discussed above, Abrams’ spurge does not meet the criteria for an endangered, rare or threatened species. Accordingly, mitigation for impacts to Abram’s spurge should not be required.

5.0 NEPA Considerations

Under §1508.27 of the Council on Environmental Quality (CEQ) Regulations for the National Environmental Policy Act (NEPA), a significant impact is determined based on both context and intensity¹¹. Context requires consideration of the impact based on the affected region, affected interests and the locality (§1508.27(a)). Intensity is determined by “the degree to which an action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973” (§1508.27(b)(9)).

As discussed in Section 2.2, above, Abrams’ spurge does not meet the criteria for an endangered or threatened species. Consequently impacts to Abrams’ spurge would not be considered to be significant under NEPA, and mitigation is not required.

6.0 Conclusion

Abrams’ spurge is far more widespread and common in California than formerly known. The species does not meet the criteria for (1) state or federal listing under CESA or FESA, respectively, or (2) a CNDDDB or CNPS Rank 1 species. Using the CNDDDB methodology for assigning ranks and incorporating new data, Abrams’ spurge would be correctly ranked as S3 or S4 (i.e., vulnerable or apparently secure in California, respectively). Impacts to this species do not reach the level of “significance” under CEQA or NEPA. Accordingly, mitigation is not warranted for this species.

⁸ State of California Office of Administrative Law. California Code of Regulations, Title 14. Accessed online at [Hhttp://weblinks.westlaw.com](http://weblinks.westlaw.com) on 22 July 2012.

⁹ Office of the Federal Register, National Archives and Records Administration. Code of Federal Regulations, Title 50, Part 17. Accessed online at [Hhttp://www.archives.gov/federal-register](http://www.archives.gov/federal-register) on 30 July 2012.

¹⁰ Legislative Council of California. Public Resources Code 21068. Accessed online at [Hhttp://www.leginfo.ca.gov](http://www.leginfo.ca.gov) on 30 July 2012.

¹¹ Council on Environmental Quality (CEQ). Regulations and Guidance. Accessed online at [Hhttp://ceq.hss.doe.gov](http://ceq.hss.doe.gov) on 30 July 2012.

Table 1. Occurrences of Abrams' spurge in the CNDDDB database¹.

CNDDDB Occurrence No.	Date	Number of Plants	Location	Ecological	CNDDDB Origin Note	Comments
1	1902	Not recorded	4 mi. north of Calexico, Imperial Co.	No information	Natural, native occurrence	Abrams original collection; presumed extant
3	1904	Not recorded	Near Heber, Imperial Co.	No information	Natural, native occurrence	Type locality; may be same as Occurrence 01; presumed extant
4	1912	Not recorded	Brawley, Imperial Co.	No information	Natural, native occurrence	Possibly extirpated (based on?)
5	2000	Substantial population	Riverside Co., gas line road south of I-10 and east of Ford Dry Lake exit	In road depressions and local washes; enhanced by compacted roads, flow off roads	Natural, native occurrence	Extant; revisited in 2009, 2010, 2011 for McCoy surveys
6	1912	Not recorded	Either near Alamo River or "Old Beach" area, in Salton Basin near Calexico, Imperial Co.	No information	Natural, native occurrence	Presumed extant
7	1990	Not recorded	Near Essex Rd., San Bernardino Co.	Native scrub	Natural, native occurrence	In Mojave National Preserve; presumed extant
8	1990	Not recorded	Near Lanfair Rd., S. Bernardino Co.	Native scrub	Natural, native occurrence	In Mojave National Preserve; presumed extant
9	2006	Not recorded	Vallecito Ck.; San Diego Co.	In highly disturbed field, subject to past grazing	Natural, native occurrence	Anza-Borrego State Park; presumed extant
10	2003	Not recorded	North end of Blair Valley, San Diego Co.	Along margin of dry lake; assumed native	Natural, native occurrence	Anza-Borrego State Park; presumed extant

CNDDDB Occurrence No.	Date	Number of Plants	Location	Ecological	CNDDDB Origin Note	Comments
11	2007	Not recorded	Earthquake Valley, San Diego Co.	Along margin of dry lake in native habitat, adjacent to parking area	Natural, native occurrence	
12	2008	>100 plants	San Felipe Valley, San Diego Co.	In road shoulder, native habitat	Natural, native occurrence	At entrance to CDFG property
13	1968	Not recorded	Country Club Rd., Palm Desert, Riverside Co.	Unknown	Natural, native occurrence	
14	2001	Common	Along Hwy 62, San Bernardino Co.	Native scrub	Natural, native occurrence	
15	2005	50 plants	Near Winkle Springs, east Mojave Desert; San Bernardino Co.	Native scrub	Natural, native occurrence	
16	2004	Fewer than 10 plants	In JTNP near Hwy 62, San Bernardino Co.	Native scrub	Natural, native occurrence	Joshua Tree National Park
17	2011	10 plants	MSEP linear route, north of I-10 at southeast end of McCoy Mts.	Native scrub	Natural, native occurrence	MSEP occurrence on linear. Occurrence notes say threatened by Off-Highway-Vehicle (OHV) use and development but there is little OHV use in area, except in borrow pit. This location would be a linear, which can avoid specific, small sites.
18	2011	2 plants	MSEP solar plant site; NW 1/4 of S3	Native scrub	Natural, native occurrence	MSEP occurrence. Pending solar plant site. States invasive species and OHV use but this is misleading. Negligible OHV use and invasive species are in some, not all washes; occasional to common to abundant.
19	2011	40 plants	MSEP solar plant site; SE 1/4 of S34	Native scrub	Natural, native occurrence	Typos in occurrence form - SE1/4 of S34 is correct. MSEP occurrence. Pending solar plant site. States invasive species and OHV use but this is misleading. Negligible OHV use and invasive species are in some, not all washes; occasional to common to abundant.

CNDDDB Occurrence No.	Date	Number of Plants	Location	Ecological	CNDDDB Origin Note	Comments
20	2011	196-246 plants (combined occurrences)	MSEP solar plant site SE 1/4 of S33	Native scrub	Natural, native occurrence	MSEP occurrence. Pending solar plant site. States invasive species and OHV use but this is misleading. Negligible OHV use and invasive species are in some, not all washes; occasional to common to abundant.
21	2011		MSEP solar plant site; SW 1/4 of S34	Native scrub	Natural, native occurrence	MSEP occurrence. Pending solar plant site. States OHV use but this is misleading. Negligible OHV use.
22	2011	>1698 plants (combined occurrences)	MSEP solar plant site; S27	Native scrub	Natural, native occurrence	MSEP occurrence. Pending solar plant site. States OHV use but this is misleading. Negligible OHV use.
23	2011		MSEP solar plant site; SE 1/4 of S27	Native scrub	Natural, native occurrence	MSEP occurrence. Pending solar plant site. States OHV use but this is misleading. Negligible OHV use.
24	2011	>2000 plants (combined occurrences)	MSEP solar plant site; N part of S28	Native scrub	Natural, native occurrence	MSEP occurrence. Pending solar plant site. States OHV use but this is misleading. Negligible OHV use.
25	2011		MSEP solar plant site; NW 1/4 of S28	Native scrub	Natural, native occurrence	MSEP occurrence. Pending solar plant site. States OHV use but this is misleading. Negligible OHV use.
26	2011	~75 plants	MSEP linear route	Native scrub	Natural, native occurrence	Mis-mapped by CNDDDB as NW of McCoy Mts., although location instructions also are contradictory
27	1963	Not recorded	East of El Cajon on I-8; Riverside Co.	Foothills; native scrub	Natural, native occurrence	
X1 ²	2011	1000s of plants	Ford Dry Lake , Riverside Co.	Common to abundant in washes along gas line road	Natural, native occurrence	Not likely to be further disturbed, or if so, would not decrease population unless all swales and washes were eliminated, which does not seem feasible for any kind of linear facilities development there.
X2	2011	1000s of plants	Hayfield Dry Lake, Riverside Co.	In tilled lakebed	Due to watering of the lake (water injection/storage project)	Without water influx, population might not exist except in average to above-average rainfall years. But, the large population here indicates that the seed source is in the area, so there are undoubtedly other, undiscovered populations in this area.

1. Source: CNDDDB, 2011. Rarefind Version 3.1.0. Commercial version dated 2 July 2011.
2. Occurrences in red font are in CNDDDB unprocessed data base.

Abrams' Spurge Ranking/A. Karl/July 2012/Final

Page 10

Attachment 2. NatureServe rank calculator for Abrams' spurge, with all MSEP occurrences on the solar plant site combined into one occurrence.

Rank Calculator Form
Remember to adopt a moderate attitude, taking care to identify the most likely plausible range of values, excluding extreme or unlikely values.
Change to return GRanks, NRanks, or SRank: **S** change using dropdown; also affects Calculator Table

Enter values below, text in off-white and light-green cells and dropdowns in yellow and blue cells.
Scroll down in dropdowns for additional choices.
To clear an individual value, put your cursor in the drop-down cell and press Delete.

Factor Groups with Weights		Species or Ecosystem Scientific Name		Chamaesyce abramsiana		
Minimum factors categories		Type (enter "Infraspecies" for a T-Rank)				
Individual factor weights		Optional Information:		Element ID		
		Elcode		global, national, or subnational		
		Common Name		Abrams spurge		
		Classification				
Rarity weight: 0.5	Rarity1	1	Range Extent	F	F = 20,000-200,000 sq km (~8,000-80,000 sq mi)	COMMENTS (Place cursor in cell to see full text.)
		2	Area of Occupancy:		FILL OUT ONLY 1 OF FOLLOWING 3 FIELDS	
			Direct estimate (ecosystems) OR			
			4 km ² grid cells (species) OR			
	Rarity2	1	Number of Occurrences	C	C = 21 - 80	
		2	Population Size	E	E = 2,500 - 10,000 individuals	
		2	Good Viability/Ecological Integrity:		FILL OUT ONLY 1 OF FOLLOWING 2 FIELDS	
			Number of Occurrences OR	C	C = Few (4-12) occurrences with excellent or good viability or ecological integrity	
Trends 0.3	Trend/Threat	1	Environmental Specificity (opt.)			
		2	Short-term Trend			
	Trend/Threat	1	Long-term Trend			
		1	Threat Impact	D	D = Low	
Threats 0.2	Trend/Threat	1	Intrinsic Vulnerability (opt.)			
Minimum factors requirement met?		TRUE				
Calculated Rank		S4 Always review the calculated rank.				
Assigned Rank*		S4 Verified Rank				
Rank Adjustment Reasons						
Assigned Rank Reasons						
Rank Author		Alice Karl				
Rank Date		15-Jul-2012 Enter Ctrl ; for today's date.				
Rank Calculator Internal Notes						

*In this field, enter the calculated rank if you agree with it, or enter an adjusted rank.
Reasons to Adjust a Calculated Rank (be sure to document the details in the 'Rank Adjustment Reasons' field):