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Re: Comments on the Draft Environmental Impact Statement/Staff Assessment for the Calico Solar Project and Draft California Desert Conservation Area Plan Amendment

Dear Project Manager Shaffer:

These comments are submitted on behalf of the Center for Biological Diversity's 255,000 staff, members and on-line activists in California and throughout the western states, regarding the Draft Environmental Impact Statement/Staff Assessment (the "DEIS") for the proposed Calico Solar Project and Draft California Desert Conservation Area Plan Amendment ("proposed project") in San Bernardino County, issued by the Bureau of Land Management ("BLM").

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

As proposed, the project right of way would permanently convert 8,230 acres (almost 13 square miles) of currently intact Mojave desert lands into the single-use proposed solar facility. The proposed project includes an 850-megawatt (MW) Solar Stirling Engine project. The project is proposed for development in two phases. Phase I includes 11,000 SunCatchers located on approximately 2,320 acres (3.6 square miles) to produce 275 MW. Phase II would include an additional 23,000 SunCatchers on an additional approximately 5,910 acres (9.2 square miles) to produce an additional 575 MW for the total 850 MW planned production. The project is also

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proposed to construct an onsite 230-kV Calico Substation near the center of the project area, and a 230-kV transmission line from the Calico Substation to the existing SCE Pisgah Substation.

The DEIS for the proposed plan amendment and right-of-way application: fails to provide adequate identification and analysis of all of the significant impacts of the proposed project on the desert tortoise, the Mojave fringe-toed lizard, bighorn sheep, rare plants and rare plant communities, and other biological resources; fails to adequately address the significant cumulative impacts of the project; and lacks consideration of a reasonable range of alternatives. In addition, BLM has failed to fully examine the impact of the proposed plan amendment to the California Desert Conservation Act Plan ("CDCA Plan") along with other similar proposed plan amendments and as a result the current piecemeal process may lead to the approval of industrial sites sprawling across the California Desert Conservation Area within habitat that should be protected to achieve the goals of the bioregional plan as a whole. The DEIS also fails to consider potential alternative plan amendments that would protect the most sensitive lands from future development.

Although the area of the proposed project is currently part of the evaluation being undertaken by the BLM for the solar PEIS for solar energy zones, within the "Pisgah" proposed solar energy study area ("SESA"), unfortunately, there has been no environmental documentation yet provided for that PEIS process and there is as yet no way to discern if the proposed project siting will be compatible with that planning. In scoping comments on the PEIS, the Center raised concerns about the impacts that development in this proposed SESA would have to species and habitats and to connectivity. As the Center has emphasized in our comments on the various large-scale industrial solar proposals in the California desert, planning should be done *before* site specific projects are approved in order to ensure that resources are adequately protected from sprawl development and project impacts are avoided, minimized and mitigated.

Moreover, alternative siting and alternative technologies including distributed PV should have been fully considered in the DEIS, because they could significantly reduce the impacts to many species, soils, and water resources in the Mojave desert. In addition, alternative plan amendments should have been discussed in the DEIS. The Center urges the BLM to revise the DEIS to adequately address these and other issues detailed below and re-circulate the DEIS or issue a supplemental DEIS for public comment.

The Center is aware that after the DEIS was issued the project applicant has continued to suggest alternative site configurations that may avoid or minimize some of the impacts of the project, however, the DEIS does not provide that information. Any new site configuration alternative will need to be circulated for public review and comment in a Supplemental or Revised DEIS that should also include additional information on those resources that were inadequately identified and analyzed in the DEIS and additional consideration of off-site alternatives and other alternatives. The Center urges the BLM to revise the DEIS to adequately address these and other issues detailed below and re-circulate the DEIS or a supplemental DEIS for public comment

In the sections that follow, the Center provides detailed comments on the ways in which the DEIS fails to adequately identify and analyze many of the impacts that could result from the proposed project, including but not limited to: impacts to biological resources, impacts to water resources, impacts to soils, and cumulative impacts.

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

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

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

The sum total of the plan amendment to the CDCA plan is one sentence: "Permission granted to construct solar energy facility (proposed Calico Solar Project)." DEIS at A-6. The DEIS then lists the criteria for consideration of the plan amendment and right of way application and BLM's responses to each issue. DEIS at A-6 to A-9. While the Center appreciates BLM's effort in this regard (which were absent in some earlier environmental documents prepared for large-scale solar projects), given the impact of the proposed project on other multiple uses of these public lands at the proposed site as well as other aspects of the bioregional planning, it appears that BLM may also need to amend other parts of the plan as well and should have looked at additional and/or different amendments as part of the alternatives analysis. For example, such amendments were discussed in other DEISs for solar projects (including the Palen solar project) that would have increased protections for species and habitats as part of the mitigation for the project. Any plan amendments that are contemplated as part of a mitigation strategy should have also be explored by the BLM in this environmental review.

As the BLM is well aware, the Center has repeatedly sought stronger protections for species and habitats throughout the CDCA as a whole and specifically within the WEMO planning area. Clearly a more robust strategy for conservation is required if BLM is going approve multiple industrial solar projects within the CDCA project covering tens of thousands of acres when this scale of impacts was never contemplated in the CDCA planning or the bioregional plans. At minimum, the BLM needs to consider increased conservation strategies that would mitigate the impacts of this proposed project and provide it for public review in a

supplemental DEIS. In that strategy, the BLM should also provide for ongoing monitoring of existing conservation areas as well as any new conservation acquisition areas and reporting to ensure that all conservation actions (including any route closures) are implemented and any new protective measures have the intended effect.

Overall BLM has still failed to take a comprehensive look at the proposed plan amendment for the ROW to determine: 1) whether industrial scale projects are appropriate for any of the public lands in this area; 2) if so, how much of the public lands are suitable for such industrial uses given the need to balance other management goals including preservation of habitat and water resources; and 3) the location of the public lands suitable for such uses. The BLM has also failed to explain how this proposed project would interface with the Solar PEIS process that is already under way and was intended to consider these questions. The Center remains concerned that the result of the current process is a piecemeal approach to project review with site-specific approvals made before planning is completed which threatens to undermine the "bioregional" approach in the CDCA Plan as a whole as well as violate the fundamental planning principles of FLPMA.

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

Unfortunately, the DEIS fails to adequately consider the impacts of the proposed project and plan amendment and reasonable alternatives in the context of FLPMA and the CDCA Plan. FLPMA requires that in developing and revising land use plans, the BLM consider many factors and "use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences . . . consider the relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for realization of those values." 43 U.S.C. § 1712(c). As stated clearly in the CDCA Plan:

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

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

> MANAGEMENT PRINCIPLES
>
> The management principles contained in the law (FLPMA)—*multiple use, sustained yield, and the maintenance of environmental quality*—are not simple guides. Resolution of conflicts in the California Desert Plan requires innovative management approaches for everything from wilderness and wildlife to grazing and mineral development. These approaches include:

—Seeking simplicity for management direction and public understanding, avoiding complication and confusing in detail which would make the Plan in comprehensive and unworkable.

—Development of decision-making processes using appropriate guidelines and criteria which provide for public review and understanding. These processes are designed to help in allowing for the use of desert lands and resources while preventing their undue degradation or impairment.

—Responding to national priority needs for resource use and development, both today and in the future, including such paramount priorities as energy development and transmission, without compromising the basic desert resources of soil, air, water, and vegetation, or public values such as wildlife, cultural resources, or magnificent desert scenery. This means, in the face of unknowns, erring on the side of conservation in order not to risk today what we cannot replace tomorrow.

—Recognizing that the natural patterns of the California Desert, its geological and biological systems, are the basis for planning, and that human use patterns, from freeways to fence lines, define its boundaries. Only in this way can the public resources can be understood and protected by the Plan that can be publicly comprehended, accepted, and followed.

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

The CDCA Plan anticipated that there would be multiple plan amendments over the life of the plan and provides specific requirements for analysis of Plan amendments. Those requirements include determining "if alternative locations within the CDCA are available which would meet the applicant's needs without requiring a change in the Plan's classification, or an amendment to any Plan element" and evaluating "the effect of the proposed amendment on BLM management's desert-wide obligation to achieve and maintain a balance between resource use and resource protection." CDCA Plan at 121. BLM reads this portion of the CDCA plan extremely narrowly and attempts to divorce it from the required NEPA analysis and alternatives. *See* DEIS at A-8. Looking at the CDCA Plan requirement in context with the NEPA review it is clear that the BLM was required to analyze not only whether alternative locations were available that would not require a plan amendment, but also how the proposed amendment would affect desert-wide resource protection and whether alternative locations and alternative plan amendments would avoid or lessen those impacts—BLM fails to address the latter issue and did not look at any site alternatives. The inclusion of multiple "no action" alternatives, a reduced acreage alternative, and an "Avoidance of Donated and Acquired Lands Alternative" as part of the NEPA analysis failed to cure this omission.

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

wherever possible." CDCA Plan at 93. Nothing in the DEIS shows that BLM considered the landscape level issues and management objectives or alternatives to the proposed plan amendment *in the DEIS*.

In addition, BLM should have considered the impacts to existing land use plans for these public lands across several scales including, for example: in the Pisgah area; in the Western Mojave desert as a whole; in San Bernardino County; and in the CDCA as a whole.

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

As FLPMA declares, public lands are to be managed for multiple uses "in a manner that will protect the quality of the scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." 43 U.S.C.§ 1701(a)(7) & (8). The CDCA Plan as amended provides for four distinct multiple use classes based on the sensitivity of resources in each area. The proposed project site is primarily in MUC class M lands with some impacts to Class L lands as well. DEIS at C.13-4. Under the CDCA Plan, Multiple-use Class M (Moderate Use) "protects sensitive, natural, scenic, ecological, and cultural resources values. For public lands designated as Class M the CDCA Plan intends a "*controlled balance* between higher intensity use and protection of public lands. This class provides for a wide variety o[f] present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is *also* designed to conserve desert resources and to mitigate damage to those resources which permitted uses may cause." CDCA Plan at 13 (emphasis added). Under the CDCA Plan, Multiple-use Class L (Limited Use) "protects sensitive, natural, scenic, ecological, and cultural resources values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished." CDCA Plan at 13 (emphasis added).

The proposed project is a high-intensity, single use of resources that will displace all other uses and that will significantly diminish (indeed, completely destroy) over 8,000 acres of habitat including high density occupied desert tortoise habitat and other resources and values. This use is clearly incompatible with class L lands and may also be incompatible with Class M lands at this scale. Although the DEIS does consider alternative configurations that would lessen impacts to some resources, it still fails to consider how the loss of this large amount of important habitat will affect the biological resources of this area. Moreover, BLM does not address how the loss of multiple uses in such a large area might affect other nearby public lands in the CDCA such as creating greater pressures on those land for the remaining multiple uses.

For example, to the extent that the proposal would require changes in the route network resulting in several routes which would need to be moved,[1] those changes to the route network are not adequately addressed in the DEIS (nor are the likely direct, indirect and cumulative impacts of changing those route designations adequately identified or analyzed, as discussed in

1 The Center notes that issues have also been raised regarding access to Hector Road that do not appear to be fully discussed or analyzed in the DIES.

detail below). Any changes to routes would require BLM to amend the route designations in the area as well. When BLM does consider these issues, as it must, in a revised or supplemental DEIS, a range of alternatives must be considered in addition to the fact that such changes will undoubtedly change use of the previously existing nearby routes, most likely causing increased use on other nearby routes. Even if BLM attempts to simply reroute along the fence line for the proposed project a plan amendment would be required and BLM must then consider that new unauthorized routes to provide connections to the other routes, and/or entirely new unauthorized routes may be created by off-road vehicle users *to avoid the industrial site entirely*. There is no evidence that recreational off-road vehicle users will be content to drive for miles along a fence adjoining an industrial site rather than striking off cross-country to connect with more scenic routes. Past experience shows that the latter is quite understandably a much more likely outcome and BLM should recognize this in analyzing the impacts of this project on the existing route network and any proposal to amend that network.

C. Fails to Adequately Address Other Ongoing Planning Efforts

The DEIS fails to adequately address the proposed project in the context of other connected projects (including multiple renewable energy projects, substations and additional transmission lines) and the ongoing PEIS planning process for solar development in six western states undertaken by BLM and DOE which does not identify this area as a proposed solar energy study area2. Direct, indirect and cumulative impacts of the proposed project in conjunction with others may lead to sprawl development in the area and undermine the *planning* for renewable energy industrial zones that BLM has undertaken.

The BLM cannot lawfully piecemeal this project approval. Moreover, the BLM has failed to explain how this site specific approval would interface with, or alternatively undermine, the solar programmatic planning by federal agencies for the western states. This critical issue regarding planning on public lands is not adequately addressed in the DEIS which only mentions the PEIS process briefly (DEIS at B.2-21), and then includes the PEIS as a foreseeable future project with no explanation (DEIS at B.3-13). The BLM does not analyze how the PEIS could be affected by the approval of this and other projects in the area. Such analysis *after the fact* is not consistent with the planning requirements of FLPMA or, indeed, any rational land use planning principles.

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

FLPMA states that "[t]he Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values," and this "[t]his inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values." 43 U.S.C. § 1711(a). FLPMA also requires that this inventory form the basis of the land use planning process. 43 U.S.C. § 1701(a)(2). *See Center for Biological Diversity v. Bureau of Land Management*, 422 F.Supp.2d 1115, 1166-67 (N.D. Cal. 2006) (discussing need for BLM to take into account known resources in making management decisions); *ONDA v. Rasmussen*, 451 F.Supp. 2d 1202, 1212-13 (D. Or. 2006) (finding that BLM did not take a hard

2 http://solareis.anl.gov/documents/maps/studyareas/Solar_Study_Area_CA_Ltt_7-09.pdf

look under NEPA by relying on outdated inventories and such reliance was inconsistent with BLM's statutory obligations to engage in a continuing inventory under FLPMA). It is clear that BLM should not approve a management plan amendment based on outdated and inadequate inventories of affected resources on public lands.

As detailed below in the NEPA sections, here BLM has failed to compile an adequate inventory of the resources of the public lands that could be affected by the proposed project *before* preparing the DEIS (including, e.g., desert tortoise, rare plant surveys including late-summer/early-fall flowering plants, Mojave fringe-toed lizard, desert bighorn sheep and other biological resources) which is necessary in order to adequately assess the impacts to resources of these public lands in light of the proposed plan amendment and BLM has also failed to adequately analyze impacts on known resources. Indeed, the DEIS states that surveys are ongoing after the DEIS was issued. *See* DEIS at C.2-2 ("Follow-up spring and fall 2010 special-status plant surveys will be performed for 15 plant species within the Project Disturbance Area and along the proposed transmission line alignment). Moreover, additional golden eagle surveys may have been performed after the DEIS was prepared. Therefore, it appears that a revised DEIS or supplemental DEIS must be prepared to include the new information including new survey data about the resources of the site and potential impacts of the project on resources of our public land and water, and that document must be circulated for public review and comment.

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

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

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

II. The DEIS Fails to Comply with NEPA.

NEPA is the "basic charter for protection of the environment." 40 C.F.R. § 1500.1(a). In NEPA, Congress declared a national policy of "creat[ing] and maintain[ing] conditions under

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

Under NEPA, before a federal agency takes a "'major [f]ederal action[] significantly affecting the quality' of the environment," the agency must prepare an environmental impact statement (EIS). *Kern v. U.S. Bureau of Land Mgmt.,* 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)). "An EIS is a thorough analysis of the potential environmental impact that 'provide[s] full and fair discussion of significant environmental impacts and … inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.'" *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.,* 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1). An EIS is NEPA's "chief tool" and is "designed as an 'action-forcing device to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.'" *Or. Natural Desert Ass'n,* 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

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

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

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

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

The purpose behind the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part, to "guarantee[ ] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The agency cannot camouflage its analysis or avoid robust public input, because "the very purpose of a draft and the ensuing comment period is to elicit suggestions and criticisms to enhance the proposed project." *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agency cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives.

The BLM's purpose and need for the Calico project is "to respond to Calico Solar, LLC's application under Title V of FLPMA (43 U.S.C. 1761) for a ROW grant to construct, operate, and decommission a solar thermal facility on public lands in compliance with FLPMA, BLM ROW regulations, and other Federal applicable laws." The DEIS also states that the "BLM authorities include:

- Executive order 13212, dated May 18, 2001, which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "production and transmission of energy in a safe and environmentally sound manner."
- The EPAct, which requires the Department of the Interior (BLM's parent agency) to approve at least 10,000 MW of renewable energy on public lands by 2015.
- Secretarial Order 3285, dated March 11, 2009, which "establishes the development of renewable energy as a priority for the Department of the Interior."

DEIS at A-12. The DEIS notes that an amendment to the CDCA Plan is needed in order to approve the project but does not clearly identify the plan amendment as a part of the project being evaluated. Rather, the DEIS states: "The BLM will decide whether to approve, approve with modification, or deny issuance of a ROW grant to Calico Solar, LLC for the proposed Calico Solar Project. The BLM's actions will also include consideration of amending the CDCA Plan concurrently." DEIS at A-12. BLM's purpose and need is very narrowly construed to the proposed project itself and an amendment to the Plan *for the project only*. The purpose and need provided in the DEIS is impermissibly narrow under NEPA for several reasons, most importantly because it foreclosed meaningful alternatives review in the DEIS. Because the purpose and need and the alternatives analysis are at the "heart" of NEPA review and affect nearly all other aspects of the EIS, on this basis and others, BLM must revise and re-circulate the DEIS.

The DOE purpose and need statement provides that:

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

DEIS at A-13. As the applicant admits the proposed project is experimental at the scale proposed. The applicant's objective is states: "To assist in meeting the requirement for additional generating capacity, the applicant has developed solar technology *which requires commercial-scale development to demonstrate its technical and commercial viability*." DEIS at A-11 (emphasis added). Thus, the proposed project appears to meet the DOE criteria because it is admittedly "new" — indeed, experimental — technology at the proposed scale, and the applicant hopes that it will assist in meeting the renewable generating capacity. However, by that same token, the DEIS fails to address the experimental nature of the proposed project3 including the likelihood of success (or failure) and the consequences of failure (including technological failures and financial failures) and the full extent of the likely resulting impacts to public lands.

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

3 As the BLM is aware, the largest installation of Stirling suncatchers is a 1.5 MW, 60 dish facility in Maricopa County, Arizona installed in January 2010. The proposed project is proposed to install over 30,000 suncatchers (DEIS at B.1-6) approximately 500 times larger. http://www.stirlingenergy.com/pdf/2010_01_22.pdf

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

DEIS at B.3-2.

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

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

The habitat fragmentation, loss of connectivity for terrestrial wildlife, and introduction of predators and invasive weed species associated with the proposed project in the proposed location may run contrary to an effective climate change adaptation strategy. Siting the proposed project in the proposed location impacting major washes and fragile desert resources could undermine a meaningful climate change adaptation strategy with a poorly executed climate change mitigation strategy. Moreover, the project itself will emit greenhouse gases and the DEIS contains no discussion of ways to avoid, minimize or off set these emissions although such mitigation is clearly feasible and other technologies have far less or no GHG emissions during operations are also likely to have fewer emissions when calculated on a lifecycle basis. The way to maintain healthy, vibrant ecosystems is not to fragment them and reduce their biodiversity.

B. The DEIS Does Not Adequately Describe Environmental Baseline

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

The DEIS fails to provide adequate baseline information and description of the environmental setting in many areas including in particular the status of rare plants, animals and communities.

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

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

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

Moreover, BLM must look at reasonable mitigation measures to avoid impacts in the DEIS but failed to do so here. Even in those cases where the extent of impacts may be somewhat uncertain due to the complexity of the issues, BLM is not relieved of its responsibility under NEPA to discuss mitigation of reasonably likely impacts at the outset. Even if the discussion may of necessity be tentative or contingent, NEPA requires that the BLM provide some

information regarding whether significant impacts could be avoided. *South Fork Band Council of Western Shoshone v. DOI* , 588 F.3d 718 , 727 (9th Cir. 2009).

The lack of comprehensive surveys is particularly problematic. Failure to conduct sufficient surveys prior to construction of the project also effectively eliminates the most important function of surveys - using the information from the surveys to minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than preventing the harm in the first place. In addition, without understanding the scope of harm before it occurs, it is difficult to quantify an appropriate amount and type of mitigation.

The DEIS fails to determine the level of significance after mitigation for NEPA, FLPMA or the ESA, although it does determine that the impacts would be significant and unavoidable under CEQA. For this reason alone, a supplemental or revised DEIS needs to be provided that determines if LORS are complied with and the status of mitigation.

1. Desert Tortoise

The desert tortoise has lived in the western deserts for tens of thousands of years. In the 1970's their populations were noted to decline. Subsequently, the species was listed as threatened by the State of California in 1989 and by the U.S. Fish and Wildlife Service in 1990, which then issued a Recovery Plan for the tortoise in 1994. The U.S. Fish and Wildlife Service is in the process of updating the Recovery Plan, and a Draft Updated Recovery Plan was issued in 2008, however it has not been finalized. Current data indicate a continued decline across the range of the listed species[4] despite its protected status and recovery actions.

The original and draft Updated Recovery Plans both recognize uniqueness in desert tortoise populations in California. This particular subpopulation of tortoise at the proposed project site are part of the Northern Colorado Recovery unit[5]. Recent population genetics studies[6] have further confirmed 1994 Recovery Plan conclusions the Northern Colorado Recovery unit is genetically unique. This particular recovery unit has also been documented to have *the highest declines in desert tortoise population over the last two years* – 58% decline [7]. The DEIS fails to identify and consider the localized impact to this recovery unit that is already in steep decline.

In addition, the proposed project site appears to support a robust desert tortoise population that is located in a critical linkage between existing conservation investments. To the south of the site lies the Ord-Rodman Desert Wildlife Management Area (DWMA), and to the north of the site is the Superior-Cronese DWMA. Much of the rest of the land between these two DWMAs has already been developed (Newberry Springs area and Barstow) or is not desert tortoise habitat. The key linkage between these two DWMAs lies at the western base and flanks of the Cady Mountains where the project is proposed. This linkage is already constrained by

[4] USFWS 2009
[5] USFWS 1994
[6] Murphy et al. 2007
[7] USFWS 2009.

Interstates 15 and 40 and the Burlington Northern and Santa Fe railroad, however existing bridges and culverts currently allow for occasional but key movement of desert tortoise (and other species) and prevents isolation of populations and inbreeding.

As the DEIS acknowledges, additional information for desert tortoise needed includes "desert tortoise surveys of the entire project area" (DEIS at C.2-6). Absent these basic data on on-site resources, impact analysis is impossible, as is appropriate avoidance, minimization and mitigation strategies. Clearly a supplemental DEIS is required to present these missing data..

While Bio-16 requires a Desert Tortoise Relocation/Translocation Plan (DEIS at pg. C.2-184), no desert tortoise relocation/translocation plan was included in the DEIS. Recent desert tortoise translocations have resulted in significant short-term mortality up to 45%[8] and unknown long-term survivorship. It is imperative to have this key plan available in the revised DEIS in order for the public and decision makers to be able to evaluate the effectiveness of the proposed strategies.

It is unclear in the DEIS how the compensation acreage for desert tortoise acquisition was calculated. The DEIS states that 8,219 acres of desert tortoise habitat will be impacted (DEIS at C.2-185). Some unidentified acreage representing the acreage "below the railroad tracks" is to be mitigated at a 1:1 ratio, another unidentified acreage representing the acreage "above the railroad tracks" is to be mitigated at a 3:1 ratio. However, the BLM 1:1 mitigation will not be in acquisition, so it effectively eliminates any mitigation acquisition for the land "below the railroad tracks" and drops the mitigation ratio to 2:1 "above the railroad tracks. In addition, the previous lands acquired for mitigation but have now become apart of this proposed project are to be mitigated at 6:1 (or 5:1 if the BLM mitigation strategy is put in place). The DEIS indicates that only 14,018 acres will be sought for conservation (at C.2-185), which represents an effective mitigation ration of only 1.7:1. The supplemental EIS needs to clarify how acreages were calculated.

Mechanisms need to be included to assure that any and all mitigation acquisitions will be conserved in perpetuity for the conservation of the desert tortoise. If those acquisitions are within existing Desert Wildlife Management Areas (DWMAs), higher levels of protection than are currently in place for DWMAs need to be put in place. NEPA mandates consideration of the relevant environmental factors and environmental review of "[b]oth *short- and long-term* effects" in order to determine the significance of the project's impacts. 40 C.F.R. § 1508.27(a) (emphasis added). BLM has clearly failed to do so in this instance with respect to the impact to the desert tortoise. If tortoises are relocated, then the relocation areas need to be secured for tortoise conservation, to preclude moving the animals subsequently if additional projects are on the relocation site.

2. Desert Bighorn Sheep

The DEIS fails to comprehensively assess the impacts from of the proposed project on the local desert bighorn sheep population. Without this basic information about the use of the

[8] Gowan and Berry 2010.

proposed project site and adjacent areas by bighorn it is impossible to assess the extent of the impacts to the bighorn population in this area from the proposed project.

The proposed project is identified to cause the loss of 458.5 acres of foraging habitat on alluvial fans and in washes which is known to be important to bighorn. Even if such habitat may only be used during certain seasons it can be critical to survival of bighorn. Without site-specific data on the details of habitat use patterns of the bighorn in the area, the DEIS cannot properly assess the importance of the alluvial fan and wash habitat to the bighorn population or the impact of its loss on the population.

The proposed project may affect foraging areas and movement corridors for bighorn, as well as fragmenting currently intact habitat. The DEIS proposes a wildlife drinker as a mitigation measure. However, the DEIS provides no information documenting the need for the proposed wildlife drinker. Is the Cady range lacking in available water sources accessible to bighorn sheep? Moreover there is no discussion of how, if at all, this mitigation proposal could actually mitigate for the loss of forage and movement areas and fragmentation of habitat by the construction of the proposed solar project on over 8,000 acres.

For other rare species addressed in the document the mitigation involves the purchase and future protection of an equal amount of acreage or more that is being impacted. No such suggestion is listed for bighorn, although even the purchase of lands elsewhere will do nothing for the foraging area along the base of the Cady mountains. The mitigation measure proposed does not relate to the loss of alluvial fan foraging habitat where the Project would be constructed.

The DEIS identifies that noise levels from the 34,000 suncatcher Stirling engines operating on site would affect off-site resources "which would be expected to adversely affect Nelson's bighorn sheep" (DEIS at C.2-2), yet no mitigation is specifically identified for this impact.

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

Other standard mitigation measures that are not mentioned in the DEIS include not using barbed wire fencing in this location, and ensuring invasive plants have not taken over the springs are valid minimization measures that should be evaluated. All of the above issues need to be addressed in a supplemental EIS.

3. Mojave fringe-toed lizard

The Mojave fringe-toed lizard is known to occur on site. The DEIS notes that the 16.9 acres of habitat identified by the applicant as habitat for the Mojave fringe-toed lizard as follows: "the amount of habitat for this species appeared to be under-reported" (DEIS at C.2-4). However the DEIS fails to identify the actual amount of acres of habitat onsite for the Mojave fringe-toed lizard. The Center understands that there may be approximately four times as much habitat for

this species as disclosed in the DEIS, particularly when connectivity between the more evident sand dune areas is taken into account.

The DEIS also notes that "The project would interfere with both aeolian and fluvial sand deposits on and near the site, which would result in habitat loss and degradation for this and other sand-associated species and would result in direct impacts to occupied habitat." (DEIS at C.2-4). No impact analysis of this proposed project on this important sand transport process was included in the DEIS. No mitigation was proposed to off-set impacts to this unique habitat type that supports the Mojave fringe-toed lizard (and other dune species).

Other large-scale solar projects are also proposed on or around dunes that support Mojave fringe-toed lizards and the sand transport systems on which they rely. Studies of Aeolian transport evaluations have been done for other projects and projects have been redesigned to avoid and minimize impacts to these important sand transport systems and dune habitats.[9] Mitigation has also been proposed for impacts to the sand transport systems. This DEIS completely fails to adequately address impacts to dunes and importantly the sand transport systems that sustain them. These important issues must be clearly addressed in a revised or supplemental EIS.

The DEIS fails to evaluate the impacts of the proposed project on Mojave fringe-toed lizard outside of the project site. As Barrows et al. (2006)[10] found, edge effects are significant for fringe-toed lizards and, in addition, the increase in predators associated with developed edges may also have a significant adverse effect on fringe-toed lizards and other species.

4. Rare and Special Status Plants

Nine species of rare plants are noted to occur on the project site (DEIS at C.2-19-20). However, the DEIS acknowledges that comprehensive surveys for rare plants were not done (DEIS at C.2-46), and in fact, requires comprehensive surveys to be performed for rare plants in 2010 (DEIS at C.2-174). The results of those surveys are not available. Additionally, a number of the rare plant species identified to occur on site "were not mapped, quantified (i.e., numbers of occurrences) or addressed by the applicant in their Application for Certification or Biological technical reports" (DEIS at C.2-2). Absent these basic data on on-site resources, impact analysis is impossible, as is appropriate avoidance, minimization and mitigation strategies. Clearly a supplemental DEIS is required to present these missing data.

Several rare plant species identified on site are "range extensions" into the central Mojave (Cove's cassia and small-flowered sand verbena), having not been documented in the general area previously. Neither species locations were mapped. These extensions not only represent new data on the distribution of the species, but also represent locations at the edges of the species range, which are very important in plant conservation strategies[11]

9 Worley Parsons 2010
10 Barrows et al. 2006
11 Leppig and White 2006

5. Plant communities

While plant communities were mapped on the proposed project site, the DEIS noted that "staff found numerous smaller patches of vegetation associations not shown in the applicant's vegetation map." (DEIS at C.2-1). Furthermore, "Staff did not quantify species composition or map these smaller associations but notes that these associations are microphyll woodlands typically associated with dry desert washes and include catclaw acacia thorn scrub, lower elevation wash and sandfield vegetation, smoke tree woodland, and big galleta shrubsteppe." (DEIS at C.2-1). Particularly in the central Mojave desert, many of these associations are rare plant communities. The failure to map them, identify their acreage, and evaluate avoidance, minimization and mitigation measures fails to comply with NEPA. These missing data and analyses need to be included in the supplemental EIS.

6. Migratory Birds and Raptors

Birds

While the DEIS discusses potential impacts to birds from collision with infrastructure and power lines and blinding from glare, it does little to actually avoid or mitigate those potential impacts. The supplemental DEIS needs to analyze likely impacts to birds from the proposed project mirror configuration, power lines and glare. The failure to provide the baseline data from which to make any impact assessment violates NEPA. This failure to analyze impacts is not only a NEPA violation, but for migratory birds, may also lead to a violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 -711, because migratory birds may be "taken" if the proposed project is constructed. Monitoring impacts of solar technology on birds as described in Bio-23 will only provide monitoring data, not mitigate impacts (DEIS at C.2-193). Other large-scale solar projects have been required to develop an Avian Protection Plan which is proposed to "provide the information needed to determine if operation of the Project posed a collision risk for birds, and would provide adaptive management measures to mitigate those impacts to less than significant levels". The Avian Protection Plan needs to be available to the public and decision makers in order to provide an assessment of impacts to migratory birds and therefore provided in the supplemental DEIS.

The DEIS fails to adequately address the issue of impacts to migratory birds. Point counts for migratory birds were not mentioned as a survey protocol. The failure to provide the baseline data on which to base impact assessment violates NEPA. Failure to be able to analyze impacts is not only a NEPA violation, but for migratory birds, may also lead to a violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 -711, because migratory birds may be "taken" if the proposed project is constructed. Additionally Executive Order 13186 states "Each Federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations is directed to develop and implement, within 2 years, a Memorandum of Understanding (MOU) with the Fish and Wildlife Service (Service) that shall promote the conservation of migratory bird populations." [12] Furthermore the EO states that goals pursuant to the MOU include "3) prevent or abate the pollution or detrimental alteration of the Environment for the benefit of migratory birds, as practicable;" and "(6) ensure that environmental analyses of

12 http://ceq.hss.doe.gov/nepa/regs/eos/eo13186.html

Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern;". Clearly, the supplemental DEIR needs to adequately identify the migratory bird issues on site and evaluate the impact to those species in light of the guidance in Executive Order 13186.

Burrowing Owls

As with many of the rare species, the DEIS does not provide adequate information on burrowing owls on site. While 2 owls and 11 active burrows were noted on-site, the DEIS notes that "the applicant must establish the breeding status of the owls onsite" (DEIS at C.2-4) and the lack of these data remain an "outstanding issue" (DEIS at C.2-6). Because of the lack of data, no evaluation of impacts or an appropriate mitigation strategy is proposed in the DEIS. Preliminary results from the 2006-7 statewide census identified that the eastern Mojave harbors few burrowing owls, while the western Mojave is home to some.[13] However, the DEIS fails to evaluate the potential impact of the proposed project on this regional distribution of owls.

While "passive relocation" does minimize immediate direct take of burrowing owls, ultimately the burrowing owls' available habitat is reduced, and "relocated" birds are forced to compete for resources with other resident burrowing owls and may move into less suitable habitat, ultimately resulting in "take". While Bio-22 requires a Burrowing Owl Monitoring and Mitigation plan and a Burrowing Owl Relocation Management plan, neither of those plan are provided. Additionally, the requirements of the plans do not explicitly include long-term monitoring of passively relocated birds in order to evaluate survivorship of passively relocated birds.

Golden Eagle

Golden eagles are known to nest within 5 miles of the project site and have been observed foraging over the project area. (DEIS at C.2-4). While the DEIS acknowledges that Bio-21 may require substantial revision, Bio-21 as written fails to present exactly how mitigation will occur for foraging habitat for the golden eagle. The fact still remains that significant amounts of foraging habitat – over 8,000 acres - will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity.

Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest[14]. Regardless of distance, a straight-line view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of viewsheds using a three-dimensional GIS tool and development of buffers based on the modeling[15]. Golden eagles have also been documented to avoid

13 IBP 2008

14 Richardson and Miller 1997

15 Camp et al. 1997; Richardson and Miller 1997

industrialized areas that are developed in their territory.[16] Additionally, the DEIS does not actually clearly analyze the impacts to and mitigations for the golden eagle under the Bald Eagle and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the take, possession, and commerce of such birds.

7. Badger and Desert Kit Foxes

Badgers and desert kit foxes were identified to occur throughout the project area (DEIS C.2-5. Literature on the highly territorial badger indicates that badger home territories range from 340 to 1,230 hectares17. Therefore, the proposed project could displace *at least* one badger territory. While surveys prior to construction are clearly essential, even passive relocation of badgers into suitable habitat may result "take". Excluding badger from the site is likely to cause badgers to move into existing badger's territory. The same scenario of passive relocation for kit fox may also result in "take". Studies need to be provided on both on- and off-site badger and kit fox territories if animals are to be passively relocated in order to increase chances of persistence. At a minimum, the revised or supplemental DEIS should identify suitable habitat nearby if the project is relying on passive relocation as a mitigation strategy.

8. Gila Monster

The strategy proposed in Bio-14 for the banded Gila monster proposes relocation as the mitigation strategy if the lizard is encountered. Relocation of banded Gila monster has been shown to be an ineffective strategy[18]. Similar to desert tortoises, the Gila monsters try to return to their original sites despite relocation distances. Effective mitigation for this species needs to include strategies that will minimize mortality, not ensure it.

9. Cryptobiotic soil crusts and Desert Pavement

The proposed project is located in the Mojave Desert Air Quality Management District area, which is already in non-attainment for PM-10 particulate matter[19]. The construction of the proposed project further increase emissions of these types of particles because of the disruption and elimination of potentially thousands of acres of cryptobiotic soil crusts. Cryptobiotic soil crusts are an essential ecological component in arid lands. They are the "glue" that holds surface soil particles together precluding erosion, provide "safe sites" for seed germination, trap and slowly release soil moisture, and provide CO_2 uptake through photosynthesis[20].

While the DEIS briefly discusses the value of soil crusts and potential problems with removal (DEIS at C.2-41 and C.2-45, it does not describe the extent of the on-site cryptobiotic soil crusts. The proposed project will disturb an unidentified portion of these soil crusts and cause them to lose their capacity to stabilize soils and trap soil moisture. The DEIS fails to provide a map of the soil crusts over the project site, and to present any avoidance or

16 Walker et al. 2005

17 Long 1973, Goodrich and Buskirk 1998

18 Sullivan et al. 2004

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

20 Belnap 2003, Belnap et al 2003, Belnap 2006, Belnap et al. 2007

minimization measures. It is unclear how many acres of cryptobiotics soils will be affected by the project. The supplemental DEIS must identify the extent of the cryptobiotic soils on site and analyze the potential impacts to these diminutive, but essential desert ecosystem components as a result of this project.

While desert pavements are mentioned extensively as occurring on the proposed project site (DEIS at in the cultural section), quantitative acreage of pavement are not identified. No discussion of the impact to air quality from the removal of those naturally occurring desert pavement is provided.

10. Insects

The DEIS fails to address insects on the proposed project site. In fact no surveys or evaluation of rare or common insects are included in the DEIS. Dune habitats are notorious for supporting endemic insects, typically narrow habitat specialists[21].

11. Prior mitigation lands

The DEIS documents a problematic situation where 1,180 acres of land that were acquired and donated to the BLM as mitigation for impacts from development, are now slated for development themselves. While we support at a minimum the 6:1 ratio of mitigation for impacts to these mitigation lands, the BLM mitigation (of 1:1) will be not be land acquisition "but rather through implementation of region-wide management plans and land use planning as described in the West Mojave Plan (BLM et al. 2005; BLM 2006) and the Desert Tortoise Recovery Plan (USFWS 1994b)". DEIS at C.2-3. This strategy effectively reduces the amount of actual habitat acquired for desert tortoise mitigation. Proposing to develop on-the-ground mitigation lands is, at best, an ineffective strategy for recovering a federally threatened species that is in significant decline. Careful selection of additional mitigation lands will be necessary in order to insure that high quality tortoise habitat is acquired.

12. Revegetation Plan

Desert lands are notoriously hard to revegetate or rehabilitate[22] and revegetation never supports the same diversity that originally occurred in the plant community prior to disturbance[23]. The task of revegetating almost thirteen square miles will be a Herculean effort that will require significant financial resources. In order to assure that the ambitious goals of the revegetation effort is met post project closure, it will be necessary to bond the project, so that all revegetation obligations will met and assured. The bond needs to be structured so that it is tied to meeting the specific revegetation criteria.

The project will cause permanent impacts to the on-site plant communities and habitat for wildlife despite "revegetation", because the agency's regulations based on the West Mojave

21 Dunn 2005.

22 Lovich and Bainbridge 1999

23 Longcore 1997

Plan's rehabilitation strategies[24] only requires 40% of the original density of the "dominant" perennials, only 30% of the original cover. Dominant perennials are further defined as "any combination of perennial plants that originally accounted cumulatively for at least 80 percent of relative density".[25] These requirements fail to truly "revegetate" the plant communities to their former diversity and cover even over the long term. While Bio-10 requires the development of a Revegetation Plan, that plan is not available for public review. While BLM's own regulations 43 CFR 3809.550 et seq. require a detailed reclamation plan and a cost estimate, they need to be included in the revised EIS.

13. Surface Waters, Groundwater Resources, and Reserved Water Rights

Over half of the existing 1,099 acres are Waters of the State that would either be temporarily or permanently impacted – 614 acres total. The U.S. Army Corps of Engineers has determined that there are no waters of the U.S. occurring on the project site. Once again, because of unavailable data, the DEIS concludes that "the drainage report does not provide sufficient information to establish the post-project flooding conditions or to determine the potential impacts to vegetation outside the project area" (DEIS at C.2-97). The DEIS continues that the attenuation of storm flows and loss of sediment to the system coupled with the level of maintenance expected to occur on the site, all 1,099 acres of the ephemeral washes on the project site and portions of the washes downstream of the project boundaries would be adversely affected by the proposed project. Bio-27 is proposed to offset impacts to these rare desert resources, and relies on acquisition (nested within the desert tortoise acquisition lands) to off-set impacts, with the only mitigation ratio identified being for catclaw acacia and smoke-tree plant communities at 3:1. It is unclear what the remaining mitigation ratio requirements are, and if those could be met on acquisition lands.

The DEIS states that it will obtain needed from the Cadiz area and would "haul water from a well located at Cadiz, approximately 64 miles east southeast of the project site, by train to the project site." DEIS at C.1-13. No alternate source of water is discussed although the DEIS does state that "The Applicant is also currently drilling wells and conducting aquifer testing to further assess groundwater conditions at the project site." This appears to imply that the applicant may seek to use groundwater on site as well although such an action is not analyzed in the DEIS.

As BLM is well aware, the California Desert Protection Act ("CDPA") expressly reserved water rights for wilderness areas that were created under the act including the Rodman Mountains Wilderness located approximately 8 miles southwest of the project site, the Bristol Mountains Wilderness and Kelso Dunes Wilderness located approximately 10 miles east of the project site, and the Newberry Mountains Wilderness located approximately 15 miles southwest of the project site. 16 U.S.C. §410aaa-76.[26] The CDPA reserved sufficient water to fulfill the

24 http://www.blm.gov/ca/st/en/fo/cdd/neco.html

25 Ibid

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

purposes of the Act which include to "preserve unrivaled scenic, geologic, and wildlife values associated with these unique natural landscapes," "perpetuate in their natural state significant and diverse ecosystems of the California desert," and "retain and enhance opportunities for scientific research in undisturbed ecosystems." 103 P.L. 433, Sec. 2. The priority date of such reserved water rights is 1994 when the CDPA was enacted. Therefore, at minimum, the BLM must ensure that if any groundwater on site is proposed to be used for the proposed project (and cumulative projects) *over the life of the proposed projects* such use will not impair those values in the wilderness that depend on water resources (including perennial, seasonal, and ephemeral creeks, springs and seeps as well as any riparian dependent plants and wildlife).

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

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

BLM must examine the federal reserved water rights within the area affected by the proposed project (including the Cadiz area where water is now proposed to be obtained) and other proposed projects in this area that may use significant amounts of groundwater. This examination must include a survey of the any water sources potentially affected by the proposed water use for the proposed project. The BLM must ensure that any springs, seeps, creeks or other water sources on public land and particularly within the wilderness areas are not degraded by the proposed projects' use of water and continue meet the needs of the existing wildlife and native vegetation that depend on those water resources.

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

The Center is also concerned that the discussion in the DEIS is also incomplete because it fails to address any potential water rights that could arguably be created from use of groundwater by the proposed project on these public lands. While the Center recognizes that this issue may involve somewhat complex legal issues, at minimum, the BLM must address this question and to ensure that any water rights that could *arguably* be created will be conveyed back to the BLM owner and run with the land at the end of the proposed project ROW term. The BLM must provide a mechanism to insure that in no case will the use of water for the proposed project on

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

14. Fire Plan

Fire in desert ecosystems is well documented to cause catastrophic landscape scale changes[27] and impacts to the local species[28]. The DEIS mentions the impacts of fire via the proliferation of nonnative weeds (DEIS at C.2-42), it fails to analyze the impacts of fire on adjacent natural desert habitat. The DEIS fails to adequately analyze the impact that an escaped on-site-started fire could have on the natural lands adjacent to the project site if it escaped from the site. The DEIS also fails to address the mitigation of this potential impact. Instead it defers it to the Worker Environmental Awareness Program (WEAP) and only requires "a discussion of fire prevention measures to be implemented by workers during project activities" (DEIS at C.2-161). A fire prevention and protection plan needs to be developed and required to prevent the escape of fire onto the adjacent landscape (avoidance), lay out clear guidelines for protocols if the fire does spread to adjacent wildlands (minimization) and a revegetation plan if fire does occur on adjacent lands originating from the project site (mitigation) or caused by any activities associated with construction or operation of the site even if the fire originates off of the project site.

15. Failure to Identify Appropriate Mitigation

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

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27 Brown and Minnich 1986, Lovich and Bainbridge 1999, Brooks 2000, Brooks and Draper 2006, Brooks and Minnich 2007

28 Dutcher 2009

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

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

One way to analyze impact to the environment used by a sister agency (NOAA) is to perform a Habitat Equivalency Analysis (HEA). This process is used to determine compensation for injuries to the public trust environmental resources including the lost services that the ecosystem provides[29]. While the HEA was developed for determining compensation from impacts primarily from oil spills, this methodology has been used to determine compensation for other types of impacts including development projects. It is a useful method to determine compensation for impacts to the public trust resources including migratory birds that will occur if the proposed project is implemented. It also provides a basis for analyzing the equivalency of compensation lands at least from the resources services perspective. This analysis would be in addition to mitigation for the impacts to threatened and endangered species. We suggest that this methodology utilized to more accurately analyze and assess the impacts from the proposed project and the alternatives.

D. Key Plans are Not Included

The DEIS fails to include key plans for public review. Plans relied upon for adequate mitigation but which are unavailable include (from Table 19 C.2-203):

- Worker Environmental Awareness Plan
- Biological Resources Mitigation Implementation and Monitoring Plan
- Revegetation Plan (Reclamation Plan are required by BLM at 43 CFR 3809.550 et seq. including cost estimates 43 CFR 3715 and should be incorporated into the Revegetation Plan)
- Weed Management Plan
- Special Status Plant Protection and Monitoring Plan
- Special Status Plant Remedial Action Plan
- Seed Collection Plan
- Protected Plant Salvage Plan
- Desert Tortoise Relocation/Translocation Plan
- Raven Monitoring, Management and Control Plan
- Burrowing Owl Relocation Area Management Plan

29 http://www.csc.noaa.gov/coastal/economics/habitatequ.htm
http://www.darrp.noaa.gov/library/pdf/heaoverv.pdf

- Burrowing Owl Monitoring and Mitigation Plan
- Bighorn Sheep Mitigation Plan
- Evaporation Pond Design, Monitoring and Management Plan
- Channel Decommissioning and Reclamation Plan

Plans that are not currently required but need to be included:

- Revegetation plan for temporary disturbance (or included in the missing revegetation plan above)
- Decommissiong and Reclamation Plan (for permanent closure)
- Avian and Bat Protection Plan
- Plan for restoring sheet flow to the terrain downslope of the Project boundaries
- Desert Tortoise Management Plan for Mitigation Lands
- Project Hazardous Materials Plan
- Management Plan for Sand Dune/Fringe-toed Lizard
- Fire Plan

All of these plans are key components to evaluating the avoidance, minimization and mitigation to biological resources by the proposed project. Their absence makes it impossible to evaluate the impacts from the proposed project. Each of these plans needs to be included in the supplemental EIS.

E. The DEIS Fails to Adequately Identify, Analyze and Off-set Impacts to Air Quality and GHG Emissions.

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

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

The GHG emissions from the construction phase of the project are stated to be over 41,500 metric tons CO2 equivalent (Greenhouse gas table 2, DEIS C.1-67). Again, there is no discussion of reducing these emissions by using more efficient equipment or vehicles.

The GHG emissions from project operations are estimated to be 3,488 metric tons CO2 equivalent annually. The discussion of greenhouse gas emissions ("GHG") in the DEIS notes that the solar generation itself will produce no GHGs but there is "direct and indirect gasoline and diesel fuel use in the maintenance vehicles, offsite delivery vehicles, staff and employee vehicles, and a 335-hp diesel-fueled emergency engine. Another GHG emission source for the proposed project is the SF6 equipment leakage." DEIS at C.1-68. There is no discussion of reducing these sources by using alternative fuels or highly efficient vehicles and equipment. The DEIS fails to state the actual amount of SF6 that is estimated to leak from equipment and provides only that 384.42 MTCO2E is expected in emissions each year. Leakage of SF6 is of particular concern as it is many times more potent greenhouse gas than CO2—indeed, its potential as a GHG has been estimated at 23,900 times that of CO2 (for a 100 year time horizon) and it can persist in the atmosphere far longer than CO2 as well—up to 3,200 years.[30] No information is provided on the calculation. Moreover, the DEIS does not analyze any alternatives to avoid or minimize the long-term emissions of this powerful GHG from operations and no mitigation measures are provided.

The DEIS also fails to adequately address other air quality issues most importantly PM10 both during construction and operation which is of particular concern in this area which is already in nonattainment for PM10. It is clear that on site grading and roads between the suncatcher components will increase bare soils and increase PM10 may be introduced into the air by wind and that the use of the roads between the suncatchers will lead to additional PM 10 emissions from the site.

The DEIS also fails to analyze the impacts to air quality and GHG emissions should a fire occur due to the extensive on-site hydrogen system. Of particular concern is that plans to minimize air quality impacts from construction, operations, and decommissioning are all deferred to later development with no clear standards.

BLM fails to identify any significant GHG emissions and therefore does not provide for avoidance, minimization, or mitigation. BLM has also failed to include the loss of carbon sequestration from soils in its calculations or to provide a lifecycle analysis of GHG emissions that include manufacturing and disposal. Moreover, it is undisputed that in the near-term GHG emissions will increase emissions during construction, and in the manufacturing and transportation of the components. BLM fails to consider any alternatives to the project that would minimize such emissions or to require that these near-term emissions be off set in any way.

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30 P. Forster et al., *Changes in Atmospheric Constituents and in Radiative Forcing, in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Solomon, S., et al. eds., Cambridge University Press 2007) at p. 212, Table 2.14.

Although the proposed project may reduce GHG's overall it is admittedly experimental and will cause GHG emissions that are not accounted for or off-set, BLM completely fails to explore this aspect of the impacts of the project in the DEIS in violation of NEPA.

F. The Analysis of Cumulative Impacts in the DEIS Is Inadequate

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

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

The DEIS identifies many of the cumulative projects but does not meaningfully analyze the cumulative impacts to resources in the California desert from the many proposed projects (including renewable energy projects and others). Moreover, because the initial identification and analysis of impacts unfinished, the cumulative impacts analysis cannot be complete. For example, the identification of plant communities on site is unfinished and are other elements of the analysis, the cumulative impacts are also therefore inadequate.

The DEIS also fails to consider all reasonably foreseeable impacts in the context of the

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

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

The cumulative impacts to the resources of the California deserts or the Western Mojave planning area have not been fully identified or analyzed, and mitigation measures have not been fully analyzed as well.

G. The EIS' Alternatives Analysis is Inadequate

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

F.2d 1123, 1135 (5th Cir. 1974). An agency will be found in compliance with NEPA only when "all reasonable alternatives have been considered and an appropriate explanation is provided as to why an alternative was eliminated." *Native Ecosystems Council v. U.S. Forest Serv.,* 428 F.3d 1233, 1246 (9th Cir. 2005); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-1229 (9th Cir. 1988). The courts, in the Ninth Circuit as elsewhere, have consistently held that an agency's failure to consider a reasonable alternative is fatal to an agency's NEPA analysis. *See, e.g., Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992) ("The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate.").

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

Here, BLM too narrowly construed the project purpose and need such that the DEIS did not consider an adequate range of alternatives to the proposed project.

The alternatives analysis is inadequate even with the inclusion of multiple "no action" alternatives, a reduced acreage alternative, and an "Avoidance of Donated and Acquired Lands Alternative". Additional feasible alternatives should be considered which would avoid occupied desert tortoise habitat and impacts to bighorn sheep habitat as well as to avoid impacts to the Mojave fringe-toed lizard. In addition a phased alternative should have been included which could allow a portion of the project that might the fewest impacts to move forward while also affording the project proponent time to find and acquire permits for more appropriate sites for one or more additional phases of the project on previously degraded disturbed lands and also to explore other off-site alternatives.

The document also includes other alternatives that were stated as being "Site Alternatives Evaluated only under CEQA" including an alternative with some private and some BLM lands. The document eliminated from consideration other private land alternatives and distributed renewable energy alternatives. The BLM (as well as the CEC) should have also looked alternative siting on previously degraded lands such as nearby farmlands, distributed solar alternatives, and other alternatives that could avoid impacts of the proposed project as well as impacts of the associated transmission lines and substations.

The BLM failed to consider any off-site alternative that would significantly reduce the impacts to biological resources including desert tortoise occupied habitat despite the significant impacts that the proposed project would have on this threatened species. Because such alternatives are feasible, on this basis and other the range of alternatives is inadequate. The Center urges the BLM to revise the DEIS to adequately address a range of feasible alternatives and other issues detailed above and then to re-

circulate a revised or supplemental DEIS for public comment.

In addition, in order to meet the DOE's purpose and need states that: "The two principal goals of the loan guarantee program are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. The purpose and need for action by DOE is to comply with their mandate under EPAct by selecting eligible projects that meet the goals of the Act." DEIS at B.2-10 to11. Assuming for the sake of argument alone that these are proper project objectives, the DEIS should have considered alternatives that would provide funding to other types of projects. Such alternatives could include, for example, conservation and efficiency measures that both avoid and reduce energy use within high-energy use load-centers including the Los Angeles area and the Inland Empire.

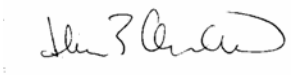
Alternative measures could include funding community projects for training and implementation of conservation measures such as increased insulation, sealing and caulking, and new windows for older buildings and new or improved technologies for accomplishing these important goals. For example, air conditioning creates the largest demand for energy during peak times and there already exist methods to reduce the energy use from air conditioning but implementation has lagged well behind technology. Conservation and efficiency measures are an excellent and quick way of reducing demand in both the short- and long-term and reduce the need for additional power sources. In addition, many of the existing conservation and efficiency measures can provide immediate jobs and training in high population areas with significant unemployment (particularly among low skilled workers and youth).

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

IV. Conclusion

Thank you for your consideration of these comments. In light of the many omissions in the environmental review to date, we urge the BLM to revise and re-circulate the DEIS or prepare a supplemental DEIS before making any decision regarding the proposed plan amendment and right-of-way application. In the event BLM chooses not to revise the DEIS and provide adequate analysis, the BLM should reject the right-of-way application and the plan amendment or adopt a plan amendment that would make some or all of the ROW area unavailable for use for large-scale industrial solar projects in order to protect the desert tortoise and other species and habitats on these lands. Please feel free to contact us if you have any questions about these comments or the documents provided.

Sincerely,



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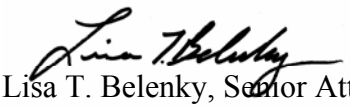

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References: (Provided in electronic format on disk)

Barrows, C.W., M.F. Allen and J.T. Rotenberry 2006. Boundary processes between a desert sand dune community and an encroaching suburban landscape. Biological Conservation 131: 486-494.

Belnap, J., S. L. Phillips, J. E. Herrick, J. R. Johansen. 2007. Wind erodibility of soils at Fort Irwin, California (Mojave Desert), USA, before and after trampling disturbance: Implications for land management. Earth Surface Processes and Landforms 32(1):75-84.

Belnap, J. 2006. The potential roles of biological soil crusts in dryland hydrologic cycles. Hydrological Processes 20: 3159-3178.

Belnap J. 2003. The world at your feet: Desert biological soil crusts. Frontiers in Ecology and the Environment 1(5):181-189.

Belnap J., S. L. Phillips, M. Duniway, R. Reynolds. 2003. Soil fertility in deserts: A review on the influence of biological soil crusts and the effect of soil surface disturbance on nutrient inputs and losses. In: A. S. Alsharhan, W. W. Wood, A. Goudie, A. R. Fowler, and E. M. Abdellatif, editors. Desertification in the Third Millennium: Lisse, The Netherlands, Swets & Zeitlinger (Balkema), pp.245-252.

Brooks, M.L. 2000. Competition Between Alien Annual Grasses and Native Annual Plants in the Mojave Desert. American Midland Naturalist 144: 92-108.

Brooks, M. L. and J. V. Draper. 2006. Fire effects on seed banks and vegetation in the Eastern Mojave Desert: implications for post-fire management, extended abstract, U.S. Geological Survey, Western Ecological Research Center, Henderson, Nevada, 3 p.

Brooks, M.L. and R.A. Minnich. 2007. Fire in the Southeastern Deserts Bioregion. Chp 16 in: Sugihara, N.G., J.W. van Wagtendonk, J. Fites-Kaufman, K.E. Shaffer, and A.E. Thode (eds.). Fire in California Ecosystems. University of California Press, Berkeley.

Brown, D.E. and R.A. Minnich. 1986. Fire and Changes in Creosote Bush Scrub of the Western Sonoran Desert, CA. American Midland Naturalist 116(2): 411-422.

Camp, R.J., D.T. Sinton and R.L. Knight 1997. Viewsheds: a Complementary Management Approach to Buffer Zones. Wildlife Society Bulletin 25(3): 612-615.

Dunn, R.R. 2005. Modern Insect Extinctions, the Neglected Majority. Conservation Biology 19 (4): 1030-1036.

Dutcher, K. E. 2009. The effects of wildfire on reptile populations in the Mojave National Preserve, California. Final Report to the National Park Service, California State University, Long Beach, 28 p.

Goodrich, J.M. and S.W. Buskirk 1998. Spacing and Ecology of North American Badgers (*Taxidea taxus*) in a Prairie-dog (*Cynomys leucurus*) Complex. Journal of Mammology 79(1): 171-179.

Gowan,T. and K.H. Berry 2010. Health, Behavior and Survival of 158 Tortoises Translocated from Ft. Irwin: Year 2. Desert Tortoise Council Symposium Abstracts 2010. http://www.deserttortoise.org/abstract/2010DTCSymposiumAbstracts.pdf

Institute for Bird Populations (IBP) 2008. Breeding Burrowing Owl Survey Newsletter, Spring 2008. pgs.4.

Leppig G. and J.W. White 2006. Conservation of peripheral plant populations in California. Madrono 53(2): 264-274.

Long, C.A. 1973. Taxidea taxus. Mammalian Species 26: 1-4.

Longcore, T., R. Mattoni, G. Pratt and C. Rich. 1997. On the Perils of Ecological Restoration: Lessons from the El Segundo Blue Butterfly. In 2nd Interface between Ecology and Land Development in California. J. Keely eds.

Lovich, J. E. and D. Bainbridge 1999. Anthropogenic Degradation of the Southern California Desert Ecosystem and Prospects for Natural Recovery and Restoration. Environmental Management 24(3): 309-326.

Murphy R.W., K.H.Berry, T. Edwards and A.M. McLuckie. 2007. Genetic Assessment of the Recovery Units for the Mojave Population of the Desert Tortoise, *Gopherus agassizii*. Chelonian Conservation and Biology 6(2): 229-251.

Richardson, C.T. and C.K. Miller. 1997. Recommendations for protecting raptors from human disturbance: a review. Wildlife Society Bulletin 25(3): 634-638.

Sullivan, B.K. M.A. Kwiatkowski and G.W. Schuett 2004. Translocation of urban Gila Monsters: a problematic conservation tool. Biological Conservation 117: 235-242.

United States Fish and Wildlife Service (USFWS)

1994 Desert tortoise (Mojave population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon. 73 pages plus appendices.

2009. Range-wide Monitoring of the Mojave Population of the Desert Tortoise: 2007 Annual Report. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada. Pgs. 77.

Walker, D., M. McGrady, A. McCluskie, M. Madders and D.R.A. McLeod 2005. Resident Golden Eagle Ranging Behaviour Before and After Construction of a Windfarm in Argyll. Scottish Birds 25: 24-40.

Worley Parsons 2010. Aeolian Transport Evaluation and Ancient Shoreline Delineation Report: Genesis Solar Energy Project, Riverside County, CA 5 February 2010. Pgs. 110.

References not provided:

P. Forster et al., *Changes in Atmospheric Constituents and in Radiative Forcing, in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FOURTHASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Solomon, S., et al. eds., Cambridge University Press 2007) at p. 212, Table 2.14.