July 7, 2009

Delivered via electronic mail (cmeyer@energy.state.ca.us and jim_stobaugh@blm.gov) and U.S. mail.

Christopher Meyer, Project Manager
California Energy Commission

Jim Stobaugh, Project Manager
Bureau of Land Management

Re: Scoping comments on the Stirling Energy Systems Solar One Project

Dear Mr. Meyer and Mr. Stobaugh,

Please accept and fully consider these comments on the Stirling Energy Systems Solar One Project (SES Solar One) on behalf of The Wilderness Society and the Natural Resources Defense Council.

The mission of The Wilderness Society is to protect wilderness and inspire Americans to care for our wild places. We have worked for more than 70 years to maintain the integrity of America's wilderness and public lands and ensure that land management practices are sustainable and based on sound science to ensure that the ecological integrity of the land is maintained. With more than half a million members and supporters nation-wide, TWS represents a diverse range of citizens.

Natural Resources Defense Council (NRDC) is a non-profit environmental organization with over 650,000 members nationwide. NRDC uses law, science and the support of its members and activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things. NRDC has worked to protect wildlands and natural values on public lands and to promote pursuit of all cost-effective energy efficiency and sustainable energy development for many years.

It is clear that the nation's growing addiction to fossil fuels, coupled with the unprecedented threats brought about by global warming, imperil the integrity of our wildlands as never before. To sustain both our wildlands and our human communities, The Wilderness Society and NRDC believe the nation must transition away from fossil fuels as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale.

Our public lands harbor substantial wind, solar, and geothermal resources. Developing some of these resources will be important to creating a sustainable energy economy and combating climate change, and The Wilderness Society and NRDC support such responsible development of renewable energy. Renewable resource development is not

appropriate everywhere on the public lands, however, and development that does occur on the public lands must take place in a responsible manner.

Continue to Improve the Process

In general, as your agencies, the Bureau of Land Management (BLM) and the California Energy Commission (CEC), process applications for solar development on public lands, we urge you to continue to improve the process. Among the areas where additional guidance is needed are: incorporating additional Best Management Practices (BMPs), refining the Right of Way (ROW) application process to properly address the differences between solar development and other uses of ROWs, and incorporating recommendations from ongoing transmission planning. In general, BLM and CEC (the agencies) should prioritize and help guide renewable energy development toward land that has already been developed for industrial, agricultural, or other intensive human uses which are close to existing transmission over ecologically-intact public lands.

Our organizations support and are actively engaged in a number of multi-stakeholder processes aimed at identifying environmentally appropriate areas for solar energy development in California and the West, including the California Renewable Energy Transmission Initiative (RETI), the Western Governors' Association's Western Renewable Energy Zone process, and the BLM's plan to develop a Programmatic Environmental Impact Statement on Solar Energy. We urge you to incorporate the work of these processes as you move forward with permitting solar energy projects in the desert.

In addition, our organizations have worked with other members of the environmental community in California to develop criteria for use in identifying appropriate areas for development in the CDCA as well as a vision for both the kind of planning and the kind of plan needed to protect the desert's remarkable resources while addressing the climate challenge effectively. Fundamentally, success in selecting appropriate areas and achieving the over-arching objective which we all share will require an unprecedented degree of state and federal cooperation as well as close collaboration with our community. This joint Environmental Impact Statement/Staff Assessment is a key step in the kind of cooperation we envision, but it is not sufficient alone. Given what is at stake, such cooperation is unquestionably warranted and it is our hope that the identification and application of these criteria will contribute to that result.

The criteria, which are attached, are designed to help guide renewable development, principally solar development, to appropriate locations. More specifically, the criteria are intended to inform current and future planning processes and to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference for development to disturbed lands, steering development away from lands with high environmental values, and protecting the desert's undeveloped cores. Developed with input from field scientists, land managers and conservation professionals, the criteria in essence seek to steer renewable energy projects to areas with comparatively low potential for conflict and controversy in order to facilitate their timely development.

In other words, the "message" the criteria are intended to deliver is that to expedite development, avoid areas that will generate significant controversy.

The environmental community will be employing the criteria in reviewing "fast-track" energy projects such as the SES Solar One project, as well as in reviewing proposed solar energy study areas and we encourage your agencies to do so as well. "Fast-track" projects are those which may be able to qualify for stimulus funding through the American Recovery and Reinvestment Act of 2009 by breaking round by December, 2010. Because of the significant timing challenges facing projects seeking permits under such a short timeframe, it is especially important that these projects be screened for characteristics conducive to solar development and potentially difficult or controversial issues. Use of the attached criteria, as well as other screens, will allow your agencies to realistically assess the feasibility of getting projects permitted and "shovel ready" by December, 2010. A realistic assessment of "shovel ready" viability will allow for better allocation of limited agency resources to those projects with the highest likelihood for success.

At the same time, however, we believe it is urgent that both the BLM and the CEC work together with stakeholders to develop as quickly as possible a comprehensive approach to evaluating future projects that will ensure that the most appropriate sites for development are utilized while more sensitive sites are protected and preserved. Rather than proceed on a project by project basis in the future, we support a more comprehensive approach to the siting of these projects, the identification of areas appropriate for development, and the prioritization of already disturbed areas. We urge that you begin developing this approach as promptly as possible and would be pleased to help in any way we could.

I. RELATIVE SUITABILITY OF PROJECT PROPOSAL SITE

The Stirling Energy Systems Solar One project proposal (SES Solar One) site has both elements conducive to the proposed solar development and issues which will need to be addressed in the agencies' analysis. The sections below outline those characteristics and make recommendations for addressing them.

California Solar Energy Siting Criteria

As indicated above, SES Solar One has been identified by BLM as a "fast track" project. In reviewing this project, conservation groups will be applying the criteria they developed in addition to considering the issues identified by the agencies and through review of the applicant's documents. Some groups may submit results of this analysis during scoping; we and others may submit results at later date. The agencies would do well to apply these criteria themselves, as well as incorporating the analyses of the groups when they are made available. This is particularly important considering the tight timetable applicable to this project.

Characteristics Conducive to Utility-Scale Solar Development

Like other environmental and conservation groups and as stated above, we believe that solar (and other renewable) development in the CDCA should be steered away from unique and sensitive areas, from the region's undeveloped core, and from lands that are not adjacent to transmission and other needed infrastructure.

The site does not contain designated sensitive and protected areas such as Areas of Critical Environmental Concern, nor has been it been proposed by citizens for designation as wilderness.[1] In addition, the area has relatively limited use for other activities such as recreation.

The site does have high value solar resources and is close to major infrastructure and other developments, as well as existing transmission which could be upgraded to support the project.

All of these attributes contribute to the possibility that development of a commercial scale solar facility on this site could result in an overall benefit in limiting the negative impacts of climate change on public lands by decreasing the amount of greenhouse gas emissions from electricity production.

Resource Concerns

There are number of significant resources on the site that require an in-depth analysis of the impacts of the proposed project and development of a comprehensive impacts minimization and mitigation strategy.

Through the permitting process, BLM, CEC, and Stirling Energy Systems may be able to develop this project in a way that supports climate change goals while adequately minimizing and mitigating impacts.

The Issues Identification Report (IIR) describes the project site as "relatively undisturbed" (IIR p. 7) – development of such a site requires further study to ensure that other values will not be unacceptably impacted, as well as careful consideration of alternative configurations and alternative sites in the forthcoming federal/state environmental review.

A. <u>Biological Resources</u>

The desert tortoise (*Gopherus agassizii*) has been observed in the project area. According to the Application for Certification (AFC), 7441 acres of confirmed tortoise habitat are within the AFC Assessment Area boundary. (AFC p. 5.6-22) Based on desert tortoise surveys, the SES Assessment area "likely supports between 70 and 127 desert tortoise" and protocol surveys of the adjacent BLM ACEC area "likely supports between 61 and 111 desert tortoise". (AFC p. 5.6-9) The AFC also concludes that the proposed

[1] The site does overlap a section of the Catellus land acquisition. This issue is discussed below.

project's impacts on desert tortoise and its habitat will be significant. (AFC p. 5.6-22) The desert tortoise is protected under federal and state Endangered Species Acts as "threatened" (USFWS 2006). The IRR notes the applicant would be required to relocate any desert tortoise found in the area of potential effect, as well as provide mitigation. (IRR, p. 6) Additionally, the IRR acknowledges staff concern about the complexity of identifying relocation habitat, and the potential impact on individual tortoises that may occur as a result of relocation. (IRR, p. 6)

In addition to the desert tortoise, the AFC identifies several other special status species that would experience "significant impact" as a result of the proposed project. These species include the burrowing owl (*Athene cunicularia*) and the American badger (*Taxidea taxus*), as well as plants such as the small-flowered androstephium (*Androstephium breviflorum*) and the white-margined beardtongue (*Penstemon albomarginatus*). (AFC p. 5.6-21 – 5.6-23). The AFC also concludes that currently unconstrained east-west wildlife movement will be constrained as a result of the proposed project, primarily impacting terrestrial species that include the desert tortoise and the Mojave fringe-toed lizard (*Uma scoparia*). (AFC p. 5.6-24)

Recommendation: The agencies should prioritize protection of species in the project proposal area by further analyzing potential impacts and developing Best Management Practices and steps to minimize and mitigate any unavoidable impacts.

B. Cultural Resources

The BLM must adequately evaluate the environmental consequences of the proposed project on historic resources. They must address cultural resource issues in the DEIS. The NEPA regulations recognize that impacts to cultural resources such as historic properties and "scientific resources" can comprise a significant impact on the environment. 40 CFR 1508.27(b)(3),(8). Additionally, BLM must analyze the direct, indirect, and cumulative impact of each alternative on areas of importance to local Tribes and areas of high cultural site density.

Additionally, we strongly urge BLM to begin the Section 106 process under the National Historic Preservation Act (NHPA), 16 U.S.C. § 470f, because the Project, as currently proposed, has the potential to significantly impact historic properties. The requirements of NHPA are separate from NEPA's requirements, although the Section 106 regulations encourage federal agencies to coordinate the two processes. See 36 C.F.R. § 800.2(a)(4). Proper coordination of the NHPA and NEPA compliance actions is necessary to ensure that adverse effects to historic properties are adequately considered pursuant to the Section 106 regulations, 36 C.F.R. § 800, *et seq.* Proper coordination with Native American tribes will be a central component of the consultation process.

Recommendation: BLM should prioritize protection of the area's outstanding cultural resources, including study of the area's resources, development of strategies to minimize and mitigate impacts, and ongoing engagement in consultation with local Native American tribes.

C. Soil Resources

Impacts to soil resources are one of the most challenging issues for solar projects proposed in the desert. As seen in the ongoing permitting process for the proposed Ivanpah Solar Energy Generating System, development of adequate drainage, erosion and sediment control plans is a complicated, time consuming and challenging task. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that both the project applicant, SES Solar Three, LLC, and SES Solar Six, LLC (the applicant), and the agencies dedicate adequate time and resources early in the process to addressing these issues thoroughly.

The IIR identifies a number of important soil resources issues to be addressed in the permitting process. (IIR, p. 8) There are numerous drainages that convey intermittent flash floods on the project site and site development could affect flows and "result in downstream erosion and sedimentation that would have significant impacts on environmental resources." (IIR, p. 8) The IIR also highlights the potential for flood flows to impact Suncatcher foundations, assembly and maintenance buildings, and vehicle access roads. The IIR states that "A detailed drainage, erosion and sediment control plan needs to be developed for the project that addresses these potential impacts and provides mitigation measures that will render these hazards to a level less than significant, both as a protection to the environment and to address the continued dispatchability of the renewable energy source." (IIR, p. 8)

Recommendation: Both the applicant and the agencies should dedicate adequate time and resources early in the process to addressing soil resources issues adequately, including through the preparation of a detailed drainage, erosion and sediment control plan that addresses these potential impacts and provides mitigation measures that will render these hazards to a level less than significant.

D. Water Resources

Water is a limited resource in the desert southwest, and any project proposal should fully analyze the water needs and identify sources to meet those needs. The applicant states that water use for the project will be much less than for other solar technologies, minimizing its impact to water resources compared to alternative technologies. (AFC p. 1-4)

The Application for Certification (AFC) indicates that water would be provided via a groundwater well proposed on a portion of the BLM ROW located north of the Main Services Complex and transported through an underground pipeline. (AFC p. 1-4) Expected average water consumption is 50 acre-feet per year (AFY) during the approximately four-year construction period, and 36.2 AFY during operation.

Recommendation: The agencies should gather additional information to confirm that the water needed for the SES Solar One project will be available as well as that the source of

the needed water will conform to existing California Energy Commission policy[2] and all laws, ordinances, regulations and standards (LORS).

E. Visual Resources

As the IIR report states it is clear that there will be significant visual impacts from the construction of the SES Solar One project. However, the construction of a twelve square mile industrial development anywhere on public lands will entail significant visual impacts, and the benefits which the SES Solar One renewable energy project will provide may well outweigh the costs of the visual impacts from this development.

However, there is a significant number of projects proposed for the California Desert. Accordingly, we urge the agencies to assess not just the visual impacts from SES Solar One, but also the likely cumulative visual impacts from proposed renewable energy and transmission development in the Desert and begin right now to develop comprehensive mitigation strategies to address these impacts in connection with future projects.

Recommendation: The BLM and CEC should continue to collaborate on a visual analysis conforming to BLM regulations to address concerns identified in the IIR.

F. Catellus Lands

As indicated above, this site overlaps a section of the Catellus land acquisition. This fact has the potential to generate significant controversy.

The Catellus lands in general (also known as Wildlands Conservancy lands, after the group that engineered their acquisition and donation to the federal government) were singled out early in the RETI process. More specifically, in RETI Phase 1 they were identified as lands where some energy development, including solar, might be permitted but would be subject to restrictions that would impose significant limits on the scope and location of projects.[3] More recently, concern about potential renewable development on these lands prompted Senator Dianne Feinstein (D-CA) to announce her intention to introduce legislation establishing a national monument in the eastern Mojave for the purpose of preventing such development. Although neither that legislation nor any accompanying map(s) has been introduced yet, the SES Solar One project site is not within the proposed monument boundary on the most recent map that we have seen. It is, however, quite near the western-most border and it is important to realize that, for a number of organizations, protecting all Catellus lands is a major priority.

Recommendation: The agencies may wish to consider a project boundary alternative that avoids the Catellus parcels.

[2] We understand that current CEC policy discourages use of groundwater for power plants. Final RETI Phase 1B Report, Section 3-3, p. 3-3 (January 2009).
[3] Ibid., Section 2-2, p.2-8.

G. Land Use

The SES Solar One Project will require a CDCA Plan Amendment, as will all new solar projects. We assume that the environmental review of the proposal and the necessary plan amendment will occur simultaneously. See 43 CFR § 1601.6-3(b). The size of the project must clearly be addressed in any review. BLM and the CEC have already expressed concern in the IIR over the scope of the SES Solar One Project – "a total of approximately 8,230 acres (Phases I and II of the Project) which would result in approximately 2,712 acres of total permanent surface disturbance. Construction would result in temporary surface disturbance of approximately 3,270 acres."

In addition, the site includes private parcels (with a San Bernardino County zoning designation of Resource Conservation).(IIR p. 7) While the private parcels are not part of the project, resources on these parcels and the county's ability to protect these resources could be impacted by construction and operation of the SES Solar One project.

Recommendation: The plan amendment must fully analyze the impacts of this scale of industrial development on public lands of a largely undisturbed nature.

II. OTHER ISSUES RAISED BY THE SES SOLAR ONE PROJECT PROPOSAL

A. Phased Development

Limiting Development to Areas with Viable Transmission

As proposed, the SES Solar One project consists of two phases. Phase I would consist of 20,000 SunCatchers, with a net nominal generating capacity of 500 MW and requiring approximately 5,838 acres. Approximately 14,000 SunCatchers would be added on 2,392 acres in Phase II for a total net generating capacity of 850 MW. We support phasing this project for reasons set forth below; however, we support phasing based on existing transmission capacity and demonstration of technical viability of the project, rather than the applicant's proposed phasing of 500 MW in Phase I and 350 MW for Phase II.

One of the positive characteristics of the proposed SES Solar One site is the existence of existing transmission capacity to carry some of the power which would be generated. The AFC states that there is existing transmission capacity on the Lugo-Pisgah 220kV No. 1 line out of the Pisgah Substation for approximately 275 MW of the proposed 850 MW nominal capacity for SES Solar One. (AFC p. 1-3) The use of this capacity is dependent on an expansion of Pisgah Substation (necessary because there is no physical space at the existing Pisgah Substation to connect the new Solar One generation tie-in line) and the creation of redundant telecommunication facilities to support a Special Protection System (necessary to mitigate reliability problems). This could be considered Phase I of the transmission expansion (TE1).

Phase II of the transmission expansion (TE2), necessary to accommodate the remaining 575 MW, will require larger transmission upgrades. These include: 1) the expansion of

the Pisgah Substation to accommodate a 500kV switchyard and the installation two initial 500/230kV transformers (ultimate design for four) and other ancillary facilities; 2) removal and replacement of the existing 65-mile Lugo-Pisgah 220kV No.2 transmission line with a new 500kV transmission line; 3) looping the existing Eldorado-Lugo 500kV in and out of the new Pisgah 500kV switchyard; and 4) acquisition of new rights-of-way (ROW) into the Lugo substation required west of the Mojave River because existing ROW is constrained on both sides (home development), and there is inadequate room for both the new 500kV Lugo-Pisgah line and the remaining Lugo-Pisgah 220kV No.1 line. The AFC states that these upgrades may not be complete until 2015. (AFC p. 1-3)

It seems reasonable that the relatively minor TE1 upgrades necessary to accommodate 275 MW on the existing Lugo-Pisgah 220kV No.1 line could be completed in time to serve SES Solar One as it comes online. However, timing of the completion of the TE2 upgrades necessary to serve the remaining 575 MW of SES Solar One is much more uncertain. For these reasons, the agencies should consider a phased ROW approval based on approval of the necessary upgrades for TE2.

Technological Challenges

The SES Solar One proposal and SunCatcher technology incorporate promising elements, including high thermal efficiency and relatively low water use compared to other power generation sources. However, there are some issues that the agencies should analyze further in the development of their Draft Environmental Impact Statement/ Preliminary Staff Assessment.

Because the SunCatcher technology has not been deployed at a commercial scale, there are important questions regarding the technological and economic viability of the SES Solar One proposal. The proposal site has high value solar resources, as well as significant other values and resources.

Granting a ROW for the SES Solar One project will prevent any other use of these lands and resources for the duration of the ROW. Because of the presence of solar resources and other values and the uncertain viability of the SES Solar One proposal, the agencies should consider granting an initial testing and development ROW for a limited time frame (3-5 years) and establishing requirements for demonstrating the economic and technological viability of the proposal before extending the ROW. To prevent undue impacts on extensive areas before testing and development is completed, the agencies should limit the acreage of the initial testing and development to the minimum amount necessary to fill the 275 MW of transmission capacity available with the TE1 upgrades.

If SES Solar One is unable to demonstrate adequate technological and economic viability by the deadline, such a condition would allow the land to become available for other uses, including the development of a commercial scale solar power facility using technologies which have been successfully constructed at a commercial scale.

Recommendation: Because of the uncertainty regarding the approval and construction of TE2 upgrades, BLM should consider granting a ROW only for the area necessary to support development for TE1 upgrades at this time (275 MW). Only after the TE2 upgrades have been approved should BLM consider granting a ROW for the area necessary to support the remaining 575 MW. Because of the technological challenges facing the project, BLM should also consider establishing requirements for demonstration of technological and economic viability of the SES Solar One project proposal within the first 3-5 years after the ROW is granted before extending the term of the ROW.

B. Public Benefits (GhG reduction)

Renewable energy development can have multiple public benefits, most importantly combating climate change by reducing greenhouse gas (GhG) emissions from energy production, and including reduced local and regional air and public health impacts, increased energy resource diversity and decreased price volatility. A reduction in GhG emissions from developing renewable energy is based on comparative emissions from fossil fuel-based energy production.

Because a reduction in GhG emissions is a primary public benefit of renewable energy development, it is critical that the agencies quantify this reduction to the extent possible. The agencies' analysis of GhG reductions should also include a comprehensive look at the project's impacts, including GhG emissions during manufacture, construction, operation, decommissioning, and reclamation of the project site.

The results of this analysis should then be compared to similar analyses for fossil-fuel based energy production, including combined-cycle natural gas fired and coal fired power plants.

Such an analysis will provide the public a clear indication of the costs and benefits of the proposed project and allow stakeholders to make decisions regarding the project based on the best available science and data.

Recommendation: The agencies should comprehensively analyze the SES Solar One project's net reductions to GhG emissions, including GhG emissions during manufacture, construction, operation, decommissioning, and reclamation of the project site. The analysis should consider both the potential for the project to reduce GhG emissions as well as potential for the project to increase GhG emissions, for example, by disturbing undisturbed land currently useful for carbon sequestration. The results of this analysis should then be compared to the same type of analysis for fossil-fuel based energy production, including combined-cycle natural gas fired and coal fired power plants.

C. Bonding

Based on communications with the BLM and the CEC, we understand bonding will be required of the applicant for the purpose of decommissioning the project. We fully

support the effort of the BLM in creating these bonding requirements, and encourage the Bureau to develop a robust set of guidelines for establishing appropriate bonding figures.

Recommendation: The agencies should do a thorough analysis of the anticipated costs of decommissioning and restoring the project site. The agencies should also require bonds be purchased prior to development.

D. Alternative Sites

Consideration of alternative sites is critical to ensuring the SES Solar One project site chosen is the best possible location for the project. This consideration should be based on solar resource, proximity to existing transmission and infrastructure, and conflicts with other resources and values on the project site. Both BLM and CEC policy require consideration of alternatives. The National Environmental Policy Act (NEPA) requires that BLM consider a range of management alternatives, and this analysis is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions. See id. §§ 1502.14(a) and 1508.25(c). "An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action."[4] An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action.[5] This evaluation extends to considering more environmentally protective alternatives and mitigation measures.[6]

NEPA requires that an actual "range" of alternatives is considered, such that the Act will "preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant's proposed project)."[7] This requirement prevents the EIS from becoming "a foreordained formality."[8] A range of alternatives to the proposed project must also be evaluated under Section 15126.6 of the California Environmental Quality Act (CEQA).

The AFC spends pages describing the numerous alternative sites that were considered and rejected by the applicant. (AFC p. 4-6 to 4-8) Though the applicant has already considered and rejected alternate sites, it is the agencies' responsibility to identify alternative sites to be analyzed and it may be that options rejected previously should be re-evaluated.

Without thorough consideration of multiple alternative sites, the agencies will have reduced the EIS to a "foreordained formality" and improperly limited the alternatives under consideration.

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[4] Northwest Envtl Defense Center v. Bonneville Power Admin., 117 F.3d 1520, 1538 (9th Cir. 1997).
[5] City of Tenakee Springs v. Clough, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14).
[6] *See, e.g.*, Kootenai Tribe of Idaho v. Veneman, 313 F.3d 1094,1122-1123 (9th Cir. 2002) (and cases cited therein).
[7] Colorado Environmental Coalition v. Dombeck, 185 F.3d 1162, 1174 (10th Cir. 1999), citing Simmons v. United States Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997).
[8] City of New York v. Department of Transp., 715 F.2d 732, 743 (2nd Cir. 1983). *See also*, Davis v. Mineta, 302 F.3d 1104 (10th Cir. 2002).

As previously expressed in these comments, we strongly encourage the agencies to engage in a broader landscape level assessment of solar development in the desert. While a comprehensive desert plan balancing multiple land uses including solar will be a long term process, in the interim we urge the agencies to compare the SES Solar One project, and all other fast track projects, to each other in order to identify which of these first phase of projects is likely to have the least environmental impacts.

Recommendation: The agencies must thoroughly consider and present the public with a true range of alternative sites. In addition the agencies should compare the SES Solar One project and its impacts with all other identified "fast-track" projects on BLM land in order to identify the least environmentally harmful projects among the applications that have been selected for expedited permitting.

Thank you for your consideration of these comments.

Sincerely,

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Desert Protective Council * Mojave Desert Land Trust
National Parks Conservation Association
Natural Resources Defense Council * Sierra Club * The Nature Conservancy
The Wilderness Society * The Wildlands Conservancy

Renewable Siting Criteria for California Desert Conservation Area

Environmental stakeholders have been asked by land management agencies, elected officials, other decision-makers, and renewable energy proponents to provide criteria for use in identifying potential renewable energy sites in the California Desert Conservation Area (CDCA). Large parts of the California desert ecosystem have survived despite pressures from mining, grazing, ORV, real estate development and military uses over the last century. Now, utility scale renewable energy development presents the challenge of new land consumptive activities on a potentially unprecedented scale. Without careful planning, the surviving desert ecosystems may be further fragmented, degraded and lost.

The criteria below primarily address the siting of solar energy projects and would need to be further refined to address factors that are specific to the siting of wind and geothermal facilities. While the criteria listed below are not ranked, they are intended to inform planning processes and were designed to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. They were developed with input from field scientists, land managers, and conservation professionals and fall into two categories: 1) areas to prioritize for siting and 2) high conflict areas. The criteria are intended to guide solar development to areas with comparatively low potential for conflict and controversy in an effort to help California meet its ambitious renewable energy goals in a timely manner.

Areas to Prioritize for Siting

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
  - Lands that have been "type-converted" from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).[1]
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:[2]
  - Allow for the expansion of renewable energy development onto private lands.
  - Private lands development offers tax benefits to local government.
- Brownfields:
  - Revitalize idle or underutilized industrialized sites.
  - Existing transmission capacity and infrastructure are typically in place.

- Locations adjacent to urbanized areas:[3]
    - Provide jobs for local residents often in underserved communities;
    - Minimize growth-inducing impacts;
    - Provide homes and services for the workforce that will be required at new energy facilities;
    - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.[4]

High Conflict Areas

In an effort to flag areas that will generate significant controversy the environmental community has developed the following list of criteria for areas to avoid in siting renewable projects. These criteria are fairly broad. They are intended to minimize resource conflicts and thereby help California meet its ambitious renewable goals. The criteria are not intended to serve as a substitute for project specific review. They do not include the categories of lands within the California desert that are off limits to all development by statute or policy.[5]

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant[6] populations of federal or state threatened and endangered species,[7] significant populations of sensitive, rare and special status species,[8] and rare or unique plant communities.[9]
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.[10]
- Lands purchased for conservation including those conveyed to the BLM.[11]
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes.[12]
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas.[13]
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.[14]
- National Historic Register eligible sites and other known cultural resources.
- Locations directly adjacent to National or State Park units.[15]

EXPLANATIONS

[1] Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

[2] Based on currently available data.

[3] Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

[4] The term "federally designated corridors" does not include contingent corridors.

[5] Lands where development is prohibited by statute or policy include but are not limited to:

National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Recreation Areas; National Monuments; private preserves and reserves; Inventoried Roadless Areas on USFS lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers a; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites.

[6] Determining "significance" requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

[7] Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units.

[8] Significant populations/occurrences of sensitive, rare and special status species including CNPS list 1B and list 2 plants, and federal or state agency species of concern.

[9] Rare plant communities/assemblages include those defined by the California Native Plant Society's Rare Plant Communities Initiative and by federal, state and county agencies.

[10] ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The CDCA Plan has designated specific Wildlife Habitat Management Areas (HMAs) to conserve habitat for species such as the Mohave ground squirrel and bighorn sheep. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

[11] These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

[12] Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

[13] Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be: 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies and found to have defined "wilderness characteristics." The proposal has been publicly announced.

[14] The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts; aquatic and riparian species may be highly sensitive to changes in groundwater levels.

[15] Adjacent: lying contiguous, adjoining or within 2 miles of park or state boundaries. (Note: lands more than 2 miles from a park boundary should be evaluated for importance from a landscape-level linkage perspective, as further defined in footnote 12).