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BY ELECTRONIC MAIL

March 3, 2014

Jeffery Childers
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BLM California Desert District Office
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RE: Comments Soda Mountain Solar Project Draft Plan Amendment/
Environmental Impact Statement/Environmental Impact Report, November
2013 CACA #049584 (SCH 2013101055)

Dear Mr. Childers:

I am writing on behalf of Laborers International Union of North America, Laborers Local Union 783, and individual members and San Bernardino County residents Lonnie Passmore and Rodrigo Briones ("LIUNA" or "Commenters"), to submit the following concerns and comments on the proposed Soda Mountain Solar Project ("Project"), the related California Desert Conservation Area ("CDCA") Plan Amendment, and the accompanying draft joint environmental impact statement and environmental impact report ("DEIS"). Although the DEIS identifies numerous significant impacts that will result from the preferred project alternative, it fails to discuss and, pursuant to CEQA, require implementation of numerous mitigations that would reduce significant air pollution and wildlife resource impacts. The discussion of wildlife impacts also does not provide a complete and reasonable baseline for golden eagles as well as burrowing owls. These and other concerns detailed below as well as in the accompanying expert comments require BLM and the County to amend the DEIS/DEIR and recirculate it for additional public comment.

61-1
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61-3

These comments are supported by the expert analysis of SWAPE environmental consultants. SWAPE's comments are attached hereto as Exhibit A and are incorporated herein in full by reference. Comments on the Project's impacts to biological resources are supported by the expert comments of biologist Scott Cashen, M.S. Mr. Cashen's comments are attached hereto as Exhibit B and are incorporated

61-4
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herein in full by reference.

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PROJECT DESCRIPTION

The proposed Project consists of the construction and operation of a 358-MW solar PV project on approximately 2,557 acres within a proposed 4,179 acre right-of-way (“ROW”) on BLM lands located on both sides of I-15 about six miles southwest of the town of Baker, California and adjacent to the western boundary of the Mojave National Preserve. The solar facility would consist of six large arrays of 1.7 million solar panels covering 2,557 acres of relatively undisturbed desert habitat. A North Array would be located on the northwest side of I-15 and cover 571-acres of federal land with PV panels producing 94 MW of power. Five other arrays of panels are located on the southeast side of the highway. The two East Arrays would cover 397 acres with panels producing 60 MW of power. Three additional arrays to the south would cover 1,197 acres producing about 204 MW of electricity. The Project also will include an operation and maintenance building, a high-voltage substation and switchyard, a storage/warehouse facility, a reverse osmosis water treatment facility, various access roads, brine ponds covering about 4 acres, up to three water storage tanks, and up to three non-potable water wells. Each of the Project’s sub-arrays would be surrounded by security fencing. To construct the Project, construction equipment and trucks will emit nitrogen oxides (“NOx”), a harmful ozone precursor that will contribute to the Mojave Desert air basin’s existing nonattainment of applicable ozone standards. The Project’s PM10 emissions also will contribute to the region’s nonattainment of the State’s PM10 air quality standard and exceed the Antelope Valley Air Quality Management District’s (“AVAQMD”) CEQA thresholds of significance by a large margin.

61-6

STANDING

LIUNA Local 783 members, including Messrs. Passmore and Briones, enjoy the natural environment of San Bernardino County and the Baker area. LIUNA Local 783 members regularly travel through the area where the Project is located and enjoy its wide-open spaces and bountiful wildlife, including burrowing owls, raptors, and desert bighorn sheep. LIUNA Local 783 members breathe the air in the vicinity of the Project and are directly affected and concerned about the area’s designation as non-attainment by particulate matter and severe non-attainment for ozone pollution. As members of the public, LIUNA Local 783 members possess an ownership interest in public resources present in the region surrounding the Project, including but not limited to raptors, owls, desert tortoises, and bighorn sheep occurring there and nearby.

LIUNA represents construction workers and public service employees in many settings, including collective bargaining, seeking employment, training programs, legal rights, job safety, workplace fairness, and project approval and environmental review proceedings. LIUNA advocates for programs and policies that promote good jobs and a healthy natural and working environment for workers and their families. An important part of LIUNA’s ongoing advocacy involves participating in and, where appropriate, challenging Projects that would result in harmful environmental effects, or the violation

of environmental laws, to the detriment of the interests of LIUNA's members. LIUNA strongly supports appropriate development of renewable energy. Renewable energy projects, however, must be carefully sited and designed so as to avoid unnecessary and damaging environmental impacts. They also must receive proper environmental review under NEPA and CEQA. This is especially true given the recent "gold rush" of solar energy proposals in the southern California region.

LEGAL BACKGROUND

A. National Environmental Policy Act.

"NEPA ... makes environmental protection a part of the mandate of every federal agency and department," *Calvert Cliffs' Coord. Comm. v. United States*, 440 F.2d 1109, 1112 (D.C. Cir. 1971) and is the "basic national charter for protection of the environment." 40 C.F.R. §1500.1(a); *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.* 538 F.3d 1172, 1185 (9th Cir. 2008). NEPA "is a procedural statute intended to ensure environmentally informed decision-making by federal agencies." *Cal. ex rel. Lockyer v. Dep't of Agriculture*, 575 F.3d 999, 1012 (9th Cir. 2009). NEPA "does not 'mandate particular results, but simply provides the necessary process to ensure that federal agencies take a hard look at the environmental consequences of their actions.'" *Id.* "The 'hard look' '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.'" *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 491 (9th Cir. 2011). Nor can an EIS's discussion of adverse impacts "improperly minimize negative side effects." *Id.* at 491. NEPA's purpose is "to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." 40 C.F.R. §1500.1(c).

B. California Environmental Quality Act

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). See, e.g., Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App.4th 98, 109.

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose

purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.” *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal. App. 4th 1344, 1354 (“Berkeley Jets”); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810.

Second, CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring “environmentally superior” alternatives and all feasible mitigation measures. CEQA Guidelines § 15002(a)(2) and (3). See also *Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.” CEQA Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.” Pub.Res.Code § 21081; CEQA Guidelines § 15092(b)(2)(A) & (B).

While the courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. A ‘clearly inadequate or unsupported study is entitled to no judicial deference.’” *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added), quoting, *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal.3d 376, 391 409, fn. 12 (1988). As the court stated in *Berkeley Jets*, 91 Cal.App.4th at 1355:

A prejudicial abuse of discretion occurs “if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process.”

San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.

DISCUSSION

A. The Range of Alternatives Considered in the DEIS/DEIR is not Adequate Because it Fails to Support The Contention That no Off-Site Alternative is Feasible nor Does it Justify Rejecting a Preferred Alternative That Would Have Fewer Impacts on Desert Tortoise and Wildlife Movement.

An EIR must describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. “An EIR’s discussion of

61-7

alternatives must contain analysis sufficient to allow informed decision making.” *Laurel Heights*, 47 Cal.3d at 404.

The considered alternatives must include the environmentally superior alternative, which the lead agency is required to select unless it is infeasible. As explained by the Supreme Court, an environmentally superior alternative may not be rejected simply because it is more expensive or less profitable:

The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project.

Citizens of Goleta Valley v. Bd. of Supervisors (1988) 197 Cal.App.3d 1167, 1180-81; see also *Burger v. County of Mendocino* (1975) 45 Cal.App.3d 322 (county’s approval of 80 unit hotel over smaller 64 unit alternative was not supported by substantial evidence). “A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment.” CEQA Guidelines § 15021(a)(2). Furthermore, “[b]ecause an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” CEQA Guidelines § 15126.6(b).

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Likewise, consideration of alternatives is the heart of an EIS under NEPA. See 40 C.F.R. § 1502.14. An agency must “[r]igorously explore and objectively evaluate all reasonable alternatives.” *Id.* Although an agency is not required to consider an alternative that is remote or speculative, a discussion of alternatives that is conclusory is inadequate. See Mandelker, Daniel R., *NEPA Law and Litigation*, §10:27. EISs have been rejected where they effectively limit their consideration of alternatives to a single alternative. See *Natural Resources Defense Council v. Evans*, 232 F.Supp.2d 1003 (N.D.Cal. 2002).

The DEIS/DEIR provides no support for its selection of the Project as the preferred alternative. Cashen Comments, p. 2. Implicitly, the rationale appears to be bigger is better. Although the DEIS/DEIR claims to have considered seven alternatives, including the preferred alternative, the alternatives are merely modest variants on the Project. It is not clear from the DEIS/DEIR why the Project is the preferred alternative, given the ability to reduce and/or alter the size of the arrays to reduce some impacts to desert tortoise and wildlife movement through the site. *Id.* At least one alternative should have been included that avoided the Project area where the most desert tortoise sign was observed and been considered in light of the impacts to wildlife movement through the site and across I-15. *Id.*

In addition, the DEIS/DEIR makes it impossible for the public to review its conclusion that there are no feasible off-site alternatives. *Id.* No descriptions of the rejected sites are included. No appendix or citation to evidence is provided for a commenter to review the details of the discussion. As a result, the DEIS/DEIR’s conclusion that no off-site alternative is feasible or worthy of discussion is arbitrary and otherwise not supported by evidence.

61-8

B. The EIS Fails to Consider and the EIR Fails to Adopt Additional Feasible Mitigation Measures That Would Further Reduce the Project’s Significant and Unavoidable Air Quality Impacts From its Emissions of NOx And PM10.

Although the DEIS/DEIR acknowledges the Project’s significant air quality impacts during construction and decommissioning from its substantial emissions of NOx, an important ozone precursor, and PM10, the DEIS/DEIR fails to consider or, in the case of the EIR, adopt additional mitigations that would at least reduce these impacts. By failing to consider and adopt these mitigations, the DEIR is inadequate under CEQA.

Pursuant to NEPA, BLM “must utilize the EIS to discuss such mitigation measures in sufficient detail to ensure there has been a fair evaluation of the consequences.” *High Sierra Hikers Ass’n v. U.S. Dep’t of Interior*, 848 F.Supp.2d 1036, 1052-54 (N.D. Cal. 2012). In the EIS, BLM “must perform some assessment of whether the mitigation measures would be effective.” *Id.* at 1056. “[The] assessment must include “an estimate of how effective mitigation measures would be if adopted” or a “reasoned explanation as to why such an estimate is not possible.” *Id.* Because BLM did not take a hard look at additional mitigation measures to further reduce the Project’s NOx and PM10 emissions, the DEIS/DEIR is arbitrary as currently written.

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CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring “environmentally superior” alternatives and mitigation measures. CEQA Guidelines § 15002(a)(2) and (3); See also, *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley*, 52 Cal.3d at 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.” Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.” Pub. Res. Code § 21081; 14 Cal. Code Regs. § 15092(b)(2)(A) & (B).

In general, mitigation measures must be designed to minimize, reduce or avoid an identified environmental impact or to rectify or compensate for that impact. CEQA Guidelines § 15370. Where several mitigation measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. *Id.* at § 15126.4(a)(1)(B). A lead agency may not make the

required CEQA findings unless the administrative record clearly shows that all uncertainties regarding the mitigation of significant environmental impacts have been resolved.

CEQA requires the lead agency to adopt feasible mitigation measures that will substantially lessen or avoid the Project’s potentially significant environmental impacts, Pub. Res. Code §§ 21002, 21081(a), and describe those mitigation measures in the CEQA document. Pub. Res. Code § 21100(b)(3); CEQA Guidelines § 15126.4. A public agency may not rely on mitigation measures of uncertain efficacy or feasibility. *Kings County Farm Bureau*, 221 Cal.App.3d at 727 (finding groundwater purchase agreement inadequate mitigation measure because no record evidence existed that replacement water was available). “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. CEQA Guidelines § 15364. Mitigation measures must be fully enforceable through permit conditions, agreements or other legally binding instruments. *Id.* at § 15126.4(a)(2).

SWAPE has reviewed the DEIS/DEIR’s discussion of air pollution mitigation measures and has identified a number of measures that have been applied at similar solar projects in the Mojave Desert that would reduce the impacts of the project’s PM10 and NOx emissions during the Project’s multiple-year construction period.

The Project’s NOx emissions could be further reduced by BLM and the County requiring the use of diesel haul trucks (e.g., material delivery trucks and soil import/export) that meet U.S. Environmental Protection Agency 2007 model year NOx emissions requirements. Additionally, rather than limiting emission standards applicable to off-road compression-ignition engines and construction vehicles to the Tier 3 California Emission Standards, the agencies should require off-road equipment to meet Tier 4 standards as of January 1, 2015. SWAPE Comment, p. 4. This additional mitigation would reduce NOx emissions from these sources by 90 percent. *Id.*, p. 5. As Mr. Hagemann states:

Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resource Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by California Air Resources Board regulations. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resources Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy.

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SWAPE Comment, p. 4. BLM needs to supplement the DEIS to include a discussion of this important mitigation and the County must adopt this feasible mitigation in order to approve the preferred Project.

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The mitigations for PM10 also fall short. In addition to the above Tier 4 requirement, which also would reduce PM10 emissions from the relevant sources by as much as 90 percent, the DEIS/DEIR must discuss and, in the case of the County, adopt, additional mitigations that are modeled on the MDAQMD’s air pollution control rules, including Rule 401 and 403, which would further reduce the Project’s PM10 emissions.¹ SWAPE identifies the following additional, feasible measures:

- Prohibit visible dust from leaving the Project site property line during all construction activities, including trenching and pile-driving;
- Prohibit visible dust concentrations within the Project site of greater than 20 percent opacity, and require regular opacity monitoring and actions to ensure compliance with this opacity limit (pre-watering, water or soil stabilizers, wind barriers); and
- Conduct simultaneous sampling (upwind and downwind of construction activities at the Project boundary) with air sampling equipment to ensure that construction-related (downwind) PM10 levels do not exceed upwind levels by more than 50 micrograms per cubic meter (ug/m3);
 - If downwind PM10 levels exceed the upwind by 50 ug/m3, earth-disturbing activities should cease and not re-start until levels are reduced to less than a 50 ug/m3 differential.

61-10

SWAPE Comment, p. 5. Because these measures are plainly feasible and would further reduce PM10 emissions resulting from construction and decommissioning of the Project, they should be considered and recommended in the DEIS/DEIR.

C. The DEIS/DEIR Fails to Adequately Address the Project’s Cumulative Air Pollution Impacts When Considered Together With the Numerous Other Solar Projects Poised for Construction in the Immediate Vicinity.

Recognizing that several projects may together have a considerable impact, CEQA requires an agency to consider the “cumulative impacts” of a project along with other projects in the area. Pub. Resources Code §21083(b); CEQA Guidelines §15355(b). If a project may have cumulative impacts, the agency must prepare an EIR, since “a project may have a significant effect on the environment if “[t]he possible effects of a project are individually limited but cumulatively considerable.” *CBE*, 103 Cal.App.4th at 98, 114; *Kings County Farm Bur. v. City of Hanford* (1990) 221 Cal.App.3d 692, 721 (“*Kings Co.*”). It is vital that an agency assess “the environmental damage [that] often occurs incrementally from a variety of small sources . . .”

61-11

¹ The DEIS/DEIR does not mention Rule 401 despite that rule’s applicability.

Bakersfield Citizens For Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1214.

Likewise, assessing cumulative impacts is an essential component of environmental review under NEPA. “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.

a. The Scope of the DEIS/DEIR’s Cumulative Impact Analysis for Air Quality Impacts is Inconsistent and Unreasonably Constricted.

At the beginning of its discussion of the Project’s cumulative air pollution impacts, the DEIS/DEIR states that “[t]he geographic scope considered for the Project’s potential cumulative impacts to regional air resources is the MDAB.” DEIS/DEIR, p. 3.2-30. See *also id.* at 3.1-5. However, the ensuing discussion then inconsistently limits its consideration to a handful of projects within a relatively few miles of the Project. DEIS/DEIR, App. A, p. A-16, Figure 3.1-1. See DEIS/DEIR, p. 3.1-9 – 3.1-10. The MDAB extends from the eastern portions of Kern County and Los Angeles County, south to the northern part of Riverside County, and eastward to the Nevada and Arizona borders. See <http://www.arb.ca.gov/pm/pmmeasures/pmch05/mojd05.pdf> (attached as Exhibit C). There are a large number of solar projects proposed throughout the Mojave Desert Air Basin, including a long list of projects in the portion of the Air Basin in Kern and Los Angeles Counties as well as a concentration of very large solar projects in eastern Riverside County. See, e.g. http://planning.lacounty.gov/assets/upl/project/energy_list-map.pdf (attached as Exhibit D); http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN200629_20130927T120253_Blythe_Solar_Power_Project_Staff_Assessment_Part_A_Corrected.pdf. The very short list of projects mentioned in the Project’s DEIS/DEIR does not come close to evaluating or discussing cumulative impacts from renewable energy projects and associated power lines being proposed and approved throughout the Air Basin. The failure of the DEIS to evaluate the cumulative air impacts of all renewable energy development being constructed in the Mojave Desert Air Basin during construction of the project is arbitrary and capricious.

b. The DEIS/DEIR’s Perfunctory Analysis of Cumulative Air Impacts is Inadequate Pursuant to NEPA and CEQA.

When considering a project’s cumulative impacts, a DEIS must include “some quantified or detailed information; . . . general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.” *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993-94 (9th Cir. 2004); *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1379-80 (9th Cir. 1998). “The analysis must be more

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than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects." *Klamath-Siskiyou Wildlands*, 387 F.3d at 993-94. A mere assertion that an environmental factor will be further degraded in a minor or major way does not provide sufficient "objective quantification." *Id.* at 994. Likewise, a tabulated list of other projects in the area including acreage affected is not a sufficient description of the actual environmental effects of those other projects. See *id.* at 994-95. A conclusory presentation does not offer any more than the kind of "general statements about possible effects and some risk" which we have held to be insufficient to constitute a "hard look." *Id.* at 995.

In addition, the DEIS must disclose data underlying its discussion and conclusions. "[W]hile the conclusions of agency experts are surely entitled to deference, NEPA documents are inadequate if they contain only narratives of expert opinions." *Klamath-Siskiyou Wildlands*, 387 F.3d at 996. "Allowing the Forest Service to rely on expert opinion without hard data either vitiates a plaintiff's ability to challenge an agency action or results in the courts second guessing an agency's scientific conclusions. As both of these results are unacceptable, we conclude that NEPA requires that the public receive the underlying environmental data from which a Forest Service expert derived her opinion." *Id.*; *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998). An EIS is "unacceptable if [it is] indecipherable to the public." *Klamath-Siskiyou Wildlands*, 387 F.3d at 996.

Likewise, under CEQA, the CEQA Guidelines specifically direct the County to "define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used." CEQA Guidelines, § 15130(b)(3); *Bakersfield Citizens*, 124 Cal.App.4th at 1216. "[I]t is vitally important that an EIR avoid minimizing the cumulative impacts. Rather, it must reflect a conscientious effort to provide public agencies and the general public with adequate and relevant detailed information about them. (Pub. Res. Code, § 21061.)" *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 79. See also *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 723. The EIR's cumulative impacts discussion "should be guided by the standards of practicality and reasonableness," but several elements are deemed "necessary to an adequate discussion of significant cumulative impacts[.]" including "[a] list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency." CEQA Guidelines, § 15130(b); *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899, 928-29.

Despite failing to consider numerous relevant projects emitting PM10 and NOx throughout the Mojave Desert Air Basin, even just considering seven nearby projects, the DEIS acknowledges that the Project's air emission impacts will be cumulatively considerable and then asserts that no other mitigations besides those already selected by the applicant are available. This discussion falls short because it fails to acknowledge the true extent of the cumulative air quality impact by failing to consider numerous other relevant projects and their emissions of PM10 and NOx. Thus, to the



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extent the cumulative impacts are so severe, the agency decision-makers and the public would have to consider the no project alternative much more seriously. Likewise, the need for additional mitigation measures, especially in the NEPA process, would be further supported by an accurate discussion of the actual extent of cumulative impacts.

Secondly, additional mitigations are available to reduce the Project's emissions of PM10 and NOx. These include the air pollution mitigations discussed above. Another important mitigation to address cumulative air pollution emissions relates to the timing and phasing of not only this Project but numerous other projects planned or underway in the Air Basin. As SWAPE comments:

Perhaps most important is to quantify the emissions that will stem from the construction of other projects and using those emissions estimates to identify how the construction of the projects might be staged to reduce temporal impacts. The US EPA has commented on the benefit of this approach to prevent violations of air quality standards.

SWAPE Comment, pp. 5-6. By failing to identify the extent of the cumulative air quality impacts of the project's emissions of PM10 and NOx and also failing to discuss and, in the case of CEQA, adopt feasible mitigations that would reduce those impacts, the DEIS/DEIR is arbitrary and capricious and inadequate.

D. A Right-Of-Way That Fails to Include All Feasible Air Pollution Mitigation Measures Will Be Inconsistent With 43 U.S.C. §1765(a).

By not discussing the additional feasible air pollution controls discussed above for pollutants already impairing California's air quality standards, a right-of-way for the Project would run afoul of BLM's duties to protect the environment and require compliance with more stringent state standards. 43 U.S.C. §1765(a) requires each right of way to contain terms and conditions to "minimize damage to...wildlife habitat and otherwise protect the environment" and to "require compliance with state standards for... environmental protection... if those standards are more stringent than applicable Federal standards." The standards include state "substantive standards" but not state procedural requirements. *Montana v. Johnson*, 738 F.2d 1074, 1077 (9th Cir. 1984). As the Ninth Circuit has explained, Congress adopted a version of competing FLPMA bills requiring that "BLM comply with, rather than merely consider, federal and state pollution standards." *Columbia Basin Land Protection Ass'n v. Schlesinger*, 643 F.2d 585, 605 (9th Cir. 1981). "This clearly indicates congressional intent to require federal agencies to meet the state's substantive standards for projects under FLPMA." 643 F.2d at 605.

The air quality impacts acknowledged by the DEIS/DEIR indicate that the Project, as conditioned in the manner described in the DEIS/DEIR, cannot meet BLM's duties under 43 U.S.C. §1765(a). The DEIS/DEIR identifies Impact Air-1 as "[c]onstruction and decommissioning of the Proposed Action would generate short-term emissions of criteria air pollutants that could contribute to an existing or projected air quality

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violation.” DEIS/DEIR, Table ES-2. Likewise, Impact Air-3 states that “[t]he Proposed Action would generate emissions of criteria air pollutants which could contribute to existing non-attainment conditions and further degrade air quality.” *Id.* By not adopting all mitigations that would reduce the Project’s PM10 and NOx emissions as much as feasible as conditions of the Project, BLM will have violated Section 1765(a)’s fundamental duties when issuing a ROW under FLPMA.

61-12
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E. The DEIS/DEIR’s Environmental Baseline for Potential Hazard Materials Is Not Supported by Substantial Evidence and is Arbitrary and Capricious.

SWAPE has reviewed the Phase I Environmental Site Assessment (“Phase I ESA”) prepared for the Project. As explained by SWAPE, a Phase I ESA includes, among other components established by EPA, an inspection of the project site and interviews of people knowledgeable about the property. The Phase I ESA conducted for the Project did not include an inspection so much as an incomplete site visit. Nor was there a reasonable effort to seek out persons with knowledge of potential hazards at the site. As SWAPE explains, the “inspection” conducted for the site was inadequate: “The Phase I ESA included one day of field reconnaissance. One day of field reconnaissance for a 4,179-acre (6.5 square mile) project is inadequate.” SWAPE Comment, p. 7. “The conduct of an adequate site visit is critical because of the likelihood of finding areas of contamination, including drug labs and illegal dumps, that could not be observed in one day of field reconnaissance” lasting no more than 10 hours of daylight. *Id.* The effort to track down knowledgeable people to interview about the site also appears similarly cavalier. The only interviews were of a gas station owner outside of the Project’s proposed ROW and a BLM staff person who did not appear to have much personal knowledge of the site’s field conditions. *Id.*

61-13

Pursuant to CEQA, the lead agency has a responsibility to conduct a reasonable level of investigation in order to prepare an adequate EIR. Likewise, under NEPA, the agency cannot resort to mere speculation but must require sufficient studies from which to gauge a project’s impacts. Because the effort to inspect the Project area was insufficient and knowledgeable persons were not identified, the environmental baseline regarding hazardous material risks is insufficient and, hence, the DEIS/DEIR’s conclusions regarding the absence of such risks is arbitrary and capricious and not supported by substantial evidence.

F. The DEIS/DEIR Improperly Defers Development of Mitigation Measures to Address the Project’s Groundwater Impacts, Hydrological Impacts, and Wildlife Impacts.

LIUNA has not had an opportunity to review and provide comments on any measures that the Project may employ to address its potential impacts to groundwater, hydrological, and biological resources impacts. This is because the DEIS/DEIR relies on a future mitigation plans to stand-in for actual mitigation measures. By deferring important mitigation components until after the DEIS/DEIR is completed and approved,

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the agencies run afoul of NEPA and CEQA and frustrate any meaningful public input on this likely impact.

CEQA disallows deferring the formulation of mitigation measures to post-approval studies. CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309. An agency may only defer the formulation of mitigation measures when it possesses “meaningful information” reasonably justifying an expectation of compliance.” *Sundstrom*, 202 Cal.App.3d at 308; see also *Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only “for kinds of impacts for which mitigation is known to be feasible”).

Under NEPA’s hard look standard, deferral of a discussion of a Project’s mitigation measures also is not appropriate. For example, in *High Sierra Hikers Ass’n v. U.S. Dep’t of Interior*, 848 F.Supp.2d 1036, 1052-54 (N.D. Cal. 2012), the District Court explained that “[t]he agency must utilize the EIS to discuss such mitigation measures in sufficient detail to ensure there has been a fair evaluation of the consequences.” In the EIS, the agency “must perform some assessment of whether the mitigation measures would be effective.” *Id.* at 1056. “[The] assessment must include “an estimate of how effective mitigation measures would be if adopted” or a “reasoned explanation as to why such an estimate is not possible.” *Id.* See *S. Fork Band Council of W. Shoshone of Nevada v. U.S. Dep’t of Interior*, 588 F.3d 718, 727 (9th Cir. 2009).

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1. The DEIS/DEIR Improperly Defers Development of Mitigation Measures to Address the Project’s Groundwater Impacts.

The DEIS/DEIR relies on a future Groundwater Monitoring and Mitigation Plan to stand-in for actual mitigation measures. By deferring this important mitigation component until after the DEIS/DEIR is completed and approved, the agencies run afoul of NEPA and CEQA and frustrate any meaningful public input on this likely impact. As SWAPE’s review indicates:

[the DEIS/DEIR, only] offers vague assurances that monitoring will be conducted but does not identify by whom, specifically. The DEIS/DEIR states that groundwater trends will be evaluated but it does not state how. The DEIS/DEIR states that wells and springs will be evaluated for Project impacts but does not include methodology. These critical details are essential, along with enforceable measures in an MOU, if the [Monitoring and Mitigation] Plan is to be effective.

SWAPE Comment, p. 8. SWAPE also identifies the proper response measures necessary for such a Plan to be effective, similar to those adopted by the County in its environmental review of the Cadiz Valley Water Conservation, Recovery, and Storage Project. Where groundwater levels fall below an acceptable level, mitigation measures should include:

Reduction in pumping from Project wells;
Revision of pumping locations within the Project wellfield; and
Stoppage of groundwater extraction for duration necessary to correct the predicted impact.

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cont.

SWAPE Comment, p. 8. The mitigation measures should be included as conditions of the ROW and in an enforceable MOU with the County. SWAPE further recommends the establishment of a Groundwater Stewardship Committee. *Id.* Because of the agencies' improper deferral of mitigation, there is no opportunity for LIUNA and other commenters to see if these and other appropriate measures will actually be required of the Project. As a result, the EIS/DEIR's discussion of the Project's potential groundwater impacts is arbitrary and capricious and deficient as a matter of law.

2. The DEIS/DEIR Improperly Defers Mitigation of The Project's Hydrological Impacts, Including, For Example, The Likely Significant Impact of Project Fencing on Flows in the Numerous Washes on Site.

The Project calls for the installation of desert tortoise fencing while at the same time asserting that the Project will have no adverse affect on the site's hydrology, especially in the numerous washes located throughout the Project area. No explanation is provided, either in the project description or the discussion of impacts to water resources, "how the Project would be fenced to prevent ingress of desert tortoises, yet allow egress of storm waters." Cashen Comment, p. 3. Mr. Cashen provides several examples of the conflict that arises when installing desert tortoise fencing in washes, including both the likelihood that the fencing will fail and the obvious impediment to natural flows that could result. Rather than grapple with these conflicting results, the DEIS/DEIR defers the issue into the future, despite acknowledging (albeit in passing) the possible serious impacts on drainage patterns that could result from the fencing measures, as well as other Project features. DEIS/DEIR, p. 3.19-36. Given the presence of numerous washes on the site and the obvious conflict that may result from installing adequate desert tortoise fencing throughout that complex wash system, the potential impacts to water quality as well as to the tortoises from ineffective fencing must be explored in the DEIS/DEIR.

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3. The DEIS/DEIR Improperly Defers Development of Key Mitigation Measures to Address Wildlife Impacts.

The DEIS/DEIR defers a number of key mitigation plans purporting to address impacts to wildlife, including a Bird and Bat Conservation Strategy, an Avian Monitoring Program, and a raven management plan. Other plans that are apparently in draft form are not included in the appendices or otherwise available on BLM's web site for the Project, including a Desert Tortoise Translocation Plan. As Mr. Cashen explains:

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It is premature for the BLM and County to conclude forthcoming plans would reduce impacts to a less-than-significant level, especially because the DEIS/DEIR generally fails to identify fundamental aspects of the plans

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(e.g., success criteria, monitoring program, contingency measures). Deferring mitigation plans until after Project approval is additionally problematic because the resource agencies often do not have the resources needed to keep up with the pace of renewable energy development in California. For example, some of the mitigation plans required of the Ivanpah Solar Electric Generating System (“ISEGS”) Project have yet to be finalized (e.g., Bighorn Sheep Plan), even though construction of the project began in October 2010.

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Cashen Comment, p. 17. All of the mitigations included in these future mitigation plans must be identified and discussed in the DEIS/DEIR.

G. The DEIS/DEIR’s Description of the Environmental Setting for Golden Eagles and Burrowing Owls are Flawed Because Surveys for These Species Did Not Follow Protocols and Were Incomplete.

Every CEQA document must start from a “baseline” assumption. The CEQA “baseline” is the set of environmental conditions against which to compare a project’s anticipated impacts. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency’s environmental review under CEQA:

must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

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See *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125 (“*Save Our Peninsula*”).

Likewise, under NEPA, accurate and complete information regarding the environmental baseline of a Project is key to evaluating a project’s impacts. 40 C.F.R. §1500.1(b); 40 C.F.R. §1502.24. “Without establishing the baseline conditions which exist in the vicinity of [a project], there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA.” *Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). See *Ctr. for Biological Diversity v. Provencio*, 2012 U.S. Dist. LEXIS 50457, at *60-61 (D.Ariz. 2012). NEPA also requires “up-front disclosures of relevant shortcomings in the data or models.” *Lands Council v. Powell*, 395 F.3d 1019, 1032 (9th Cir. 2005).

The DEIS/DEIR fails to disclose the environmental baseline for both golden eagles and for burrowing owls. With regard to golden eagles, as Mr. Cashen points out, the aerial surveys did not adhere to golden eagle inventory protocols because the Project’s consultant “did not survey the South Soda Mountains for golden eagle nest sites.” Cashen Comment, p. 3. See DEIS/DEIR, p. 3.4-17. See also Biological

Resources Technical Report (“BRTR”), Figure 2.2-4. “This is significant because the Project site is located immediately adjacent to the South Soda Mountains, and there is a high likelihood that any golden eagles nesting in the South Soda Mountains would be adversely affected by the Project.” Cashen Comment, p. 3.

In regard to burrowing owls, the Project’s consultant purported to survey for this sensitive species by piggy-backing on surveys targeting desert tortoises and rare plants. Cashen Comment, p. 4; BRTR, pp. 2-5 and 3-41. As Mr. Cashen explains:

The Applicant’s surveys for burrowing owls did not adhere to the guidelines in CDFW’s 2012 *Staff Report on Burrowing Owl Mitigation*. Instead, data on burrowing owl use of the Project site were obtained through incidental detection of burrowing owls and burrowing owl sign during fall surveys for rare plants and desert tortoises. Although the Biological Resources Technical Report (“BRTR”) acknowledges incidental detections do not replace the requirement for protocol-level surveys, those surveys were never conducted.

Cashen Comment, p. 4. This piggy-backing effort may seriously underestimate the number of burrowing owls at the site “because incidental detection of burrowing owls occurred during fall surveys, the DEIS/DEIR lacks critical information on burrowing owl use of the Project site during the breeding season.” *Id.* In order to present an accurate environmental setting and baseline to the public and the agencies, the DEIS/DEIR should be revised to include complete nest surveys for golden eagles and site-wide protocol surveys for burrowing owls during its spring nesting season.

H. The DEIS/DEIR Should Identify the Location of Desert Pavement on the Site in Order to Accurately Evaluate and Describe the Project’s Impacts to These Areas.

Mr. Cashen describes the serious impacts that may result from disturbing areas of desert pavement. Cashen Comment, p. 5. Although mention is made of the presence of desert pavement within the Project area, the DEIS/DEIR’s failure to identify its location or scope makes it impossible for a reviewer to comment effectively on the Project’s impacts to these important desert features. “Although the DEIS/DEIR acknowledges the importance of desert pavement in preventing erosion, it does not quantify or map the extent of desert pavement on the Project site. This precludes the ability to assess the amount of desert pavement that may be disturbed by the Project, and thus, the potential severity of the subsequent erosion.” Cashen Comment, p. 5.

In addition to failing to identify the location and extent of desert pavement in the Project area, the suggested mitigation measures of laying down “temporary mats” to protect desert pavement from disturbance by construction vehicles is neither adequately discussed nor does it appear effective on its face. As Mr. Cashen observes:



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The DEIS/DEIR does not provide any evidence that temporary mats are an effective mitigation measure. Google Earth imagery suggests there is an extensive amount of desert pavement on the Project site. Consequently, it does not appear feasible to cover hundreds (potentially thousands) of acres of the Project site with temporary mats to protect the desert pavement from damage from construction vehicles. Moreover, it does not appear feasible to deploy mats (which are presumably heavy) across a remote and vegetated landscape without use of heavy equipment. This issue is confounded because the DEIS/DEIR allows the Applicant to defer the “plan” for the identification, avoidance, and protection of desert pavement until after Project approval. Soil loss (through wind and water erosion) is severe when components that would normally stabilize the soil surface (e.g., rocks, crusts, vegetation) are removed. Because the DEIS/DEIR does not identify a reliable strategy for minimizing impacts to desert pavement, the Project has the potential to result in a substantial amount of erosion and sediment transport into adjacent landscapes.

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Cashen Comment, p. 13. The DEIS/DEIR must be significantly revised in order to address this significant impact of the Project and recirculated for public comment.

I. The DEIS/DEIR’s Assertion That a 100-Foot Buffer Zone Around the Rare Emory’s Crucifixion Thorn Would Mitigate The Project’s Impacts on This Rare Plant is not Supported by Evidence and is Arbitrary.

Emory’s crucifixion thorn (*Castela emoryi*) is a rare plant occurring at the Project site. The DEIS/DEIR acknowledges the plant’s presence but then concludes that maintaining a 100-foot buffer around any individual plants will prevent the Project from impacting this sensitive species. However, the proposed buffer is considerably smaller than buffer mitigations for this and other sensitive desert plants adopted for other renewable energy projects in the desert. As Mr. Cashen explains:

The DEIS/DEIR lacks any scientific evidence that a 100-foot exclusion area would maintain the ecological processes that Emory’s crucifixion thorn plants depend on for survival. It also does not provide any evidence that 100 feet would sufficiently protect Emory’s crucifixion thorn plants from the numerous indirect impacts identified in the DEIS/DEIR (e.g., altered hydrology, fugitive dust).occurs on the Project site; the next nearest known other population is approximately 20 miles southwest of the Project site. Because Emory’s crucifixion thorn is a relatively rare plant in California, any impacts to the population on the Project site would be significant.

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Cashen Comment, p. 5. Mr. Cashen cites to scientific evidence, as well as other environmental reviews, indicating that a minimum buffer of 250-feet is necessary to

protect these and other plant species. *Id.* BLM has required 250-foot buffers around special-status plant populations at both the Ivanpah and Calico Solar project sites. *Id.* Nor does the DEIS/DEIR “provide any success criteria for the proposed mitigation measure (i.e., 100-foot exclusion area), nor does it require a monitoring, reporting, and adaptive management program that ensures the proposed mitigation is effective.” *Id.* Relatedly, the lack of justification for the proposed buffer also calls into question the DEIS/DEIR’s related conclusion that the Project’s impacts to sensitive plants will not have a cumulative impact. For these reasons, the DEIS/DEIR’s conclusion that the Project will not have significant effects, individually or cumulatively, on this and other sensitive plants is not supported by substantial evidence and is arbitrary.

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J. The DEIS/DEIR’s Conclusion That the Project’s Destruction of Golden Eagle Foraging Habitat will not be Significant is Arbitrary.

The DEIS/DEIR relies on counterintuitive assumptions to claim that the Project will not have significant impacts on golden eagles by destroying a vast stretch of foraging habitat in the Soda Mountain Valley. Although at least two golden eagle nests are known to occur within 10-miles of the Project (despite not looking for any nests in the Soda Mountains), the DEIS/DEIR assumes that because no one has observed an eagle foraging on-site that means eagles are unlikely to forage on-site. See Cashen Comment, p. 7; Biological Technical Resources Report, p. 3-19. It further contends that the valley area is not unique, does not have a concentration of eagle prey, and there is better foraging habitat elsewhere in range of any nesting eagles. No details underlying these conclusions are provided in the DEIR/DEIS or accompanying appendix. More importantly, as Mr. Cashen discusses, these conclusions are incorrect and not supported by evidence:

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[T]he BLM and County cannot rely on the lack of observed foraging activity as evidence that impacts to golden eagle foraging habitat would be insignificant. Birds of prey in general are widely spaced, rapid moving, and wide ranging. In addition, raptor movements and activity patterns are highly variable, especially during migration. These factors are especially true for golden eagles, which make them difficult to detect and count. The Applicant’s consultant conducted avian point counts during the spring and fall of 2009, but it did not conduct any focused surveys for foraging golden eagles. Incidental detection of golden eagles during the process of conducting surveys for other species is an ineffective approach for documenting golden eagle use of the Project area (i.e., because it is ineffective to survey for large soaring birds while searching for small birds). This is reflected in USFWS guidelines, which state surveys for eagles and other large birds need to be conducted exclusive of those for small birds.

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Cashen Comment, p. 7. In terms of prey base or other foraging opportunities in the area, Mr. Cashen states that:

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the DEIS/DEIR has no basis for suggesting the Project site lacks a concentration of prey items. Similarly, the DEIS/DEIR has no basis for stating “[c]omparable or better foraging opportunities [for golden eagles] are *expected* to be available within the surrounding areas.” The Project site contains jackrabbits, squirrels, and other preferred prey for golden eagles. The Applicant’s consultant did not collect any data pertaining to the density of these prey species at the Project site or in the “surrounding areas.”

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Id. at 7-8. Mr. Cashen highlights the importance of jackrabbits as prey for eagles in the Project area. *Id.* at 8. Lastly, Mr. Cashen notes that the location of the Project in a valley filled with alluvial fan deposits and surrounded by mountains makes it an ideal foraging area for golden eagles. *Id.* The Project’s proposed destruction of almost 40 percent of that valley habitat will significantly impact eagle foraging habitat. The DEIS/DEIR must be supplemented to address this impact after additional surveys are conducted including nest surveys in the Soda Mountains and surveys targeting large raptors. The DEIS/DEIR also must be more forthright about the loss of foraging habitat and substantiate its conclusions with evidence.

K. The DEIS/DEIR’s Discussion of the Project’s Impacts to Burrowing Owls Fails to Identify and Discuss the Impacts of Relocating Owls, the Project’s Primary Mitigation Measure, Relies on Inadequate Preconstruction Surveys, and Includes Inaccurate Buffer Zone Figures.

The best available science estimates that a total of only 560 pairs of burrowing owls occur in the Western Mojave Desert. Cashen Comment, p. 10. The Project proposes to destroy the nests of 48 of those pairs, or about 8.6 percent of the total population in the western Mojave Desert. *Id.* Therefore, the Project would affect approximately 8.6% of the burrowing owls (48 pairs) residing in the Western Mojave Desert. The DEIS/DEIR pins its hopes on avoiding impacts to this large percentage of owls in the region by passively relocating the owls. This mitigation plan is neither adequately explained nor are the impacts of relocating owls identified or discussed in the DEIS/DEIR.

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The protocols for relocating burrowing owls are not identified in the DEIS/DEIR and the Burrowing Owl Mitigation and Monitoring Plan has been improperly deferred until after completion of the EIS/EIR. This alone makes it impossible to comment on their effectiveness. Additionally, any relocation effort will itself have significant impacts on the relocated burrowing owls:

Although the CDFW has established protocols for the eviction of burrowing owls (“passive relocation”), there is still considerable risk to burrowing owls, especially if passive relocation is not done properly. This conclusion is expressly supported by the CDFW, which has concluded that passive relocation creates potentially significant impacts under CEQA that must be analyzed. According to the CDFW, temporary or permanent

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closure of burrows may result in: (a) significant loss of burrows and habitat for reproduction and other life history requirements; (b) increased stress on burrowing owls and reduced reproductive rates; (c) increased depredation; (d) increased energetic costs; and (e) risks posed by having to find and compete for available burrows.

Cashen Comment, p. 9. Mr. Cashen identifies research that demonstrates that “most translocation projects have resulted in fewer breeding pairs of burrowing owls at the mitigation site than at the original site, and that translocation projects generally have failed to produce self-sustaining populations of owls.” *Id.* The DEIS/DEIR fails to identify these significant impacts to the burrowing owl.

Another serious risk posed to burrowing owls is the long period of time – 30-days – between the pre-construction surveys and the initiation of ground-disturbing activities. Cashen Comment, pp. 14-15. CDFW guidelines call for an initial preconstruction survey within the 14 days prior to ground disturbance, followed by a subsequent survey within 24 hours prior to ground disturbance. *Id.* Burrowing owls may recolonize a site within a few days. *Id.* A survey 30-days prior to construction will not protect those returning owls.

In addition, the DEIS/DEIR prohibits disturbance of areas within 650 feet or 500 meters of a burrow during the breeding season (February 1 through August 31). DEIS/DEIR, p. 3.4-54. However, 500 meters is equal to 1,640 feet. The DEIS/DEIR should rely on the correct 1,640 feet radius. Cashen Comment, p. 15.

L. The DEIS/DEIR Fails to Identify the Project’s Potential Significant Impacts to Desert Kit Fox From Translocations and Disease.

Mr. Cashen identifies the recent outbreak of canine distemper in desert kit foxes in the Mojave Desert. Cashen Comment, p. 17. “The Project has the potential to exacerbate the risk of kit fox distemper by: (a) stressing resident kit foxes; and (b) displacing kit foxes from their home ranges (which may lead to intermingling of healthy and diseased kit foxes).” *Id.* This is especially true because the Project will require the passive relocation of desert kit foxes. *Id.* Mr. Cashen recommends that the agencies work closely with CDFW to develop take avoidance measures and to address the distemper issue afflicting the desert kit fox population, including a kit fox mitigation monitoring program that has been approved by the CDFW.

CONCLUSION

For the foregoing reasons, LIUNA Local 783, and its members, including Lonnie Passmore, and Rodrigo Briones, living in San Bernardino County and areas near the Project urge BLM and the County to make substantive changes to the DEIS/DEIR’s analysis of the Project’s air quality and wildlife impacts and to recirculate the DEIS/DEIR

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LIUNA Local 783 Comments on Soda Mountain Solar Project
March 3, 2014
Page 21 of 21

for additional public review and comment. LIUNA Local 783 appreciates this opportunity to comment and looks forward to the agencies' responses.

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cont.

Sincerely



Michael R. Lozeau
Lozeau Drury LLP
Attorneys for LIUNA Local 783, Lonnie
Passmore, and Rodrigo Briones

EXHIBIT A



Technical Consultation, Data Analysis and
Litigation Support for the Environment

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February 27, 2014

Michael Lozeau
Lozeau | Drury LLP
410 12th Street, Suite 250
Oakland, CA 94607

Subject: Comments on Soda Mountain Solar Project, San Bernardino County, California

Dear Mr. Lozeau:

I have reviewed the November 2013 Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for the Soda Mountain Solar Project ("Project"). The Project will produce 358-megawatts of power from photovoltaic solar panels on 4,179 acres of Bureau of Land Management-owned land. Related development would include construction of 14.5 miles of access roads (p. 2-23), relocation of 2.6 miles of roadway (p. 2-23), installation of collector lines, and construction of a substation, switchyard, and buildings which would result in the disturbance of approximately 2,557 acres (four square miles). In addition, "several groundwater wells" (p. ES-1) are to be drilled and permitted separately by San Bernardino County to supply water for the construction and operation of the Project. An on-site temporary mobile concrete batch plant may be needed to supply concrete for the Project.

The DEIS/DEIR fails to adequately disclose and mitigate issues associated with Air Quality, Hazards and Hazardous Waste and Water Resources. Air quality in the Mojave Desert Air Basin will be further degraded by Project construction and the Project does not include all of the feasible mitigation measures that are available to reduce that significant and unavoidable impact. Significant impacts to workers may result from Project construction because of the failure to adequately evaluate the potential for sources of residual chemicals. Groundwater withdrawal may result in impacts to water resources, including springflow, that are not adequately mitigated. A revised DEIS/DEIR is needed to analyze and disclose hazardous waste, air quality, water resource impacts to include mitigation measures that would ensure that any significant impacts from the Project are reduced to the maximum extent feasible.

Air Quality

The DEIS/DEIR states that maximum daily construction-related NO_x, CO, PM₁₀ emissions would exceed Mojave Desert Air Quality Management District (MDAQMD) thresholds (p. ES-7). Therefore,

construction and decommissioning of the Proposed Action would generate emissions of criteria air pollutants that would constitute a significant impact (Impact Air-1) and which would further degrade air quality in the Mojave Desert Air Basin. The mitigation that is identified in the DEIS/DEIR in an attempt to address this significant impact is inadequate. A revised DEIS/DEIR needs to be prepared to identify all feasible mitigation.

The Project area is located in the Mojave Desert Air Basin which is designated as a non-attainment area for the state 1-hour and 8-hour ozone standards, the state PM10 24-hour standard, and the federal PM10 24-hour standard (p. 3.2-3). The southern portion of the Project site is within the Western Mojave Desert Ozone Non-attainment Area which is classified as non-attainment for the federal 8-hour ozone standard and the state PM2.5 annual standard (p. 3.2-3).

Project construction will further degrade the air quality from the generation of dust (PM) from grading and excavation activities and from the vehicle emissions of NOx. The use of a concrete batch plant, if needed, will also produce PM and NOx.

The DEIS/DEIR identifies this to be a significant and unavoidable impact, stating:

Impact Air-1: Construction and decommissioning of the Proposed Action would generate short-term emissions of criteria air pollutants that could contribute to an existing or projected air quality violation.

The mitigation identified in the DEIS/DEIR is inadequate to address this impact, consisting only of the following measures: (p.3.2-33)

- Mitigation Measure 3.2-1: The Applicant shall apply water twice daily to all unpaved roads and unpaved parking areas actively used during operation and maintenance, except when moisture remains in the soils such that dust is not produced when driving on unpaved roads.
- Mitigation Measure 3.2-2: During construction, vehicles and equipment shall not idle for more than 5 minutes if not moving or performing construction activities. The use of idling vehicle air conditioner units to reduce the effects of heat shall be prohibited unless required for a medical emergency.

In addition to the mitigation measures, the DEIS/DEIR also cites Applicant Proposed Measures (APMs) which, according to the DEIS/DEIR, represent “state of the art emission controls” (p. 3.2-33).

APM 1: The Applicant shall use periodic watering for short-term stabilization of disturbed areas to minimize visible fugitive dust emissions. Use of a water truck to maintain surface moisture on disturbed areas and surface application of water during visible dusting episodes shall be considered sufficient to maintain compliance.

APM 2: The Applicant shall apply BMPs to prevent Project-related visible bulk materials transport (trackout) onto paved surfaces. BMPs may include, but not be limited to, the following:

- a. Use of wheel-washers (or equivalent) installed at all access points and laydown areas where trackout onto paved public roads could occur
- b. Construction of stabilized construction site entrance/exit areas
- c. Implementation of regular street sweeping/cleaning of paved surfaces
- d. Installation of corrugated steel panels at all site exits

APM 3: The Applicant shall cover haul vehicles loaded with earthen materials while operating on publicly maintained paved surfaces.

APM 4: The Applicant shall stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than 14 days, except when such a delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate visible fugitive dust emissions.

APM 5: The Applicant shall cleanup Project-related visible bulk materials transport (trackout) or spills on publicly maintained paved surfaces within 24 hours.

APM 6: The Applicant shall discontinue non-essential earth-moving activities under high wind conditions when wind speeds exceed 25 miles per hour and those activities result in visible dust plumes. All grading activities shall be suspended when wind speeds are greater than 30 miles per hour.

APM 7: The Applicant shall limit the speed of vehicles traveling on unpaved roads and disturbed areas to 15 miles per hour.

APM 8: The Applicant shall apply water to all unpaved roads and unpaved parking areas actively used during construction, except when moisture remains in the soils such that dust is not produced when driving on unpaved roads.

APM 9: The Applicant shall use off-road construction diesel engines that meet the Tier 3 California Emission Standards for Off-road Compression-Ignition Engines unless such engine is unavailable for a particular item of equipment. If a Tier 3 engine is unavailable, that engine shall be equipped with retrofit controls providing nitrogen oxides and particulate matter emissions equivalent to a Tier 3 engine.

APM 10: The Applicant shall apply Level 3 diesel particulate filters to diesel engines of off-road construction equipment.

The DEIS/DEIR concludes that no additional emissions controls are available to address the significant impact to air quality, stating:

There are no additional feasible mitigation measures that could reduce the impact to less than significant; therefore, this impact would be significant and unavoidable. For the reasons

discussed in Section 3.2.7, this impact would be cumulatively considerable for NO_x and PM₁₀, but not for CO.

The DEIS/DEIR fails to more thoroughly consider additional mitigation, both at the Project level and on a cumulative basis, to address what are identified as significant and unavoidable impacts to the already degraded air quality in the vicinity of the Project. A revised DEIS/DEIR should be prepared to consider the following mitigation measures both at the Project level and for cumulative impacts.

Project-Level Mitigation Measures to be Considered

NO_x

Mitigation for NO_x emissions should include consideration and adoption of the following measures that have been proposed in other recent CEQA documents where NO_x has been estimated to exceed air quality thresholds.¹

- For grading and trenching activities, the project operator shall reduce exhaust emissions during construction and, in particular, emissions of NO_x, when using construction equipment and vehicles by implementing the following measures:
 - Require the use of diesel haul trucks (e.g., material delivery trucks and soil import/export) that meet U.S. Environmental Protection Agency 2007 model year NO_x emissions requirements.
 - The following note shall be included on all grading plans: During project construction, all internal combustion engines/construction, equipment operating on the project site shall meet U.S. Environmental Protection Agency-Certified Tier 3 emissions standards, or higher according to the following:
 - (i) January 1, 2012, to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 3 off-road emissions standards.
 - (ii) Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resource Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by California Air Resources Board regulations. In addition, all construction equipment shall be outfitted with best available control technology devices certified by California Air Resources Board. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy.

¹ September 2013 Draft Environmental Impact Report Fremont Valley Preservation Project, http://www.co.kern.ca.us/planning/pdfs/eirs/fremont_solar/fremont_solar_deir_vol1.pdf, p. 4.3-33

These measures are more stringent and prescriptive than those measures identified in the DEIS/DEIR in APM 9 which states that Tier 3 standards be met “unless such engine is unavailable for a particular item of equipment” and which allows for retrofits “equivalent to a Tier 3 engine” (DEIS/DEIR, p. 3.2-15). The U.S. EPA has affirmed the use of Tier 4 engines, in commenting on a Draft Environmental Impact Statement prepared for a renewables project in Kern County.² The EPA stated that use of such engines had the potential for reducing NOx (and PM10 emissions) by 90% as compared to using Tier 3 technology. A revised DEIS/DEIR should require the use of engines meeting Tier 4 emissions standards after January 1, 2015, consistent with other renewables projects.

PM10

Mitigation for PM10 should also include consideration of all feasible measures. The measures listed below are complimentary to the mitigation measures and the APMs identified in the DEIS/DEIR or are more rigorous. The measures below have been identified in the mitigation of emissions from renewable energy projects in other air districts³ and should be considered and adopted to further reduce Project emissions:

- Prohibit visible dust from leaving the Project site property line during all construction activities, including trenching and pile-driving;
- Prohibit visible dust concentrations within the Project site of greater than 20 percent opacity, and require regular opacity monitoring and actions to ensure compliance with this opacity limit (pre-watering, water or soil stabilizers, wind barriers); and
- Conduct simultaneous sampling (upwind and downwind of construction activities at the Project boundary) with air sampling equipment to ensure that construction-related (downwind) PM10 levels do not exceed upwind levels by more than 50 micrograms per cubic meter (ug/m3);
 - If downwind PM10 levels exceed the upwind by 50 ug/m3, earth-disturbing activities should cease and not re-start until levels are reduced to less than a 50 ug/m3 differential.

Also, to reduce PM emissions, the DEIS/DEIR should require the use of Tier 4 diesel engine technology. Use of such engines was cited by the US EPA as having the potential for reducing PM10 emissions by 90% as compared to using Tier 3 technology.⁴

Mitigation Measures to be Considered to Address Cumulative Impacts

Construction-related and decommissioning-related emissions associated with the Project are estimated to exceed the MDAQMD significance thresholds for NOx and PM10. The DEIS/DEIR concludes that NOx and PM10 emissions increases would be cumulatively considerable and would result in a significant cumulative impact relative to potential exceedences of AAQs for ozone and PM10 (see Section 3.2.7). Believing that all mitigation measures have been explored, the DEIS/DEIR, concludes:

² U.S. Environmental Protection Agency, Comments on the Alta East Wind Project, September 27, 2012 (attached).

³ AVAQMD Rule 403(D), “Dust Control Plan,”

<http://www.avagmd.ca.gov/Modules/ShowDocument.aspx?documentid=867>

⁴ U.S. Environmental Protection Agency, Comments on the Alta East Wind Project, September 27, 2012 (attached).

There is no additional feasible mitigation beyond APMs 1 through 10 and Mitigation Measure 3.2-2 that could reduce the impact to less than significant; therefore, the short-term cumulative impact would be significant and unavoidable.

Additional measures are available to mitigate cumulative impacts on air quality. Perhaps most important is to quantify the emissions that will stem from the construction of other projects and using those emissions estimates to identify how the construction of the projects might be staged to reduce temporal impacts. The US EPA has commented on the benefit of this approach to prevent violations of air quality standards.⁵

A revised DEIS/DEIR should compile cumulative emissions data from all projects identified in Table 3.1-3, by month, where construction would overlap with the Project. From use of this data, a phased construction schedule, for projects that will undergo construction concurrently, should be derived so that violations of local, state or federal air quality regulations will not result. Consistent with US EPA's recommendations, the Project should be scheduled for constructed in light of the other planned construction activities to ensure air quality standards are not exceeded.

Hazards and Hazardous Materials

A Phase I Environmental Site Assessment (ESA) was prepared in May 2013 to evaluate the potential for hazardous environmental conditions to exist at the Project site.⁶ Phase I ESAs are conducted to identify the presence of "recognized environmental conditions," defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.⁷ If RECs are identified, then a Phase II ESA is typically conducted, which includes the collection of soil, soil vapor and groundwater samples, as necessary, to identify the extent of contamination and the need for cleanup to reduce exposure potential to the public.

Standards for performing a Phase I ESA have been established by the US EPA and the American Society for Testing and Materials Standards (ASTM)⁸ and include the following steps:

- a review of all known sites in the vicinity of the subject property that are on regulatory agency databases undergoing assessment or cleanup activities;
- an inspection;
- interviews with people knowledgeable about the property; and
- making recommendations for further actions to address potential hazards.

⁵ U.S. Environmental Protection Agency, Comments on the Alta East Wind Project, September 27, 2012 (attached).

⁶ Panorama Environmental, Inc., 2013. Phase I Environmental Site Assessment, Soda Mountain Solar Project, BLM Case No. CACA 49584, May 2013

⁷ Ibid.

⁸ <http://www.astm.org/Standards/E1527.htm>

The inspection component of the Phase I ESA was inadequate. The Phase I ESA included one day of field reconnaissance. One day of field reconnaissance for a 4,179-acre (6.5 square mile) Project area is inadequate. The conduct of an adequate site visit is critical because of the likelihood of finding areas of contamination, including drug labs and illegal dumps, that could not be observed in one day of field reconnaissance, December 13, 2012, a day when there was a maximum of 10 hours of daylight.

The DEIS/DEIR should be revised to include a new Phase I ESA that includes an adequate site inspection, one that would allow for a full evaluation of potentially hazardous site conditions, including the identification of areas of refuse and building debris dumping, remnants of clandestine drug labs, or areas of burn ash from uncontrolled burning, all conditions which may be found in remote desert locations.

The DEIS/DEIR should also include an interview with on-the-ground knowledge of the site. The Phase I included an interview only with a gas station owner outside the Project right of way and with a Bureau of Land Management representative who did not appear to be knowledgeable with field conditions at the Project site.⁹ A new Phase I ESA should be prepared to include a report with interviews of people who have a greater degree of familiarity of the Project site.

Water Resources

The Project will require the consumption of up to 480 acre-feet of groundwater during construction and 31.4 acre-feet per year during operation. To mitigate these impacts (Mitigation Measure 3.19-3) the DEIS/DEIR requires the preparation of a Groundwater Monitoring and Mitigation Plan for approval by San Bernardino County prior to issuance of a groundwater well permit (to be the subject of a separate CEQA action). Delaying the preparation of the Plan until following approval of the Project is deferred mitigation. A revised DEIS/DEIR should be prepared to include the Plan and an agreement with the County of San Bernardino to limit impacts of groundwater withdrawals, consistent with other projects in the County. For example, the Final Environmental Impact Report for the Cadiz Valley Water Conservation, Recovery, and Storage Project, also in San Bernardino County, included a Groundwater Monitoring and Mitigation Plan.¹⁰ The inclusion of the Groundwater Monitoring and Mitigation Plan for the Cadiz project is in stark contrast with the Project DEIS/DEIR which defers the preparation of such a plan until after approval.

A Groundwater Monitoring and Mitigation Plan is essential for inclusion in a revised DEIS/DEIR because of the potential to deplete groundwater quantity and because of the potential to impact important water resources, such as Soda Springs at Zzyzx, California. Such a plan was included for the Cadiz project for the same reasons, to protect groundwater resources and to protect springflow dependent on groundwater.

⁹ Panorama Environmental, Inc., 2013. Phase I Environmental Site Assessment, Soda Mountain Solar Project, BLM Case No. CACA 49584, May 2013, p. 5-1.

¹⁰ Cadiz Valley Water Conservation, Recovery, and Storage Project Final EIR, July 2012, p. 4.9-1

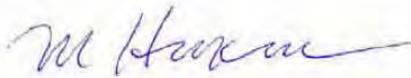
Additionally, the Cadiz project included an MOU with the County of San Bernardino to limit the drawdown of groundwater. If groundwater levels were to fall below an established level, then the following measures would be implemented:

- Reduction in pumping from Project wells;
- Revision of pumping locations within the Project wellfield; and
- Stoppage of groundwater extraction for duration necessary to correct the predicted impact.¹¹

No such safeguards, to be memorialized in an MOU with the County, are included in the DEIS/DEIR. Instead the DEIS/DEIR, under Mitigation Measure 3.19-3, offers vague assurances that monitoring will be conducted but does not identify by whom, specifically. The DEIS/DEIR states that groundwater trends will be evaluated but it does not state how. The DEIS/DEIR states that wells and springs will be evaluated for Project impacts but does not include methodology. These critical details are essential, along with enforceable measures in an MOU, if the Plan is to be effective.

Instead of a broad outline for a Groundwater Monitoring and Mitigation Plan, a revised DEIS/DEIR should be prepared to include the Plan so that the public can review the adequacy of the provisions to protect groundwater levels and springflow. As in the Cadiz project, a Groundwater Stewardship Committee should be convened,¹² to be constituted by independent professionals and academics, to ensure the Plan is formulated correctly and is executed to the satisfaction of the committee. An MOU with San Bernardino County should also be included in the DEIS/DEIR to ensure the enforceability of the Groundwater Monitoring and Mitigation Plan.

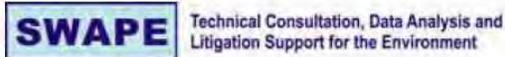
Sincerely,



Matt Hagemann, P.G., C.Hg.

¹¹ Cadiz Valley Water Conservation, Recovery, and Storage Project GMMMP, p. 92

¹² Cadiz Valley Water Conservation, Recovery, and Storage Project Final EIR, July 2012, p. 4.9-60



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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

**Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
CEQA Review
Investigation and Remediation Strategies
Litigation Support and Testifying Expert**

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certification:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – present;
- Senior Environmental Analyst, Komex H2O Science, Inc (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Partner, SWAPE:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of numerous environmental impact reports under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions and geologic hazards.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Technical assistance and litigation support for vapor intrusion concerns.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.
- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nationwide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, *Oxygenates in Water: Critical Information and Research Needs*.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt currently teaches Physical Geology (lecture and lab) to students at Golden West College in Huntington Beach, California.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Colorado.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F.** 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

EXHIBIT B

March 3, 2014

Mr. Michael Lozeau
Lozeau-Drury, LLP
410 12th Street, Suite 250
Oakland, CA 94607

Subject: Comments on the Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report prepared for the Soda Mountain Solar Project

This letter contains my comments on the Draft Plan Amendment, Draft Environmental Impact Statement and Draft Environmental Impact Report (hereafter referred to as the “DEIS/DEIR”) prepared for the Soda Mountain Solar Project (“Project”). Soda Mountain Solar, LLC (“Applicant”) proposes to construct, operate, maintain, and decommission a 358-megawatt (MW) photovoltaic (PV) energy generation facility on approximately 4,559 acres of public land managed by the Bureau of Land Management (“BLM”). The Project includes the construction and operation of solar arrays, access roads, collector lines, a substation, a switchyard, ancillary buildings and other infrastructure. The Project would result in the disturbance of approximately 2,557 acres of relatively undisturbed desert land in the Mojave Desert, approximately 6 miles southwest of Baker, California. The Project requires an amendment to the California Desert Conservation Area Plan, a Right-of-Way grant from the BLM, and approval of well permits by the County of San Bernardino (“County”).

I have served as a biological resources expert for over 80 projects, the majority of which have been renewable energy facilities in the Mojave and Sonoran Deserts. My experience and scope of work in this regard has included assisting various clients with evaluations of biological resource issues, reviewing environmental compliance documents prepared pursuant to the California Environmental Quality Act (“CEQA”) and the National Environmental Policy Act (“NEPA”), submitting written comments in response to CEQA and NEPA documents, and testifying as an expert witness before the California Energy Commission and California Public Utilities Commission. My educational background includes a B.S. in Resource Management from the University of California at Berkeley, and a M.S. in Wildlife and Fisheries Science from the Pennsylvania State University. A true and correct copy of my current curriculum vitae is attached hereto.

I have gained particular knowledge of the biological resource issues associated with the Project through my work on numerous other renewable energy projects in the region. The comments herein are based on my review of the environmental documents prepared for the Project, a review of scientific literature pertaining to biological resources known to occur in the Project area, consultations with other biological resource experts, and the knowledge and experience I have acquired during more than 21 years of working in the field of natural resources management.

ALTERNATIVES

The DEIS/DEIR analyzes the Proposed Action (A), three additional action alternative (B, C, and D), and three no action alternatives (E, F, and G). The proposed action alternatives reduce the footprint of the disturbed area through the removal of identified solar arrays, but do not evaluate different potential site locations. The DEIS/DEIR indicates more than 20 potential project sites were evaluated by the Applicant, but many were eliminated from detailed review due to insufficient size, distance to transmission lines, greater slopes, access limitations, and other factors.¹ An additional four remaining sites were rejected from further consideration because they were located in Desert Wildlife Management Areas (DWMA) designated to protect desert tortoise. The Proposed Action alternative overlaps a high suitability habitat area for desert tortoise, and impedes wildlife access to several important crossing structures. The crossing structures not only provide linkages for populations of desert tortoise and other wildlife species, but they allow the safe passage for animals across Interstate 15 (“I-15”), which poses a significant mortality risk.

Although the BLM and County evaluated three alternative configurations of the Project (several reduced acreage alternatives), they failed to evaluate an alternative that would have configured the Project in areas with lower tortoise habitat quality/suitability or reduced threats to wildlife movement and population viability.

The DEIS/DEIR generally fails to justify the selection of the Proposed Action. According to the DEIS/DEIR:

These potential site alternatives would have responded to the BLM’s purpose and need, which as stated in Section 1.2.1 is to respond to the Applicant’s application under Title V of the FLPMA for a ROW grant to construct, operate, maintain, and decommission a solar photovoltaic (PV) facility on public lands in compliance with FLPMA, BLM ROW regulations, applicable federal laws, and management and policy objectives. However, these potential site alternatives were rejected from detailed review because they were not within close proximity to transmission infrastructure, could not be implemented feasibly for technical or other reasons, their development for solar use would have been inconsistent with the basic policy objectives for the management of the area, and their implementation would not avoid or substantially lessen any significant effects of the Project.²

The BLM/County does not provide any data to support their choice of the Proposed Action as the preferred alternative. Furthermore, the Applicant does not provide any information that determines the distance from current infrastructure at which a project location would be considered “feasible,” which appears to be a key factor in the decision of project siting.

¹ DEIS/DEIR, p. 2-39.

² *Ibid.*

PROJECT DESCRIPTION

Project Fencing

Desert washes are abundant and well distributed across the Project site.³ The DEIS/DEIR does not explain how the Project would be fenced to prevent ingress of desert tortoises, yet allow egress of storm waters. At least one tortoise was “lost” following the Ft. Irwin translocation project, apparently as a result of a wash carving out space beneath the fence lining. In addition, a recent press release issued by the National Park Service documented the performance of a pedestrian fence installed by the U.S. Army Corps of Engineers and U.S. Department of Homeland Security. Following a summer storm event, the fence failed several performance criteria related to hydrology despite the U.S. Border Control’s Final Environmental Assessment, which had concluded the fence would “not impede the natural flow of water.” The Ft. Irwin and National Park Service events highlight the problems associated with fencing in desert wash systems; the need for information on how the Applicant intends to mitigate flows that may impact fencing; and the provision of a more rigorous monitoring and maintenance schedule for tortoise exclusion fencing at the Project site.

EXISTING CONDITIONS

Wildlife

GOLDEN EAGLE

The DEIS/DEIR states: “BioResources Consultants, Inc. performed aerial surveys for golden eagle in March and May 2011, encompassing all lands within a 10-mile radius of the requested Project ROW (BioResources Consultants, Inc., 2011). Survey methods conformed to guidelines provided in the *Interim Golden Eagle Inventory and Monitoring Protocols; and other Recommendations* (Pagel, et al., 2010).”⁴ These statements are incorrect. As the DEIS/DEIR acknowledges, BioResources Consultants, Inc. did not survey the South Soda Mountains for golden eagle nest sites.⁵ This is significant because the Project site is located immediately adjacent to the South Soda Mountains, and there is a high likelihood that any golden eagles nesting in the South Soda Mountains would be adversely affected by the Project.

The U.S. Fish and Wildlife Service (“USFWS”) has established *minimum* inventory and monitoring efforts that “are essential components” to avoiding and minimizing disturbance and other kinds of take of golden eagles.⁶ The USFWS reports “[t]hese field efforts are the mutual responsibility of agencies authorizing activities and their permittees.”⁷ I concur with the USFWS that inventory data are essential to evaluating the impacts of a proposed activity and for avoiding and minimizing take of eagles—especially considering the precipitous decline of golden eagles in southwestern California. Consequently, data that conform to the minimum

³ *Ibid*, Figure 3.3-2.

⁴ *Ibid*, p. 3.4-3.

⁵ *Ibid*, p. 3.4-17. See also BRTR, Figure 2.2-4.

⁶ Pagel JE, DM Whittington, GT Allen. 2010 Feb. Interim Golden Eagle inventory and monitoring protocols; and other recommendations. Division of Migratory Birds, United States Fish and Wildlife Service. p. 2.

⁷ *Ibid*.

inventory requirements specified by the USFWS are fundamental to evaluating Project impacts to golden eagles and the adequacy of the mitigation measures proposed in the DEIS/DEIR.

BURROWING OWL

The Applicant's surveys for burrowing owls did not adhere to the guidelines in CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*.⁸ Instead, data on burrowing owl use of the Project site were obtained through incidental detection of burrowing owls and burrowing owl sign during fall surveys for rare plants and desert tortoises.⁹ Although the Biological Resources Technical Report ("BRTR") acknowledges incidental detections do not replace the requirement for protocol-level surveys, those surveys were never conducted.¹⁰ Moreover, because incidental detection of burrowing owls occurred during fall surveys, the DEIS/DEIR lacks critical information on burrowing owl use of the Project site during the breeding season.

Because the Applicant's consultant failed to implement the CDFW survey protocol, the BLM and County lack the information needed to fully disclose and evaluate Project impacts to burrowing owls, and perhaps more importantly, to devise effective mitigation. This sentiment is emphasized in CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*, which states:

Adequate information about burrowing owls present in and adjacent to an area that will be disturbed by a project or activity will enable the Department, reviewing agencies and the public to effectively assess potential impacts and will guide the development of avoidance, minimization, and mitigation measures.¹¹

I concur with the CDFW in this regard. To ensure an adequate impact assessment; develop clear and effective avoidance and minimization measures; and formulate appropriate mitigation measures, the BLM and County must require surveys that adhere to the guidelines provided in the CDFW's 2012 *Staff Report on Burrowing Owl Mitigation*.¹² Results of those surveys should be issued in a revised DEIS/DEIR. Deferral of protocol-level survey results until after certification of the EIS/EIR precludes the resource agencies and public from understanding the extent of Project impacts on burrowing owls, and from vetting the adequacy of the proposed mitigation measures.

ENVIRONMENTAL IMPACTS ANALYSIS

Desert Pavement

Desert pavement is a desert surface that is covered with closely packed, interlocking angular or rounded rock fragments of pebble and cobble size. Desert pavement is very stable and it protects the soil from wind and water erosion. However, underneath the desert pavement is a layer of extremely wind-erodible, wind-derived material, sometimes meters thick. As a result,

⁸ CDFG. 2012 Mar 7. Staff Report on Burrowing Owl Mitigation. Available at: <www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf>.

⁹ BRTR, pp. 2-5 and 3-41.

¹⁰ BRTR, p. 2-5, footnote 2 and Table 2.2-1.

¹¹ CDFG. 2012 Mar 7. Staff Report on Burrowing Owl Mitigation. Available at: <www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf>.

¹² *Ibid*, p. 1 and Appendix D.

anthropogenic disturbance to desert pavement can have profound consequences.

Once the desert crust or pavement is removed (or damaged), sand may be blown several kilometers downwind, resulting in an area of indirect disturbance that can exceed the directly disturbed area by several-fold. For example, Okin et al. (2001) reported that 3,000 ha of land directly disturbed would be expected to indirectly disturb an additional 3,000 to 9,000 ha of land. The encroachment of blowing sand into adjacent shrublands has dramatic consequences for the landscape. Field observations indicate that blowing sand abrades plants, resulting in leaf stripping and damage to the cambium and therefore to the plant's ability to distribute and use water. Young plants are especially vulnerable to the effect of blowing sand as they lack woody tissue. This results in the suppression of revegetation in bare areas and the loss of vegetation on adjacent lands.

Desert pavement occurs on the Project site.¹³ Although the DEIS/DEIR acknowledges the importance of desert pavement in preventing erosion, it does not quantify or map the extent of desert pavement on the Project site.¹⁴ This precludes the ability to assess the amount of desert pavement that may be disturbed by the Project, and thus, the potential severity of the subsequent erosion.

Emory's Crucifixion Thorn

Emory's crucifixion thorn (*Castela emoryi*) occurs on the Project site; the next nearest known other population is approximately 20 miles southwest of the Project site.¹⁵ Because Emory's crucifixion thorn is a relatively rare plant in California, any impacts to the population on the Project site would be significant.

The DEIS/DEIR requires 100-foot exclusion areas around Emory's crucifixion thorn plants on the Project site.¹⁶ The DEIS/DEIR lacks any scientific evidence that a 100-foot exclusion area would maintain the ecological processes that Emory's crucifixion thorn plants depend on for survival. It also does not provide any evidence that 100 feet would sufficiently protect Emory's crucifixion thorn plants from the numerous indirect impacts identified in the DEIS/DEIR (e.g., altered hydrology, fugitive dust).¹⁷

The proposed 100-foot buffer around Emory's crucifixion thorn plants is considerably smaller than what has been required for other solar projects in the Mojave Desert. Analysis by the Conservation Biology Institute (2000) indicates a buffer of *at least* 250 feet is required to protect special-status plant species in southern California.¹⁸ This minimum buffer distance has been incorporated as a requirement for other solar energy projects in the Mojave Desert. For example, the BLM and California Energy Commission ("CEC") required 250-foot buffers around special-

¹³ DEIS/DEIR, p. 3.4-10.

¹⁴ *Ibid*, p. 3.7-15.

¹⁵ *Ibid*, p. 3.3-8.

¹⁶ *Ibid*, p. 3.3-35.

¹⁷ *Ibid*, pp. 3.3-24 and -25.

¹⁸ Conservation Biology Institute. 2000. Review of potential edge effects on the San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). Unpublished report prepared for Ahmanson Land Company, West Covina, California, by CBI, San Diego California.

status plant populations at both the Ivanpah and Calico Solar project sites. Indeed, the CEC concluded that “[p]lant occurrences that are not protected from project activities by a 250-foot buffer will not be considered protected.”¹⁹ Moreover, the BLM and CEC acknowledged that there is very little information on the buffer size(s) needed to protect plants from indirect impacts, and that their requirement for a 250-foot buffer should be viewed as an experimental approach that requires monitoring, and potentially, adaptive management. The DEIS/DEIR does not provide any success criteria for the proposed mitigation measure (i.e., 100-foot exclusion area), nor does it require a monitoring, reporting, and adaptive management program that ensures the proposed mitigation is effective. As a result, the DEIS/DEIR has no basis for concluding Project impacts to special-status plant species would be less-than-significant.

Cumulative Effects

The DEIS/DEIR provides inconsistent information on the geographic scope for cumulative effects analysis. It first states: “the [cumulative effects] analysis considers potential effects to vegetation resources and waters of the State, with the analysis generally concentrating on such resources in the I-15 corridor, Soda Mountain valley, and the Soda Mountain range and adjacent mountain ranges in eastern San Bernardino County.”²⁰ However, the DEIS/DEIR subsequently suggests that the cumulative effects analysis was limited to a 10-mile radius around the Project site.²¹

The DEIS/DEIR concludes development projects in the cumulative effects area would remove habitat for many special-status plant species and cacti, and that the loss of this habitat is anticipated to result in substantial cumulative impacts on populations of many special-status plant species and cacti.²² However, the DEIS/DEIR subsequently concludes that the implementation of Mitigation Measures 3.3-2 (vegetation best management practices) and 3.3-3 (special-status plant species and cacti impact avoidance and minimization) would reduce the Project’s contribution to cumulative impacts on cacti and special-status plants.²³ The DEIS/DEIR’s conclusion is unjustified because the proposed mitigation measures do not mitigate the stated impact (i.e., habitat loss).

Wildlife

GOLDEN EAGLE

Golden eagles are protected under Fish and Game Code Section 3511 and the federal Bald and Golden Eagle Protection Act (“Eagle Act”). California law prohibits take of golden eagles, and the USFWS requires a permit to be issued for take of bald or golden eagles where the taking is associated with, but not the purpose of the activity, and cannot be practicably avoided. Take includes causing a decrease in golden eagle productivity by substantially interfering with normal

¹⁹ California Energy Commission. 2010 Jul. Supplemental Staff Assessment for the Calico Solar Project. p. C.2-53.

²⁰ DEIS/DEIR, p. 3.3-30.

²¹ *Ibid*, p 3.3-31.

²² *Ibid*, p 3.3-32.

²³ *Ibid*.

breeding, feeding, or sheltering behavior.²⁴

The Project site provides foraging habitat for golden eagles. The loss of foraging habitat used by breeding birds can lead to reproductive failure and the abandonment of nesting territories. For golden eagles, the USFWS considers the loss of foraging habitat within 10 miles of a golden eagle nest site to be a potentially significant impact.²⁵ There are at least two golden eagle nest sites within 10 miles of the Project site.²⁶

The DEIS/DEIR provides the following analysis of Project impacts to golden eagles:

Foraging activity has not been observed on the site and findings suggest that the site experiences infrequent foraging use by eagles. The potential golden eagle foraging habitat that would be disturbed or removed by development of the Project is neither unique nor limiting on the landscape, and does not represent a known prey concentration. Comparable or better foraging opportunities are expected to be available within the surrounding areas. For these reasons, development and operation of the Project is not expected to disturb the foraging of any eagle pairs located within 10 miles of the Project site.²⁷

This assessment is entirely indefensible for several reasons.

First, the absence of evidence is not evidence of absence. Consequently, the BLM and County cannot rely on the lack of observed foraging activity as evidence that impacts to golden eagle foraging habitat would be insignificant. Birds of prey in general are widely spaced, rapid moving, and wide ranging.²⁸ In addition, raptor movements and activity patterns are highly variable, especially during migration.²⁹ These factors are especially true for golden eagles, which make them difficult to detect and count.³⁰ The Applicant's consultant conducted avian point counts during the spring and fall of 2009, but it did not conduct any focused surveys for foraging golden eagles. Incidental detection of golden eagles during the process of conducting surveys for other species is an ineffective approach for documenting golden eagle use of the Project area (i.e., because it is ineffective to survey for large soaring birds while searching for small birds).³¹ This is reflected in USFWS guidelines, which state surveys for eagles and other large birds need to be conducted exclusive of those for small birds.³²

Second, the DEIS/DEIR has no basis for suggesting the Project site lacks a concentration of prey items.³³ Similarly, the DEIS/DEIR has no basis for stating “[c]omparable or better foraging

²⁴ Pagel JE, DM Whittington, GT Allen. 2010 Feb. Interim Golden Eagle inventory and monitoring protocols; and other recommendations. Division of Migratory Birds, United States Fish and Wildlife Service.

²⁵ *Ibid*, p. 2.

²⁶ DEIS/DEIR, p 3.4-39.

²⁷ *Ibid*.

²⁸ Fuller MR, JA Mosher. 1981. Methods of Detecting and Counting Raptors. *Studies in Avian Biology* 6:235-246.

²⁹ *Ibid*.

³⁰ *Ibid*.

³¹ U.S. Fish and Wildlife Service. 2011 Jan. Draft Eagle Conservation Plan Guidance. Appendix C: Stage 2—Site-Specific Assessment Recommended Methods and Metrics.

³² *Ibid*, p. 55.

³³ DEIS/DEIR, p. 3.4-39. [emphasis added].

opportunities [for golden eagles] are *expected* to be available within the surrounding areas.”³⁴ The Project site contains jackrabbits, squirrels, and other preferred prey for golden eagles.³⁵ The Applicant’s consultant did not collect any data pertaining to the density of these prey species at the Project site or in the “surrounding areas.”

Jackrabbits in particular are an important prey species for eagles in the American Southwest. Black-tailed jackrabbits (*Lepus californicus*) occur on the Project site. In California, black-tailed jackrabbits are abundant at lower elevations in herbaceous and *desert-shrub areas* and open, early stages of forest and chaparral habitats.³⁶ Black-tailed jackrabbits use shrubs for cover and as a source of food.³⁷ They eat creosote bush and other plant species that are abundant on the Project site.³⁸ Jackrabbits are not as well adapted to live on steep slopes, and on bare and rocky terrain, such as what occurs in the Soda Mountains.³⁹ Similarly, they occur in low abundance in loose sand communities (e.g., south of the Project site) and at dry lakes (e.g., Soda Lake and Cronese Lake) due to the lack of cover and forage. Because golden eagles are relatively intolerant of human disturbance, the Razor Off-Highway Vehicle Area (south of the Project site) does not provide good foraging habitat for eagles.

Finally, the Project site is located within an intermontane desert valley composed of alluvial fan deposits and surrounded by the Soda Mountains.⁴⁰ This juxtaposition of landforms provides ideal conditions for golden eagles, which prefer rugged terrain for nesting and low-density shrub habitats for foraging.⁴¹ The proposed Project ROW would cover approximately 38 percent of the 12,000- acre valley.⁴²

Based on the aforementioned information, and contrary to the statements provided in the DEIS/DEIR, the Project site provides the very type of habitat preferred by golden eagles and their prey.⁴³ In the absence of empirical data on the locations of core foraging areas, the BLM and County must defer to the best available science, which suggests the Project could eliminate a substantial amount of core habitat (perhaps all) used by at least one pair of breeding eagles. The loss of core foraging habitat is likely to lead to take, as defined in the Eagle Act. The DEIS/DEIR fails to analyze or provide adequate mitigation for this potentially significant impact.

³⁴ *Ibid.*

³⁵ BRTR, p. 3-44.

³⁶ California Wildlife Habitat Relationships System. 2005. California Department of Fish and Game. California Interagency Wildlife Task Group. CWHR version 8.1 personal computer program. Sacramento (CA).

³⁷ *Ibid.* See also Chew RM and AE Chew. 1970. Energy Relationships of the Mammals of a Desert Shrub (*Larrea tridentata*) Community. Ecological Monographs 40(1):1-21.

³⁸ *Ibid.*

³⁹ DEIS/DEIR, Figure 3.4-5.

⁴⁰ BRTR, p. 1-2.

⁴¹ Marzluff JM, ST Knick, MS Vekasy, LS Schueck, TJ Zarriello. 1997. Spatial use and habitat selection of golden eagles in southwestern Idaho. The Auk 114(4):673-687.

⁴² BRTR, p. 1-2.

⁴³ Marzluff JM, ST Knick, MS Vekasy, LS Schueck, TJ Zarriello. 1997. Spatial use and habitat selection of golden eagles in southwestern Idaho. The Auk 114(4):673-687. See also Chew RM and AE Chew. 1970. Energy Relationships of the Mammals of a Desert Shrub (*Larrea tridentata*) Community. Ecological Monographs 40(1):1-21.

BURROWING OWL

Up to 48 recently active owl burrows were observed in the Project study area.⁴⁴ The Applicant’s consultant did not conduct the surveys necessary to establish the residency status of the owls occupying those burrows. In addition, although some burrowing owls may use one or more auxiliary “satellite” burrows, the Applicant’s consultant did not conduct the surveys necessary to distinguish satellite burrows from occupied burrows. Because most burrowing owls in southern California are year-round residents, one must assume an independent breeding pair of owls occupies each of the 48 recently active owl burrows detected in the Project area.⁴⁵

The BLM and County anticipate all 48 active burrows would be removed during Project construction.⁴⁶ The DEIS/DEIR allows the Applicant to evict owls from their burrows pending evaluation of unspecified eviction plans “by CDFW.”⁴⁷ According to the DEIS/DEIR, the eviction plans would be developed in accordance with an unspecified BLM protocol for burrowing owls.⁴⁸ Although the CDFW has established protocols for the eviction of burrowing owls (“passive relocation”), there is still considerable risk to burrowing owls, especially if passive relocation is not done properly. This conclusion is expressly supported by the CDFW, which has concluded that passive relocation creates potentially significant impacts under CEQA that must be analyzed.⁴⁹ According to the CDFW, temporary or permanent closure of burrows may result in: (a) significant loss of burrows and habitat for reproduction and other life history requirements; (b) increased stress on burrowing owls and reduced reproductive rates; (c) increased depredation; (d) increased energetic costs; and (e) risks posed by having to find and compete for available burrows.⁵⁰

The need for full analysis of potential impacts from passive relocation is further supported by research that indicates most translocation projects have resulted in fewer breeding pairs of burrowing owls at the mitigation site than at the original site, and that translocation projects generally have failed to produce self-sustaining populations of owls.⁵¹ Investigators attribute the limited success of translocation to: (a) strong site tenacity exhibited by burrowing owls, and (b) potential risks associated with forcing owls to move into unfamiliar and perhaps less preferable habitats.⁵²

The DEIS/DEIR does not disclose, analyze, or provide mitigation for the Project’s significant impacts to burrowing owls from passive relocation. Moreover, the BLM and County have

⁴⁴ DEIS/DEIR, p. 3.4-34.

⁴⁵ Shuford WD, T Gardali, editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

⁴⁶ DEIS/DEIR, p. 3.4-34.

⁴⁷ *Ibid*, p. 3.4-54.

⁴⁸ *Ibid*.

⁴⁹ California Department of Fish and Game. 2012. Page 10 *In*: Staff Report on Burrowing Owl Mitigation. Available at: <www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf>.

⁵⁰ *Ibid*.

⁵¹ Smith BW, JR Belthoff. 2001. Burrowing owls and development: short-distance nest burrow relocation to minimize construction impacts. *J. Raptor Research* 35:385-391.

⁵² *Ibid*.

deferred preparation of a *Burrowing Owl Mitigation and Monitoring Plan*. As a result, one must conclude that owls evicted from the Project area will experience heightened levels of mortality and reproductive failure, and that over the long-term there will be fewer breeding pairs of burrowing owls in the region.

Wilkerson and Siegel (2011) conducted extensive sampling and estimated a total of 560 pairs of burrowing owls occur in the Western Mojave Desert.⁵³ Therefore, the Project would affect approximately 8.6% of the burrowing owls (48 pairs) residing in the Western Mojave Desert.

The burrowing owl has been designated as a “sensitive” species by the BLM.⁵⁴ BLM sensitive species are those that require special management consideration in accordance with procedures set forth in BLM Manual section 6840.⁵⁵ Section 6840 identifies BLM policy with respect to sensitive species. It states: “[a]ctions authorized by the BLM shall further the conservation and/or recovery of federally listed species and conservation of Bureau sensitive species...Bureau sensitive species will be managed consistent with species and habitat management objectives in land use and implementation plans to promote their conservation and to minimize the likelihood and need for listing under the ESA [Endangered Species Act].” According to section 6840, conservation of BLM sensitive species entails “the use of programs, plans, and management practices to reduce or eliminate threats affecting the status of the species, or improve the condition of the species’ habitat on BLM-administered lands.”

In accordance with habitat conservation plan requirements established by the USFWS, the BLM established biological goals for each of the species addressed by the West Mojave Plan.⁵⁶ The West Mojave Plan identifies two biological goals for the burrowing owl: (1) prevent direct incidental take, and (2) protect and enhance known populations and habitat on public land.⁵⁷ Approval of the Project would undeniably conflict with the second biological goal.

The statewide population of burrowing owls is experiencing a significant decline.⁵⁸ Project impacts to 8.6% of the burrowing owls residing in the Western Mojave Desert would promote further decline of the species and increase the likelihood that it would require listing under the ESA. As a result, BLM’s authorization of the proposed Project would conflict with the West Mojave Plan and the procedures set forth in BLM Manual section 6840. As described in a subsequent section of this letter, the mitigation measures proposed in the DEIS/DEIR do not resolve those conflicts.

⁵³ Wilkerson RL and RB Siegel. 2011. Distribution and Abundance of Western Burrowing Owls (*Athene Cunicularia Hypugaea*) in Southeastern California. The Southwestern Naturalist 56(3): 378-384.

⁵⁴ DEIS/DEIR, Table 3.4-2.

⁵⁵ *Ibid*.

⁵⁶ WEMO Plan, p. 2-2.

⁵⁷ *Ibid*, p. 2-4.

⁵⁸ Wilkerson RL and RB Siegel. 2010. Assessing changes in the distribution and abundance of burrowing owls in California, 1993-2007. Bird Populations 10: 1-36. *See also* Wilkerson RL and RB Siegel. 2011. Distribution and Abundance of Western Burrowing Owls (*Athene Cunicularia Hypugaea*) in Southeastern California. The Southwestern Naturalist 56(3): 378-384.

Threshold for Defining Impacts

The DEIS/DEIR indicates a significant impact to the burrowing owl may occur if there is “disturbance or harassment within approximately 160 feet of occupied burrows.”⁵⁹ This information is incorrect. The DEIS/DEIR’s identification of 160 feet as the threshold for disturbance was obtained from guidance issued by the California Burrowing Owl Consortium (“CBOC”) in 1993. The CDFW no longer promotes the mitigation guidance described in CBOC (1993) because that mitigation guidance has **proven ineffective** in the conservation of burrowing owl populations.⁶⁰ The CDFW currently recommends mitigation consistent with its *2012 Staff Report on Burrowing Owl Mitigation*.⁶¹ According to CDFW’s 2012 Staff Report, burrowing owls within 500 meters (1,640 feet) of a source of disturbance may be impacted (depending on the level of disturbance).⁶² Because the DEIS/DEIR fails to consider the information provided in CDFW’s 2012 Staff Report, it does not accurately define Project impacts to burrowing owls.

Barbed Wire

The Applicant has proposed a security fence topped with barbed wire.⁶³ Barbed-wire fencing is known to pose a mortality hazard to sensitive species that occur in the Project area, including the golden eagle, burrowing owl, and prairie falcon.⁶⁴ The construction of aquatic features (e.g., brine ponds) immediately adjacent to barbed-wire fencing may exacerbate the mortality hazard. The DEIS/DEIR does not disclose, analyze, or provide mitigation for the mortality hazard associated with barbed-wire fencing.

The Project’s security fence should be designed to minimize hazards to wildlife. The BLM and County need to work with the Applicant and wildlife resource agencies to develop a “wildlife-friendly” fence design that also provides site security. Such designs are feasible. At a minimum, the top most wire of the perimeter fence should be smooth.

MOJAVE FRINGE-TOED LIZARD

The BRTR identified 5.56 acres of suitable habitat for Mojave fringe-toed lizards in the southeastern portion of the South Array, and an additional 0.26 acres of suitable habitat in the alternative Raser Road realignment route.⁶⁵ In addition, the BRTR indicates the wash that flows through the southeastern edge of the ROW contains suitable habitat that could connect the two Mojave fringe-toed lizard populations south and southwest of the Project area.⁶⁶ Although the Project appears to have been reconfigured after preparation of the BRTR, the extent of direct impacts to Mojave fringe-toed lizard habitat remain unclear. At a minimum, however, maps

⁵⁹ DEIS/DEIR, p. 3.4-35.

⁶⁰ CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.

⁶¹ *Ibid.*

⁶² *See p. 9 In:* CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.

⁶³ DEIS/DEIR, p. 2-7.

⁶⁴ Allen GT. 1990. A review of Bird Deaths on Barbed-Wire Fences. *Wilson Bulletin*. 102:553-58.

⁶⁵ BRTR, p. 3-39.

⁶⁶ *Ibid.*

provided in the DEIS/DEIR suggest the 0.26 acres of suitable habitat along the Razor Road realignment route would still be directly affected by the Project.⁶⁷ The DEIS/DEIR does not provide mitigation for this potentially significant impact.

The placement of fencing and other Project structures would provide roosting opportunities for avian predators that target lizard prey. This has been shown to deplete lizard populations around the edges of human development.⁶⁸ The DEIS/DEIR acknowledges indirect Project impacts include the potential for increased predation on lizards by raptors, ravens, and other birds.⁶⁹ However, it concludes: “[i]ndirect effects to Mojave fringe-toed lizard would be minimized through implementation of APM 50 (IWMP) and of Mitigation Measures 3.4-1a (compliance monitoring by a designated biologist), 3.4-1b (biological monitoring during construction); and 3.4-1c (WEAP).”⁷⁰ The DEIS/DEIR lacks the basis for this conclusion because the proposed mitigation measures do not address the impact (i.e., heightened predation due to the increase in perch sites). As a result, the Project would result in a potentially significant, unmitigated impact to the Mojave fringe-toed lizard.

MITIGATION MEASURES

Vegetation and Habitats

BOTANICAL RESOURCES

The DEIS/DEIR accurately identifies the numerous indirect effects the Project may have on botanical resources.⁷¹ Although the DEIS/DEIR proposes mitigation for the spread of invasive weeds, it does not provide mitigation measures for the other potentially significant indirect effects of the Project on botanical resources.

The DEIS/DEIR identifies two performance standards for the revegetation of temporarily disturbed areas:

1. By the end of the second year of monitoring at least 80 percent of the species observed within the temporarily disturbed areas shall be native species that naturally occur in desert scrub habitats; and,
2. Relative cover and density of plant species within the temporarily disturbed areas shall equal at least 60 percent.⁷²

The proposed performance standards do not promote effective mitigation. First, allowing revegetation areas to be comprised of 20 percent non-native species is an unacceptable performance standard. Most non-native species are aggressive competitors. Many native species will not survive over the long-term if non-natives comprise 20 percent of the species early in the

⁶⁷ DEIS/DEIR, Figure 3.3-2.

⁶⁸ Barrows CW, MF Allen, JT Rotenberry. 2006. Boundary processes between a desert sand dune community and an encroaching suburban landscape. *Biological Conservation* 131:486–494.

⁶⁹ DEIS/DEIR, p. 3.4-34.

⁷⁰ *Ibid.*

⁷¹ *Ibid.*, p. 3.3-24.

⁷² *Ibid.*, p. 3.3-34.

revegetation process. Non-native species are relatively easy to eradicate when they first become established. As a result, the performance standard for revegetation areas after two years of monitoring should be 100 percent native species.

Second, the standard of 60 percent relative cover and density of plant species cannot be evaluated or enforced because the DEIS/DEIR does not identify the variables that will be used for the comparisons. For example, is the standard for 60 percent cover *relative to*: (a) the total amount of cover at undisturbed sites, or (b) the amount of bare ground within the revegetation area?

DESERT PAVEMENT

The DEIS/DEIR proposes the use of “temporary mats” to protect desert pavement from construction vehicles.⁷³ The DEIS/DEIR does not provide any evidence that temporary mats are an effective mitigation measure. Google Earth imagery suggests there is an extensive amount of desert pavement on the Project site. Consequently, it does not appear feasible to cover hundreds (potentially thousands) of acres of the Project site with temporary mats to protect the desert pavement from damage from construction vehicles. Moreover, it does not appear feasible to deploy mats (which are presumably heavy) across a remote and vegetated landscape without use of heavy equipment. This issue is confounded because the DEIS/DEIR allows the Applicant to defer the “plan” for the identification, avoidance, and protection of desert pavement until after Project approval.⁷⁴ Soil loss (through wind and water erosion) is severe when components that would normally stabilize the soil surface (e.g., rocks, crusts, vegetation) are removed. Because the DEIS/DEIR does not identify a reliable strategy for minimizing impacts to desert pavement, the Project has the potential to result in a substantial amount of erosion and sediment transport into adjacent landscapes.

STATE WATERS

The DEIS/DEIR states: “mitigation for impacts to state waters shall occur as close to the Project site as possible.”⁷⁵ The DEIS/DEIR fails to identify whether there are potential mitigation sites close to the Project location. In addition, the DEIS/DEIR states: “implementation of Mitigation Measures 3.3-2 and 3.3-5 would avoid or reduce some of the direct and indirect construction-related impacts to these [state water] features. Thus, impacts to this sensitive natural community would be reduced to less than significant with mitigation.”⁷⁶ However, this statement contradicts the DEIS/DEIR’s statement that “it is expected that some unavoidable residual adverse effects would remain after mitigation measures have been applied, including net losses in waters of the State and vegetation resources.”⁷⁷ The net loss of jurisdictional waters of the State constitutes a significant impact.

Wildlife

⁷³ *Ibid*, p. 3.7-25.

⁷⁴ *Ibid*.

⁷⁵ *Ibid*.

⁷⁶ *Ibid*, p. 3.3-39.

⁷⁷ *Ibid*, p. 3.3-38.

BURROWING OWL

Burrowing owl populations, like other wildlife populations, have a limiting resource. Research suggests burrowing owl populations are likely limited by (a) burrow availability; (b) prey availability; or (c) predation.⁷⁸ There are numerous potentially suitable, but unoccupied, burrows on the Project site (as evidenced by the number of inactive burrows detected during the surveys). Therefore, burrow availability does not appear to be the limiting resource. Whereas predators of the burrowing owl are known to occur on the Project site (e.g., American badger), the DEIS/DEIR suggests those predators occur at low abundance. As a result, prey availability is likely the limiting resource for burrowing owl populations in the Project area.

In an unperturbed environment (e.g., the Project site), one would expect the burrowing owl population to oscillate near carrying capacity. Therefore, if the population is limited by prey availability, each pair of owls requires all the prey resources in its home range (or territory) for survival. Whereas there is scant information on home range requirements of burrowing owls in the Mojave Desert, research indicates that a burrowing owl that occupies an environment with low prey densities may require hundreds, perhaps thousands, of acres.⁷⁹

The DEIS/DEIR establishes that the entire Project disturbance area (approximately 2,557 acres) provides suitable nesting, foraging, and wintering habitat for burrowing owls.⁸⁰ The DEIS/DEIR allows the Applicant to defer preparation of a Burrowing Owl Mitigation and Monitoring Plan until after Project approval. Nevertheless, it indicates: “[i]mpacts to active burrowing owl territories shall be mitigated at a 1:1 ratio through a combination of off-site habitat compensation and/or off-site restoration of disturbed habitat capable of supporting this species.”⁸¹ The BLM and County need to clarify which variable (i.e., burrowing owl territory or burrowing owl habitat) would be mitigated at a 1:1 ratio. The CDFW has established that offsite mitigation may not adequately offset the biological and habitat values impacted on a *one to one* basis.⁸² As a result, the BLM and County need to justify selection of 1:1 as the appropriate mitigation ratio for impacts to 48 pairs of owls and 2,557 acres of suitable habitat.

Pre-construction Survey

The DEIS/DEIR requires a pre-construction survey for burrowing owls no more than 30 days prior to the start of Project construction.⁸³ This condition is not consistent with CDFW guidelines, which recommend an initial preconstruction survey within the 14 days prior to ground disturbance, followed by a subsequent survey within 24 hours prior to ground

⁷⁸ Moulton CE, RS Brady, JL Belthoff. 2006. Association between Wildlife and Agriculture: Underlying Mechanisms and Implications in Burrowing Owls. *The Journal of Wildlife Management* 70(3):708-716.

⁷⁹ See studies referenced *In*: CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.

⁸⁰ DEIS/DEIR, p. 3.4-11.

⁸¹ *Ibid*, p. 3.4-54.

⁸² See p.12 *In*: CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.

⁸³ DEIS/DEIR, p. 3.4-53.

disturbance.⁸⁴ As CDFW's 2012 Staff Report acknowledges, "burrowing owls may re-colonize a site after only a few days."⁸⁵ As a result, a single pre-construction survey up to 30 days in advance of construction is insufficient to avoid and minimize take of burrowing owls.

The DEIS/DEIR indicates the pre-construction survey should be conducted in conformance with the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Pre-construction surveys are an important means of avoiding and minimizing impacts to individual owls. However, the CDFW's Staff Report makes it clear that "take avoidance" (i.e., pre-construction) surveys are not a substitute for the four surveys required to assess Project impacts and formulate appropriate mitigation. The BLM and County must require the Applicant to conduct the four protocol-level surveys described by CDFW, and the results of those surveys need to be released in a revised DEIS/DEIR.⁸⁶

Buffers

The DEIS/DEIR states: "[u]nless otherwise authorized by BLM and CDFW, no disturbance shall occur within 160 feet (50 meters) of occupied burrows during the non-breeding season (September 1 through January 31) or within 650 feet (500 meters) during the breeding season (February 1 through August 31)."⁸⁷ This condition needs to be modified to clarify that 500 meters (i.e., the distance recommended by the CDFW) is equivalent to 1,640 feet.

Burrow Exclusion

In accordance with CDFW guidelines, burrowing owls should not be excluded from burrows unless or until the Applicant:

1. develops a Burrowing Owl Exclusion Plan that is approved by the CDFW;
2. secures off-site compensation habitat and constructs artificial burrows in close proximity (< 100 m) to the eviction sites;
3. mitigates the impacts of temporary exclusion according to the methods outlined by CDFW;
4. conducts site monitoring prior to, during, and after exclusion of burrowing owls from their burrows; and,
5. documents burrowing owls using artificial or natural burrows on an adjoining mitigation site.⁸⁸

⁸⁴ CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf>, pp. 29-30.

⁸⁵ *Ibid*, p. 30.

⁸⁶ *Ibid*, Appendix D.

⁸⁷ DEIS/DEIR, p. 3.4-54.

⁸⁸ CDFG. 2012. Staff Report on Burrowing Owl Mitigation. Available at: <www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf>, pp. 10 and 11.

The DEIS/DEIR Fails to Disclose, Analyze, or Minimize the Adverse Effects Associated with the Translocation or Relocation of Wildlife

The Project is likely to require the translocation or relocation of desert tortoises, burrowing owls, American badgers, desert kit foxes, and other wildlife species. Efforts to translocate (or relocate) animals often fail. Animals that are captured, handled, and/or forced to move from their territory often become stressed. This may lead to the increased production of lactic acid or “stress hormones” in the organism.⁸⁹ These physiological changes often cause a non-trivial amount of mortality. In addition, when an animal is moved to an unfamiliar location, it has no knowledge of the habitat resources essential for its survival (e.g., food, water, and cover). The lack of cover in an unfamiliar setting makes a prey species an easy target for predators. Even if the translocated animal is moved to an area with readily available resources, aggressive competitors may prevent the displaced animal from accessing the resources, and from mating. Moreover, many species exhibit an intrinsic homing response that is energetically taxing, and that may preclude procurement of food and cover resources.⁹⁰

Several studies have examined the fate of translocated animals. For example, Dodd and Seigel (1991) reviewed projects involving relocation, repatriation, and translocation (“RRT”) of amphibians and reptiles. The authors concluded “[m]ost RRT projects involving amphibians and reptiles have not demonstrated success as conservation techniques and should not be advocated as if they are acceptable management and mitigation practices.”⁹¹ Efforts to translocate desert tortoises have been particularly dismal. Of the 158 desert tortoises that were translocated off the Ft. Irwin Southern Expansion Area, 50% were found dead within 33 months of translocation, and an additional 26% were missing.⁹²

The DEIS/DEIR does not identify the distribution, quantity, condition, and ownership of “replacement habitat” in the vicinity of the Project site, nor does it identify the anticipated fate of animals that are moved off the site (i.e., where they might go to survive). Moreover, unless done carefully, the passive relocation of animals off the Project site may force them across roadways (e.g., I-15) where they will be susceptible to collisions with vehicles. The Applicant should work with the wildlife agencies to develop a strategy (e.g., funnel fencing that directs wildlife through culverts) to minimize this potentially significant impact.

The aforementioned issues exemplify the need for the Applicant to develop thorough and well-crafted translocation (or relocation) plans for each species that may need to be moved off the Project site prior to construction. To minimize the adverse effects associated with translocation,

⁸⁹ Tracy C.R., K. E. Nussear, T. C. Esque, K. Dean-Bradley, C. R. Tracy, L. A. DeFalco, K. T. Castle, L. C. Zimmerman, R. E. Espinoza, and A. M. Barber. 2006. The importance of physiological ecology in conservation biology. *Integrative and Comparative Biology*. pp. 1–15.

⁹⁰ U.S. Fish and Wildlife Service. 2009 Dec. Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*), p. 7-9. Available at: <http://www.fws.gov/nevada/desert_tortoise/documents/field_manual/CHAPTER-7.pdf>.

⁹¹ Dodd CK Jr., RA Seigel. 1991. Relocation, repatriation, and translocation of amphibians and reptiles: Are they conservation strategies that work? *Herpetologica* 47(3):336-350.

⁹² Berry KN, A Emerson, T Gowan. 2011. The Status of 158 Desert Tortoises 33 Months After Translocation from Ft. Irwin [Abstract]. Thirty-sixth Annual Meeting and Symposium; 2011 Feb 18-20, Las Vegas (NV). The Desert Tortoise Council. Available from: <http://www.deserttortoise.org/symposium/index.html>

it is essential that the resources agencies approve the translocation plans prior to implementation.

Desert Kit Fox

The Project will require the passive relocation of desert kit foxes. “Take” of the desert kit fox is prohibited under 14 CCR §460, and the species has been proposed for listing as threatened under the California Endangered Species Act. The first documented case of canine distemper disease in the desert kit fox was recently discovered at the Genesis Solar Energy Project site.⁹³ Since then the disease has spread, and there is concern that the desert kit fox could suffer an epidemic similar to one that nearly wiped out the island fox population on Santa Catalina Island in 1999.⁹⁴ Deana Clifford, state wildlife veterinarian for the CDFW, has stated that she is not certain that the outbreak is connected to the Genesis project, “but we know that habitat disturbance causes stress, and when animals succumb to stress they become more susceptible to disease.”⁹⁵ The Project has the potential to exacerbate the risk of kit fox distemper by: (a) stressing resident kit foxes; and (b) displacing kit foxes from their home ranges (which may lead to intermingling of healthy and diseased kit foxes). The BLM and County must disclose and provide mitigation for this potentially significant impact to the species.

As is currently being done for other projects throughout the desert, the Applicant, BLM, and County should work closely with the CDFW to develop take avoidance measures and to address the distemper issue afflicting the desert kit fox population. At a minimum, the Applicant and County should develop a kit fox mitigation monitoring program that has been approved by the CDFW, and that program should be incorporated as a required mitigation measure.

Mitigation Plans

The DEIS/DEIR references numerous mitigation “plans” (e.g., Bird and Bat Conservation Strategy) that it claims will reduce Project impacts to a less-than-significant level. Many of those plans have not been prepared yet. The ones that exist in draft form were not provided with the DEIS/DEIR, and the BLM and County are not requiring final approval of the plans (by the applicable resource agencies) until after a decision is made on the Project.

It is premature for the BLM and County to conclude forthcoming plans would reduce impacts to a less-than-significant level, especially because the DEIS/DEIR generally fails to identify fundamental aspects of the plans (e.g., success criteria, monitoring program, contingency measures). Deferring mitigation plans until after Project approval is additionally problematic because the resource agencies often do not have the resources needed to keep up with the pace of renewable energy development in California. For example, some of the mitigation plans required of the Ivanpah Solar Electric Generating System (“ISEGS”) Project have yet to be finalized (e.g., Bighorn Sheep Plan), even though construction of the project began in October 2010.

⁹³ See <http://cdfgnews.wordpress.com/2012/01/24/dfg-investigates-first-cases-of-canine-distemper-in-wild-desert-kit-foxes/>. See also <http://www.vvdailynews.com/news/foxes-34071-miles-distemper.html>. See also <http://articles.latimes.com/2012/feb/11/local/la-me-solar-foxes-20120211>.

⁹⁴ *Ibid.*

⁹⁵ *Ibid.*

Raven Management

I cannot evaluate the adequacy of the proposed raven management plan as a mitigation measure because the plan, and contents therein, have not been made available to the public. Nevertheless, I concur with the USFWS that a plan alone is insufficient to mitigate impacts associated with ravens. This is exemplified by the “sudden increase” in ravens that has been observed at the ISEGS Project site since construction began.⁹⁶ As has been required for other projects in the desert, the Applicant should be required to provide a financial contribution to the USFWS Regional Raven Management Program.

This concludes my comments on the DEIS/DEIR. Please do not hesitate to contact me if you have would like to discuss any issues raised by these comments.

Sincerely,



Scott Cashen, M.S.
Senior Biologist

⁹⁶ See ISEGS Monthly Monitoring Reports, Oct-Dec 2012.

Scott Cashen, M.S.

Senior Biologist / Forest Ecologist

3264 Hudson Avenue, Walnut Creek, CA 94597. (925) 256-9185. scottcashen@gmail.com

Scott Cashen has 21 years of professional experience in natural resources management. During that time he has worked as a field biologist, forester, environmental consultant, and instructor of Wildlife Management. Mr. Cashen currently operates an independent consulting business that focuses on CEQA/NEPA compliance issues, endangered species, scientific field studies, and other topics that require a high level of scientific expertise.

Mr. Cashen has knowledge and experience with numerous taxa, ecoregions, biological resource issues, and environmental regulations. As a biological resources expert, Mr. Cashen is knowledgeable of the various agency-promulgated guidelines for field surveys, impact assessments, and mitigation. Mr. Cashen has led field investigations on several special-status species, including ones focusing on the yellow-legged frog, red-legged frog, desert tortoise, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, Peninsular bighorn sheep, red panda, and various forest carnivores.

Mr. Cashen is a recognized expert on the environmental impacts of renewable energy development. He has been involved in the environmental review process for over 60 solar, wind, biomass, and geothermal energy projects. Mr. Cashen's role in this capacity has encompassed all stages of the environmental review process, from initial document review through litigation support. Mr. Cashen has provided expert witness testimony on several of the Department of the Interior's "fast-tracked" renewable energy projects. His testimony on those projects helped lead agencies develop project alternatives and mitigation measures to reduce the environmental impacts associated with the projects.

Mr. Cashen was a member of the independent scientific review panel for the Quincy Library Group project, the largest community forestry project in the United States. As a member of the panel, Mr. Cashen was responsible for advising the U.S. Forest Service on its scientific monitoring program, and for preparing a final report to Congress describing the effectiveness of the Herger-Feinstein Forest Recovery Act of 1998.

AREAS OF EXPERTISE

- CEQA, NEPA, and Endangered Species Act compliance issues
- Comprehensive biological resource assessments
- Endangered species management
- Renewable energy development
- Scientific field studies, grant writing and technical editing

EDUCATION

M.S. Wildlife and Fisheries Science - The Pennsylvania State University (1998)

B.S. Resource Management - The University of California, Berkeley (1992)

PROFESSIONAL EXPERIENCE

Litigation Support / Expert Witness

As a biological resources expert, Mr. Cashen reviews CEQA/NEPA documents and provides his clients with an assessment of biological resource issues. He then prepares written comments on the scientific and legal adequacy of the project's environmental documents (e.g., Environmental Impact Statement).

Mr. Cashen can lead field studies to generate evidence for legal testimony, and he can incorporate testimony from his deep network of species-specific experts. Mr. Cashen's clients have included law firms, non-profit organizations, and citizen groups.

REPRESENTATIVE RENEWABLE ENERGY EXPERIENCE

Solar Energy

- Abengoa Mojave Solar Project
- Avenal Energy Power Plant
- Beacon Solar Energy Project
- Blythe Solar Power Project
- Calico Solar Project
- Calipatria Solar Farm II
- Carrizo Energy Solar Farm
- Catalina Renewable Energy Project
- Fink Road Solar Farm
- Genesis Solar Energy Project
- Heber Solar Energy Facility
- Imperial Valley Solar Project
- Ivanpah Solar Electric Generating
- Maricopa Sun Solar Complex
- McCoy Solar Project
- Mt. Signal and Calexico Solar
- San Joaquin Solar I & II
- Stateline Solar Project
- Solar Gen II Projects
- SR Solis Oro Loma
- Vestal Solar Facilities
- Victorville 2 Power Project

Geothermal Energy

- Casa Diablo IV Geothermal Project
- East Brawley Geothermal
- Mammoth Pacific 1 Replacement
- Orni 21 Geothermal Project
- Western GeoPower Plant

Wind Energy

- Catalina Renewable Energy Project
- Ocotillo Wind Energy Project
- San Diego County Wind Ordinance
- Shu'luuk Wind Project
- Tres Vaqueros Repowering Project
- Tule Wind Project
- Vasco Winds Relicensing Project

Biomass Facilities

- Tracy Green Energy Project
- Colusa Biomass Project
- CA Ethanol Project

Project Management

Mr. Cashen has managed several large-scale wildlife, forestry, and natural resource management projects. Many of these projects have required hiring and training field crews, coordinating with other professionals, and communicating with project stakeholders. Mr. Cashen's experience in study design, data collection, and scientific writing make him an effective project manager, and his background in several different natural resource disciplines enable him to address the many facets of contemporary land management in a cost-effective manner.

REPRESENTATIVE EXPERIENCE

Wildlife Studies

- Peninsular Bighorn Sheep Resource Use and Behavior Study: (CA State Parks)
- "KV" Spotted Owl and Northern Goshawk Inventory: (USFS, Plumas NF)
- Amphibian Inventory Project: (USFS, Plumas NF)
- San Mateo Creek Steelhead Restoration Project: (Trout Unlimited and CA Coastal Conservancy, Orange County)
- Delta Meadows State Park Special-status Species Inventory: (CA State Parks, Locke)

Natural Resources Management

- Mather Lake Resource Management Study and Plan – (Sacramento County)
- Placer County Vernal Pool Study – (Placer County)
- Weidemann Ranch Mitigation Project – (Toll Brothers, Inc., San Ramon)
- Ion Communities Biological Resource Assessments – (Ion Communities, Riverside and San Bernardino Counties)
- Del Rio Hills Biological Resource Assessment – (The Wyro Company, Rio Vista)

Forestry

- Forest Health Improvement Projects – (CalFire, SD and Riverside Counties)
- San Diego Bark Beetle Tree Removal Project – (SDG&E, San Diego Co.)
- San Diego Bark Beetle Tree Removal Project – (San Diego County/NRCS)
- Hillslope Monitoring Project – (CalFire, throughout California)

Biological Resources

Mr. Cashen has a diverse background with biological resources. He has conducted comprehensive biological resource assessments, habitat evaluations, species inventories, and scientific peer review. Mr. Cashen has led investigations on several special-status species, including ones focusing on the foothill yellow-legged frog, mountain yellow-legged frog, desert tortoise, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, Peninsular bighorn sheep, red panda, and forest carnivores.

REPRESENTATIVE EXPERIENCE

Avian

- Study design and Lead Investigator - Delta Meadows State Park Special-Status Species Inventory (*CA State Parks: Locke*)
- Study design and lead bird surveyor - Placer County Vernal Pool Study (*Placer County: throughout Placer County*)
- Surveyor - Willow flycatcher habitat mapping (*USFS: Plumas NF*)
- Independent surveyor - Tolay Creek, Cullinan Ranch, and Guadacanal Village restoration projects (*Ducks Unlimited/USGS: San Pablo Bay*)
- Study design and Lead Investigator - Bird use of restored wetlands research (*Pennsylvania Game Commission: throughout Pennsylvania*)
- Study design and surveyor - Baseline inventory of bird species at a 400-acre site in Napa County (*HCV Associates: Napa*)
- Surveyor - Baseline inventory of bird abundance following diesel spill (*LFR Levine-Fricke: Suisun Bay*)
- Study design and lead bird surveyor - Green Valley Creek Riparian Restoration Site (*City of Fairfield: Fairfield, CA*)
- Surveyor - Burrowing owl relocation and monitoring (*US Navy: Dixon, CA*)
- Surveyor - Pre-construction raptor and burrowing owl surveys (*various clients and locations*)
- Surveyor - Backcountry bird inventory (*National Park Service: Eagle, Alaska*)
- Lead surveyor - Tidal salt marsh bird surveys (*Point Reyes Bird Observatory: throughout Bay Area*)
- Surveyor - Pre-construction surveys for nesting birds (*various clients and locations*)

Amphibian

- Crew Leader - Red-legged frog, foothill yellow-legged frog, and mountain yellow-legged frog surveys (*USFS: Plumas NF*)

- Surveyor - Foothill yellow-legged frog surveys (*PG&E: North Fork Feather River*)
- Surveyor - Mountain yellow-legged frog surveys (*El Dorado Irrigation District: Desolation Wilderness*)
- Crew Leader - Bullfrog eradication (*Trout Unlimited: Cleveland NF*)

Fish and Aquatic Resources

- Surveyor - Hardhead minnow and other fish surveys (*USFS: Plumas NF*)
- Surveyor - Weber Creek aquatic habitat mapping (*El Dorado Irrigation District: Placerville, CA*)
- Surveyor - Green Valley Creek aquatic habitat mapping (*City of Fairfield: Fairfield, CA*)
- GPS Specialist - Salmonid spawning habitat mapping (*CDFG: Sacramento River*)
- Surveyor - Fish composition and abundance study (*PG&E: Upper North Fork Feather River and Lake Almanor*)
- Crew Leader - Surveys of steelhead abundance and habitat use (*CA Coastal Conservancy: Gualala River estuary*)
- Crew Leader - Exotic species identification and eradication (*Trout Unlimited: Cleveland NF*)

Mammals

- Principal Investigator – Peninsular bighorn sheep resource use and behavior study (*California State Parks: Freeman Properties*)
- Scientific Advisor – Study on red panda occupancy and abundance in eastern Nepal (*The Red Panda Network: CA and Nepal*)
- Surveyor - Forest carnivore surveys (*University of CA: Tahoe NF*)
- Surveyor - Relocation and monitoring of salt marsh harvest mice and other small mammals (*US Navy: Skagg's Island, CA*)
- Surveyor – Surveys for Monterey dusky-footed woodrat. Relocation of woodrat houses (*Touré Associates: Prunedale*)

Natural Resource Investigations / Multiple Species Studies

- Scientific Review Team Member – Member of the science review team assessing the effectiveness of the US Forest Service's implementation of the Herger-Feinstein Quincy Library Group Act.
- Lead Consultant - Baseline biological resource assessments and habitat mapping for CDF management units (*CDF: San Diego, San Bernardino, and Riverside Counties*)

- Biological Resources Expert – Peer review of CEQA/NEPA documents (*Adams Broadwell Joseph & Cardoza: California*)
- Lead Consultant - Pre- and post-harvest biological resource assessments of tree removal sites (*SDG&E: San Diego County*)
- Crew Leader - T&E species habitat evaluations for Biological Assessment in support of a steelhead restoration plan (*Trout Unlimited: Cleveland NF*)
- Lead Investigator - Resource Management Study and Plan for Mather Lake Regional Park (*County of Sacramento: Sacramento, CA*)
- Lead Investigator - Biological Resources Assessment for 1,070-acre Alfaro Ranch property (*Yuba County, CA*)
- Lead Investigator - Wildlife Strike Hazard Management Plan (*IICV Associates: Napa*)
- Lead Investigator - Del Rio Hills Biological Resource Assessment (*The Wyro Company: Rio Vista, CA*)
- Lead Investigator – Ion Communities project sites (*Ion Communities: Riverside and San Bernardino Counties*)
- Surveyor – Tahoe Pilot Project: Validation of California’s Wildlife Habitat Relationships (CWHR) Model (*University of California: Tahoe NF*)

Forestry

Mr. Cashen has five years of experience working as a consulting forester on projects throughout California. Mr. Cashen has consulted with landowners and timber operators on forest management practices; and he has worked on a variety of forestry tasks including selective tree marking, forest inventory, harvest layout, erosion control, and supervision of logging operations. Mr. Cashen’s experience with many different natural resources enable him to provide a holistic approach to forest management, rather than just management of timber resources.

REPRESENTATIVE EXPERIENCE

- Lead Consultant - CalFire fuels treatment projects (*SD and Riverside Counties*)
- Lead Consultant and supervisor of harvest activities – San Diego Gas and Electric Bark Beetle Tree Removal Project (*San Diego*)
- Crew Leader - Hillslope Monitoring Program (*CalFire: throughout California*)
- Consulting Forester – Forest inventories and timber harvest projects (*various clients throughout California*)

Grant Writing and Technical Editing

Mr. Cashen has prepared and submitted over 50 proposals and grant applications. Many of the projects listed herein were acquired through proposals he wrote. Mr. Cashen's clients and colleagues have recognized his strong scientific writing skills and ability to generate technically superior proposal packages. Consequently, he routinely prepares funding applications and conducts technical editing for various clients.

PERMITS

U.S. Fish and Wildlife Service Section 10(a)(1)(A) Recovery Permit for the Peninsular bighorn sheep

CA Department of Fish and Game Scientific Collecting Permit

PROFESSIONAL ORGANIZATIONS / ASSOCIATIONS

The Wildlife Society (Conservation Affairs Committee member)

Cal Alumni Foresters

Mt. Diablo Audubon Society

OTHER AFFILIATIONS

Scientific Advisor and Grant Writer – *The Red Panda Network*

Scientific Advisor – *Mt. Diablo Audubon Society*

Grant Writer – *American Conservation Experience*

Scientific Advisor and Land Committee Member – *Save Mt. Diablo*

TEACHING EXPERIENCE

Instructor: Wildlife Management - The Pennsylvania State University, 1998

Teaching Assistant: Ornithology - The Pennsylvania State University, 1996-1997

EXHIBIT C

D. Mojave Desert Air Basin

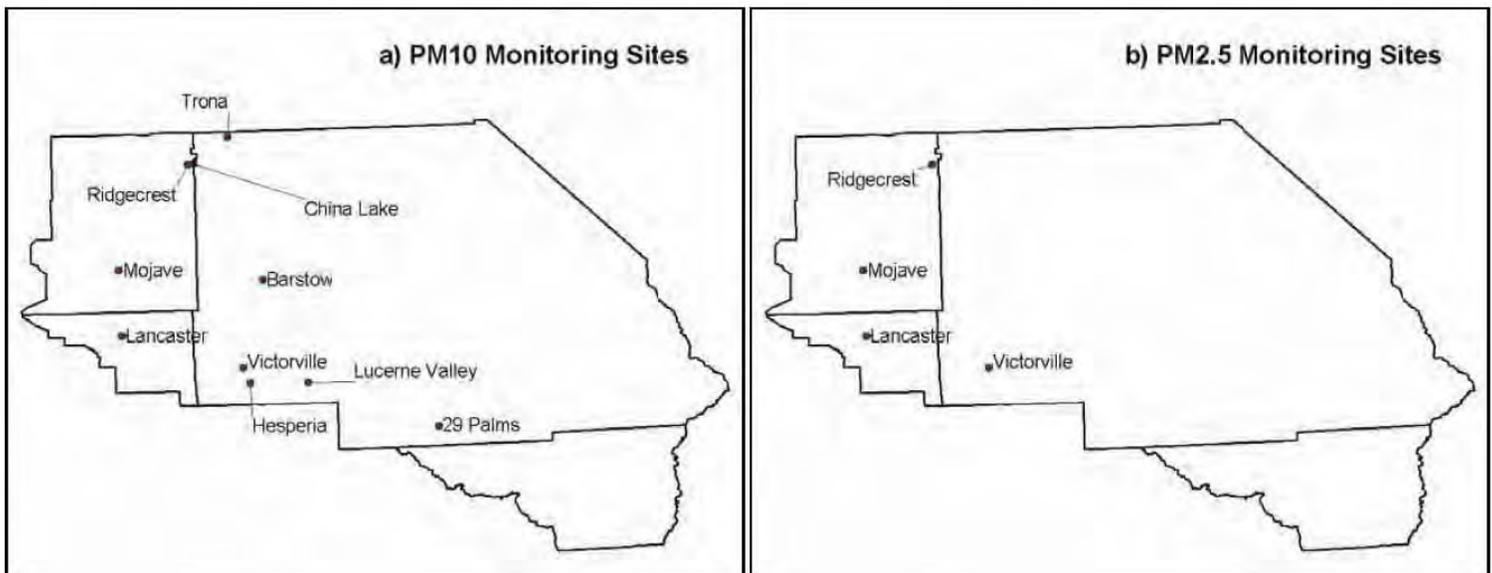


The Mojave Desert Air Basin is comprised of four air districts, the Kern County APCD, the Antelope Valley AQMD, the Mojave Desert AQMD, and the eastern portion of the South Coast AQMD. The Kern County APCD consists of the eastern portion of Kern County; the Antelope Valley AQMD consists of the northeastern portion of Los Angeles County; the Mojave Desert AQMD includes San Bernardino County and the most eastern portion of Riverside County; and the portion of the South Coast AQMD includes the eastern part of Riverside County.

The entire air basin is currently designated as nonattainment for both the State 24-hour and the annual average PM₁₀ standards, with only the western portion of the Mojave Desert AQMD designated as nonattainment for the State annual average PM_{2.5} standard. The San Bernardino portion of the Mojave Desert AQMD is currently designated as nonattainment for the national PM₁₀ standards. However, although this portion of the air district has not been officially redesignated, it has not exceeded these standards in many years.

Figure D-1 shows the PM₁₀ (a) and PM_{2.5} (b) monitoring sites throughout the Mojave Desert Air Basin. Sites are located in the more densely populated western portion of the air basin.

Figure D-1. PM₁₀ and PM_{2.5} Monitoring Sites throughout the Air Basin.



Kern County APCD

Table D-1 provides information on the yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Kern County APCD in 2001 through 2003. During this period, particulate levels are estimated to have exceeded the State 24-hour PM10 standard of 50 µg/m³ thirty times and also exceeded the State annual PM10 standard of 20 µg/m³. Data are insufficient to determine if PM2.5 levels exceeded the State annual standard of 12 µg/m³.

Table D-1. PM10 and PM2.5 Air Quality in the Kern County APCD.

| Year | PM10 (ug/m ³) | | | PM2.5 (ug/m ³) | |
|------|---------------------------------|-----------------------|------------------------------|----------------------------|------------------------------|
| | Calculated Days over State Std. | Max 24-hour (Std.=50) | Max Annual Average (Std.=20) | Max 24-hour* | Max Annual Average (Std.=12) |
| 2001 | 6 | 112 | 20 | 15 | Incomplete Data |
| 2002 | 12 | 194** | 24 | 31 | Incomplete Data |
| 2003 | 12 | 158** | 22 | 23 | Incomplete Data |

* The maximum 24-hour PM2.5 values are provided for information only.

** These values were excluded for determining attainment status. See text.

Table D-2 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. For example, the maximum 24-hour PM10 concentrations in 2002 and 2003 shown in Table D-1 were identified as extreme concentration events and were excluded in determining the designation values shown in Table D-2. The designation values are determined for each site, and the highest site is used for determining an area’s designation. Based on these data, the Kern County APCD currently is nonattainment for both the State 24-hour and annual average PM10 standards. The District is designated as unclassified for the State annual PM2.5 standard – available data are insufficient to support designation as attainment or nonattainment.

Table D-2. Air District Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

| | PM10 (ug/m ³) | | PM2.5 (ug/m ³) |
|-------------------|---------------------------|--------------------------|----------------------------|
| | 24-Hour (Std.=50) | Annual Average (Std.=20) | Annual Average (Std.=12) |
| Designation Value | 112 | 24 | Incomplete Data |

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table D-3 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. The data show that all three PM10 monitors in the Kern County APCD exceeded the 24-hour PM10 standard, with China Lake recording the highest concentrations. China Lake, however, did not exceed the PM10 annual standard of 20 $\mu\text{g}/\text{m}^3$, while the Mojave and Ridgecrest monitoring sites did. PM2.5 data are not yet complete enough to determine PM2.5 annual average concentrations.

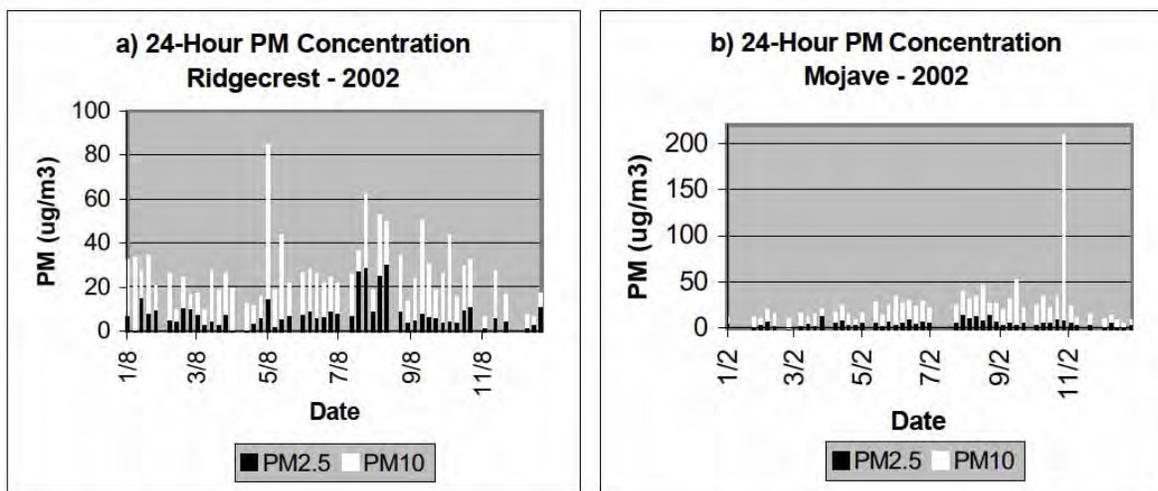
Table D-3. Monitoring Site Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

| Site | PM10 ($\mu\text{g}/\text{m}^3$) | | PM2.5 ($\mu\text{g}/\text{m}^3$) |
|------------|-----------------------------------|--------------------------------|------------------------------------|
| | 24-Hour (Std.=50) | Annual Average (Std.=20) | Annual Average (Std.=12) |
| China Lake | 112 | 15 | No monitor |
| Mojave | 93 | 21 | Incomplete Data |
| Ridgecrest | 78 | 24 | Incomplete Data |

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Figure D-2 illustrates the variation in PM10 and PM2.5 levels throughout 2002 at Ridgecrest (a) and Mojave (b). The total height of the bars represents PM10 concentrations, while the height of the black portion of the bars represents the PM2.5 fraction. At Ridgecrest, higher PM10 concentrations occurred during the spring through the early fall. During the spring and early fall, the coarse fraction (particles between PM2.5 and PM10 in size) drove the ambient PM10 levels, while during the late summer, the PM2.5 fraction was more prominent. The coarse fraction is primarily due to activities that resuspend dust, such as emissions from paved and unpaved roads and construction, as well as windblown dust. The very high PM10 concentration in October 2002 at Mojave for example was likely caused by fugitive wind blown dust. On an annual average, based on 2000-2003 monitoring data, we estimate PM2.5 comprises 32 percent of the ambient PM10 levels in the Kern County APCD.

Figure D-2. Seasonal Variation in PM10 and PM2.5 Concentrations.



Based on PM2.5 chemical composition data available from sites operated at China Lake, Edwards, and Mojave during the 2000 California Regional PM10 and PM2.5 Air Quality Study, the fraction of PM2.5 that is comprised of secondary ammonium nitrate and ammonium sulfate was approximately 40 percent on an annual average.

Antelope Valley AQMD

Table D-4 provides information on the yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Antelope Valley AQMD in 2001 through 2003. During this period, particulate levels are estimated to have exceeded the State 24-hour PM10 standard of 50 µg/m³ at least six times and also exceeded the State annual PM10 standard of 20 µg/m³. Although data are insufficient to determine the calculated days exceeding the State 24-hour PM10 standard in 2002, one day measured PM concentrations exceeding the standard. In 2003, annual average PM2.5 levels were well below the State annual PM2.5 standard of 12 µg/m³, but data were insufficient to determine if this was also the case in 2001 and 2002.

Table D-4. PM10 and PM2.5 Air Quality in the Antelope Valley APCD.

| Year | PM10 (ug/m ³) | | | PM2.5 (ug/m ³) | |
|------|---------------------------------|-----------------------|------------------------------|----------------------------|------------------------------|
| | Calculated Days over State Std. | Max 24-hour (Std.=50) | Max Annual Average (Std.=20) | Max 24-hour** | Max Annual Average (Std.=12) |
| 2001 | No monitor | No monitor | No monitor | No monitor | No monitor |
| 2002 | Incomplete Data | 73* | Incomplete Data | 24 | Incomplete Data |
| 2003 | 6 | 54 | 23 | 25 | 9 |

* The maximum 24-hour PM2.5 values are provided for information only.

** This value is excluded for determining attainment status. See text.

Table D-5 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. For example, the maximum 24-hour PM10 concentration in 2002 shown in Table D-4 was identified as an extreme concentration event and was excluded in determining the designation values shown in Table D-5. The designation values are determined for each site, and the highest site is used for determining an area’s designation. Based on these data, the Antelope Valley AQMD currently is nonattainment for the State 24-hour and annual average PM10 standards. The District is designated as unclassified for the State annual PM2.5 standard – available data are insufficient to support designation as attainment or nonattainment.

Table D-5. Air District Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

| | PM10 (ug/m ³) | | PM2.5 (ug/m ³) |
|-------------------|---------------------------|--------------------------|----------------------------|
| | 24-Hour (Std.=50) | Annual Average (Std.=20) | Annual Average (Std.=12) |
| Designation Value | 54 | 23 | Incomplete Data |

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table D-6 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. Only a single monitoring site at Lancaster is operated in the District. As noted above, Lancaster exceeds the State 24-hour and annual average PM10 standards. Although data are not complete for all three years, the PM2.5 annual average concentration at Lancaster is below the State standard.

Table D-6. Monitoring Site Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

| Site | PM10 (ug/m ³) | | PM2.5 (ug/m ³) |
|-----------|---------------------------|--------------------------|----------------------------|
| | 24-Hour (Std.=50) | Annual Average (Std.=20) | Annual Average (Std.=12) |
| Lancaster | 54 | 23 | 9 |

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Figure D-3. Seasonal Variation in PM10 and PM2.5 Concentrations.

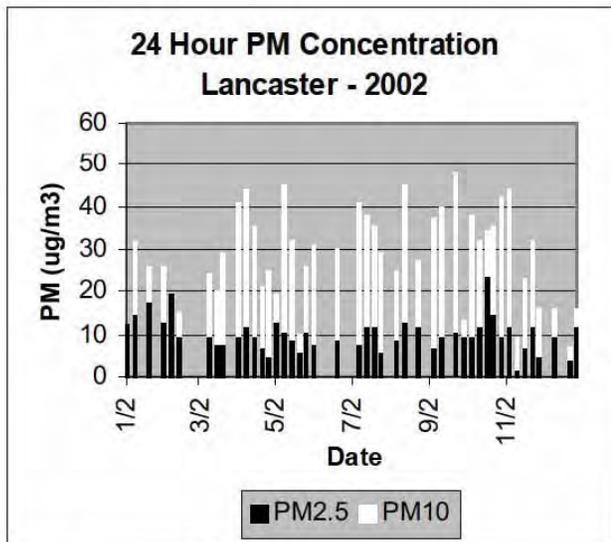
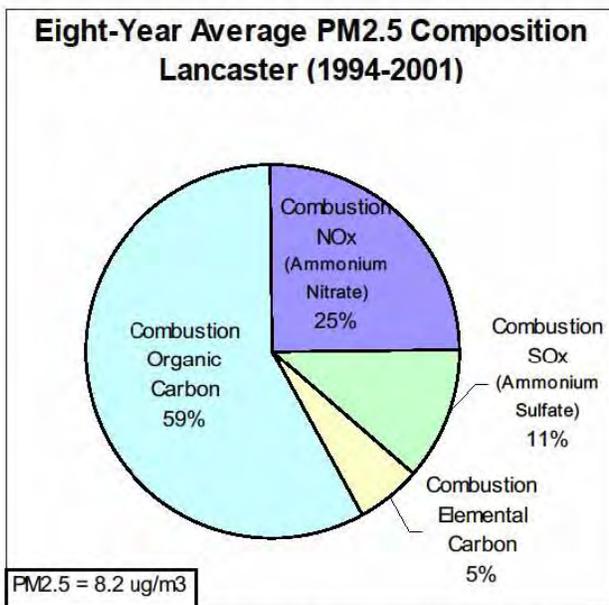


Figure D-3 illustrates the variation in PM10 and PM2.5 levels throughout 2002 at Lancaster. The total height of the bars represents PM10 concentrations, while the height of the black portion of the bars represents the PM2.5 fraction. PM10 levels were highest from spring through early fall and were driven by the coarse fraction (particles between PM2.5 and PM10), while PM2.5 concentrations remained low throughout the year. The coarse fraction is primarily due to activities that resuspend dust, such as emissions from paved and unpaved roads and construction, as well as windblown dust.

On an annual average, based on 2000-2003 monitoring data, we estimate that PM2.5 comprises

36 percent of the PM10 ambient levels.

Figure D-4. Eight-Year Average PM2.5 Chemical Composition and Link to Source Type.



Data for Figure D-4 are from analysis of ambient PM2.5 data collected at Lancaster as part of the Southern California Children’s Health Study. The data show the major contribution to PM2.5 is from organic carbon (59 percent). The majority of organic carbon is expected to be due to directly emitted carbon from combustion sources. Key sources include vehicles, residential wood combustion, agricultural and prescribed burning, and stationary combustion sources. However, a fraction may be due to secondary organic aerosol formation from anthropogenic and biogenic VOC emissions.

Secondary ammonium nitrate and ammonium sulfate - formed in the atmosphere through chemical reactions of NOx and SOx from mobile and stationary source combustion processes, together contribute about 36 percent to PM2.5 levels. Elemental carbon from combustion sources also contributes to PM2.5 levels, but to a much lesser extent.

Mojave Desert AQMD

Table D-7 provides information on the yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Mojave Desert AQMD in 2001 through 2003. During this period, particulate levels are estimated to have exceeded the State 24-hour PM10 standard of 50 µg/m³ at least 18 times. PM concentrations also exceeded the State annual PM10 standard of 20 µg/m³ and the annual PM2.5 standard of 12 µg/m³.

Table D-7. PM10 and PM2.5 Air Quality in the Mojave Desert AQMD.

| Year | PM10 | | | PM2.5 | |
|------|---------------------------------|-----------------------|------------------------------|--------------|------------------------------|
| | Calculated Days over State Std. | Max 24-hour (Std.=50) | Max Annual Average (Std.=20) | Max 24-hour* | Max Annual Average (Std.=12) |
| 2001 | Incomplete Data | 84** | Incomplete Data | 32 | 12 |
| 2002 | Incomplete Data | 98** | Incomplete Data | 38 | 14 |
| 2003 | 18 | 169*** | 28 | 28 | Incomplete Data |

* The maximum 24-hour PM2.5 values are provided for information only.

** Data are reported in standard conditions.

*** This value is excluded for determining attainment status. See text.

Table D-8 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. For example, the maximum 24-hour PM10 concentration in 2003 shown in Table D-7 was due to wildfires and was excluded in determining the designation values shown in Table D-8. The designation values are determined for each site, and the highest site is used for determining an area’s designation. Based on these data, the Mojave Desert APCD currently is nonattainment for both the State 24-hour and annual average PM10 standards. The San Bernadino County portion of the District is also designated as nonattainment for the State annual PM2.5 standard.

Table D-8. Air District Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

| | PM10 (ug/m ³) | | PM2.5 (ug/m ³) |
|-------------------|---------------------------|--------------------------|----------------------------|
| | 24-Hour (Std.=50) | Annual Average (Std.=20) | Annual Average (Std.=12) |
| Designation Value | 129 | 28 | 14 |

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table D-9 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. All six monitors in the Mojave Desert AQMD recorded PM10 concentrations exceeding the State 24-hour standard, with particulate levels at Hesperia also exceeding the State annual PM10 standard of 20 $\mu\text{g}/\text{m}^3$. 24-hour PM10 concentrations were highest at Barstow, Hesperia, and Trona. Annual average PM2.5 levels at Victorville exceeded the State annual PM2.5 standard.

Table D-9. Monitoring Site Level Designation Values* for State PM10 and PM2.5 Standards (2001-2003 Period).

| Site | PM10 ($\mu\text{g}/\text{m}^3$) | | PM2.5 ($\mu\text{g}/\text{m}^3$) |
|----------------|-----------------------------------|--------------------------|------------------------------------|
| | 24-Hour (Std.=50) | Annual Average (Std.=20) | Annual Average (Std.=12) |
| 29 Palms | 64 | 16 | No Monitor |
| Barstow | 129 | Incomplete Data | No Monitor |
| Hesperia | 119 | 28 | No Monitor |
| Lucerne Valley | 75 | 17 | No Monitor |
| Trona | 104 | 17 | No Monitor |
| Victorville | 63 | Incomplete Data | 14 |

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Figure D-5. Seasonal Variation in PM10 and PM2.5 Concentrations.

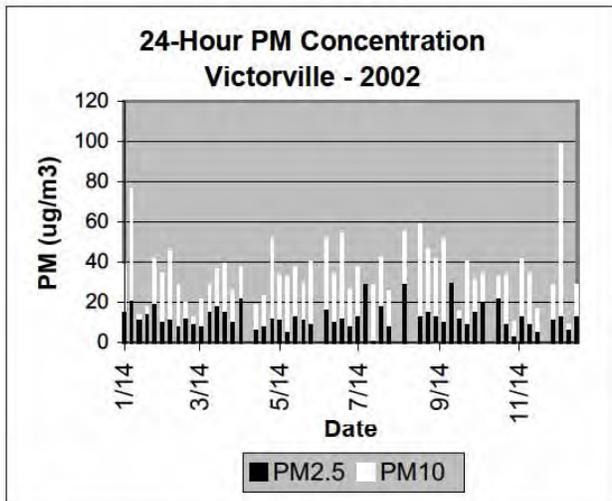


Figure D-5 illustrates the variation in PM10 and PM2.5 levels throughout 2002 at Victorville. The total height of the bars represents PM10 concentrations, while the height of the black portion of the bars represents the PM2.5 fraction. The two highest PM10 concentrations occurred in December and January. PM10 concentrations around the level of the State 24-hour standard occurred in the late spring and through the summer and were driven by the coarse fraction (particles between PM2.5 and PM10). The coarse fraction is primarily due to activities that resuspend dust, such as emissions from paved and unpaved roads and construction, as well as windblown dust. PM2.5 concentrations were more uniform

throughout the year.

On an annual average, based on 2000-2003 monitoring data, we estimate that PM2.5 comprises approximately 38 percent of ambient PM10 levels. Although no chemical composition data is available, based on data from the Kern County APCD portion of the air basin, we estimate that the secondary ammonium nitrate and sulfate comprise approximately 40 percent of PM2.5.

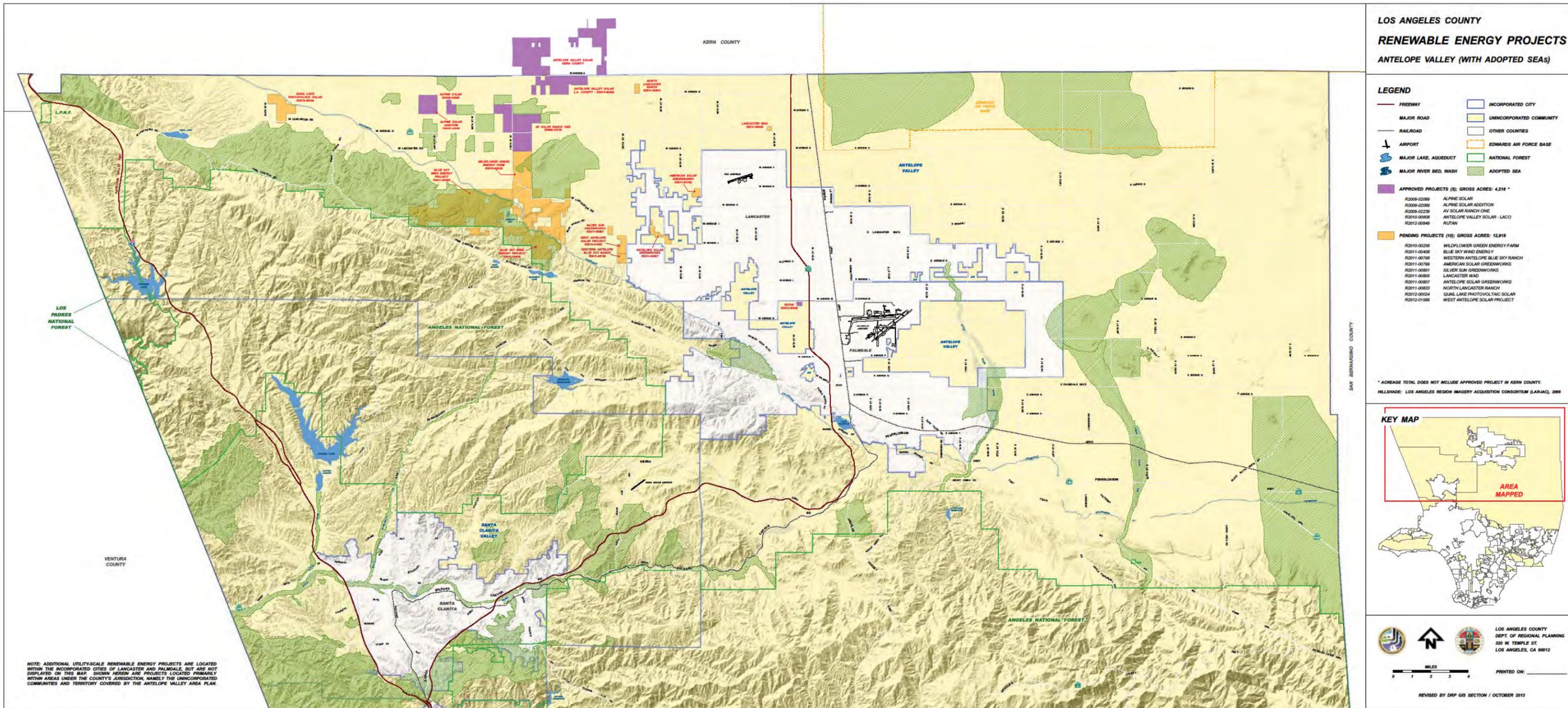
South Coast AQMD

No PM10 or PM2.5 monitors are located in the South Coast AQMD portion of the Mojave Desert Air Basin.

EXHIBIT D

| PROJECT_NO | PROJECT | APPLICANT | TYPE | MEGAWATTS | ACRES | ACRES_DEV | PLANNER | STATUS_ |
|-------------|--|---------------------------|---------------------------------|-----------|--------|-----------|----------|------------------------|
| R2009-02089 | Alpine Solar | NRG | Photovoltaic Solar | 92.0 | 800.0 | 580.0 | Curzi | Approved |
| R2009-02089 | Alpine Solar Addition | NRG | Photovoltaic Solar | 0.0 | 35.0 | 35.0 | Thurtell | Approved |
| R2009-02239 | AV Solar Ranch One | First Solar | Photovoltaic Solar | 230.0 | 2100.0 | 2100.0 | Szalay | Approved |
| R2010-00808 | Antelope Valley Solar - LACo | Renewable Resources Group | Photovoltaic Solar | 156.0 | 1238.0 | 1238.0 | Curzi | Approved |
| R2012-00849 | Rutan | Sunlight Partners | Photovoltaic Solar | 4.0 | 45.3 | 43.9 | Wong | Approved |
| R2010-01402 | Blue Sky Wind Energy Met Tower | NextEra | Temporary Meteorological Tower | 0.0 | 0.0 | 0.0 | Tae | Denied |
| R2011-00177 | Wildflower Green Energy Farm Met Tower | Element Power | Temporary Meteorological Tower | 0.0 | 0.0 | 0.0 | Tae | Denied |
| R2011-00798 | Western Antelope Blue Sky Ranch | Silverado Power | Photovoltaic Solar | 40.0 | 160.0 | 160.0 | Szalay | Draft EIR Circulation |
| R2011-00799 | American Solar Greenworks | Silverado Power | Photovoltaic Solar | 35.0 | 140.0 | 140.0 | Szalay | Draft EIR Circulation |
| R2011-00801 | Silver Sun Greenworks | Silverado Power | Photovoltaic Solar | 20.0 | 80.0 | 80.0 | Szalay | Draft EIR Circulation |
| R2011-00805 | Lancaster WAD | Silverado Power | Photovoltaic Solar | 5.0 | 39.0 | 39.0 | Szalay | Draft EIR Circulation |
| R2011-00807 | Antelope Solar Greenworks | Silverado Power | Photovoltaic Solar | 52.0 | 256.0 | 256.0 | Szalay | Draft EIR Circulation |
| R2011-00833 | North Lancaster Ranch | Silverado Power | Photovoltaic Solar | 20.0 | 80.0 | 80.0 | Szalay | Draft EIR Circulation |
| R2010-00256 | Wildflower Green Energy Farm | Element Power | Wind Turbine Photovoltaic Solar | 300.0 | 3708.0 | 3708.0 | Curzi | Inactive |
| R2011-00408 | Blue Sky Wind Energy | NextEra | Wind Turbine | 225.0 | 7500.0 | 7500.0 | Curzi | Inactive |
| R2012-00024 | Quail Lake Photovoltaic Solar | Iberdrola | Photovoltaic Solar | 100.0 | 692.0 | 692.0 | Curzi | Initial Review |
| R2012-01589 | West Antelope Solar Project | TUUSSO Energy | Photovoltaic Solar | 20.0 | 263.0 | 263.0 | Curzi | Public Hearing Noticed |
| R2008-00878 | Antelope Solar 2 | Recurrent Energy | Photovoltaic Solar | 10.0 | 80.0 | 80.0 | Curzi | Withdrawn |
| R2009-01148 | Gray Butte Solar Array | AES Solar | Photovoltaic Solar | 150.0 | 1100.0 | 1100.0 | Curzi | Withdrawn |
| R2010-00911 | Antelope Solar 1 | Recurrent Energy | Photovoltaic Solar | 10.0 | 111.0 | 111.0 | Curzi | Withdrawn |

| PROJECT_NO | PROJECT | APPLICANT | TYPE | MEGAWATTS | ACRES | ACRES_DEV | PLANNER | STATUS_ |
|-------------|---|---|--------------------|-----------|-------|-----------|------------------|-----------|
| R2010-01039 | Recurrent 7 | RE 40th Street 1 LLC & RE 45th Street 1 LLC | Photovoltaic Solar | 4.0 | 40.0 | 20.0 | Curzi | Withdrawn |
| R2010-01041 | Recurrent Energy - 105th Street North 1 | RE 105th North 1 LLC | Photovoltaic Solar | 5.9 | 46.0 | 46.0 | Curzi | Withdrawn |
| R2010-01638 | L.A. Solar 20 | L.A. Solar 20 | Photovoltaic Solar | 20.0 | 155.0 | 155.0 | Curzi | Withdrawn |
| R2011-00377 | Antelope Solar Farm | Sun Edison | Photovoltaic Solar | 20.0 | 320.0 | 200.0 | Curzi | Withdrawn |
| R2011-00410 | Ruby Solar | Ruby Solar | Photovoltaic Solar | 20.0 | 160.0 | 160.0 | Curzi | Withdrawn |
| R2011-00804 | East Lancaster Ranch | Silverado Power | Photovoltaic Solar | 4.0 | 30.0 | 30.0 | Special Projects | Withdrawn |
| R2011-00806 | Sierra Solar Greenworks | Silverado Power | Photovoltaic Solar | 20.0 | 81.0 | 81.0 | Edwards | Withdrawn |
| R2011-00834 | American Lake Greenworks | Silverado Power | Photovoltaic Solar | 20.0 | 96.0 | 96.0 | Blengini | Withdrawn |
| R2011-01025 | Theme | Sunlight Partners | Photovoltaic Solar | 2.0 | 27.0 | 27.0 | Edwards | Withdrawn |
| R2011-01026 | Hall | Sunlight Partners | Photovoltaic Solar | 3.5 | 40.0 | 40.0 | Edwards | Withdrawn |
| R2011-01027 | Vandiver | Sunlight Partners | Photovoltaic Solar | 3.0 | 40.0 | 40.0 | Chi | Withdrawn |
| R2011-01029 | Beazel | Sunlight Partners | Photovoltaic Solar | 1.5 | 19.0 | 19.0 | Siemers | Withdrawn |
| R2011-01030 | Owen | Sunlight Partners | Photovoltaic Solar | 1.5 | 20.0 | 20.0 | Siemers | Withdrawn |
| R2011-01032 | Reuschel | Sunlight Partners | Photovoltaic Solar | 2.0 | 25.0 | 25.0 | Edwards | Withdrawn |
| R2011-01033 | Russell | Sunlight Partners | Photovoltaic Solar | 2.5 | 27.0 | 27.0 | Chi | Withdrawn |
| R2011-01206 | Desert Vista Greenworks | Silverado Power | Photovoltaic Solar | 25.0 | 113.0 | 113.0 | Edwards | Withdrawn |
| R2011-01209 | Antelope Valley Greenworks | Silverado Power | Photovoltaic Solar | 5.0 | 30.0 | 30.0 | Blengini | Withdrawn |
| R2012-01559 | Chahin | Sunlight Partners | Photovoltaic Solar | 4.0 | 41.2 | 41.2 | Chi | Withdrawn |
| R2012-02421 | Johnson | Sunlight Partners | Photovoltaic Solar | 1.5 | 19.4 | 14.0 | Edwards | Withdrawn |





Lahontan Regional Water Quality Control Board

March 4, 2014

File: Environmental Doc Review
San Bernardino County

Chris Conner, Senior Planner
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Email: cconner@lusc.sbcounty.gov

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT AND DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SODA MOUNTAIN SOLAR PROJECT, SAN BERNARDINO COUNTY, STATE CLEARINGHOUSE NO. 2012101075

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received a combined Draft Environmental Impact Report (DEIR) and Draft Environmental Impact Statement (DEIS) for the above-referenced project (Project) on December 4, 2013. The County of San Bernardino (County), together with the Bureau of Land Management (BLM), has prepared a Joint DEIR/DEIS for the Project in compliance with provisions of the California Environmental Quality Act (CEQA) and with the provisions of the National Environmental Policy Act (NEPA).

Water Board staff, acting as a responsible agency, are providing these comments to specify the scope and content of the environmental information germane to our statutory responsibilities pursuant to CEQA Guidelines, California Code of Regulations, title 14, section 15096. Based on our review of the DEIR, we have determined that (1) the onsite waste management units (brine ponds) must be designed according to the classification of the waste (reverse osmosis effluent) that will be discharged, (2) natural drainage channels should be maintained to ensure that no net loss of function and value will occur as a result of Project implementation, and (3) best management practices (BMPs) that effectively treat post-construction storm water runoff should be included in Project development.

62-1
62-2
62-3

Project Description

The proposed Project is a 358 megawatt photovoltaic (PV) solar facility and comprises construction and operation of solar arrays, access roads, collector lines, a substation, a switchyard, and ancillary buildings and other infrastructure. The Project site is approximately 2,600 acres of BLM-administered land in unincorporated San Bernardino County. The Project site straddles Interstate 15 and is located approximately 6 miles southwest of Baker. Much of the surrounding area in the site vicinity is undeveloped native desert lands.

Authority

All groundwater and surface waters are considered waters of the State. Surface waters include streams, lakes, ponds, and wetlands, and may be ephemeral, intermittent, or

62-4

perennial. All waters of the State are protected under California law. State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Some waters of the State are also waters of the U.S. The Federal Clean Water Act (CWA) provides additional protection for those waters of the State that are also waters of the U.S.

62-4
cont.

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region. The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained or attained to protect those uses. The Basin Plan can be accessed via the Water Board's web site at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml.

62-5

Specific Comments

1. Groundwater beneath the site will be used for ongoing operation and maintenance activities. Once the Project is approved, a groundwater analysis will be conducted to determine the need and level of groundwater treatment. For the purposes of the EIR, the Project proponent assumes that a reverse osmosis system would be used to reduce total dissolved solids concentrations to acceptable levels for potable water use, fire suppression, and PV panel washing. The high TDS effluent from the treatment system would be discharged to on-site brine ponds, where the liquid would be allowed evaporate. Such activities constitute a discharge of waste (reverse osmosis effluent) to land.

62-6

The Water Board's regulate discharges of waste to land under California Code of Regulations, title 27. The siting and construction design criteria for the containment structure is dependent upon the classification of the waste proposed for disposal. The Water Board requires that all waste proposed for land disposal be characterized in accordance with the *Designated Level Methodology for Waste Classification and Cleanup Level Determination* (October 1986, updated June 1989). An electronic copy of that report can be accessed online at http://www.waterboards.ca.gov/rwqcb5/plans_policies/guidance/dlm.pdf. Depending on the concentration of the constituents in the waste, such waste may warrant classification and disposal as a hazardous or designated waste.

2. All surface waters are waters of the State. Some waters of the State are "isolated" from waters of the U.S. Determinations of the jurisdictional extent of the waters of the U.S. are made by the United States Army Corps of Engineers (USACE). Please provide Water Board staff with a copy of the USACE Approved Jurisdictional Determination (dated August 2013) referenced in the DEIR.

62-7

3. For unavoidable impacts to surface waters, the Project must incorporate specific mitigation measures that, when implemented, minimize those unavoidable impacts to a less than significant level to ensure that no net loss of function and value will occur as a result of Project implementation. For example, natural drainage channels should be maintained to avoid and minimize impact to function and value, and where feasible, at-grade road crossings are preferred over culverted crossings.

62-8

Culverted road crossings must be designed to adequately pass storm flows without impoundment upstream and sufficient energy dissipation must be provided at the outlet to reduce flow velocities to pre-project conditions. The rock slope protection should be ungrouted and the minimum amount necessary to provide scour protection.

↑
62-8
cont.

4. The EIR must identify the water quality standards that could potentially be violated by the Project and use these standards when evaluating thresholds of significance for Project impacts. Water quality objectives and standards, both numerical and narrative, for all waters of the State within the Lahontan Region, including surface waters and groundwater, are outlined in Chapter 3 of the Basin Plan. Water quality objectives and standards are intended to protect the public health and welfare, and to maintain or enhance water quality in relation to the existing and/or potential beneficial uses of the water.

62-9

5. The Project area is located within the Soda Lake Hydrologic Areas of the Mojave Hydrologic Unit 628.00. The beneficial uses of these water resources are listed in Chapter 2 of the Basin Plan. We request that the EIR identify and list the beneficial uses of the water resources within the Project area, and include an analysis of the potential impacts to water quality and hydrology with respect to those beneficial uses.

62-10

6. Post-construction storm water management must be considered a significant Project component, and BMPs that effectively treat post-construction storm water runoff should be included as part of the Project. The DEIR needs to specify temporary and permanent sediment and erosion control BMPs that will be implemented to mitigate potential water quality impacts related to storm water. The temporary BMPs need to be implemented for the Project until such time that vegetation has been restored to pre-Project conditions or permanent BMPs are in-place and functioning.

62-11

7. Vegetation clearing should be kept to a minimum. Where feasible, existing vegetation should be mowed so that after construction the vegetation could more easily be re-established and help mitigate for potential storm water impacts.

62-12

8. All temporary impact areas should be restored (recontoured, decompacted, and revegetated) to match pre-Project conditions. We recommend that the upper six inches of top-soil be retained and used as a final cover (and supplemental seed source) over the temporary impact areas.

62-13

9. Construction staging areas should be sited in upland areas outside stream channels and other surface waters on or around the Project site, and construction equipment should use existing roadways to the extent feasible. Equipment ingress and egress has the potential to result in additional impacts to water resources. These access points must be identified and mitigation to restore these areas to pre-Project conditions or to compensate for permanent impacts to water resources must be identified.

62-14

- 10. Obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required. The environmental document must specifically describe the best management practices and other measures used to mitigate Project impacts.

62-15

Permitting Requirements

A number of activities associated with the proposed Project appear to have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Resources Control Board (State Water Board) or Lahontan Water Board. The required permits are outlined below.

- 11. Streambed alteration and/or discharge of fill material to a surface water may require a Clean Water Act (CWA), section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non-federal waters, both issued by the Lahontan Water Board. The Water Quality Certification/Dredge-Fill Waste Discharge Requirements application form can be accessed online at http://www.waterboards.ca.gov/lahontan/publications_forms/forms/index.shtml.

62-16

Compensatory mitigation will be required for all unavoidable permanent impacts to surface water resources. Water Board staff coordinate all mitigation requirements with staff from other federal and state regulatory agencies, including the United States Army Corps of Engineers (USACE) and the California Department of Fish and Wildlife. In determining appropriate mitigation ratios for impacts to waters of the State, Water Board staff considers Basin Plan requirements (minimum 1.5:1 mitigation ratio for impacts to wetlands) and utilizes *12501-SPD Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios*, published December 2012 by the USACE, South Pacific Division.

- 12. Land disposal of waste, either solid or liquid, is regulated under waste discharge requirements issued by the Water Board pursuant to CCR, title 27.

Pursuant to sections 13160 and 13260 of the California Water Code (CWC), project proponents are required to file with the Water Board a complete Report of Waste Discharge (RWD) for discharges or proposed discharges of waste. The RWD must fully describe the proposed discharge and be filed with the Water Board at least 140 days before the discharge occurs, pursuant to section 13264 of the CWC. Failure to file a complete RWD before discharging, or discharging without regulatory authorization, may result in substantial civil or criminal penalties in accordance with CWC, section 13261.

62-17

The RWD application form (Form 200) can be accessed online at http://www.waterboards.ca.gov/lahontan/publications_forms/forms/index.shtml. Environmental documents, technical reports, plans, diagrams, maps, mitigation and monitoring proposals, and other documents that characterize the discharge must be included with the RWD.

13. Land disturbances of more than 1 acre may require a CWA, section 402(p) storm water permit, including a National Pollution Discharge Elimination System (NPDES) General Construction Storm Water Permit, Order 2009-0009-DWQ (as amended), obtained from the State Water Board, or an individual storm water permit obtained from the Lahontan Water Board.

62-18

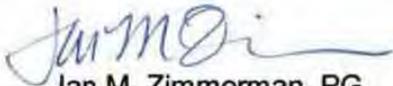
14. Discharge of low threat wastes to water or land, including water diversion and or/dewatering activities, well development and purge water, and inert wastes, may be subject to discharge and monitoring requirements under either NPDES General Permit, Limited Threat Discharges to Surface Waters, Board Order R6T-2008-0023, or General Waste Discharge Requirements for Discharges to Land with a Low Threat To Water Quality, WQO-2003-0003, both issued by the Lahontan Water Board.

62-19

We request that specific Project activities that may trigger these permitting actions be identified in the appropriate sections of the environmental document. Should Project implementation result in activities that will trigger these permitting actions, the Project proponent must consult with Water Board staff. Information regarding these types of permits can be obtained from our web site at <http://www.waterboards.ca.gov/lahontan/>.

62-20

Thank you for the opportunity to comment on the DEIR/DEIS. If you have any questions regarding this letter, please contact me at (760) 241-7376 (jan.zimmerman@waterboards.ca.gov) or Patrice Copeland, Senior Engineering Geologist, at (760) 241-7404 (patrice.copeland@waterboards.ca.gov).



Jan M. Zimmerman, PG
Engineering Geologist

- cc: State Clearinghouse (SCH 2012101075)
(via email, state.clearinghouse@opr.ca.gov)
- Jeff Childer, Bureau of Land Management
(via email, jchilder@blm.gov)
- Susan Heim, Panarama Environmental
(via email, Susanne.heim@panaramaenv.com)
- Tobi Tyler, Lahontan Regional Water Board (SLT)
(via email, tobi.tyler@waterboards.ca.gov)

March 2, 2014

Jim Kenna, Director
California State Bureau of Land Management Office

Terri Raml, Director
California Desert District Bureau of Land Management

Katrina Symons, Field Manager
Barstow Bureau of Land Management Field Office

Jeffrey Childers, Planning and Environmental Coordinator
California Desert District Bureau of Land Management

RE- Soda Mountains Solar Project

Dear Mr. Kenna, Ms. Raml, Ms. Symons and Mr Childers:

We comprise some of the leadership of Mojave National Preserve, Joshua Tree National Park and Death Valley National Park since their creation with passage of the California Desert Protection Act of 1994. We are proud of our public service, maintaining the public trust and dedicating our lives to the stewardship and protection of the California desert national parks' spectacular natural and cultural resources. We have a life-long covenant with the American people to protect special places for present and future generations. We respectfully request that the Soda Mountains Solar Project be relocated and that a supplemental draft EIS be published that would identify and evaluate alternative project locations in a broader locale than was identified in the draft EIS, with a corresponding 60 day comment period.

63-1

The Soda Mountain Solar Project is proposed to be located in a high resource conflict area less than one mile from the boundary of the Mojave National Preserve, the third largest national park unit in the lower 48 states. It would be one of the closest, if not the closest, industrial scale renewable energy projects to a national park unit in the entire southwestern United States. The proposed project would be approximately 4000 acres with the solar field occupying approximately 2500 acres, and would straddle both north and south sides of Interstate 15 due west of Baker, California.

63-2

The project threatens bighorn sheep migration corridors, desert tortoise habitat, the integrity of adjacent wilderness study and the Mojave National Preserve. Moreover, its groundwater pumping could harm water quality and quantity at MC Spring in the Mojave National Preserve, the home of the federally endangered tui chub, one of our most unique and rare desert fish. Finally, the project impairs scenic vistas from the Mojave National Preserve, violating the recently passed San Bernardino County Renewable Energy Ordinance, which states that: "For proposed facilities within two (2) miles of the Mojave National Preserve boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair, views from hiking and backcountry camping area with the National Preserve."

63-3

In conclusion, we respectfully request a supplemental EIS that will identify and evaluate other low-resource-conflict locations for the Soda Mountains Solar Project, as well as a 60 day extension for

63-4

Comment Letter 63

public comment because of the current proposal's harmful impacts to groundwater and federally endangered species; scenic vistas; bighorn sheep migration corridors and desert tortoise habitat.

↑ 63-4
| cont.

Thank you for your time and Consideration.

Sincerely,

Dennis Schramm
Superintendent, Mojave National Preserve (2006-2011)

Mary Martin
Superintendent, Mojave National Preserve (1995-2005)

Curt Sauer
Superintendent, Joshua Tree National Park (2002-2010)

Mark Butler
Superintendent, Joshua Tree National Park (2010-2014)

J.T. Reynolds
Superintendent, Death Valley National Park (2001-2009)

**DEFENDERS OF WILDLIFE
CALIFORNIA NATIVE PLANT SOCIETY
NATIONAL PARKS CONSERVATION ASSOCIATION
NATURAL RESOURCES DEFENSE COUNCIL
SIERRA CLUB
THE WILDERNESS SOCIETY**

March 3, 2014

Jeffery Childers
Soda Mountain Solar Project Manager
Bureau of Land Management
California Desert District Office
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
Via E-mail to: sodamtnsolar@blm.gov

Re: Comments on the Draft Plan Amendment/Environmental Impact Statement /Environmental Impact Report for the proposed Soda Mountain Solar Project

Dear Mr. Childers:

The above-named conservation organizations hereby submit comments on the Draft Plan Amendment/Environmental Impact Statement (“DEIS”)/Environmental Impact Report (“DEIR”) for the proposed Soda Mountain Solar Project. Collectively we submitted scoping comments for these proposed federal actions on December 14, 2012.

I 64-1

The proposed Soda Mountain Solar Project is a 350 megawatt photovoltaic facility along with the necessary ancillary facilities including a project substation, access road, realignment of an existing route (Razor Road), operations and maintenance buildings, and lay-down areas. The project is proposed on 4,397 acres with the solar field occupying approximately 2,691 acres straddling both sides of Interstate 15.

Defenders of Wildlife (“Defenders”) has more than 1 million members nationwide with more than 170,000 members and supporters in California. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

The California Native Plant Society (“CNPS”) is a non-profit environmental organization with nearly 10,000 members. CNPS’ mission is to protect California’s native plant heritage and preserve it for future generations through application of science, research, education, and conservation.

CNPS works closely with decision-makers, scientists, and local planners to advocate for well-informed and environmental friendly policies, regulations, and land management practices.

The National Parks Conservation Association (“NPCA”) is dedicated to the protection and enhancement of National Parks for current and future generations. NPCA advocates on behalf of 750,000 members and activists. NPCA works to safeguard the protections won for resources and recreational opportunities within the California Desert, and manages three field offices in the Mojave Desert, including the Mojave Field Office in Barstow, CA.

The Natural Resources Defense Council (“NRDC”) has over 1.2 million members and online activists nationwide, more than 250,000 of whom live in California. 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 measures and sustainable energy development for many years.

The Sierra Club is a national nonprofit organization of approximately 1.3 million members and supporters (approximately 250,000 of whom live in California) dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth’s ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club’s concerns encompass protecting our public lands, wildlife, air and water while at the same time rapidly increasing our use of renewable energy to reduce global warming.

The mission of The Wilderness Society (“TWS”) 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 ecologically sustainable and based on sound science. With more than half a million members and supporters nation-wide, TWS represents a diverse range of citizens.

Our comments are as follows arranged by subject.

1. General introduction: Our organizations have significant concerns with the proposed project, and believe the Soda Mountain Solar Project application area is inappropriate for development. These concerns have been expressed previously (2012) in our scoping comment letter as well as in a letter to Jim Kenna, the Bureau of Land Management (“BLM”) State Director for California, dated November 20, 2012. Our concerns regarding the proposed project in this location stem from several primary issues: 1) Impact to an existing herd of bighorn sheep in the South Soda Mountains, 2) Impact to future conservation actions to enhance or reestablish movements of bighorn sheep north of I-15, 3) Impacts to the nearby Mojave National Preserve, 4) Groundwater use, 5) Potential impact to water discharge at Soda Spring within the Mojave National Preserve, and 6) Potential adverse impact to a population of endangered Mohave tui chub at Soda Spring ponds, and 7) Impact to a

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relatively large population of burrowing owls. These concerns and potential impacts are addressed in greater detail in subsequent sections of this letter.

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As made clear by the range of alternatives and as discussed further below, the North Array, East Array, and portions of South Array would have significant direct adverse impacts on listed and sensitive species and other public resources that cannot be mitigated and so must be avoided by eliminating these areas from the project. They include:

- North Array: Significant adverse impacts to bighorn sheep and conservation opportunities to reestablish connectivity to the North Soda and Avawatz Mountains;
- East Array: Significant adverse impacts to desert tortoise habitat, including an area with a documented moderate amount of desert tortoise sign and one adult desert tortoise; to desert bighorn sheep and opportunities to reestablish connectivity; to consequential numbers of burrowing owl burrows and habitat;
- Eastern 1/3 and south 1/3 of the South Array: Significant adverse impacts to bighorn sheep, burrowing owl burrows and their habitat.

64-3

In addition, the DEIS/DEIR failed to look at a sufficient range of alternatives.

These issues require that BLM make substantial changes to the proposed action to address impacts of the arrays that have not been analyzed; add a new alternative that is outside the spectrum of alternatives already analyzed; and/or address significant new information related to the water resources that would be affected by this project. All of these require that BLM supplement the environmental analysis and issue a supplemental DEIS for public review and comment.

For these reasons, we recommend that BLM and San Bernardino County adopt Alternative G (no project) as their preferred alternative unless more environmentally suitable alternative locations are considered and analyzed in a supplemental DEIS.

2. Status of the proposed project: The original right of way application for the proposed project was submitted to BLM in 2007 by Caithness and the project was identified at that time as “Caithness Soda Mountain.” The proposed project is now called “Bechtel-Soda Mountain” on BLM’s solar project application website:

<http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy/solar.Par.84447.File.dat/BLM%20Solar%20Applications%20&%20Authorizations%20April%202013..pdf>

The proposed project is not currently identified by BLM as an “active project” on the BLM’s National renewable energy website:

http://www.blm.gov/pgdata/content/wo/en/prog/energy/renewable_energy/active_renewable_projects.html

64-4

We were particularly surprised and concerned that BLM chose to prioritize the processing of this application when it announced a 30-day issue scoping period beginning on 10/23/2012 through a Federal Register Notice. Given that, when reviewed using BLM’s own screening criteria (IM 2011-

061), the proposed project has both medium and high conflict characteristics, we recommend BLM process other applications with overall lower environmental conflicts.

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3. General ecological site conditions: In a report prepared by The Nature Conservancy¹, the project area is characterized as “biologically core” habitat. Representatives of some of our organizations have visited the proposed project site on numerous occasions and we agree that the site is largely in a natural condition, both north and south of I-15.

64-5

4. Relationship to the Desert Renewable Energy Conservation Plan: The project area is located on lands classified as high biological sensitivity in the “preliminary biological reserve design” for the Desert Renewable Energy Conservation Plan (“DRECP”) prepared by DRECP consultants and provided to the Independent Science Advisors in late June of 2012.² At that time the proposed project was removed from DRECP maps of pending solar project applications. Development in this location, which is within a preliminary biological reserve of the DRECP, undermines the effectiveness of the conservation reserve component of the DRECP.

64-6

5. Alternatives to the proposed project: The DEIS/DEIR does not analyze a sufficient range of alternatives. In particular, the DEIS/DEIR should be supplemented with analysis of at least one alternative site for this project, for the following reasons.

Alternatives to the proposed project (Alternative A) analyzed in the DEIS/DEIR include: 1) Alternative B, which eliminates the North Array; 2) Alternative C, which eliminates the East Array; 3) Alternative D, which reduces the extent of the East and South Arrays; 4) Alternative E, in which the project would not be authorized but the site would remain available for future solar applications processed under the Variance Lands criteria stemming from the programmatic federal solar plan (otherwise known as the “Solar PEIS”); 5) Alternative F, in which San Bernardino County would deny the water wells for the project, the BLM would authorize any of the project construction alternatives, and water for construction and operation of the project would be obtained off-site and transported by truck, and 6) Alternative G, where BLM would deny the project, classify the project area as unavailable for solar energy development, and San Bernardino County would deny groundwater wells.

64-7

Alternative project sites on public land were considered, but all were rejected: “The Applicant initially reviewed more than 20 sites on BLM-administered public land in southern California, seeking a suitable site with high solar insolation, access to highways, proximity to electric

¹ Randall, J. M., S.S. Parker, J. Moore, B. Cohen, L. Crane, B. Christian, D. Cameron, J. MacKenzie, K. Klausmeyer and S. Morrison. 2010. Mojave Desert Ecoregional Assessment. Unpublished Report. The Nature Conservancy, San Francisco, California. 106 pages + appendices. Available at: <http://conserveonline.org/workspaces/mojave/documents/mojave-desert-ecoregional-2010/@/@view.html>.

² http://www.drecp.org/meetings/2012-06-26_meeting/review/09_Map-DRECP_Planwide_Biological_Reserve_Design.pdf

transmission lines, and relatively flat slope (less than 5 percent). Site visits and other additional investigation resulted in the elimination of 15 sites that were subject to prior pending ROW grant applications or infeasible due to insufficient size, distance to transmission, greater slopes, access limitations, and other factors. An additional four of the five remaining sites were rejected from further consideration because they were located in DWMA's designated to protect desert tortoise (Soda Mountain Solar, LLC, 2013b)." DEIS, page 2-39.

Similarly, private land project sites were rejected: "The Applicant examined 4,853,760 acres of lands within 50 miles of the proposed ROW to determine whether a suitable private site could be found for the Project. The Applicant sought lands of sufficient size, contiguity, and proximity to adequate transmission lines to support the Project and identified two potential sites with over 2,500 contiguous acres of private land in close proximity to a transmission line: one consisting of approximately 12,020 contiguous acres (the "West Site"), the other consisting of approximately 3,262 contiguous acres (the "East Site"). The West Site and East Site are shown on Figure 2-8." DEIS, page 2-39.

"These potential site alternatives would not have met the BLM's purpose and need to respond to the Applicant's application under Title V for a ROW grant under the authorities and for the purposes described above. In addition, the Applicant also rejected these sites based on environmental resource constraints that would have limited the area available for development such that it was too small to meet the Applicant's objectives for the Project, and because implementation of these site alternatives would not avoid or substantially lessen any significant effects of the Project." DEIS, pages 2-39, 40.

Comment: Although the applicant reportedly considered more than 20 alternative project locations on public land, the DEIS did not specify their locations or provide any comparative analysis of the environmental impact relative to the proposed project. We also question the validity of the statement that nearly 4.9 million acres within 50 miles of the proposed project were examined for suitable private land for the project. The DEIS should have identified how these alternative sites overlap with designated Solar Energy Zones. The DEIS is deficient in this regard, and we recommend that locations within Solar Energy Zones that are not encumbered by existing applications be identified and analyzed.

Furthermore, statements that current application owner, Bechtel, considered 20 alternative sites is not a sufficient analysis of alternative locations. The names and particulars of these locations should be provided to the public. We are not able to assess the validity of the assertion that the public land sites which had ROW applications during Caithness' original site investigation are still under ROW grant, and believe, given the amount of time between Caithness' original investigation (a time during which much of the CDCA was subject to speculative ROW applications, prior to the BLM's changes in fee structure and due diligence requirements), the BLM should not rely on these statements.

Comment: Because the applicant does not have a power purchase agreement for the project, it is unreasonable to limit the search for available site locations to sites of a certain size. The applicant is



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under no commercial obligation or requirement to develop a project delivering a certain amount of power and the search for locations should include areas which could support smaller projects.

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Comment: We strongly recommend that disturbed or fragmented lands within the Mojave Valley (Daggett Triangle) be considered as alternative locations for the proposed project. Nearly 4,000 acres of such lands in two separate units were identified as potential alternatives for the proposed Calico solar project in the Final Staff Assessment and Supplemental Staff Assessment for the Calico solar energy project published by the California Energy Commission in 2010. See: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=08-AFC-13>

64-9

Comment: Given the environmental issues associated with this proposed project, we are concerned that BLM’s preliminary preferred alternative is the proposed project or Alternative A, and that San Bernardino County’s preferred alternative is Alternative B (including approval of a groundwater well permit). Alternative B would reduce the size of project by a mere 575 acres which San Bernardino County considers the environmentally superior alternative because it would result in 575 fewer acres of permanent disturbance and 59 fewer acres of temporary disturbance compared to the proposed project, and would disturb the fewest acres among Alternatives A, B, C, or D. None of the alternatives to the proposed project would avoid the significant adverse environmental impacts. We recommend that BLM and San Bernardino County adopt Alternative G (no project) as their preferred alternative unless more environmentally suitable alternative locations are considered and analyzed in a supplemental DEIS.

64-10

6. Desert Tortoise: The proposed project is located in a crucial habitat linkage for the desert tortoise, identified by the U.S. Fish and Wildlife Service (“USFWS”) as Priority 1 linkage habitat in its comments to BLM on the recently approved Solar PEIS. In its comments, the USFWS recommended excluding Priority 1 desert tortoise habitat linkages from the “variance” lands so that they would be protected and not available for future solar energy projects.

Comment: It is our understanding that additional modeling and mapping of desert tortoise habitat linkages in the vicinity of the proposed project now place the least-cost corridor to the north of the North Array and closer to the Fort Irwin boundary. We recommend that BLM confirm with the USFWS this change in location of the least-cost corridor and provide documentation of their response. We also note the corridor location change appears to be consistent with the least-cost corridor depicted in Averill-Murray et al. (2013)³. The most recent desert tortoise surveys of the project site in 2013 documented an area within and east of the proposed East Array that contained a moderate amount of desert tortoise sign and one adult desert tortoise. With regard to minimizing impacts to the desert tortoise, we recommend that the East Array be eliminated.

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7. Burrowing owl: The Project site appeared to support between 9 and 24 burrowing owls during surveys in late 2012, with 24 burrows showing signs of recent use by burrowing owls. Burrowing owls were observed using 8 of the 24 active burrows, and 1 additional owl was also observed in the

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³ Averill-Murray, R., C. Darst, N. Strout and M. Wong. 2013. Conserving population linkages for the Mojave desert tortoise (*Gopherus agassizii*). Herpetological Conservation and Biology 8(1):1-15.

Project ROW (Panorama Environmental, Inc., 2013a). Phase 3 burrowing owl surveys in 2013 detected owl sign at 50 burrows (Kiva Biological Consulting, 2013b). The entire Project site may be used by burrowing owls for foraging during migration or as resident breeding and foraging habitat. DEIS, p. 3.4-11.

Comment: The project site supports appreciable numbers of burrowing owls, a BLM-designated Sensitive Species. BLM management policy for Sensitive Species is to “initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA.” BLM Manual 6840, Objective B. The proposed action, which is BLM’s preferred alternative, is contrary to its policy for the management of Sensitive Species.

8. Desert bighorn sheep: Impacts of the proposed project on desert bighorn sheep are among the most serious of our concerns. The proposed project is immediately adjacent to a large herd of desert bighorn that recently recolonized the South Soda Mountains, and it threatens future conservation actions for this Sensitive and Fully Protected Species in the central region of the Mojave Desert on public lands and National Park Units. Recolonization of the South Soda Mountains is directly attributable to the presence of a reliable source of water accessible to bighorn sheep as Soda Springs, which is an essential element in maintaining this sub-population. The threats to this species and future conservation actions associated with this proposed project have been identified recently in a report⁴ submitted to the California Department of Fish and Wildlife (“CDFW”), National Park Service and the BLM.

Along the entire length of I-15 in California, two critically important linkage areas for desert bighorn have been identified; one near Mountain Pass, and one in the vicinity of where the Soda Mountains meet I-15⁵, which is the location of the proposed project. Development of the proposed project area would essentially eliminate an important bighorn sheep connectivity and conservation opportunity.⁶

Ground surveys for bighorn sheep were conducted by personnel from the CDFW in the vicinity of Soda Spring on April 30 and May 1, 2012, and by consultants from observation points in the South Soda Mountains from March 23 to March 25, 2011. Surveys from observation points were located south of I-15 in and around the South Soda Mountains adjacent to the proposed project. Location of observation points was not reported in the DEIS. Bighorn sheep and their sign were incidentally observed and documented in desert tortoise surveys performed by Kiva Biological Consulting. Aerial surveys by helicopter were conducted in the North Soda Mountains on March 21 and 22,

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⁴ Epps, C., J. Wehausen, R. Monello and T. Creech. 2013. Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn connectivity. Report submitted to the California Department of Fish and Wildlife, National Park Service and Bureau of Land Management. February 25, 2013. 10 pp.

⁵ Epps, C., J. Wehausen, V. Bleich, S. Torres and J. Brashares. 2007. Optimizing dispersal and corridor models using landscape genetics. *Journal of Applied Ecology* (2007) 44: 714-724.

⁶ Epps et al. 2013. *Ibid*

2011, and May 9, 2011. The aerial surveys included six 2-hour flights. Surveys for bighorn sheep, both aerial and ground-based, were performed over very limited periods of time.

Bighorn sheep sightings were reported after ground and aerial surveys were completed, and these are included in the DEIS, as follows: In fall 2012, five sheep and sheep bedding sites were detected on the west side of the south Soda Mountains, approximately 0.5 mile east of the Project ROW (Panorama Environmental, Inc., 2013a; Appendix E, Figure 3.3-10). Three adult ewes also were observed foraging within and adjacent to the north ends of the proposed East Array south of I-15 (Panorama Environmental, Inc., 2013b). These recent observations and anecdotal reports of sheep presence in the Soda Mountain valley cited in the BRTR (Panorama Environmental, Inc., 2013a; Appendix E) indicate that bighorn sheep intermittently forage and shelter in portions of the Project ROW located south of I 15.

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Comment: Clearly, based even on relatively brief surveys and incidental observations, the project area and adjacent mountainous terrain is not only suitable habitat, but periodically occupied by bighorn sheep. This is consistent with and confirms the suitability of the habitat within and adjacent to the proposed project, as noted in the following comment.

Comment: The statement in the DEIS Biological Technical Report that the project area is not identified as intermountain or mountain habitat is not correct. This error is due to reference to an outdated DRECP Updated Expert Species Model for bighorn sheep habitat dated 2012. In May 2013, John Wehausen prepared an updated bighorn sheep habitat map for use by the CDFW in the DRECP and in its draft management plan for desert bighorn, and that map shows the entire project area is located in intermountain habitat for the species. The DEIS analysis should be updated to incorporate the 2013 Wehausen map of desert bighorn sheep habitat that shows the project area as located in intermountain habitat for the species.

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Comment: The ground surveys for bighorn sheep and their sign were conducted over brief periods of time and did not adequately cover all of the potentially suitable terrain adjacent to the proposed project. CDFW's surveys were limited to areas adjacent to Soda Spring, and consultants conducted ground surveys only from undisclosed observation points or stations. These surveys focused on observing live animals and would naturally fail to account for bighorn sheep sign (tracks, fecal pellets and bedding sites).

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We recommend additional systematic ground surveys be performed during each season over multiple years in suitable mountainous habitat as well as a 0.5 mile buffer from the lower 20% slope contour that extends into the proposed project in several areas. Such surveys should be performed north and south of I-15 and should include lower elevation mountainous areas within and surrounding the project application area. Such systematic surveys are important to determine if bighorn are utilizing areas south of the proposed South Arrays of solar panels as "stepping-stone" habitats linking bighorn-occupied habitat in the Cave Mountain and Cady Mountains to the west.

Indeed, Epps et al. reported finding bighorn sheep sign in this specific area: “Currently there is well-established bighorn sheep use of habitat on the south side of the proposed project site in the South Soda Mountains and between there and Cave Mountain, and these sheep may use undercrossings B and D occasionally.” (Note: Undercrossing B and D are located at existing bridges over I-15; Undercrossing B is located in the middle of the proposed project and undercrossing D is located near the Zzyzx off-ramp on I-15).

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Comment: Aerial surveys are not designed or capable of detecting bighorn sheep sign such as bedding sites or fecal pellet groups.

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Comment: Recent field surveys for bighorn sheep and their sign were reported in Epps, et al. (2013)⁷ including their finding of historic bighorn sheep trails that exist north of I-15 and that connected with the reliable water source at Soda Spring. Epps et al. concluded that the construction of I-15 greatly diminished or curtailed bighorn use of this habitat corridor which led to isolation of suitable habitat in the North Soda Mountains and lack of use by bighorn sheep. Epps, et al. was submitted during the scoping period for the proposed project, but does not appear to be fully accounted for or appropriately used in the DEIS analysis of effects of the project on bighorn sheep. Epps, et al. (2013) should be incorporated into the DEIS.

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Comment: Epps et al. found the corridor linking the Avawatz Mountains and S. Soda Mountains was the *highest-ranking restorable corridor* in their study of desert bighorn population connectivity in the Mojave Desert metapopulation area. They found this corridor to be the most influential restorable corridor because it would demographically link two major bighorn sheep populations on either side of I-15. Significantly, they reported that their study indicates that the Avawatz-South Soda Mountains corridor is the only restorable one short enough to connect populations on either side of I-15 within the estimated maximum dispersal range of a female bighorn sheep. This is especially important because demographic (population) connectivity is associated with females reproducing and colonizing suitable habitat patches. In contrast, male bighorn sheep dispersal is associated with genetic connectivity and not necessarily in direct support of establishing populations through recolonization of suitable habitat.

Epps et al. concluded that “The proposed solar development along I-15 that lies between the North and South Soda Mountains has the potential to interfere with, if not preclude, future corridor restoration efforts in this location, including the building of one or more bridges for sheep.”

Comment: Intermountain movements of bighorn sheep are considered essential in maintaining their overall genetic health, recolonizing suitable habitat and expanding their ranges. Recently,

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⁷ Epps et al. 2013. Ibid.

bighorn sheep experts have stated the importance of protecting not only mountainous habitat, but intermountain habitat as a critical component of bighorn sheep conservation strategies.^{8 9}

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Comment: The relationship of the bighorn herd in the South Soda Mountains to those in the Old Dad Mountains, Cave Mountain, Cady Mountains and Bristol Mountains needs to be established through additional field surveys including radio telemetry studies. We raise this issue because there is documentation of a bighorn ram from the Old Dad Mountains traversing Soda Dry Lake and spending time in the South Soda Mountains during the rutting season.¹⁰ Such movements could extend to other mountain ranges and demonstrates the high probability that reestablishing bighorn movements into the North Soda Mountains and Avawatz Mountains is a feasible conservation action in the future.

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The long-term effects of the proposed project on regional bighorn sheep herds and their movements to and from the South Soda Mountains need to be analyzed further.

Comment: Mitigation measures to address impacts to desert bighorn sheep include those proposed by the applicant (i.e., #75: Two water sources will be created to encourage bighorn sheep migration to the north of I-15) and additional measures proposed by the agencies (i.e., 3.4-3: Bighorn Sheep Habitat Connectivity: Applicant shall provide funding for CDFW to install between three and five (total) pre-fabricated bighorn sheep water guzzlers in the north Soda Mountains/Avawatz Mountains corridor and provide funding to refill them through the life of the project.

Comment: It is very doubtful that adding two or more water sources in the North Soda Mountains will mitigate the overall negative impacts of the proposed project on bighorn sheep. Field surveys confirmed the presence of historic bighorn sheep trails north of I-15, that are not used now that the highway serves as a barrier between the south Soda and Avawatz Mountains. The most effective way to enhance or reestablish connectivity between the south Soda and Avawatz Mountains is to address the I-15 barrier issue through the construction of a dedicated bighorn sheep bridge crossing where mountainous terrain is in proximity to I-15, such as immediately west of the Zzyzx off-ramp. Based on Epps, et al. (2013) we now know that bighorn movements into the north Soda Mountains from the vicinity of Soda Spring and vice versa, occurred prior to the construction of I-15. Bighorn trailing evidence indicates that the North Soda Mountains once received a considerable amount of use without water because sheep could use the abundant water at Soda Spring on the eastern slope of the South Soda Mountains and travel readily back and forth between these two habitat patches.

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Adding water sources north of I-15 as a mitigation measure is unlikely to reestablish connectivity absent construction of a bridge crossing over I-15, as evidenced by Epps et al. (2013).

⁸ Bleich, V., J. Wehausen and S. Holl. 1990. Desert-dwelling mountain sheep: Conservation implications of a naturally fragmented distribution. *Conservation Biology*, Vol. 4, No. 4, pp. 383-390 (Dec. 1990).

⁹ Schwartz, O., V. Bleich and S. Holl. 1986. Genetics and the conservation of mountain sheep (*Ovis canadensis nelsoni*). *Biological Conservation* 37 (1986):179-190.

¹⁰ Wehausen, J. Personal communication. 2014.

Comment: The adverse effects of the proposed project would affect the overall health and population of bighorn sheep in the south Soda Mountains and adjacent hills through encroachment into seasonal foraging habitat adjacent to mountainous terrain, resulting in both displacement of individuals seeking enhanced forage during the late winter and spring seasons located in washes and bajadas adjacent to mountainous terrain and precluding their movement across the project site to access suitable mountains terrain. Providing breaks between solar panel arrays will not be conducive to bighorn sheep movements across the project site due to the narrow, linear nature of the breaks, absence of adjacent escape terrain and behavioral characteristics of bighorn to avoid areas of human use. The DEIS (page 3.4-41 states, “the presence of Project facilities may deter wary bighorn sheep from venturing through the site, or from using culverts in its vicinity.” The proposed east-west water transport and wildlife movement areas between the various solar panel sub-arrays would include a permanent 16-foot wide access road for motorized vehicle use during routine panel washing and fence inspections, and the estimated width of the unfenced breaks between solar panel sub-arrays is approximately 0.25 mile based on Figure 2.1 of the DEIS. These unfenced areas would also include east-west flood prevention berms. We believe it would be highly unlikely for bighorn sheep to traverse the project site using these unfenced areas, not only due to project facilities, as noted in the DEIS, but also because of routine vehicle use and human presence.

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Comment: Biologists specializing in desert bighorn sheep conservation and management are working to delineate key habitat linkages for desert bighorn in the California Desert Conservation Area (“CDCA”). These linkages connect areas supporting bighorn populations, and they can include mountains or valleys, or a combination of both. Although desert bighorn favor mountainous terrain, they regularly cross valleys up to 10 miles wide during seasonal and permanent movements.¹¹ Maintaining desert bighorn movements on a landscape scale provides for gene flow among extant populations and colonization of vacant habitat patches, both of which are considered essential to long-term conservation and management of this species.

Along the entire length of I-15 in California, two critically important linkage areas for desert bighorn have been identified; one near Mountain Pass, and one in the vicinity of where the Soda Mountains meet I-15, which is the location of the proposed project. Development of the proposed project area would essentially eliminate an important bighorn sheep connectivity and conservation opportunity. As noted above, construction of a bridge over I-15 specifically for bighorn sheep, is a conservation management action deemed appropriate to reestablish connectivity among fragmented metapopulations in the region.

64-22

The Soda Mountains, including the proposed solar project site and adjacent hills, is the most likely habitat linkage connecting extant desert bighorn herds in the Avawatz, South Soda, Old Dad, North Bristol and Cady Mountains.¹² Desert bighorn populations in portions of the central Mojave region have recently undergone significant changes in distribution, such as the dramatic population increase in the Cady Mountains, and the natural recolonization of the South Soda Mountains. These recent

¹¹ Wehausen, J. Personal communication. 2013.

¹² Epps et al. 2013. Ibid.

events involved increased movements by desert bighorn, behavior that is associated with naturally expanding populations.

To address the potential impacts of the proposed project on desert bighorn we recommend that a multi-year bighorn sheep occurrence and movements study be conducted involving tracking of a sufficient number of ewes and rams from each of the herds identified in the previous paragraph. Such tracking should include the use of GPS collars fitted to captured and released animals. The details of such a study should be developed and approved by the CDFW and fully funded by the project applicant. Once completed, the results of such a study should be published in a supplement to the DEIS for the proposed project and subject to public review and comment.

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64-22
cont.

Comment: Desert bighorn sheep are designated by BLM as a Sensitive Species, and are one of several key “driver species” in the DRECP and an iconic desert dwelling animal. Given the substantial and unmitigated impacts of the proposed project on this species, the proposed project is contrary to BLM’s management policy for Sensitive Species, which is to “initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA.” BLM Manual 6840, Objective B. The proposed project clearly is contrary to BLM’s management policy for Sensitive Species.

64-23

Comment: Approval of the proposed project would not only adversely impact desert bighorn, but also the biological goals and objectives of the DRECP relative to this species and its habitat. Thus, the proposed project would result in undermining the conservation potential of the DRECP for one of the more important species the plan will need to address.

64-24

9. Groundwater and surface water: The project applicant estimates that groundwater requirements during construction would be 192 acre-feet per year (AFY) for approximately three years and 31.4 AFY for operations for the 30 year life of the project. Water at Soda Spring within the Mojave National Preserve (also known as Zzyzx Spring) is derived from percolating groundwater transmitted through fractures in the base rock of the South Soda Mountains including Limestone Hill, a carbonate rock formation surrounded by volcanic rocks. It is believed that Soda Spring is associated with either the carbonate rock or faulting, or both. Soda Spring is located approximately four-miles east of the proposed solar project and has distinctly different chemical properties compared to Soda Dry Lake groundwater. Discharge from Soda Spring is constant year-round whereas the groundwater elevation at Soda Dry Lake fluctuates up to 1.5 meters annually. According to the hydrology technical report in the DEIS, “It is unknown whether the outflow from the Soda Mountain Valley contributes to groundwater flow at Soda Spring or whether the source of groundwater for Soda Spring is entirely local recharge on the east side of the south Soda Mountains.” Given the importance of Soda Spring to bighorn sheep and other park resources, better understanding of the hydrology must be obtained before considering using groundwater from the application site.

64-25

Comment: The DEIS and the accompanying hydrology technical report attempts to address impacts of the proposed project on groundwater and surface water based on very little supporting

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data, and overly relies on groundwater modeling based on such scant data. Some of the essential data that need to be collected, analyzed and used in the groundwater model include the following:

- Test wells to accurately determine the depth of water-saturated alluvium.
- Test wells to determine porosity of the alluvium and its ability to transmit water.
- Test wells to determine effective yield of proposed water supply wells.
- Geochemical analysis and age-dating of groundwater within the project boundary compared with 1) that discharging at Soda Spring and nearby water supply wells, 2) groundwater associated with the Mojave River Wash within the Razor Off-highway Vehicle Area, and 3) groundwater in the well supplying the Razor Road gas station.

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cont.

Comment: One of the inputs to the groundwater model is an estimate of groundwater recharge from precipitation. The DEIS and hydrology technical report rely on questionable assumptions regarding the amount of runoff from the Soda Mountains. The assumption that all precipitation in the mountains becomes runoff (i.e., no infiltration) needs to be revised based on applicable studies in the published literature. The current recharge estimates from mountains surrounding the valley are derived from studies in Owens Valley where the high-elevation Sierra Nevada was the mountain block generating recharge at diverse locations in the Owens Valley. The amount of runoff that contributes to groundwater recharge should also be reexamined and supported by applicable studies in published literature involving areas with topography and rainfall similar to that of the Soda Mountains region.

Comment: We recommend use of the Maxey-Eaken method¹³ of estimating groundwater recharge developed for use in Nevada to develop groundwater recharge estimates for the groundwater model. The Maxey-Eaken method predicts in Nevada that no groundwater recharge occurs within basins that receive less than eight-inches of precipitation per year. Thus, based on the Maxey-Eaken method, the Soda Mountains groundwater basin recharge is effectively zero except for extraordinary occasions where annual precipitation exceeds eight-inches.

64-26

Comment: Assuming there is essentially zero recharge to the Soda Mountains groundwater basin, any groundwater in storage would have accumulated over many thousands of years and/or that would be coming from adjacent basins through interbasin flow (e.g., from the Mojave River or the adjacent Cronese Basin). If groundwater in the Soda Mountains groundwater basin underlying the project is prehistoric in age, groundwater pumping to support the project would effectively deplete the resource through “mining” of the groundwater in storage.

Comment: The groundwater model for the proposed project incorrectly assumes that mountains surrounding the basin (i.e., Soda Mountains) are impermeable to water passage and that subsurface discharge follows low-lying surface topographic features. In contrast, a geology report prepared for

¹³ Maxey G.B. and T.E Eakin. 1949. Ground water in White River Valley, White Pine, Nye , and Lincoln Counties, Nevada. Nevada Department of Conservation and Natural Resources. Water Resources Bulletin No. 8. Carson City NV.

the analysis of the proposed project¹⁴ states the bedrock mountains adjacent to the proposed project are moderately to highly fractured. Additional geologic studies of the permeability of the South Soda Mountains due to fracturing of bedrock need to be conducted. This is a critical need, especially given the presence of an exposed limestone formation on the east slope of the Soda Mountains that is in proximity to Soda Spring.

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cont.

Comment: The groundwater model boundary used to analyze the impacts of groundwater pumping is limited to the alluvial basin and adjacent mountain slopes and inappropriately does not extend to Soda Spring on the east side of the South Soda Mountains. This is a critical omission that should be corrected because of concern and uncertainty about the actual source of water emerging at Soda Spring and nearby water production wells, as stated in the DEIS.

Comment: Alternative F would entail BLM approval of the proposed project and San Bernardino County denying a permit to develop groundwater production wells on site. As a result, this alternative assumes water for the project would be obtained from a source outside of the project boundary. The DEIS makes the assumption that the impacts of this alternative on water resources would be similar to those of the proposed project, except that they would not impact groundwater resources in the Soda Mountains groundwater basin. We do not think this is an appropriate assumption because the impacts depend on the location of the off-site water source.

64-27

The DEIS should identify potential or probable sources for this water and the environmental impacts associated with its extraction. For example, if a source for this water is located to the west of the project closer to Barstow or Daggett, then the effects to the Mojave River and its associated sensitive resources needs to be analyzed.

10. Climate Change: Although the environmental consequences of climate change on the proposed project and alternatives are addressed in the DEIS in 3.5.4.3, we find the analysis of the potential decrease in precipitation and groundwater recharge is deficient. Specifically, the analysis of decrease in groundwater recharge and storage simply states, “In the event that climate change results in reduced precipitation within the Project area and its vicinity, some degree of associated reduction in groundwater recharge from rainfall could occur. This situation would not result in increased water requirements by the Project, and would not result in additional groundwater pumping during Project construction or operation and maintenance. Therefore, even with potential reductions in total precipitation volume associated with future climate change, no increase in pumping would be required.” DEIS, page 3.5-14.

64-28

Comment: The analysis fails to address the impacts of groundwater pumping in support of the entire project (construction, operation, decommissioning) in the event groundwater availability is diminished due to reduced groundwater recharge associated with climate change. The site-specific and regional effects of continuing to pump groundwater that is not recharged to the extent it is projected under the groundwater modelling need to be addressed. This is particularly important

¹⁴ Wilson Geosciences, Inc. 2011. Geologic Characterization Report, Soda Mountain Solar Project. March, 2011.

given the potential relationship of groundwater discharge at Soda Spring, and its critical role in sustaining a population of the threatened Mohave tui chub and wetlands within the Mojave National Preserve.

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11. Mojave National Preserve: The proposed project is directly adjacent to the Mojave National Preserve (“Preserve”). The Preserve is the third largest national park unit in the lower 48 states, comprised of 1.6 million acres of land with spectacular examples of three out of four North American desert ecosystems: Sonoran, Mojave and Great Basin. Elevations range from 800 to 8,000 feet above sea level, and unique features include, but are not limited to: 1) 600 foot-high singing sand dunes, 2) the largest and densest Joshua tree forest on earth, 3) relict white fir and chaparral vegetation that line high mountain peaks and 4) over 240 naturally occurring seeps and springs that are essential in sustaining a wide variety of plant and animal species.

Comment: The proposed project may be in conflict with the purpose and values of the Preserve and the public’s expectations and desires for this nationally significant landscape. In 2011, over 500,000 tourists visited the Preserve and contributed to the economies of gateway communities. The 2003 University of Idaho Visitor Use Survey found that the two top reasons visitors thought the Preserve was “nationally significant” were because of its unspoiled and undisturbed natural areas and the fact that it protects wildlife habitat. During the same survey, visitor groups reported that the top management goals of the Preserve in the future should be 1) preservation of lands and resources, 2) maintaining pristine conditions as much as possible and 3) protection of water resources for wildlife. The project, if constructed, could adversely impact dark skies, scenic viewsheds, sensitive and endangered wildlife, and water resources.

64-29

Comment: Federally reserved water rights within the Mojave National Preserve were established in 1994 when the California Desert Protection Act was signed into law¹⁵. The Mojave National Preserve (in addition to public land wilderness area) was established by Congress through the reservation of public lands. These rights reserved, explicitly or by implication, sufficient quantities of water to fulfill the purposes of the Act. The Act charged the Secretary of the Interior and all other officers of the U.S. with taking all necessary actions to protect these federally reserved water rights.

The impact of the proposed project on federally reserved water rights within the Mojave National Preserve need to be addressed in a supplemental DEIS. We recommend that an impartial, comprehensive hydrologic study of ground and surface waters within the Mojave National Preserve affected by the proposed project be performed by the USGS with particular emphasis on the subsurface flow of the Mojave River, Soda Dry Lake, and Soda Springs. This is particularly important given that the current hydrology report and analysis states that the source of water at Soda Spring is unknown.

64-30

Comment: Under FLPMA and through its management of public lands, BLM can contribute to the protection of lands and resources within adjacent units of the National Park System (e.g., Mojave

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¹⁵ [Public Law](#) 103-433 (16 U.S.C. §§ 410aaa through 410aaa-83, October 31, 1994). California Desert Protection Act of 1994). See specifically Section 2,b,1.

National Preserve) by ensuring that such multiple land uses are compatible, to the extent allowable under existing laws, with the purposes for which the National Park System Unit was established. FLPMA’s coordination and consistency provisions regarding public land planning and management extend to other federal departments and agencies. FLPMA, Section 202(c)(9). More importantly, in the CDCA, FLPMA requires that the public lands be managed to provide for their immediate and future protection within the framework of multiple use and sustained yield, and the maintenance of environmental quality. FLPMA, Section 601(b).

The California Desert is comprised of a variety of federally administered lands including those withdrawn for military purposes and others withdrawn and designated as units of the National Park System. FLPMA, Section 601(a)(1), Section 601(c)(1).

In its management of public lands BLM is charged with maintaining environmental quality within the CDCA. This responsibility extends especially to lands within the National Park System because those lands can be adversely impacted by various multiple land use activities authorized by BLM adjacent to National Park System Units. BLM has a unique role under FLPMA to regulate the uses of public lands adjacent to the Mojave National Preserve in a manner that contributes to the protection of its lands and resources for the enjoyment and benefit of current and future generations.

The FLPMA requirement that BLM’s management of public lands be coordinated and ‘harmonious’ extends to those management obligations of other federal agencies, as well as State and local governments:

“...to the extent consistent with the laws governing the administration of the public lands, coordinate the land use inventory, planning, and management activities of or for such lands with the land use planning and management programs of other Federal departments and agencies and of the States and local governments within which the lands are located.” 43 U.S.C. 1712 (c)(9).

In spite of the above, the proposed Soda Mountains solar project poses an entirely new set of potential threats to visual and biological resources. The DEIS concludes that “the Project site would be visible from select locations within Mojave National Preserve, and the Project could introduce visual contrast into the landscape visible from these locations.” DEIS, page 3.15-9. The proposed mitigation measures, namely constructing wildlife watering sources in the North Soda Mountains, and painting project facilities a neutral color to blend into the natural environment, are highly speculative and uncertain to minimize the potential adverse impacts.

The BLM Land Use Planning Handbook provides further guidance:

“Coordination and Cooperation with Other Federal Agencies and State and Local Governments”



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cont.

“FLPMA and NEPA provide BLM managers with complementary directives regarding coordination and cooperation with other agencies and governments. FLPMA emphasizes the need to insure coordination and consistency with the plans and policies of other relevant jurisdictions. NEPA provides for what is essentially a cooperative relationship between a lead agency (here, normally BLM) and cooperating agencies in the NEPA process. . . .Section 202(c)(9) of FLPMA also requires, to the extent practical, that BLM keep itself informed of other Federal agency and state and local land use plans, assure that consideration is given to those plans that are germane to the development of BLM land use plan decisions, and assist in resolving inconsistencies between Federal and non-Federal plans. The key is ongoing, long-term relationships where information is continually shared and updated.”

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The Handbook further defines ‘coordination’ and the complementary FLPMA and NEPA directives:

“Coordination, as required by FLPMA (Section 202(c)(9)), involves on-going communication between BLM managers and state, local, and Tribal governments to ensure that the BLM considers pertinent provisions of non-BLM plans in managing public lands; seeks to resolve inconsistencies between such plans; and provides ample opportunities for state, local, and Tribal government representatives to comment in the development of BLM’s RMPs (43 CFR 1610.3-1). The CEQ regulations implementing NEPA further require timely coordination by Federal agencies in dealing with interagency issues (see 40 CFR 1501.6), and in avoiding duplication with Tribal, state, county, and local procedures (see 40 CFR 1506.2). See Sections I(E)(1), Coordination under FLPMA; and I(F), Government-to-Government Coordination with Indian Tribes.”

This project as proposed will have a significant impact on resources of the Mojave Preserve—its wildlife, including bighorn sheep, water resources, and scenic values, among others. Park resources would be best served if the BLM selects Alternative G, no project.

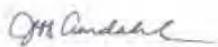
64-32

12. Conclusion: The proposed project poses potentially significant and irreversible impacts on the resources described above. As noted above, we believe the proposed project should be denied and that BLM should amend the CDCA Plan to make the project area unavailable for renewable energy development. If BLM intends continue processing this application and ultimately adopt the proposed project as its proposed decision, we believe a supplemental DEIS needs to be prepared to address deficient impact analyses for various resources identified in our comments.

64-33

Thank you for the opportunity to comment on the DEIS for the proposed project.

Sincerely,



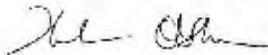
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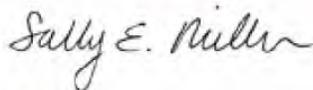
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Cc: San Bernardino County, Land Use Services Department, Planning Division
385 North Arrowhead Avenue, San Bernardino, CA 92415-0182



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAR 03 2014

Attn: Jeffery Childers
Soda Mountain Solar Project Manager
Bureau of Land Management
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

Subject: Proposed Soda Mountain Solar Project and Draft Plan Amendment Draft Environmental Impact, San Bernardino County, CA (CEQ#20130353)

Dear Mr. Childers:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the proposed Soda Mountain Solar Project and Draft Plan Amendment pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under § 309 of the Clean Air Act.

EPA recognizes the complexity of the proposal and supports an alternative that assures a long-term, sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health. EPA commends the Bureau of Land Management for providing a comprehensive document and examining a reasonable range of alternatives. Many issues, such as greenhouse gas emissions, were addressed in a progressive manner, and the DEIR/DEIS contained comprehensive lists of proposed mitigation measures and applicant-proposed measures for environmental impacts. However, following our review of the DEIR/DEIS, we are concerned with the lack of sufficient information to determine the extent of direct, indirect and cumulative impacts to groundwater resources, nearby springs, and sensitive biological resources. Due to these concerns, we have rated the DEIS as *Environmental Concerns – Insufficient Information (EC-2)*. Please see the enclosed “Summary of EPA Rating Definitions” and detailed comments further describing our concerns.

65-1

We appreciate the opportunity to review this DEIS and are available to discuss our comments. Please send a hard copy of the FEIS to this office when it is officially filed with EPA’s new electronic EIS submittal tool: e-NEPA. If you have any questions, please contact me at (415) 972-3521, or contact Scott Sysum, the lead reviewer for this project, at (415) 972-3742 or sysum.scott@epa.gov.

Sincerely,


Kathleen Martyn Goforth, Manager
Environmental Review Office (ENF-4-2)

Enclosures:

- (1) Summary of EPA Rating Definitions
- (2) EPA’s Detailed Comments

cc: Robert Fulton, Manager – California Desert Studies Center

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. The EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality.

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

The EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED SODA MOUNTAIN SOLAR PROJECT AND DRAFT PLAN AMENDMENT, SAN BERNARDINO COUNTY, CA, MARCH 3, 2014

Water Resources

Groundwater Resources

EPA is concerned about groundwater availability for the proposed project and potential impacts to sensitive resources nearby, including the Mojave tui chub. The Soda Mountains subbasin is geographically and topographically isolated, with limited real data available. No groundwater wells are known to be within the Project area, or within the alluvial portions of the subbasin (p. 3.19-10). According to the DEIS, the Applicant will need approximately 192 acre feet per year for three years for construction and 31.4 AFY for operations (p. 3.19-12). Potable water would be trucked in from off-site and is not included in estimates of groundwater consumption.

Geophysical surveys were performed in 2010 to evaluate the subsurface geologic conditions at three key locations within the subbasin. According to the DEIS, anomalies with the data were seen at one location (TEM-11); consequently, data at this location were not judged to be reliable. The geophysical survey also included 15 soil borings, but these were of limited usefulness due to the shallow depths explored and because groundwater was not encountered. In conjunction with the geophysical data, numerical modeling was used to evaluate the effects of groundwater withdrawal. According to the DEIS, modeling results indicate that conditions are favorable for obtaining sufficient water in the subbasin (p. H.2-35). Of concern, the accuracy of the model results is limited by the scarcity of measured values for many key parameters – including groundwater levels, hydraulic head, hydraulic conductivity, aquifer recharge, depth to bedrock (p. H.2-39). In short, no actual test wells were drilled to obtain measured values for groundwater levels or quality that could be utilized in the groundwater model.

Since groundwater extraction could adversely affect hydrologic resources, the Applicant proposed measures to reduce or avoid potential environmental impacts. These measures include the construction of a test well, observation well, and a distance observation well, and an aquifer test (APMs 14 & 15), collection of a water quality sample (APM 16), recalibration of the groundwater model (APM 17), and the development of a groundwater monitoring plan (APM 18). The groundwater monitoring plan would include quarterly reporting of levels during construction and a comparison with model predictions on an annual basis during construction, and every 5 years during project operation. Monitoring would cease after 5 years of operational monitoring if the monitoring data support the model predictions, and if the outflow from the northeast outlet is less than 50 AFY (p. 3.19-19).

Recommendations:

Prior to publication of the FEIS, conduct additional aquifer testing to more accurately assess groundwater resources within the Project area. Install monitoring wells to determine flow direction and depth to water level. Update the groundwater model to include any additional information obtained following the additional testing and include this information in the FEIS.

65-2

65-3

Design a more extensive groundwater monitoring network and include additional detail so that potential adverse impacts can be detected before damage has occurred, particularly at the Soda spring at Zzyzx.

Clearly describe the groundwater monitoring program within the FEIS, including the Applicant's role and responsibilities.

In the FEIS, commit to conducting sampling of groundwater monitoring wells more frequently than described in APM-18 during both construction and operations. Sampling should be conducted throughout the project life, and may need to be conducted for a longer period of time in the event that serious impacts are detected, or extreme conditions are present.

Consider collecting groundwater-level measurements on a real-time basis using an automatic sensing device and data logger.

Address what measures would be taken, and by whom, should groundwater resources in the basin become unavailable. Identify other viable sources of water that could be used for construction and operations in the event that groundwater is unavailable.

Appendix H-3 contains an Addendum to the Hydrogeologic Conditions and Groundwater Modeling Report. This report utilizes data at TEM-11 to create a conceptual model that includes a groundwater outlet at the southeast portion of the valley, where the water table is apparently much lower than elsewhere, as seen at TEM-11. According to the original Groundwater Modeling report, the TEM value at TEM-11 was not judged to be reliable because the water table was not detected and because the head value predicted by TEM results (below 992 feet amsl) was anomalously low. (The model prediction at TEM-11 was actually 1,089 feet amsl, almost 100 feet higher than the TEM result of 992 amsl.) Considering the discrepancies between the model predictions and the actual values measured, it is unclear as to how valid the other results are from the groundwater model. Furthermore, to use this data in the Addendum, when it was dismissed earlier, seems inconsistent.

Recommendation:

Data at TEM-11 were previously judged unreliable. If they are now deemed reliable and are being used to create a conceptual model illustrating an outlet in this area, this should be explained. The FEIS should clarify whether the data are reliable or not and if they have been incorporated into the groundwater model. Should BLM confirm that the data is not valid, the model should be updated with more reliable data.

The Addendum also notes that previous research conducted at the Desert Studies Center indicates that Soda Springs at Zzyzx is recharged locally by water flow from alluvial fan deposits. Vargas (2012) showed that water quality from the spring was similar in stable isotopes and inorganic constituents to water beneath the alluvial fan on the east side of the Soda Mountains. Local recharge along the eastern face of the South Soda Mountains is estimated in the range of 26 to 86 AFY (p. H.3-30). The combined groundwater withdrawal at the Desert Studies Center, Lake Tuendae, and Soda Springs is approximately



38.2 AFY. The Addendum concludes that local recharge is therefore sufficient to support all, or the majority of groundwater withdrawal and discharge at these sites.

Recommendations:

The Addendum does not consider the effects of climate change or drought on recharge and groundwater levels on the eastern face of the South Soda Mountains. In a dry year, recharge may be inadequate to support groundwater withdrawal and discharge at these sites. We recommend revising this sentence accordingly.

EPA recommends conducting additional water quality analyses of groundwater in the springs and nearby wells, including the water supply wells and the monitoring wells that will be installed in conjunction with the proposed Project. Such data may yield important information regarding the source of the water.

Age dating should also be conducted in order to determine better estimates of recharge.

The Addendum repeatedly notes that geophysical evidence shows the presence of up to several hundred feet of saturated alluvium in the valley floor, which directly contradicts a recharge rate of zero.

Recommendation:

Age date the water to determine whether it consists of old recharge (1,000 to 30,000 years before present) or modern recharge (roughly representing the last 50 years). Such information will better inform estimates of recharge.

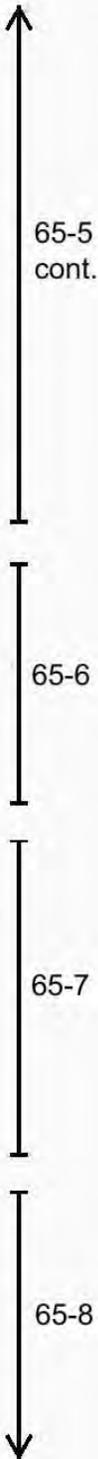
In APM 18 it is stated that if it is determined that the Project has caused a decrease in the volume of groundwater discharged at Soda Spring such that the spring is less than 4 feet deep, thereby threatening the tui chub habitat, then the Project shall correspondingly curtail withdrawal of groundwater and import a corresponding amount of water from outside of the Soda Mountain Valley (p. 3.19-19).

Recommendation:

The FEIS should demonstrate the availability of sufficient alternative supply of water from outside the Soda Mountain Valley. The FEIS should identify this alternative source of water for the project.

Site Grading, Drainage and Erosion Control

The DEIS states that the approximate permanent disturbance acreage within the requested 4,179-acre ROW for the project would be 2,222 acres (p. 2-5). The DEIS also states that the existing site runoff patterns would be preserved to the extent feasible. Upgradient stormwater runoff would not be diverted around the solar arrays. The development would not detain runoff or substantially interfere with existing drainage patterns on or off the Project site and would preserve existing sediment transport throughout the site. Wildlife exclusion fencing may include break-away fences (see Section 2.4.2.4) to allow larger



flow events to pass through the array area. Fencing would be inspected after rain events and replaced or maintained as needed (p. 2-13).

The DEIS further states that up to 1,155 acres would be graded for the Project (Panorama Environmental, Inc., 2013) and additional areas would be subject to disc and roll or another type of ground treatment. The final area and limits of grading will be determined during detailed design, but will be within the footprint of disturbance analyzed in this PA/EIS/EIR (p. 2-18). The amount of acreage to be graded is approximately 52% of the total disturbed area for the arrays. Even though the site runoff is channelized due to I-15 levees and culverts, it is unclear how the applicant will be able to maintain existing site runoff patterns with this amount of grading, grubbing, disc and roll or other ground treatments.

The DEIS also states that due to the persistent winds that blow throughout the year, large portions of the desert surface have been modified into a mosaic of pebbles and stones known as desert pavement (p. 3.19-1. A plan for identification and avoidance or protection of sensitive desert pavement shall be prepared and submitted to the BLM for review and approval at least 60 days prior to start of construction (p. 3.7-25). As stated in the DEIS, the disturbance of the desert pavement by grading, grubbing or other ground treatments could cause a noticeable and possibly substantial increase in wind erosion rates during construction, especially since desert pavement overlies a stone-poor to stone-free matrix (the Av layer) of silt, clay and fine sand, derived principally from wind-blown dust. The disturbance of desert pavement as well as other grading in the project area could have the potential for the spread of dust and potentially the spread of Coccidioidomycosis or Valley Fever spores. Cases of valley fever have been documented in San Bernardino County.

Recommendations:

The FEIS should present an improved analysis of how the existing site runoff patterns will be maintained given the extensive amount of grading proposed.

The FEIS should quantify the likely impacts to desert pavement due to grading, grubbing and other ground treatments, since it proposed to grade approximately 52% of the project site.

The FEIS should include mitigation measures for Valley Fever, since dust control in the desert is problematic, especially when desert pavement is disturbed.



Alexandra Kostalas

From: jchilders@blm.gov on behalf of Soda_Mtn_Solar, BLM_CA
<blm_ca_soda_mtn_solar@blm.gov>
Sent: Wednesday, March 05, 2014 7:47 AM
To: Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka
Subject: Fwd: Not on "virgin" land

----- Forwarded message -----

From: **barry grady** <barrygrady@rocketmail.com>
Date: Mon, Mar 3, 2014 at 1:09 PM
Subject: Not on "virgin" land
To: sodamtnsolar@blm.gov

Dear Jeffery Childers,

We own desert property far east of Barstow and therefore drive through the Mojave and are familiar with the terrain and territory. Most Californians don't venture into the desert often and see it as "vacant" land, suitable for landfills, mines, giant solar generation farms, and other enterprises that can remain out of sight of the suburbs..

We see giant transmission lines criss-crossing the landscape we love. We view them as unattractive but not grossly invasive. However, when the landscape is "cleared" for a large land-based installation, the vegetation will not grow back and there is a real risk of blowing dust and erosion, such as happened at Owens [former] Lake.

Our desert ranch is 25 miles from any electrical lines and we generate our own power with photovoltaics, so we know something about how it works. We also know that electricity doesn't work as well traveling over great distances. This project reflects old-school thinking of giant single-source power plants at great remove from where demand is.

We believe more locally generated solar power would be:

1. More economical, in terms of site preparation, construction and road building, materials, and transportation costs. Installations could be placed on multiple sites -- large [state-owned?] rooftop arrays as we have at the downtown Los Angeles Department of Water & Power bldg. -- close to where the need is.
2. Better for protecting our public land and the animals and plants that manage to survive there -- even if they can't easily be seen. The desert is not empty and should be respected as much as a lake or forest. It will be ruined.

Please do not proceed with this proposed project.

Please continue to pursue multiple alternative energy projects closer to where it will be used.

Thank you,
Barry & W.K. Grady

Alexandra Kostalas

From: jchilders@blm.gov on behalf of Soda_Mtn_Solar, BLM_CA
<blm_ca_soda_mtn_solar@blm.gov>
Sent: Wednesday, March 05, 2014 7:49 AM
To: Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka
Subject: Fwd: Soda Mountain Solar (CACA 49584) biological soil crust comment

----- Forwarded message -----

From: Michael Garabedian <michaelgarabedian@surewest.net>
Date: Mon, Mar 3, 2014 at 4:51 PM
Subject: Soda Mountain Solar (CACA 49584) biological soil crust comment
To: sodamtnsolar@blm.gov

To: Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

I have a B.S. Forestry and Conservation that included soils class and soils field work, I took the mid-February 2013 Bureau of Land Management, National Training Center class including field instruction in the Las Vegas warm desert, "Biological Soil Crust: Ecology and Management" NTC 1730-41, and I have attended Ecological Society of America and Society for Conservation Biology conference panels on BSCs.

All desert soils have biological crusts at various degrees of diversity, including sandy soils of cryptogams, cyanobacteria, fungi, lichens, mosses, algae, etc.

1. All activities including the project and preparation for it should avoid any destruction or damage to Biological Soil crusts (BSCs) including walking.
2. The entire project site including at least a several hundred foot buffer around it including across roads and highways, and all areas of any offsite development part of or serving the project must be investigated and surveyed for biological soil crusts (BSCs).
3. The investigation must be conducted by someone qualified to do so and with experience doing so in the Mojave or a basically equivalent warm desert that does not have seasonal freezing.
4. Sampling techniques unique to BSCs must be used. Transects used for vegetation are unsuitable for BSCs.
5. The person should identify BCSs
 - a. BSC classification and identification should be based on this field guide to BSCs or an equivalent source: "A Field Guide to Biological Soil Crusts of Western U.S. Drylands." at: <http://www.ntc.blm.gov/krc/viewresource.php?courseID=258&programAreaId=149>
 - b. Samples must be kept of BSCs taken from each BSC community and from locations throughout the proposed project area. These samples should be kept and made available in the same manner that documents are made available for public review.
 - c. Micro and macro photos of each type and variety of BSC should be kept.

67-1

6. Project alternatives must be identified in the EIS for at least one area that that has no BSCs and other areas that would have lesser or very little BSC disturbance. The mere fact that an area is "disturbed" to a lesser or greater extent nonetheless means that any disturbed sites must also be investigated and surveyed for BSCs. Elements of BSCs can very quickly invade disturbed soils.

7. Mapping of BSCs on and off site should follow.

8. The EIS must use the most current science to:

- a. Identify the atmospheric chemicals taken up by the BSCs including GHG and other chemicals including but not limited to carbon and nitrogen.
- b. Identify the level and composition of dust, surface and substrate materials and any other nutrients used by and tolerated by the BSCs,
- c. Identify the level, season and characteristics of disturbance including partial or full burying, if any, that the BSCs can tolerate,
- d. Identify the means and time period necessary to restore the BSCs including through inoculation,
- e. Calculate and describe the nutrients that the BSCs make available to desert vegetation, microclimates and habitat.
- f. Calculate the GHG reduction and sequestration in the BSCs and in vegetation that is dependent on BSCs to lesser and significant degrees.
- g. Compare GHG uptake and release factors for proposed and alternative project areas.

9. BLM BSC management practices should be followed add added to for specific renewable energy project BSC management.

a. The EIS must at minimum apply to this proposed project the principles and practices in the BLM BSC management manual DOI/BLM/USGS, "Biological Soil Crusts: Ecology and Management Manual,"

<http://www.ntc.blm.gov/krc/uploads/231/CrustManual.pdf>

b. BSC management unique to the needs of renewable energy development must be used to supplement the manual.

10. The EIS must develop methods and protocols to pri⁶⁷⁻¹ SC disturbance. Establishing "go" versus "no go" zones for where to walk is problematic. All desert soils must at least have strictly minimized trampling activity.

11. MSC benefit identification

- a. The EIS must identify ecosystem and other benefits of BSCs including holding the surface in place against wind, water, animal and human disturbance, dust prevention, prevention of water loss from groundwater, water in the soil profile and due to soil surface evaporation, soil nutrient and other enrichment, and so on.
- b. An ecosystem services value should be placed on these benefits.

Sincerely,

Michael Garabedian, Co-founder
Committee for 245 Million Acres
7143 Gardenvine Avenue
Citrus Heights
California 95621
916-719-7296

67-1
cont.

MBCA



morongo basin conservation association

Post Office Box 24
Joshua Tree, California 92252
www.mbconservation.org

March 1, 2014

Jeff Childers, Project Manager
Bureau of Land Management
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

Sent via email: sodamtnsolar@blm.gov

Subject: Draft Plan amendment/ Environmental Impact Statement/ Environmental Impact Report for the Soda Mountain Solar Project

Dear Mr. Childers:

Thank you for this opportunity to comment on the Soda Mountain Solar Project (SMSP). The Morongo Basin Conservation Association (MBCA) is a 501(c) 4, community-based all volunteer California Non-Profit Corporation. The Directors and members of the MBCA have been educating Morongo Basin residents about issues affecting our environmental and economic health since our incorporation in 1969. MBCA is the oldest collective voice for educating the Morongo Basin's citizens about the unique, natural qualities of which they are stewards, and what is needed to preserve those features. Since the placement of industrial solar facilities on vast acreages of the California Desert's public lands effects both the natural environment and the economic well being of all our desert communities we have broadened our area of concern.

AREAS OF FOCUS

Our comments will focus on four main areas: recreation, socioeconomics (tourism), dust and air quality, and water resources, especially availability.

The proposed Soda Mountain Solar Project is a 350 megawatt photovoltaic facility that includes a project substation, access roads, realignment of an existing route (Razor Route), operation and maintenance buildings, and lay-down areas. The project is proposed on 4,397 acres (6.87 sq. miles) with the solar field occupying approximately 2,691 acres (4.2 sq. miles) straddling both north and south sides of Interstate 15. It would be one of the closest renewable energy projects to a national park unit in the entire southwestern United States. It is however, not the only industrial solar facility to assault visitors to the Preserve. Further east and completely within the viewshed of the Mojave National Preserve (MNP) is the 6.2 sq. miles Ivanpah solar thermal plant (in operation) and the adjacent and recently approved Stateline and Silver State photovoltaic facilities covering 6.4 sq. miles.

68-1

3.13 RECREATION: REGIONAL AND LOCAL ENVIRONMENTAL SETTING

For the purposes of the analysis in this section, the “general vicinity” has been defined as the area within 10 miles of the Project site. This study area was selected to consider potential impacts to recreation because it captures all major recreation resources that contribute to baseline conditions and that have the potential to be affected by activities related to the Project.

Limiting recreational resources to the “general vicinity” of 10 miles is not adequate: it does not capture all major recreational resources that contribute to baseline conditions affected by activities related to the Project. It does not include the remainder of the Mojave Desert and the communities that serve the millions of annual visitors to our public lands. Specifically it does not grasp the popularity of the Mojave Desert as a regional tourism destination.

IN 2013 THE MOJAVE DESERT WAS RECOGNIZED BY NATIONAL GEOGRAPHIC IN TWO SPECIAL TRAVEL ISSUES.



The Mojave Desert – One of the world’s 100 most beautiful places and unforgettable destinations

The Mojave National Preserve – One of the world’s 100 best kept secret journeys and hidden adventures

68-2

Why do visitors come to the Mojave Desert? Visitor Surveys at Joshua Tree National Park by the University of Idaho give us the answer. ¹

| | |
|---------------------------------|-----|
| Views without development | 90% |
| Clean Air | 89% |
| Natural quiet, sounds of nature | 87% |
| Desert plants/wildlife | 83% |
| Native wildlife | 81% |
| Solitude | 73% |
| Dark, starry night skies | 65% |

The “Heart of the Mojave”² is accessed from all compass points on routes grading down from Interstates to state and county paved highways to dirt roads. Linking the three desert national parks is the two lane 29 Palms – to Shoshone Scenic Byway, the most remote and scenic route east of the Sierra Nevada Range. The I-15 ties the coast to the inland deserts, meeting up with the Scenic Byway at Soda Lake and the town of Baker. Travelers on the I-15 are fast and mostly unconcerned as they trace the northern boundary of the Mojave National Preserve on its way to the Nevada border. None-the-less it matters esthetically that the interstate first touches the Preserve (MNP) at the location of the proposed industrial 6.8 square mile Soda

¹ The University of Idaho Visitor Use Study-Winter 2010 (page 63) can be found at <http://www.drecre.com/studiesreports.html>

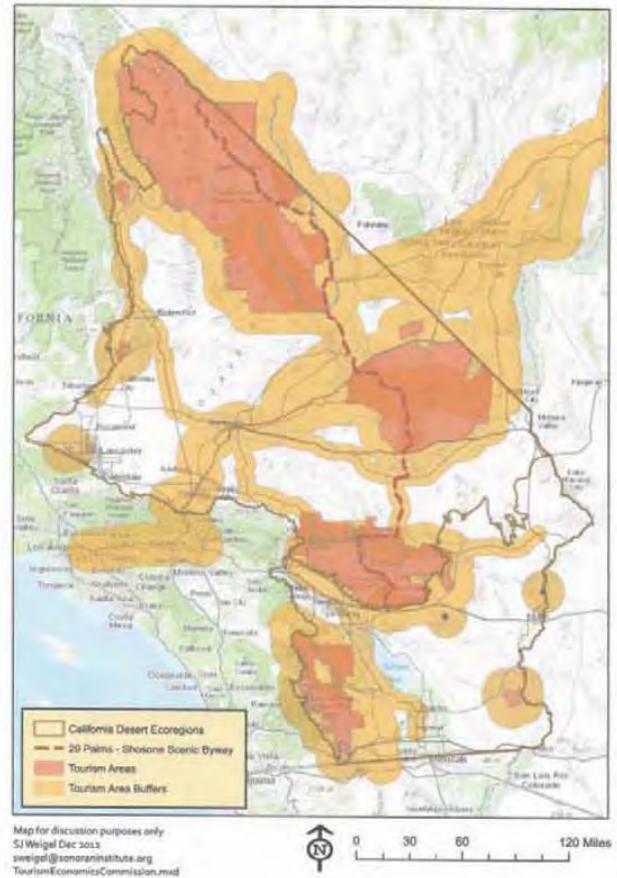
² Thanks to the Needles BLM Field Office for this descriptive phrase.

Mountain Solar Project. It leaves the Preserve 51 miles later in the glare of the Ivanpah towers. This is not a nice way to treat one of world's best kept secret journeys and it is bad for business.

MAPS THAT ILLUSTRATE THE SCENIC ROUTES THAT CONNECT COMMUNITIES, NATIONAL PARKS AND WILDERNESS AREAS³



Tourism Economics Commission Important Tourism Areas



68-2
cont.

Tourist area buffers indicate a desirable viewscape of five miles on either side of the road.

3.14 SOCIOECONOMICS

Visitor spending resulting from visits to the national parks and other scenic public lands is a prime economic engine supporting residents, businesses, and jobs in Mojave Desert communities. This economic relationship is significant and ongoing as long as the conditions which invite visitors are ongoing. Please refer back to the 'Why do visitors come?' above. Businesses dependent on tourism understand that visitors can decide to go elsewhere – the national parks and conservation lands in Nevada, Arizona, Utah or New Mexico – if conditions no longer offer the amenities they crave. The tourism based communities are geographically isolated and individuals have few alternative job choices. Tourism dollars enrich communities because they stay in the communities.

68-3

³ The two maps are available, under Economic Information, at <http://www.drecr.com/studiesreports.html>

IMPACTS OF ALL JOSHUA TREE NATIONAL PARK AND THE MOJAVE NATIONAL PRESERVE ON VISITOR SPENDING

“Using all visitor spending and including direct and secondary effects, the \$58.8 million spent by park (Joshua Tree NP) visitors generates \$64.8 million in sales, which support 732 jobs in the local region. These jobs pay \$23.4 million in labor income, which is part of \$37.9 million in value added to the region...Jobs include full and part time jobs. Labor income consists of wages and salaries, payroll benefits and income of sole proprietors. Value added includes labor income as well as profits and rents to area businesses and sales and excise taxes.”⁴

The updated 2012 figures show the Joshua Tree NP value added is \$70.4 million.

The National Park Conservation Association (NPCA) reports that in 2010 the Mojave National Preserve had over 600,000 recreational visits. The visitors spent over \$13 million in the gateway communities and supported over 200 full and part time jobs. Recreational activities include: hiking, backpacking, bicycling, stargazing, horseback riding, botanizing, wildlife viewing, exploring cultural sites and visitor centers, and, in the MNP only, enjoying OHV travel on certain designated routes.

We acknowledge that similar data is not available for other desert public lands. However, the National Park data is sufficiently robust to make our point.

THE DEIS/EIR DOES NOT ADEQUATELY ANALYZE SOCIOECONOMICS AND RECREATION

The DEIR/EIS only analyzes the effects of short term employment for 215-290 workers who are expected to live within two hours of the site. Only a small impact from the \$755 million “economic output” of the project is anticipated in the desert communities. There is no analysis of the possible project impacts on the tourism economies of the gateway communities. The tourism economies are not short term: they began with the arrival of the railroad and intend to continue long into the future. The report does not include the full range of recreational activities enjoyed in parks and other public lands.

- MBCA requests an analysis of the possible effects of the SMSP on the economies of the desert gateway communities.
- MBCA also request that recreational activities enjoyed on the Mojave Desert public lands be included in the report analysis.

MIGRATORY AND RESIDENT BIRDS ALONG THE I-15 CORRIDOR AND THE 29 PALMS TO SHOSHONE SCENIC BYWAY – INFORMATION PERTINENT TO BIOLOGICAL RESOURCES, RECREATION, AND SOCIOECONOMICS

The following information informs us of the bird species that will encounter the SMSP, if constructed. It also shows the popularity of the area for birders. Birders are excellent tourists in that they tend to stay at local lodging, eat at local restaurants, and buy gas and souvenirs. They are a good proxy for the value of the recreation element not investigated fully in the project Report.

The seasonal occurrence and movement of over 200 bird species in the Mojave Desert area discussed here is recorded on eBird.org, an online resource coordinated by Cornell Laboratory of Ornithology and the National Audubon Society. The balloons on the map (attached at end of letter) are areas where birds are seen, recorded and reported. The following two tables provide the location and Species/Counts. Species means the number of species that have been recorded at that site and Counts is the number of separate occasions that

⁴ Impacts of Visitor Spending on the Local Economy. Joshua Tree National Park 2010. Natural Resource Report NPS/NRSS/EQD/NRR—2012/511 Prepared by Philip C. Cook, University of Idaho. Page 9. Available, under Economic Information, at <http://www.drecre.com/studiesreports.html>



68-3 cont.

68-4

the site has been visited. Other information not provided here, such as the seasonal occurrence and number of years the site has been monitored is available online.

I recently spoke with Jacob Overson, the General Manager of the Baker CSD, and he told me the birders are a visible attraction themselves during migration. In that small town there are three sites with over 100 bird species recorded in each one.

Table 1 eBird - Birding hotspots along the I-15 corridor from Barstow to Las Vegas area

| # | Location | Species/Counts | # | Location | Species/Counts |
|----|----------------------------|----------------|----|--------------------------|----------------|
| 1 | Barstow WTP | 115/44 | 11 | Baker- behind Denny's | 107/82 |
| 2 | Barstow Ponds | 124/108 | 12 | MNP – Pachalka Spring | 50/9 |
| 3 | Daggett Evap. Ponds | 117/197 | 13 | MNP – Clark Mt. | 109/43 |
| 4 | Mineola Rd. | 17/1 | 14 | Primm Valley Golf Course | 121/26 |
| 5 | Newberry Springs vicinity | 103/32 | 15 | Boulder City | 22/1 |
| 6 | Fort Cady Riparian Reserve | 53/7 | 16 | Sunset Park | 200/205 |
| 7 | Afton Canyon | 78/18 | 17 | Flamingo Wash | 75/6 |
| 8 | Zzyzx | 224/384 | 18 | Wetlands Park | 195/161 |
| 9 | Baker WTP | 176/230 | 19 | Henderson Bird Viewing | 251/551 |
| 10 | Baker -Chet Huffman Park | 118/155 | 20 | Red Rock Canyon NC Area | 148/173 |

Table 2 eBird - Birding hotspots along the 29 Palms to Shoshone Scenic Byway area

| # | Location | Species/Counts | # | Location | Species/Counts |
|----|--------------------------|----------------|----|-----------------------|----------------|
| 21 | MNP – Kelso Dunes | 9/13 | 30 | Tecopa WTP | 54/20 |
| 22 | MNP – Kelso depot | 115/86 | 31 | Tecopa | 83/12 |
| 23 | Mojave National Preserve | 176/82 | 32 | Kingston Mountains | 40/2 |
| 24 | Salt Creek Hills | 61/23 | 33 | Smith Spring | 24/18 |
| 25 | DV – Saratoga Springs | 67/13 | 34 | Crystal Spring | 100/91 |
| 26 | China Ranch Date Farm | 161/132 | 35 | Beck Spring | 63/24 |
| 27 | Amargosa Canyon | 121/18 | 36 | Horse Thief Spring | 139/135 |
| 28 | Shoshone Village | 141/99 | 37 | Death Valley Junction | 75/32 |
| 29 | Shoshone – Tecopa Area | 72/5 | 38 | Ash Meadows NWR | 185/372 |

MIGRATORY BIRDS, AVIAN MORTALITY, AND MONITORING (3.4-39)

Essentially, the following quote from the project Report says it all.

*While this measure would help describe the extent of the magnitude of the potential impact to common and special-status avian species, it would not fully reduce the impacts of proposed facilities to individual birds because **avian mortality risks would remain.*** (bold by the author)

The Mitigation measures are, for the most part, only monitoring measures. At this time there is little that can be done to eliminate the attractiveness of a body of water (mirrors) to a hot, tired, and exhausted bird in need of rest and refreshment. We should, however, record what we are doing. Three years will not be sufficient data: birds have been following routes between water sources for millennia. Some of the sites listed in the tables have posted data back to 1900.

- MBCA requests that monitoring data be posted on eBird as a permanent and transparent record.

68-4
cont.

- MBCA requests that bird mortality data be posted on the BLM website in a timely manner.

68-4
↑ cont.

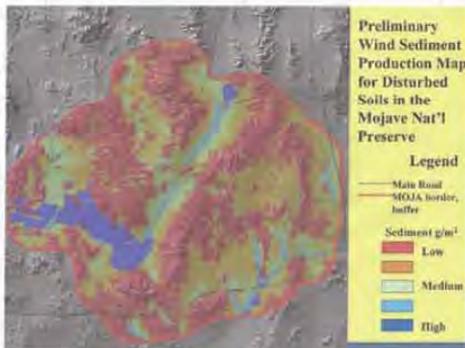
THE DOCUMENT DOES NOT ADEQUATELY ADDRESS FUGITIVE DUST AND WATER QUANTITIES NEEDED FOR SUPPRESSION.

The SMSP estimates it will use 192 AFY to control dust on approximately 2,700 acres or an amount of water equal to **0.07 AF/Acre**. This quantity is similar to amounts projected for construction of the three 100 acre solar fields in the Morongo Basin (MB). In actuality, when completed the MB projects had **used from 0.4 to 0.57 AF/Acre: approximately 10 times the projected amount**. Even so, on occasion downwind residents were subjected to high enough dust levels during construction to warrant staying indoors and the Marine Base issued travel alerts for its exit roads. The completed projects continue to emit dust when winds blow 20 mph and upward.

68-5

The project area is located in a narrow basin bracketed by mountains that funnel winds eastward. Baker residents and businesses, as well as interstate travelers are at risk (visibility and health problems) if dust is not adequately controlled. Dust control over a four square mile area could be necessary and continuous for most of the year. That's a lot of water, especially if the wind is drying the ground as fast as it is wetted down. **The project soils are not uniquely different from the sediments in the MB. The need for 192 AF X 10 = 1,920 AFY is a possibility that must be considered** to protect limited groundwater supplies and preserve air quality. The data also indicates the need to wash mirrors more than twice a year so maintenance quantities would also need to be refigured. The possible 10X increase is staggering but based on water use by actual solar projects so it must not be ignored.

AIR QUALITY - USGS STUDIES SEDIMENT EROSION IN THE MOJAVE NATIONAL PRESERVE⁵



USGS scientists study the susceptibility of soil surfaces to wind erosion in the southwest and, fortunately for the SMSP project, they have focused locally. The map to the left shows the wind sediment production for disturbed soils in the MNP, including the project area. The table below pulls data from the report's monthly maps that show the % of time during a month that the Threshold Friction Velocity (speed at which particles move) is exceeded. Notice that the Project area has a medium (g/m²) sediment load, while the area immediately south and to the east is high, meaning finer particles. The southwest winds can transport these fine sediments on to the project site throughout

68-6

the year.

% time per month that a Threshold Friction Velocity (TFV)* is exceeded on MNP border, buffer

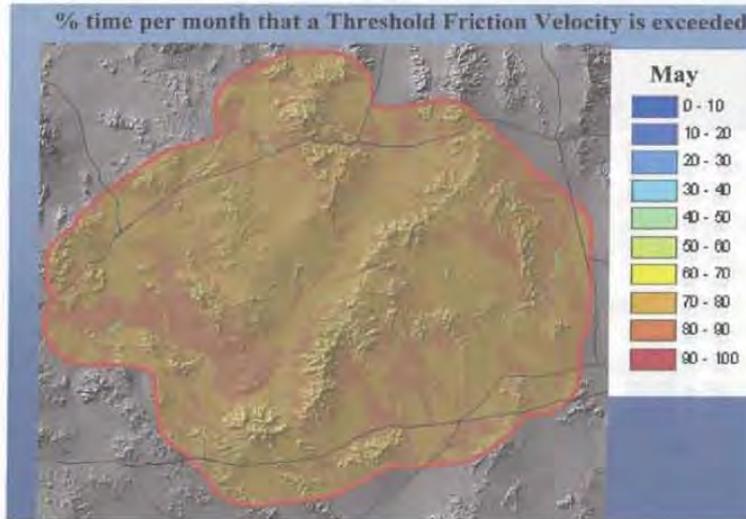
| Month | SMSP site** | South of site*** | Month | SMSP site | South of site |
|----------|-------------|------------------|-----------|-----------|---------------|
| January | 30-40% | 50-60% | July | 60-70% | 70-80% |
| February | 40-50% | 60-70% | August | 50-60% | 70-80% |
| March | 60-70% | 70-80% | September | 50-60% | 70-80% |
| April | 60-70% | 70-80% | October | 40-50% | 60-70% |
| Map | 70-80% | 80-90% | November | 30-40% | 60-70% |
| June | 70-80% | 80-90% | December | 30-40% | 50-60% |

*TFV is the wind speed at which particles move.

⁵ Jayne Belnap et.al. Soil Surface Susceptibility to Wind Erosion. Power Point available at <http://www.drecre.com/studiesreports.html>

** Sediment on SMSP Site is classified as medium
 ***Sediment immediately south of the Project site is classified as high
 Sediment= amount of soil blown off the soil surface at high spring wind speeds.

EXAMPLE OF MONTHLY MAP



68-6
cont.

- MBCA requests that the BLM investigate the water quantities actually used during construction of other solar projects on similar desert soils before considering project approval,
- MBCA requests that water quantities used for construction and maintenance on all projects be tracked, reported, and posted on the BLM website. This is the only way we can anticipate the water requirements of industrial scale solar development on our desert aquifers.
- MBCA requests that BLM consult with the USGS scientists to assess the project soils for their susceptibility to wind erosion in all months of the year. The USGS has data sets available to analyze desert soils for wind and water erosion.⁶
- MBCA requests a reevaluation on the wind velocities that trigger operations to be shut down. The 25 and 40 mph velocities may be too high.

68-7

68-8

68-9

Water Resources – Impermeable Boundaries – and Upstream Users

The amount of available groundwater to construct and maintain the facility is in dispute. Based on the proponent’s groundwater analysis it is possible to acquire enough water for construction and maintenance by pumping water from the alluvial sediments underlying the project site. The report supports pumping without drawing the water down to dangerous levels using two assumptions: total recharge ranging from 343 to 1,373 AFY over an area of 33,000 acres and impermeable bedrock. The Mojave National Preserve⁷ challenges these assumptions based on other recharge models that would project very low to zero recharge. Groundwater in the eastern Mojave shows carbon-14 dates in the 20,000 years before present range. It is also pointed out that proof of impermeable no-flow boundaries in the Soda Mountains and underlying bedrock is not supported by field data.

68-10

⁶ Assessing the Geology of Large Scale Solar Projects – Poster. Available at <http://www.drecr.com/studiesreports.html>

⁷ Letter dated November 21, 2012 and received by BLM on November 27, 2012

A transparent (this project is on public land) water supply analysis would consider alternative scenarios; i.e., that the groundwater is not recharged annually, if ever; the boundaries are fractured and the water basins are connected. A complete analysis would consider the possible adverse effects to the spring at Zzyzx, the federally endangered Mojave tui chub, and on the community wells for Baker.

Baker is the closest water district to the project and the one stop shop for Interstate travelers between Barstow and Primm Nevada. What happens if the Baker water supply is compromised? Baker is six miles to the east of the project, but like the Zzyzx spring, it is next door, and possibly connected, when it comes to water.

The town of Baker has been around since 1908, starting life as a station on the Tonopah and Tidewater Railroad. It has a population of approximately 500 people and continues to exist because of its location at the crossroads of I-15 and Hwy. 127. There are 8 service stations, 16 restaurants, several of which are within the 3 Service Centers, 2 hotels, 2 mechanics, 3 tow truck companies, County fire station, Volunteer fire station, 2 ambulances, a K-12 school with a swimming pool, Chet Huffman Park (118 bird species), and a large number of restroom facilities.

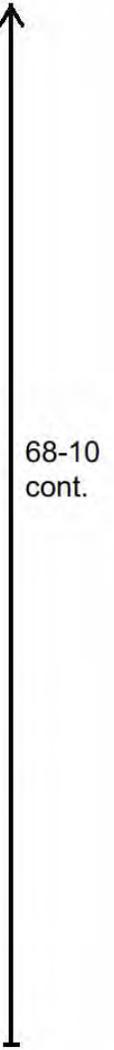
Three hundred (300) AFY of water is required to support the town’s enterprises, which in turn support the needs of the residents and hundreds of thousands, if not millions of travelers yearly. The Water Treatment Plant, a series of wetlands, supports the traveling needs of 176 bird species and numerous birders. If something should happen to the town’s water supply ; if they are required by the county to greatly increase withdrawal because of unforeseen SMSP water needs, the town could go dry and out of business. Please refer back to the Morongo Basin experience on page 6 of this letter. No one wants that to happen. How foolish to overlook the possibility.

- MBCA requests that BLM get an independent evaluation of the water resources for the SMSP. This is reasonable since fractured rock basins are difficult to analyze and known to be permeable.
- MBCA requests that independent evaluation include the possible outcomes of a permeable boundary for the Zzyzx spring and for the town of Baker, its residents, businesses, and the traveling public. Outcomes include possible extirpation of the federally endangered Mojave tui chub, regional air quality, water resources, and socioeconomics.

RECAP

Thank you for your consideration of the points we have made in letter. We wrote from a compelling need to share our experiences in the Morongo Basin which have relevance to all our public lands and the gateway communities that steward them and are supported by them. We made the following requests for your consideration:

- MBCA requests an analysis of the possible effects of the SMSP on the economies of the desert gateway communities. 68-11
- MBCA also request that recreational activities enjoyed on the Mojave Desert public lands be included in the report analysis. 68-12
- MBCA requests that monitoring data be posted on eBird as a permanent and transparent record. 68-13
- MBCA requests that bird mortality data be posted on the BLM website in a timely manner. 68-14
- MBCA requests that the BLM investigate the water quantities actually used during construction of other solar projects on similar desert soils before considering project approval, 68-15



- MBCA requests that water quantities used for construction and maintenance on all projects be tracked, reported, and posted on the BLM website. This is the only way we can anticipate the water requirements of industrial scale solar development on our aquifers. 68-16
- MBCA requests that BLM consult with the USGS scientists to evaluate the project and assess the project soils for their susceptibility to wind erosion in all months of the year. The USGS has data sets available to analyze desert soils for wind and water erosion. 68-17
- MBCA requests a reevaluation on the wind velocities that trigger operations to be shut down. The 25 and 40 mph velocities may be too high. 68-18

IN CLOSING

MBCA believes there is no compelling need to produce 350 MW of solar power at this particular location, adjacent to the Mojave National Preserve, while mining a poorly studied water source, possibly threatening the existence of the Mojave tui chub, and diminishing the beauty of this “unforgettable destination” with dust clouds blowing off four to six square miles of degraded land. We suggest Bechtel search for more suitable land, already degraded and without biological resource issues (no big horn sheep, desert tortoise, burrowing owls, crucifixion thorn), which is also close to transmission lines. We recommend that the BLM adopt Alternative G –Site Unsuitable for Solar, No BLM ROW, and No County Permit 68-19

If you should you wish to contact me about this letter I can be reached at the contact information below.

Sincerely,

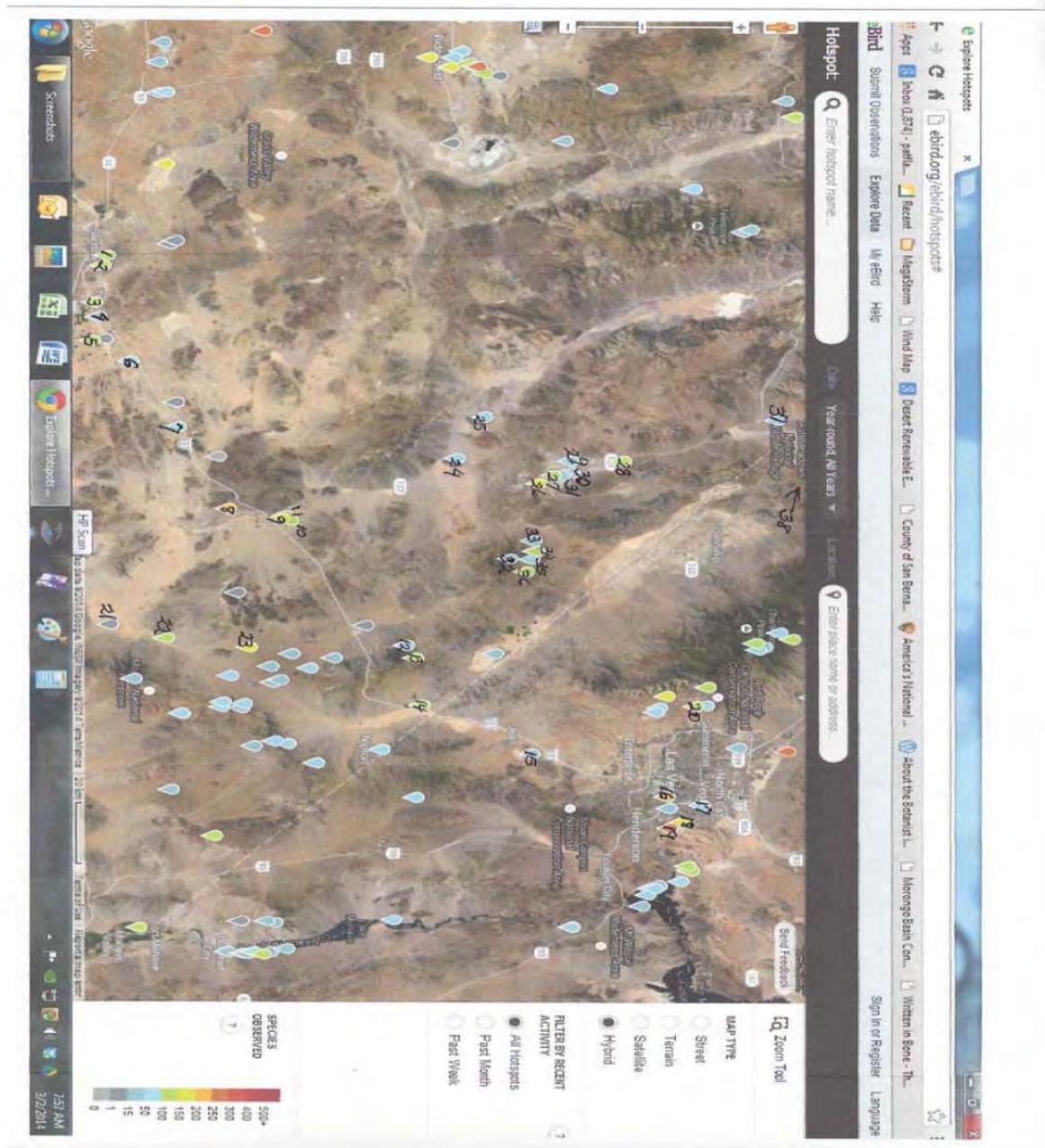


Pat Flanagan, Board Member
Morongo Basin Conservation Association
Patflanagan29@gmail.com

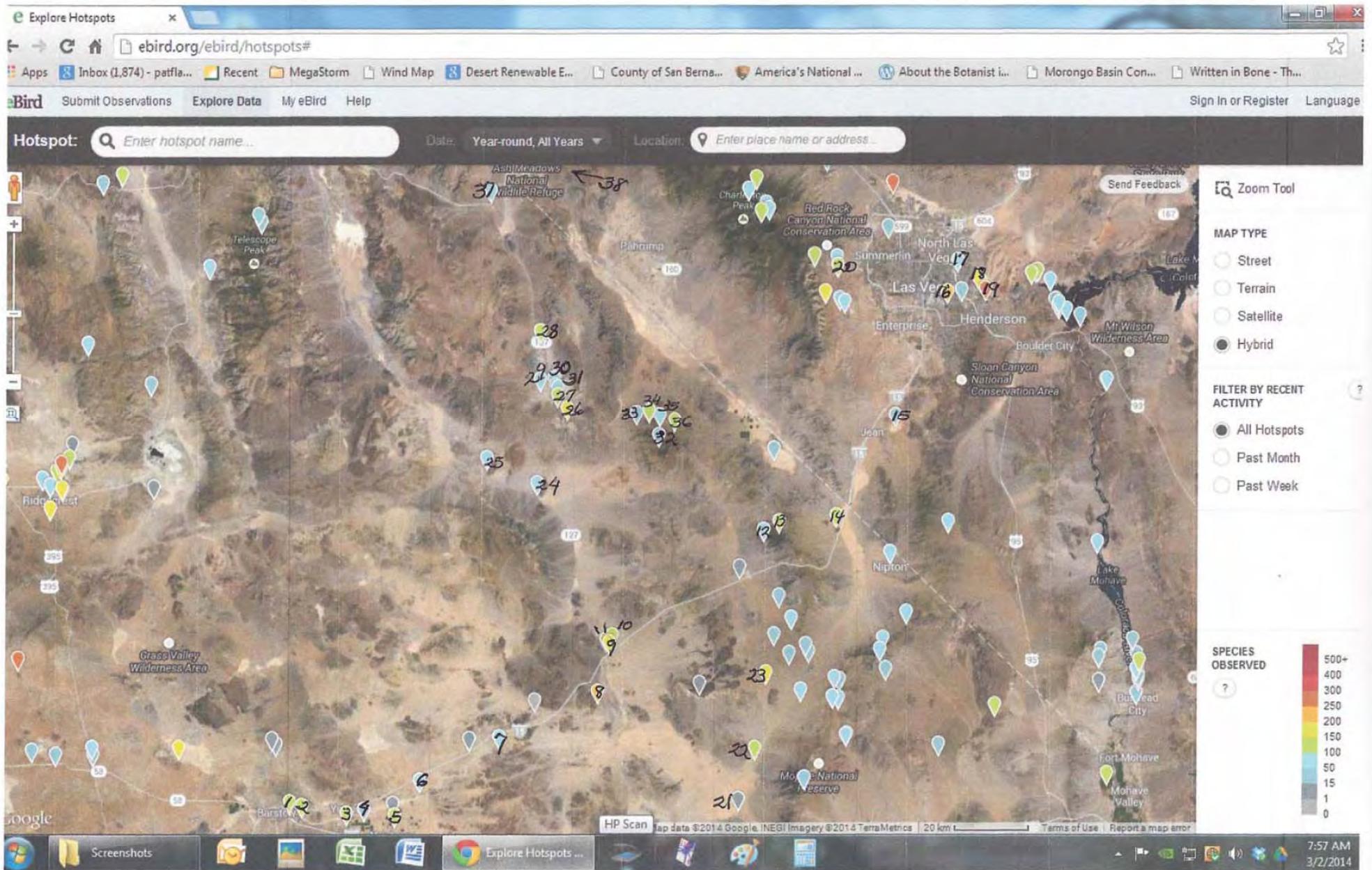
Attachment: Map – eBird locations Mojave Desert

- CC:
- MBCA Board Members
 - Teri Raml, BLM Desert District Manager
 - Katrina Symons, Barstow Field Manager
 - Jacob Overson, Baker CSD, General Manager
 - Debra Hughson, Chief Scientist, Mojave National Preserve
 - Terry Weiner, Desert Protective Council
 - Seth Shteir, National Parks Conservation Association
 - David Lamfrom, National Parks Conservation Association
 - Paul Smith, Tourism Economic Commissio

eBird location map for hot spots in the Mojave Desert with an emphasis on Barstow to Las Vegas on the I-15 and Hwy 127 from the Mojave National Preserve to Death Valley



Comment Letter 68





The Desert Protective Council, Inc.
P.O. Box 3635, San Diego, California 92163-1635
protectdeserts.org

March 3 2014

Jeff Childers
Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
Via Email: sodamtnsolar@blm.gov

Katrina Symons, Field Manager
Barstow Field Office
2601 Barstow Road
Barstow, CA 92311
Via Email: ksymons@blm.gov

RE: Comments of the Desert Protective Council for the Draft Environmental Impact Statement (DEIS) for the Soda Mountains Solar Project: CACA #049584

Dear Mr. Childers,

The Desert Protective Council (DPC), founded in 1954, is a non-profit 501(c)(3) membership organization with members nationwide. The DPC's mission is to safeguard for reverent and wise use by this and succeeding generations those desert areas of unique scenic, scientific, historical, spiritual or recreational value, and to educate children and adults to a better understanding of the deserts.

Desert Protective Council Board and members have enjoyed hiking, camping, bird watching, photography, botanizing and have experienced spiritual refreshment in the general vicinity of the proposed Soda Mountains Solar Project. We cherish this part of the Mojave Desert for its remarkable beauty, broad unspoiled vistas and stunning diversity of plant and animal species. Desert Protective Council members have camped and hiked south and west of Baker, CA. in the Mojave National Preserve at the Cow Hole Dunes. The 360-degree view is mind-bendingly beautiful in all directions, particularly in late afternoon looking west toward the dry lake, which glows in the waning light. This project would interfere with a bighorn sheep corridor between mountain ranges and is within a mile of the Mojave Preserve, a jewel of the National Park System. The integrity of the Preserve's view shed would be ruined by the placement of a large-scale solar project along Interstate 15. The million-plus solar panels would have the potential to attract, confuse and kill birds.

I 69-1
I 69-2
I 69-3

The mission of the Desert Protective Council is to safeguard for sustainable use by this and succeeding generations those desert areas of Southern California that are of unique or significant scenic, scientific, historical, spiritual, and recreational value, and to educate both children and adults to a better understanding of the desert.

The DPC opposes the Soda Mountains Solar Project because it is sited in the wrong place. **The Desert Protective Council supports Alternative G:** “The site is unsuitable for a remote large-scale solar project” for a number of reasons, which we will summarize by stating that the **Draft Environmental Impact Statement is EIS is incomplete.**

69-4

The DEIS is Incomplete: The DEIS has several outstanding unresolved issues and the use of “adaptive management” realistically will not likely cover all of the problems that have been overlooked. For this reason, *the DEIS comment deadline should be delayed until BLM can provide more information for this project.* Since there is no power purchase agreement for this project, there should be no hurry to grant the requested right of way. The BLM has not decided whether to amend the CDCA Plan to identify the application area as suitable for the proposed solar energy and San Bernardino County has not decided whether to approve, deny or modify the requested groundwater well permit.

69-5
69-6

The BLM should not amend the CDCA Plan because it would not be consistent with FLPMA, *which requires BLM to prevent unnecessary and undue degradation of public lands. 43 U.S.C.1732 (b).*

- The BLM has not shown that it would be necessary to approve the industrial-scale solar project on this site and that there are no other suitable alternatives within or outside of the CDCA.
- A CDCA Plan amendment would not be consistent with the bioregional planning approach in the CDCA Plan.
- The overarching principles expressed in the Decision Criteria in the CDCA Plan are applicable to the proposed project, including providing adequate numbers of alternatives for consideration during the processing of applications, and “avoid[ing] sensitive resources wherever possible.” (CDCA Plan at 93.)

69-7

The BLM Purpose and Need Statement is too narrow because it only responds to the Applicant’s application under Title V of FLPMA for a ROW grant to construct, operate, maintain and decommission a solar photovoltaic facility on our public lands. The statement fails to acknowledge the public request to recognize the “*need*” to protect wildlife, visual, cultural, public access and hydrologic resources and does not adequately address the importance and potential permanent loss to future generations of, natural and cultural resources on and adjacent to the site.

69-8

The Purpose and Need Statement also states: “In accordance with Section 103(c) of the Federal Land Policy and Management Act (FLPMA) of 1976, public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources.”

There is nothing in FLPMA that states the need for renewable and non-renewable resources overrides the responsibility to protect natural, cultural and visual resources from unnecessary harm. Equally, there is nothing specific in FLPMA that points out that the project site targeted for the project needs to be developed. In fact, FLPMA stresses preservation of important resources as pointed out in Section 8 in the FLPMA Declaration of Policy: “*the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use*”.

69-8

The Desert Protective Council requests that the **Purpose and Need Statement** be rewritten to include mandates to protect sensitive biological, hydrological, cultural and visual resources.

↑ 69-8
| cont.

The Project does not meet the specifications of the National Environmental Policy Act (NEPA), which requires consideration of a range of alternatives in every EIS document. NEPA requires that the agency adequately analyze all reasonable alternatives for achieving the project objectives, **including alternatives outside the immediate jurisdiction of the agency.**

• **The Council on Environmental Quality** has stated, "Section 1502.14 [of the NEPA regulations] requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant"

And,

An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered. Section 1506.2(d). Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a)[emphasis added]".

69-9

The Soda Mountains Solar Energy Project in its proposed location would be inconsistent with the Best Management Practices concerning the National Environmental Policy Act, the Endangered Species Act, and the Federal Lands Management Policy Act, etc and should not be considered "environmentally responsible".

Alternatives that could produce equivalent amounts of renewable energy without the impacts to Mojave Desert habitat that have been left out of the EIS:

- **A Private Lands Alternative.**
- **A "Brown-fields" Alternative:** The US Environmental Protection Agency has identified over 15 million acres of degraded lands or "brown-fields" in the United States that would be appropriate for large-scale renewable energy development. <http://www.epa.gov/oswercpa/>
- **Local Rooftop Solar and Distributed Generation Alternative in the Already Built Environment Alternative.**

This DEIS had an inadequate Public Review Process:

The California Desert District BLM is not recording comments from public meetings on the record. Several groups and individuals have complained about BLM’s unwillingness to record public comments at meetings. The Desert Protective Council submitted a letter in January 2014 to the BLM Desert District requesting an adequate explanation for not recording oral comments at public meetings. We received no response to our letter. Failure to formally record public comments has occurred at two recent meetings concerning large renewable energy projects the DPC has attended. By not placing oral comments on the public record, BLM is in violation of the American Disabilities Act but this also seems to fly in the face of a purpose of a public meeting and is not democratic. At the January 11 2014 meeting for the Soda Mountains Project in Yucca Valley, California, the BLM was asked by the public to extend the comment period. These comments requesting an extension for the comment deadline were made to address the inadequacies of the DEIS. The National Environmental Policy Handbook, written by the BLM states:

69-10

“You must maintain records of public meetings and hearings including a list of attendees (as well as addresses of attendees desiring to be added to the mailing list) and notes or minutes of the proceedings. Consult 455 DM 1 for procedural requirements related to public hearings. Check individual program guidance to determine requirements for public meetings and hearings.”

The BLM is in violation of its own guidelines by not documenting public comments at meetings.

http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/NEPS.Par.95258.File.dat/h1790-1-2008-1.pdf

In conclusion, the Desert Protective Council supports only Alternative G because of the many unresolved issues with the project, including impacts to the desert soil, in particular cryptobiotic soil crusts, impacts to air quality from construction activities and from the inevitable particulate pollution that will result from scraping the surface of the desert and from removing all plants and animals in the areas of solar panel installations, impacts to our beleaguered California state reptile, the desert tortoise, and to other resident reptiles, impacts on local desert aquifers and springs and associated riparian-dependent plants and wildlife, impacts to the visual resources, impacts to the ever-dwindling desert dark skies, impacts to surrounding wilderness areas and to the wild character of the Mojave National Preserve, impacts to recreation, and to the experience of tourists from all over the world who visit the Mojave Desert for its wild beauty.

69-11

Most of the impacts listed above have been extensively addressed in the comments of Pat Flanagan, for the Morongo Basin Conservation Association, of Kevin Emmerich of Basin and Range Watch, of the National Parks and Conservation Association, and by Michael Garabedian. The Desert Protective Council hereby incorporates by reference the comments of all of the above individuals and organizations.

69-12

Thank you very much for the opportunity to submit these comments into the public record on behalf of the Desert Protective Council for the Soda Mountains Solar Project.

Please keep the Desert Protective Council on the mailing list for all documents and notices pertaining to this project.

Sincerely,

Terry Weiner
Projects and Conservation Coordinator
(619) 342-5524 cell
terryweiner@sbcglobal.net
www.protectdeserts.org
Co- Founder, Solar Done Right
www.solardoneright.org

Alexandra Kostalas

From: jchilders@blm.gov on behalf of Soda_Mtn_Solar, BLM_CA
<blm_ca_soda_mtn_solar@blm.gov>
Sent: Wednesday, March 05, 2014 7:49 AM
To: Soda Mountain Project EIS-EIR; Alexandra Kostalas; Michael Manka
Subject: Fwd: Mojave Desert Land Trust Comments on Soda Mountains Solar Environmental Impact Statement (CACA 49584)
Attachments: Mojave Desert Ecoregional Assessment 2010.pdf

----- Forwarded message -----

From: Frazier <frazier@mojavedesertlandtrust.org>
Date: Mon, Mar 3, 2014 at 8:39 PM
Subject: Mojave Desert Land Trust Comments on Soda Mountains Solar Environmental Impact Statement (CACA 49584)
To: "sodamtnsolar@blm.gov" <sodamtnsolar@blm.gov>

March 3, 2014

Jeffery Childers

Soda Mountain Solar Project Manager

22835 Calle San Juan De Los Lagos

Moreno Valley, CA 92553

Re: CACA 49584 – Soda Mountains Solar Environmental Impact Statement

Dear Mr. Childers:

Mojave Desert Land Trust (MDLT) appreciates the opportunity to comment by this email on the Soda Mountains Solar Project Draft Environmental Impact Statement (CACA 49584). MDLT is a 501c.3 non-profit public benefit corporation whose mission is “To protect the Mojave Desert’s ecosystem, and its scenic and cultural resource values.” Created in 2005 to serve as a regional land trust for the California Desert, MDLT has purchased over 47,000 acres of land inside the California Desert Conservation Area worth an estimated \$18 million, and continues to be a key partner to the Bureau of Land Management and the National Park System through conveyance of purchased inholdings inside designated wilderness areas and national parks. Most importantly for this project, MDLT has purchased over 17,000 acres in Mojave National Preserve, 3,330 acres in the Cady Mountains Wilderness Study area, as well as hundreds of acres in the adjacent Soda Mountains Wilderness Study Area and the Hollow Hills Wilderness.

Much of the land that MDLT has purchased to date has been to protect core areas of species habitat and integrity of conservation lands.. We have a great concern that Soda Mountains Solar will directly impact this

70-1

Comment Letter 70

investment in a number of ways, and that impacts from the projects are not possible to mitigate. Therefore, we are recommending the Bureau of Land Management deny the issuance of a Right of Way and encourage the applicant to choose a location that does not cause impacts to pristine public lands. 70-1 cont.

MDLT is not the only group that has made significant investments in land acquisition for conservation purposes in this region. The Department of the Navy, The Wildlands Conservancy, and the Land and Water Conservation Fund, among others, have invested tens of millions of dollars in the area of Soda Mountains Solar to protect open space and habitat leading to the conservation of hundreds of thousands of acres. Permitting this project runs counter to and violates the public trust of private, state, and federal conservation investments made in the region for the last three decades. 70-2

Impacts to the very sensitive water resource at MC springs downstream from the proposed project are of great concern as well. Despite the assurances from the project applicant that the spring will not be impacted, more studies need to be completed regarding impacts of removing water upstream of the only remaining habitat for the highly endangered Mojave Tui Chub (*Gila bicolor mohavensis*). Possible effects of the project on this species are profound, as the chub is obligate to the small ponds created at MC spring. The Environmental Impact Statement fails to consider the ramifications of this effect thoroughly, and also fails to consider the effect of a greater degree of water use than estimated by the applicant. The estimates of water use on the project are likely to be much higher than predicted by the applicant. If small scale projects like the Cascade project near Joshua Tree, California are any indication, the project applicant's water use estimate could off by a degree of magnitude. 70-3

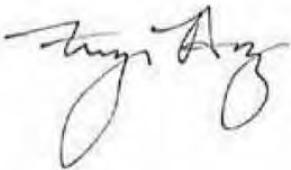
Perhaps most importantly, the Mojave Desert Ecoregional Assessment [i] (attached as PDF) points to the project area as "biologically core" to the desert bighorn sheep population. Indeed, this valley appears to be one of the only connections between populations in the Mojave National Preserve and populations and habitat to the north. Furthermore, the area is demonstrated habitat for the threatened desert tortoise and has important desert wash features that are completely intact. Destruction of the natural features in the project footprint, even in the modified alternatives that reduce the footprint, will have serious unmitigable impacts on desert wildlife in the area. 70-4

We also request that all public meetings be recorded in the future. The lack of any public record from the Yucca Valley and Barstow meetings in January 2014 was unacceptable. 70-5

We respectfully request that the Bureau of Land Management deny the project applicant a Right of Way permit and direct the developer to a location with fewer resource conflicts. 70-6

Thank you for your time and consideration.

Sincerely,



Frazier Haney

Frazier Haney

Conservation Director

Mojave Desert Land Trust

61732 29 Palms Highway

Joshua Tree, CA 92252

(760) 366-5440

Frazier@MojaveDesertLandTrust.org

www.MojaveDesertLandTrust.org

[\[i\]](#) Randall, John M. et al 2010. Mojave Desert Ecoregional Assessment



San Bernardino Valley
Audubon Society

Bureau of Land Management
California Desert District
Attn: Jeff Childers, Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
Email: sodamtnsolar@blm.gov

Via Email

March 3, 2014

Re: **Comment on the Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report for the Soda Mountain Solar Project (CACA 49584)**

Dear Mr. Childers:

We write on behalf of the National Parks Conservation Association (NPCA) and the San Bernardino Valley Audubon Society (SBVAS) to urge the Bureau of Land Management (BLM) and the County of San Bernardino (County) (collectively, Lead Agencies) to revise the Draft Plan Amendment/Environmental Impact Statement/Environmental Impact Report (Draft PA/EIS/EIR) for the Soda Mountain Solar Project (Project), and to allow the public sufficient time to provide written comments and testimony at a public hearing regarding the revised document. NPCA is an organization dedicated to protecting and enhancing America’s national parks and has more than 800,000 members and supporters. SBVAS is southeastern California’s leading non-profit engaging people in the conservation of birds and their habitats and has 2000 active members. We also incorporate the comments submitted by the Defenders of Wildlife.

71-1
71-2

The Project, proposed by Soda Mountain Solar, LLC (Applicant), consists of the construction, operation, maintenance, and decommissioning of a utility scale (approximately 358-megawatt) solar photovoltaic (PV) facility on over 4,000 acres of land, adjacent to the Mojave National Preserve (Preserve), near Baker, California. The Draft PA/EIS/EIR was prepared to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). NEPA has two aims. “First, it places upon an agency the obligation to consider every significant aspect of the environmental impact of the proposed action. Second, it ensures that the

agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.” *Baltimore Gas & Electric Co., v. NRDC*, 462 U.S. 87, 97 (1983); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349-50 (1989) (an Environmental Impact Statement (EIS) serves an “informational role” and provides a “springboard for public comment”).¹

The Draft PA/EIS/EIR fails to fulfill its role as an “informational document” under NEPA and CEQA. The Draft PA/EIS/EIR contains several deficiencies, including the following:

- The purpose and need statement is too narrow. As a result, the Draft PA/EIS/EIR considers an insufficient range of alternatives;
- The analysis of the hydrological impacts is inadequate;
- The mitigation measures for the hydrological impacts are inadequate;
- The analysis regarding the impacts to the Mohave tui chub is inadequate;
- The Draft PA/EIS/EIR improperly minimizes the importance of the Project site for the desert bighorn sheep populations by failing to emphasize the significance of the Soda Mountains region for connectivity between the species’ metapopulation fragments;
- The Draft PA/EIS/EIR uses misleading assumptions about the desert tortoise, presents the analysis of impacts to the desert tortoise in a confusing manner, and provides inadequate information for the Lead Agencies to properly analyze the impact to the species;
- The Draft PA/EIS/EIR fails to adequately analyze the Project’s indirect effects;
- The visual resources analysis is inadequate;
- The Draft PA/EIS/EIR fails to adequately discuss the cumulative impacts of the Project; and
- The Draft PA/EIS/EIR does not properly consider applicable land use plans.

NPCA and SBVAS are particularly concerned about the placement of this large utility-scale renewable energy project adjacent to the third-largest National Park Service

71-3

¹ The basic purpose of an EIR under CEQA is similar. An Environmental Impact Report (EIR) must “inform the public and its responsible officials of the environmental consequences of their decisions before they are made.” *Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 564 (1990).

(NPS) area outside of Alaska and its potential impact on sensitive and protected species. It is critical that the Draft PA/EIS/EIR contain all the information and analysis essential to making informed decisions about moving forward with the Project. BLM and the County must revise the Draft PA/EIS/EIR and make the revised document available for public review and comment. In addition, the County should deny the application for a groundwater extraction permit because the Project will overdraft the aquifer and adversely affect the health of Soda Spring and its associated biological resources.

↑
71-3
cont.

I. THE PURPOSE AND NEED STATEMENT IS UNREASONABLY NARROW, THEREBY ESTABLISHING AN INSUFFICIENTLY BROAD RANGE OF ALTERNATIVES

The purpose and need statement has broad implications for the entire project; it influences the range of alternatives considered in an EIS. “It is from this statement that the agency [and the] public ... may begin to judge whether the agency has fully analyzed the possible impacts of the action and reviewed a reasonable range of alternatives to that action.” *Soda Mountain Wilderness Council v. Norton*, 424 F. Supp. 2d 1241, 1261 (E.D. Cal. 2006). In defining the purpose and need for a particular action, “agencies must look hard at the factors relevant to the definition of purpose.” *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991). In doing so, the agency should look to Congress’ intent in authorizing the agency to act. When defining the purpose and need for a project “an agency should always consider the views of Congress, expressed, to the extent that the agency can determine them, in the agency’s statutory authorization to act, as well as in other congressional directives.” *Id.* Ultimately, “an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency’s power would accomplish the goals of the agency’s action.” *Citizens Against Burlington*, 938 F.2d at 196.

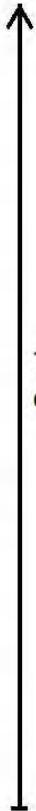
71-4

In this case, the purpose and need statement in the Draft PA/EIS/EIR narrowly focuses on the issuance of a right-of-way (ROW) for a solar PV facility. The Draft PA/EIS/EIR’s singular focus on solar technology is significantly narrower than Congress’ intent in authorizing the BLM to grant ROWs on public lands. The Federal Land Policy Management Act (FLPMA) is the authorizing statute for the BLM’s action. FLPMA authorizes the BLM to “manage the public lands under [the] principle of multiple use” 43 U.S.C. § 1732(a). The statutory definition of “multiple use” in FLPMA includes “a combination of balanced and diverse resource uses” 43 U.S.C. § 1702(c). Here, the BLM’s purpose and need statement is narrower than Congress intended in authorizing BLM to act. As stated in the Draft PA/EIS/EIR, “the BLM’s purpose and need for the Project is to respond to the Applicant’s application under Title V of the FLPMA (43 U.S.C. § 1761(a)(4)) for a ROW grant to construct, operate, maintain and decommission a solar PV facility on public lands.” Draft PA/EIS/EIR at 1-3. This statement of purpose and need focuses entirely on solar energy generation, whereas FLPMA indicates that Congress intended the BLM to manage public lands while taking into account “a combination of balanced and diverse resource uses.” 43 U.S.C. §§ 1732(a); 1702(c). Furthermore, Congress authorized the BLM to grant ROWs for all forms of electricity generation, not just solar projects. 43 U.S.C. § 1761(a)(4). The Draft



PA/EIS/EIR’s narrow purpose and need statement improperly forecloses the consideration of other alternatives that are also capable of meeting the need for renewable energy with a lower impact on the environment.

A purpose and need statement is unreasonably narrow where an agency allows private interests to define the purpose and need for a project. *National Parks & Conservation Ass’n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2009). In that case, the Ninth Circuit found the BLM’s purpose and need statement was unreasonably narrow because it adopted private interests that “necessarily and unreasonably constrained the possible range of alternatives.”² *Id.* at 1071. Here, the BLM improperly adopts the Applicant’s objectives as its own, thereby establishing an unreasonably narrow purpose and need for the proposed action. Although the Draft PA/EIS/EIR initially asserts much broader objectives, such as the generation and transmission of electricity from any renewable energy source, the Draft PA/EIS/EIR fails to discuss them in further detail and does not consider those objectives in its alternatives analysis. Draft PA/EIS/EIR at 1-3. By ignoring the BLM’s objectives in stating the purpose and need, the Draft PA/EIS/EIR improperly narrows the purpose and need statement. As a result, the Draft PA/EIS/EIR rejects from consideration alternatives that are consistent with the agency’s broader objectives and requirements. Therefore, the BLM must revise the Draft PA/EIS/EIR to expand its purpose and need statement to include the agency’s broad objective of generation and transmission of electricity from alternative renewable energy sources.



71-4
cont.

II. THE DRAFT PA/EIS/EIR FAILS TO CONSIDER A REASONABLY FULL RANGE OF ALTERNATIVES

The Lead Agencies fail to analyze a reasonably full range of alternatives in the Draft PA/EIS/EIR. NEPA requires an EIS to include a discussion of alternatives to the proposed action. 42 U.S.C. § 4332(C). The alternatives requirement “is the heart of the environmental impact statement.” 40 C.F.R. § 1502.14. In *Vermont Yankee Nuclear Power Corporation v. Natural Resources Defense Council, Inc.*, the Supreme Court held



71-5

² The BLM considered a proposal for a land exchange with a private company that wanted to develop a landfill on land owned by the BLM. In its purpose and need statement, the BLM set four goals for the project: to meet long-term landfill demand; to provide a long-term income source from a landfill; to find a viable use for mine byproducts; and to develop long-term development plans for the town site. *National Parks & Conservation Ass’n*, 606 F.3d at 1071. The court found that, while the first objective was a valid BLM purpose, the remaining three were private objectives that “necessarily and unreasonably constrained the possible range of alternatives.” *Id.* at 1072. The BLM Handbook also indicates that “[t]he purpose and need statement for an externally generated action must describe the BLM purpose and need, not an applicant’s or external proponent’s purpose and need.” Bureau of Land Management, BLM National Environmental Policy Act Handbook H-1790-1 at 35 (2008) (Hereafter referred to as BLM NEPA Handbook).

that “the concept of alternatives must be bounded by some notion of feasibility.” *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 551 (1978). In analyzing such feasible alternatives, agencies are required to consider “a reasonably full range of alternatives.” *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 813 (9th Cir. 1999).

Similarly, one of the purposes of an EIR under CEQA is to identify alternatives to the project. Cal. Pub. Res. Code § 21002.1(a). CEQA requires an EIR to “consider a reasonable range of alternatives to the project.” *Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 566 (1990). Here, the Lead Agencies fail to consider the requisite range of alternatives by eliminating from consideration other types of renewable energy projects, as well as alternative site locations for the Soda Mountain Solar Project. As such, the Lead Agencies must revise the Draft PA/EIS/EIR to provide an adequate analysis of alternatives to permit a reasoned and informed choice among alternatives.

A. The Lead Agencies Unreasonably Reject Alternative Forms of Renewable Energy Projects, Thereby Limiting the Range of Alternatives Considered

The Draft PA/EIS/EIR fails to consider a reasonably full range of alternatives by rejecting from full consideration alternative forms of renewable energy. The Draft PA/EIS/EIR justifies this limitation by stating that such alternative technologies do not conform to the narrow purpose and need statement.

A failure to consider a full range of alternatives exists where an agency’s EIS indicates a “privileging of one form of use over another.” *Or. Natural Desert Ass’n v. Bureau of Land Mgmt.*, 625 F.3d 1092, 1124 (9th Cir. 2008). In that case, the BLM considered a plan that would allow off-road vehicle use in a remote area in southeastern Oregon. *Id.* In doing so, the BLM only considered alternatives that would increase the area in which off-road vehicle use was allowed. *Id.* Although the BLM considered alternatives that would limit such use, none of the alternatives considered closing more areas to such use. *Id.* As such, the BLM privileged off-road vehicle use over other uses of the land. *Id.*

Much like the BLM’s proposal in *Oregon Natural Desert*, the proposal here indicates a bias in favor of one form of land use by considering alternatives that would only allow for a solar PV facility. The alternatives propose limitations on the size of the facility, but do not propose an alternative form of use for the land. Although the Draft PA/EIS/EIR briefly mentions alternative forms of renewable energy, it summarily rejects such forms as being inconsistent with the purpose of the Project. Draft PA/EIS/EIR at 2-41. The Draft PA/EIS/EIR ignores the BLM’s broad objectives, which could be met using alternative forms of renewable energy. Therefore, the Lead Agencies incorrectly conclude that alternative forms of renewable energy are inconsistent with the purpose and need of the Project.



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The Lead Agencies must expand the range of alternatives considered so that they can properly address the broad problem at hand. *Natural Res. Def. Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972). In that case, the Court of Appeals for the D.C. Circuit required the Department of Interior to broaden its analysis to include alternatives that were outside its jurisdiction, in order to deal with the energy crisis gripping the nation in the early 1970s. *Morton*, 458 F.2d at 836. Here, the Lead Agencies attempt to deal with reducing the reliance on and use of fossil fuels and increasing the use of renewable energy, a problem that affects the entire country. As a result, the Lead Agencies should not limit their analysis of alternatives to one form of renewable energy. Rather, they must expand their analysis of alternatives to include other forms of renewable energy.

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B. The Lead Agencies Further Limit the Range of Alternatives by Considering Only One Feasible Project Site

The Draft PA/EIS/EIR’s alternatives analysis is also inadequate because it fails to consider alternative sites for the Project. The Lead Agencies reject an entire category of alternative sites based on a cursory review of a small number of alternative sites they deemed were either too small or otherwise incompatible with the objectives of the Project. Because the Draft PA/EIS/EIR does not consider other sites for the Project, the Lead Agencies and the public cannot compare the relative environmental impacts that the Project may have if built on an alternative location with the environmental impacts the Project will have at the proposed site.

1. The Draft PA/EIS/EIR Summarily Rejects an Entire Category of Previously Disturbed Alternative Sites Based Upon a Limited Review of Three Examples of Such Sites

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An agency must consider alternative sites for a project that is “broadly framed in terms of service to the public benefit.” *Methow Valley Citizens Council v. Reg’l Forester*, 833 F.2d 810, 815 (9th Cir. 1987). In *Methow Valley*, the Forest Service considered issuing a permit to allow for development of a ski resort on national forest land. The court found that this proposal was framed to serve the public benefit, and therefore “investigation was warranted to determine whether [the project] could be pursued at alternatives sites.” *Id.*

As in *Methow Valley*, the Project is “framed in terms of service to the public benefit.” *Id.* Although the stated purpose and need is narrowly construed in terms of benefit to the Applicant, the broader agency objectives discussed above indicate that the Project would provide safe and environmentally sound energy production. Draft PA/EIS/EIR at 1-3. Furthermore, it would help the BLM reach its goal of providing 20,000 MW of renewable energy on public lands. *Id.* These objectives clearly would benefit the public. Therefore, the Lead Agencies have a duty to consider a reasonably full range of alternative sites.

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The Lead Agencies fail to meet the requirement to investigate alternative sites by eliminating from full consideration alternative sites that were previously disturbed. The Lead Agencies state that they reject three of these sites because they are not “of sufficient size to accommodate any of the action alternatives.” Draft PA/EIS/EIR at 2-40. However, the Lead Agencies reject the entire category of previously disturbed alternative sites based on a review of only three sites, which are 10-acre, 29-acre, and 46-acre sites respectively. *Id.* Sites of this size clearly could not support the Project, which is intended to be 4,179 acres. As such, these particular sites could not be deemed reasonable, feasible alternatives, but this limited review should not result in the Lead Agencies rejecting the entire category of previously disturbed sites from full consideration.

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2. ***The Draft PA/EIS/EIR Fails to Comply with NEPA by Rejecting Alternatives That Partially Achieve the Project’s Objectives***

The Draft PA/EIS/EIR must consider alternatives even if they do not accomplish all of the objectives of the Project. *Natural Resources Defense Council, Inc. v. Callaway*, 524 F.2d 79, 93 (2d Cir. 1975). Here, the Draft PA/EIR/EIS only briefly mentions, and subsequently rejects, another potentially feasible site, the National Training Center at Fort Irwin. Draft PA/EIS/EIR at 2-40. In eliminating it from further consideration, the Draft PA/EIS/EIR does not conclude that that site is infeasible. Rather, it rejects that site because it is not big enough to accommodate the size of the Project in its current form, and it is 20 miles from a transmission line. *Id.*

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The reason given for rejecting this site is not that it is infeasible because it does not meet any of the Project’s objectives, but rather that it falls short of only a few of these objectives. The Fort Irwin site would still accomplish some of the Project’s objectives. For example, it would still achieve the goal of approving a renewable energy project on public lands. Moreover, although the site allegedly would not accommodate any of the existing action alternatives, the Lead Agencies did not indicate that the site was not appropriate for an alternative of a different size.

The Lead Agencies also state that, out of 11,000 previously disturbed sites identified by the Environmental Protection Agency in California, none were chosen for further consideration because the Lead Agencies could not find any along Interstate 15 between Barstow and Las Vegas. *Id.* The preferred goal of locating the Project along Interstate 15 is not even mentioned as a Project objective. Rather, the Draft PA/EIS/EIR discusses locating the Project near any highway. Draft PA/EIS/EIR at 1-4. Therefore, it was improper for the Lead Agencies to reject thousands of potential alternative sites simply because they are not located near one of the several highways in the region.³ As such, the stated reason for rejecting these sites is insufficient to comply with NEPA.

³ As shown in Appendix M, there are vast areas of land that may have the potential to achieve some of the Project’s objectives. Therefore, the Lead Agencies should have investigated them.

Therefore, the Lead Agencies must broaden the range of alternative sites considered in order to genuinely analyze all feasible alternatives as required by NEPA and CEQA.

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III. THE DRAFT PA/EIS/EIR’S ANALYSIS OF HYDROLOGICAL IMPACTS IS INADEQUATE

A central objective of NEPA is to ensure informed decisionmaking when considering projects that have a significant effect on the environment. *Vermont Yankee*, 435 U.S. at 558. A lead agency must “insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.” 40 C.F.R. § 1502.24. Furthermore, an agency may not knowingly rely on incorrect assumptions or data in an EIS. *Native Ecosystems Council v. U.S. Forest Service, an agency of U.S. Dept. of Agriculture*, 418 F.3d 953, 964-65 (9th Cir. 2005). “NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making.” *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998).⁴

The Draft PA/EIS/EIR’s conclusion that the Project’s use of groundwater will have no significant effects on sensitive water sources located within the Mojave National Preserve is not supported by adequate data or analysis. Draft PA/EIS/EIR at 3.19-26-27. The deficiencies in the Draft PA/EIS/EIR’s hydrology analysis are detailed in the Technical Memorandum by Tom Myers, which is incorporated in full and attached hereto as Appendix H. For example, the Draft PA/EIS/EIR’s hydrological analysis is inadequate for several reasons, including but not limited to:

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- The Draft PA/EIS/EIR’s estimated recharge rate of 3-10 percent is too high and is not substantiated by adequate data or analysis. First, BLM determined that this range of recharge was reasonable “[b]ased on BLM staff’s experience elsewhere” Draft PA/EIS/EIR at 3.19-8. This is not an adequate basis for determining the recharge rate because it cannot be reviewed to assess its validity. Second, to the extent that the Draft PA/EIS/EIR cites to recharge rate from other studies to provide an inference that these other rates are the basis for the 3-10 percent recharge rate the Draft PA/EIS/EIR relies on, those studies are not an appropriate basis for establishing a range of recharge for the Soda Mountain area. Those other studies deal with areas that receive far greater precipitation than the Soda Mountains, which receive less than 5 inches/year. Draft PA/EIS/EIR at 3.3-2; Myers, *supra*, at 2.

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⁴ Under CEQA, an EIR must be prepared with a sufficient degree of analysis to provide decision-makers with the information needed to make an intelligent decision concerning a project's environmental consequences. 14 Cal. Code Regs. § 15151. An EIR must contain facts and analysis, not just an agency's bare conclusions or opinions. *Citizens of Goleta Valley*, 52 Cal. 3d at 568.

- The Draft PA/EIS/EIR concludes that there will be no impact on Soda Spring because the aquifer beneath Soda Mountain Valley from which the Project will withdraw water is not connected to the source of water for Soda Spring. The Draft PA/EIS/EIR overstates the conclusion that the bedrock between Soda Mountain Valley and Soda Spring is impervious, despite also recognizing that the bedrock is medium to highly fractured. Draft PA/EIS/EIR at 3.7-2. Additional modeling should have been conducted to better assess the level of uncertainty regarding permeability and connection between Soda Mountain Valley and Soda Spring. Myers, at 3-4.
- Additionally, the Draft PA/EIS/EIR incorrectly concludes that the water from Soda Spring originates from alluvial fan deposits. Draft PA/EIS/EIR App. H.3-30. The Draft PA/EIS/EIR draws this conclusion from the fact that “water from the springs was similar in stable isotopes and inorganic chemistry to water on the alluvial fan.” *Id.* However, tritium data shows that the Soda Spring water is more than 60 years old. *Id.* If both of these conclusions are correct, then water flow would be extremely slow, moving only 500 feet in 60 years. Myers, at 6. Therefore, the conclusion that the water in Soda Springs is 60 years old indicates that it is unlikely that the water discharging from the spring is the same as found in the alluvial fan deposits. Myers, at 6. Furthermore, this implies that the water from Soda Spring originates from an unknown source, and could include significant flows from Soda Mountain Valley.
- To the extent that the Draft PA/EIS/EIR acknowledges that there is uncertainty regarding whether the Project’s pumping will impact Soda Spring, the Draft PA/EIS/EIR does not adequately explain the potential risks to the spring and related biological resources associated with proceeding with this level of uncertainty. *See e.g.* Section V below.



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As a result, the Draft PA/EIS/EIR’s hydrology analysis is inadequate, and it fails to inform decisionmakers about the potentially significant effects the Project may have on sensitive hydrological resources in the Mojave National Preserve and their associated biological resources.

IV. THE DRAFT PA/EIS/EIR PROVIDES INADEQUATE MITIGATION FOR THE HYDROLOGICAL IMPACTS

The Lead Agencies do not include adequate mitigation measures that will sufficiently reduce the adverse impacts related to the groundwater pumping for the Project. Mitigation Measure 3.19-3 is too speculative and has not yet been formulated. Therefore, it is not an adequate mitigation measure. A “perfunctory description” of a mitigation measure is not adequate to satisfy NEPA’s requirements.” *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir.1998). “A ‘mere listing’ of mitigating measures, without supporting analytical data, also is inadequate.”



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Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998) . Similarly under CEQA, “[a]n EIR is inadequate if ‘[t]he success or failure of mitigation efforts ... may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR.’” *Pres. Wild Santee v. City of Santee*, 210 Cal. App. 4th 260, 281 (2012).

The Draft PA/EIS/EIR concludes that with mitigation measures, the Project will have a less than significant impact on groundwater supplies and recharge. Draft PA/EIS/EIR 3.19-47. Among the mitigation measures that the Draft PA/EIS/EIR contends will reduce the impacts is Mitigation Measure 3.19-3, a Groundwater Monitoring and Mitigation Plan (GMMP). The GMMP would establish thresholds and required corrective actions that would be triggered if the data acquired through the GMMP indicated a deleterious effect from the Project pumping on the aquifer at Soda Spring. Draft PA/EIS/EIR at 3.19-43, 3.19-30. The GMMP is supposed to “provide detailed methodology for monitoring and reporting procedures; locate monitoring, extraction and survey points; define significance criteria; and identify mitigation measures in the event that adverse impacts occur than can be attributed to the Project.” Draft PA/EIS/EIR at 3.19-44.

However, this mitigation measure is inadequate because the County has not yet drafted or approved the GMMP. Mitigation measures in a yet to be developed and approved GMMP are too speculative to satisfy NEPA and CEQA.⁵ Moreover, because the GMMP is not part of the Draft PA/EIS/EIR or available for review, neither the public nor decisionmakers can evaluate whether this mitigation measure would minimize the adverse impacts to Soda Spring or evaluate other alternative mitigation measures. Therefore, prior to approving the Project, the Lead Agencies must finalize the GMMP⁶ and circulate it for public review and comment to ensure informed decisionmaking.

V. THE DRAFT PA/EIS/EIR INADEQUATELY DISCUSSES THE IMPACT THE PROJECT WILL HAVE ON THE MOHAVE TUI CHUB

The Draft PA/EIS/EIR fails to adequately analyze and discuss the Project’s impacts on the Mohave tui chub (*Siphateles bicolor mohavensis*), a federally- and state-listed endangered species. The Mohave tui chub once flourished in the Mojave River, but invasive fish species introduced into the Mojave River by California water projects eliminated it from the river. Today, there are only four known populations: China Lake NWS, Soda Spring, the CDFW Camp Cady Wildlife Area, and Deppe Pond. Draft PA/EIS/EIR at 3.4-6. The tui chub requires pools that are at least four feet deep. *Id.* “Insufficient water supply to existing populations is a threat to the viability of Mohave tui chub populations.” Draft PA/EIS/EIR at 3.4-6.

The Draft PA/EIS/EIR only analyzes the Project’s impacts on the tui chub during the construction phase of the Project while neglecting to disclose impacts during the

⁵ The GMMP does not explain the significance threshold for when Project pumping would need to be curtailed or ceased.

⁶ The County must exercise its independent review and approval of the GMMP.



remainder of the Project’s life. Additionally, the Draft PA/EIS/EIR incorrectly compresses the discussion of mitigation measures with the discussion of the Project’s impacts on the tui chub into a single issue. Finally, the Draft PA/EIS/EIR incorrectly concludes that incorporation of Mitigation Measure 3.19-4 will result in no significant impact to the tui chub.

A. The Draft PA/EIS/EIR Fails to Acknowledge Hydrological Uncertainties in Its Analysis of the Tui Chub

The Draft PA/EIS/EIR’s conclusion that there will be no significant impact on the Mohave tui chub fails to acknowledge the uncertainty of whether Soda Spring is hydrologically connected to the Soda Mountain Valley aquifer and whether the Project’s groundwater extraction could impact Soda Spring. As discussed above, there are many uncertainties and inadequacies in the Draft PA/EIS/EIR’s hydrological analysis. See App. H. The Project’s groundwater extraction may cause an unexpected and significant drawdown of water at Soda Spring, which would result in irreparable damage to the tui chub and its habitat. In an attempt to reduce this uncertainty, the Draft PA/EIS/EIR includes APMs 14 through 18 which are intended to “minimize and avoid adverse effects relating to groundwater outflow from the Soda Mountain and potential associated effects to water levels at Soda Spring.” Draft PA/EIS/EIR at 3.19-29. However, the Draft PA/EIS admits that these APMs would actually “not address adverse conditions to the surface or groundwater resources until damage has occurred” Draft PA/EIS/EIR at 3.19-30. The Draft PA/EIS/EIR specifically states that:

While groundwater investigation (APMs 14 and 15) in conjunction with model calibration (APM 17) would quantify effects on groundwater resources and would assist in reducing uncertainty related to the limitations of groundwater modeling, the action criteria and significance thresholds detailed in APMs 17 and 18 are short term in nature (i.e. cessation of monitoring after 5 years if certain conditions are met) and action criteria may not be adequate to reduce adverse effects to water levels at Soda Spring.

Draft PA/EIS/EIR at 3.19-30. Therefore, it is evident that there is uncertainty as to whether the Project’s groundwater extraction could impact Soda Spring (and thereby impact the tui chub) even with the APMs in place. The Draft PA/EIS/EIR fails to discuss the uncertainties in the analysis with regard to potential impacts on the tui chub. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately inform the public and decisionmakers about the impacts to the tui chub.

B. The Draft PA/EIS/EIR Only Discusses Environmental Impacts on the Tui Chub During the Construction Phase of the Project

The Draft PA/EIS/EIR discusses impacts on the tui chub in a single paragraph that only examines the impacts during the construction phase of the Project. Draft



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PA/EIS/EIR at 3.4-30. As discussed above, the Project will also pump groundwater throughout the operation, maintenance, and decommissioning of the Project. Draft PA/EIS/EIR at 2-10 – 2-13. The groundwater being pumped may be connected to the habitat of the tui chub. See Myers, at 6. Consequently, the Draft PA/EIS/EIR should have analyzed the impact to the tui chub throughout the life of the Project.

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C. The Draft PA/EIS/EIR Compresses the Analysis of Impacts of the Project on the Tui Chub with the Project’s Mitigation Measures Into a Single Issue

The Draft PA/EIS/EIR improperly compresses the analysis of the Project’s impacts on the tui chub and the mitigation measures into a single issue, thereby disregarding the requirements of CEQA. An EIR must separately identify and analyze each impact, determine its significance, and then propose mitigation measures to mitigate each specific impact. *Lotus v. Dep’t of Transp.*, 223 Cal. App. 4th 645, 656-658 (2014) (holding that an EIR violates CEQA if it incorporates mitigation measures for a project into the impact analysis, and then determines that the impacts are less than significant).

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Here, the Draft PA/EIS/EIR concludes that the Project will have no impact on the tui chub based solely on an analysis of impacts that takes mitigation measures into account. See Draft PA/EIS/EIR at 3.4-30 (“No impacts are anticipated to Mohave tui chub, as groundwater monitoring that is proposed in Mitigation Measure 3.19-4 and APMs 14 through 18 would verify that the Project would not detrimentally affect flows at Soda Spring.”).

The Draft PA/EIS/EIR must first analyze the Project’s impacts on the tui chub without taking any mitigation measures into account, and then separately analyze the effects with the mitigation measures in place. The Draft PA/EIS/EIR fails to do this, thereby violating CEQA.

D. The Draft PA/EIS/EIR Incorrectly Concludes that Mitigation Measure 3.19-4 Will Lessen the Project’s Impact to the Tui Chub

Mitigation Measure 3.19-4 would not mitigate the impact of the Project on the tui chub. The tui chub requires “a flow of fresh water into the pool to counteract high evaporation rates in the desert.” Draft PA/EIS/EIR at 3.4-6. “Insufficient water supply to existing populations is a threat to the viability of Mohave tui chub populations.” *Id.* Therefore monitoring of the salinity and water levels at Soda Spring is critical for maintaining the habitat of the tui chub. Mitigation Measure 3.19-4 is inadequate because it only requires that the Applicant re-evaluate the adequacy of the monitoring plan. Draft PA/EIS/EIR at 3.19-44. This is problematic because simply monitoring Soda Spring may not mitigate adverse environmental impacts before they become significant. Furthermore, even if monitoring detected adverse impacts, the Mitigation Measure does not require that any changes be made to reverse such impacts or avoid them in the future. Therefore, the Lead Agencies must revise the mitigation measures to ensure that appropriate remedial steps are taken should adverse impacts be detected at Soda Spring.

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VI. THE DRAFT PA/EIS/EIR INADEQUATELY DISCUSSES THE IMPACTS THE PROJECT WILL HAVE ON DESERT BIGHORN SHEEP

The Draft PA/EIS/EIR concludes that the impact on the desert bighorn sheep (*Ovis canadensis nelsoni*) will be significant and unavoidable. We agree with this finding. However, the Draft PA/EIS/EIR minimizes the significance of the Soda Mountains for desert bighorn sheep connectivity. As a result, the Draft PA/EIS/EIR fails to consider and disclose the full impact the Project will have on desert bighorn sheep. Furthermore, the Draft PA/EIS/EIR fails to consider additional feasible mitigation measures.

The desert bighorn sheep is a California Fully Protected Species and a BLM Sensitive Species. The fully protected species designation was California’s first attempt to give protection to wildlife that is rare or at risk of extinction. Fully Protected Animals, California Department of Fish and Wildlife, http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html (last visited Feb. 24, 2014). California “declare[d] that bighorn sheep are an important wildlife resource of the state to be managed and maintained at sound biological levels. Therefore, it is hereby declared to be the policy of the state to encourage the preservation, restoration, utilization, and management of California’s bighorn sheep population.” Cal. Fish & Game Code § 4900.

Desert bighorn sheep herds occupy steep mountainous regions and only rarely cross intermountain topography to colonize new habitat or to move between herds. This occasional movement is important to improve genetic diversity in order to prevent inbreeding that would eventually lead to extinction. California Department of Fish and Wildlife, A Conservation Plan for Desert Bighorn Sheep in California at 1 (2013) (hereafter referred to as Draft Conservation Plan). Desert bighorn sheep inhabiting the southeastern desert region of California were once a single large metapopulation.⁷ *Id.* However, human activity, specifically the construction of highways, has essentially terminated migration and gene flow, splitting that single metapopulation into multiple metapopulation fragments. *Id.* There are currently multiple metapopulation fragments whose boundaries are formed by major highways (e.g. Interstate 15). John D. Wehausen, Nelson Bighorn Sheep, www.blm.gov/ca/pdfs/cdd_pdgs/Bighorn1.PDF. Interstate 15 forms the boundary between the North Metapopulation Fragment and the North-Central Metapopulation Fragment. Draft Conservation Plan at 41, 47.

The California Department of Fish and Wildlife is currently finalizing the Draft Conservation Plan to address the need for connectivity between metapopulation fragments in order to maintain genetic diversity. A main focus of the Draft Conservation Plan is the creation of gene flow across man-made barriers that currently divide the desert bighorn sheep and completely prevent movement between metapopulation fragments. Draft Conservation Plan at 64. Interstate 15, the freeway that runs through the Project

⁷ A metapopulation is a network of geographically distinct populations that are connected through migration events in which sheep move between populations. Draft Conservation Plan at 18.

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site as well as the Soda Mountains, is one such barrier, and there is currently almost no gene flow across it. *Id.* at 46. As explained more fully below, if the Project is built on the proposed site, it will not only exacerbate the issue of connectivity by making sheep more wary of crossing this barrier, but also permanently eliminate the possibility of connecting the metapopulation in this location. The Draft PA/EIS/EIR also fails to discuss adequate measures to mitigate this impact.

A. The Draft PA/EIS/EIR Provides Inadequate Information Regarding the Importance of the Project Site for Desert Bighorn Sheep Connectivity

The Draft PA/EIS/EIR does not adequately discuss the importance of the Project site for connectivity of desert bighorn sheep metapopulation fragments. NEPA “ensures that the agency ... will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience.” *Methow Valley*, 490 U.S. at 349. Additionally, “NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that ‘the agency will not act on incomplete information, only to regret its decision after it is too late to correct.’” *Blue Mountains Biodiversity Project*, 161 F.3d at 1216 (citing *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 371 (1989)).

The Draft PA/EIS/EIR should have included an in-depth discussion of the Draft Conservation Plan, which has been available since April 2013.⁸ The Draft Conservation Plan specifically discusses the importance of the Project site for future desert bighorn sheep connectivity. Draft Conservation Plan at 46.

Although the Draft PA/EIS/EIR considers the Draft Conservation Plan, it minimizes the significance of the Soda Mountains as a location for connectivity, stating:

The Desert Bighorn Sheep Management Plan, currently being drafted by CDFW, identifies the Soda Mountain area as a location where connectivity across I-15 *could be reestablished* due to the presence of oversized culverts

⁸ The BLM Special Status Species Management Manual “establishes policy for management of species listed or proposed for listing ... which are found on BLM-administered lands.” Bureau of Land Management, 6840 - Special Status Species Management at 1 (2008) (hereafter referred to as BLM Special Status Species Management Manual). The BLM Special Status Management Manual discusses the BLM’s duties toward sensitive species, including that “the BLM shall manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the condition of the species habitat.” *Id.* at 37. The BLM should have addressed the Draft Conservation Plan because the BLM Special Status Species Management Manual requires that, “[t]he BLM will incorporate objectives and actions identified in recovery plans into BLM documents.” *Id.*

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(essentially underpasses) and bighorn sheep in the area (Panorama Environmental, Inc., 2012). The critical linkage map in the DRECP reflects this goal of reestablishing connectivity across I-15 in areas where it could potentially exist in the future.

Draft PA/EIS/EIR at 3.4-18 (emphasis added). The Draft Conservation Plan, however, does not simply say connectivity *could* be reestablished in the Soda Mountains. Rather, the Draft Conservation Plan identifies the Soda Mountains as the “*primary location* at which to re-establish desert bighorn sheep movement and gene flow across the I-15.” Draft Conservation Plan at 46 (emphasis added). Indeed, the Soda Mountains are a “fundamentally important conduit for gene flow between two large metapopulation fragments that currently do not exchange genes or colonists,” namely, the North Metapopulation Fragment of desert bighorn sheep and the North-Central Metapopulation Fragment. Draft Conservation Plan at 46.⁹

Connecting the desert bighorn sheep metapopulation fragments in the Soda Mountains is a primary goal identified in the Draft Conservation Plan. The Draft Conservation Plan identifies two main strategies to achieve conservation goals of the desert bighorn sheep at the metapopulation level. The first is to “[p]revent further metapopulation fragmentation ... [and] not allow developments in intermountain movement habitat ... that will curtail essential movement of sheep between populations.” Draft Conservation Plan at 39. The second strategy is to “[e]xplore ways to provide bighorn sheep the ability to cross current metapopulation barriers and work with appropriate agencies to reconnect metapopulation fragments.” Draft Conservation Plan at 39. The Draft Conservation Plan identifies implementation actions that are “considered necessary to enhance the probability of persistence of desert bighorn sheep in California as viable populations in a functional metapopulation.” *Id.* at 61. A first



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⁹ The connectivity possible in this region is not limited to connecting sheep between the North and the South Soda Mountains. Human activity fractured the once unitary California desert bighorn sheep metapopulation into multiple isolated metapopulation fragments. Draft Conservation Plan 1; *see California Department of Fish and Wildlife, Desert Bighorn Populations*, <https://www.dfg.ca.gov/wildlife/Bighorn/Desert/images/DesertSheepMap.jpg> (last visited Fed. 28, 2014). The North Metapopulation Fragment includes herds that live north of the Interstate 15. The North-Central Metapopulation Fragment includes herds that live south of the Interstate 15 and north of Interstate 40. *See* Draft Conservation Plan at 41–49 (describing desert bighorn sheep herds and metapopulation fragments, including maps). The Draft PA/EIS/EIR acknowledges that the Biological Resources Technical Report prepared for the Project did not identify desert bighorn sheep linkage corridors within the Project ROW because the model incorrectly underestimated suitable habitat in the south Soda Mountains. “[T]he bighorn sheep habitat suitability report ... did not identify bighorn sheep linkage corridors within the Project ROW; however, it acknowledged that the model incorrectly underestimated suitable habitat in the south Soda Mountains.” Draft PA/EIS/EIR at 3.4-41.

priority implementation action is to “remove potential impediments” to existing potential freeway crossing points, and “[e]xperiment with the use of water ... to establish the use of freeway bridges as bighorn sheep underpasses [at] ... the Soda Mountains (I-15).” *Id.* If this fails, the implementation action calls for building a bridge for desert bighorn sheep between the Soda Mountains. *Id.*

The Draft PA/EIS/EIR also fails to discuss the significance of the Soda Mountain desert bighorn sheep herd’s connection with the Cady Mountain desert bighorn sheep herd. Again, this is a movement corridor that the Draft Conservation Plan identifies as important to maintain and enhance. Draft Conservation Plan at 47. The Project site is located between the Cady Mountains and the Soda Mountains. Because desert bighorn sheep avoid areas that humans have developed, the Project could prevent future movement between these two populations of desert bighorn sheep, an impact that the Draft PA/EIS/EIR ignores.

The Draft PA/EIS/EIR does not provide adequate information on the importance of the Project site to future desert bighorn sheep connectivity to allow for informed decisionmaking. The Draft PA/EIS/EIR provides only a single sentence about the Draft Conservation Plan. Draft PA/EIS/EIR at 3.4-18. The Lead Agencies should revise the Draft PA/EIS/EIR to incorporate the Draft Conservation Plan and to specifically address the impact that the Project will have on the connection of the desert bighorn sheep metapopulation fragments. Ensuring this connectivity is a first priority in enhancing the viability of the desert bighorn sheep metapopulations in California.

B. The Draft PA/EIS/EIR Mitigation Proposal Does Not Mitigate the Significant Impact on Desert Bighorn Sheep and Therefore Other Mitigation Measures Must Be Considered

The Draft PA/EIS/EIR correctly concludes that the Project would have a “substantial adverse effect” and a “cumulatively considerable contribution to significant adverse cumulative impacts” on desert bighorn sheep. Draft PA/EIS/EIR at 3.4-68. However, the Draft PA/EIS/EIR errs in asserting that these impacts are significant and unavoidable, even with the proposed mitigation measure.¹⁰ *Id.* There are feasible mitigation measures¹¹ which the Draft PA/EIS/EIR fails to consider that would lessen the Project’s environmental impacts to the desert bighorn sheep.



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¹⁰ The only mitigation measure that the Draft PA/EIS/EIR discusses for desert bighorn sheep is Mitigation Measure 3.4-3. Mitigation Measure 3.4-3 provides additional detail and requirements for APM 75. Draft PA/EIS/EIR at 3.4-64. As a design feature of the Project, APM 75 provides two water sources to “improve bighorn sheep habitat connectivity.” *Id.*

¹¹ “[P]ublic agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects.” Cal. Pub. Res. Code § 21002. A mitigation measure is feasible if it is “capable of being accomplished in a successful

The Supreme Court has stated that “omission of a reasonably complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA.” *Methow Valley*, 490 U.S. at 352. CEQA requires mitigation because “[a] gloomy forecast of environmental degradation is of little or no value without pragmatic, concrete means to minimize the impacts and restore ecological equilibrium.” *Envtl. Council of Sacramento v. City of Sacramento*, 142 Cal. App. 4th 1018, 1039 (2006). Therefore, “[m]itigation is the teeth of the EIR” under CEQA. *Id.*

The first mitigation measure that the Draft PA/EIS/EIR should have discussed is manually moving sheep between metapopulation fragments or funding such movement. Desert bighorn sheep have been caught and translocated within California since 1979 and this work continues today. Draft Conservation Plan at 30. There are large known populations of desert bighorn sheep that are capable of serving as sources of translocation stock. *Id.* Manually moving desert bighorn sheep could mitigate for the added barrier that the Project would cause to desert bighorn sheep movement and help maintain genetic diversity.

The second mitigation measure that the Draft PA/EIS/EIR should have discussed is building an overpass across the Interstate 15 or helping to fund the construction of such an overpass. Although *underpasses* already exist in the area, desert bighorn sheep are reticent to use them. Jeffrey W. Gagnon, *et al.*, Evaluation of Desert Bighorn Sheep Overpasses (2013). This reticence will likely only increase with more human activity in the area. However, overpasses have proven very successful at improving desert bighorn sheep movement across highway barriers. *Id.* For example, in Arizona along Highway 95, three overpasses were completed in January 2011 and animals began using the overpasses almost immediately. *Id.* Preliminary evaluations of the Arizona overpasses suggest that they are extremely successful. *Id.* The Draft Conservation Plan suggests building such an overpass near the Zzyzx Road off-ramp next to the Project site. Draft Conservation Plan at 46. The revised Draft PA/EIS/EIR should consider building or helping fund an overpass as a feasible mitigation measure to diminish the significant impacts to desert bighorn sheep.

C. The Draft PA/EIS/EIR Inadequately Discuss the Project’s Indirect Effects on the Desert Bighorn Sheep

The Draft PA/EIS/EIR fails to discuss the indirect effects that the pumping of groundwater could foreseeably have on the desert bighorn sheep metapopulation. Healthy desert bighorn sheep populations depends on reliable surface water, and the pumping of groundwater could eliminate the South Soda Mountain desert bighorn sheep herd’s water source. Draft Conservation Plan at 35-36, 38, 40. “Indirect effects ... are caused by the action and are later in time or farther removed in distance, but are still

manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.” Cal. Pub. Res. Code § 21061.1.



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reasonably foreseeable.” 40 C.F.R. § 1508.8(b). Reasonably foreseeable indirect effects are effects which are sufficiently likely to occur such that a person of ordinary prudence would take them into account in reaching a decision. See *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003). An EIS must discuss an effect if: (1) the project will make it likely to occur; (2) it can be described at the time of the EIS with sufficient specificity to make its consideration useful; and (3) it cannot be meaningfully considered at a later time. *Sierra Club v. Marsh*, 769 F.2d 868, 878 (1st Cir. 1985). Similarly, CEQA defines indirect effects as changes to the physical environment that occur later in time or farther removed in distance than direct effects. Cal. Code Regs. tit. 14 § 15358(a)(2). Long-term effects must also be included in this analysis. Cal. Code Regs. tit. 14 § 15126.2(a).

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As the Draft Conservation Plan explains, given the poor habitat and low rainfall in the area, it is unusual to find such a large herd of desert bighorn sheep residing in the South Soda Mountains. A key factor in the success of the herd appears to be Soda Spring.¹² As explained in Section III above, the Project may result in a drawdown of Soda Spring. See also Myers, at 6. Such a result could affect the viability of the Soda Mountain herd by diminishing or destroying its reliable water source.¹³ The Draft PA/EIS/EIR fails to address this reasonably foreseeable indirect effect.

VII. THE DRAFT PA/EIS/EIR INADEQUATELY DISCUSSES THE IMPACT THE PROJECT WILL HAVE ON THE DESERT TORTOISE

The desert tortoise (*Gopherus agassizii*) is federally- and state-listed as threatened. Draft PA/EIS/EIR at 3.4-7. Despite being listed as threatened, the desert tortoise population continues to decline. U.S. Fish and Wildlife Service, Status of the Desert Tortoise and Critical Habitat (2014). The BLM must “seek to conserve endangered and threatened species and shall utilize its authorities in furtherance of the purposes of the ESA.” BLM Special Status Species Management Manual at 8, 12. In addition, the BLM is required “to use its authorities to further the purposes of the ESA by implementing programs for the conservation of threatened and endangered species and the ecosystems upon which they depend.” *Id.* The BLM’s objectives are to “conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species.” *Id.* at 3.

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The Draft PA/EIS/EIR fails to adhere to the BLM’s mandate. The Draft PA/EIS/EIR arbitrarily dismisses conclusions that the Project site is good desert tortoise habitat. Instead, the Draft PA/EIS/EIR concludes that the Project site is poor habitat due to low population density of desert tortoises on the site, conflating two separate topics. The Draft PA/EIS/EIR fails to clearly present its surveys and methodology in a way that

¹² Reliable water systems enhance the stability of desert bighorn sheep populations, and the loss of such water sources can have a significant effect on the size of a population. Draft Conservation Plan at 35-36, 38, 40.

¹³ A factor the Draft Conservation Plan identifies as causing the disappearance of water sources for desert bighorn sheep is the “draw down of aquifers from ground water pumping.” Draft Conservation Plan at 38.

adequately informs the public or helps decision-makers. Finally, the Draft PA/EIS/EIR relies on the mitigation measure of translocation, even though it admits there are uncertainties surrounding translocation of desert tortoises, which has led to high mortality rates of translocated desert tortoises in past projects. The Draft PA/EIS/EIR should present its information in a clear manner to ensure informed decisionmaking and implementation of mitigation measures that will decrease adverse impacts to a protected species.

A. The Draft PA/EIS/EIR Incorrectly Dismisses the Project Site as Good Habitat for Desert Tortoise

The Draft PA/EIS/EIR incorrectly dismisses the Project site as low quality habitat for desert tortoises. The Draft PA/EIS/EIR acknowledges that the 2009 USGS Habitat Modeling rated the Project site at 0.6-0.8 on a scale of 0 to 1, identifying the Project site as high quality desert tortoise habitat. App. E-1 at E.1-204 (citing Nussear et al. 2009). However, based on its own survey results finding very little desert tortoise activity at the Project site, the Draft PA/EIS/EIR dismisses the USGS Habitat Modeling as “likely over-predicted.” *Id.* at E.1-62. Rather, the Draft PA/EIS/EIR concludes that the Project will result in the permanent loss of 2,450 acres of “low- to moderate-quality” desert tortoise habitat. Draft PA/EIS/EIR at 3.4-31. The Draft PA/EIS/EIR incorrectly conflates habitat suitability with observed desert tortoise activity.

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The USGS Habitat Modeling was not predicting the likelihood of finding desert tortoises on the site, but rather how good the site itself is as desert tortoise habitat. Kenneth E. Nussear et al., *Modeling Habitat of the Desert Tortoise (Gopherus agassizi) in the Mojave*, U.S. Geological Survey (2009). The Desert Renewable Energy Conservation Plan substantiates the conclusion that the Project site is a good desert tortoise habitat. Draft DRECP Biological Goals and Objectives, Desert Renewable Energy Conservation Plan at 10 (2013). That plan has identified the Project site as high potential desert tortoise habitat where desert tortoises should be protected from injury and mortality. *Id.* These conclusions are not undermined by the BLM’s finding that desert tortoises are believed to appear intermittently and in low densities on the Project site.¹⁴ *Id.* at 3.4-9.

To better understand the quality of the Project site as desert tortoise habitat, heightened survey techniques are necessary. For example, as the Desert Tortoise Council suggested in its Scoping Letter, wood rat middens should be examined for more evidence of desert tortoise. Bureau of Land Management, Soda Mountain Scoping Letters 98 (2012) <http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/Barstow/>

¹⁴ It is difficult to find desert tortoises anywhere because of the massive decline in desert tortoise population over the last decades. The newest information confirms that desert tortoise populations in four desert tortoise recovery units are still declining. U.S. Fish and Wildlife Service, Status of the Desert Tortoise and Critical Habitat at 2 (2014). Specifically, in the Western Mojave, where the Project site is located, the population decline is at -9.8 percent per year. *Id.*

soda_mountain.Par.30966.File.dat/Soda%20Mountain%20Scoping%20Letters_508.pdf. Additionally, fully understanding and acknowledging the importance of this habitat for the desert tortoise is important because disturbance of desert land is considered permanent, even after restoration work. After the completion of the Project, the Project site will never be returned to its original state of good quality desert tortoise habitat.

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B. The Presentation of the Survey Methodology for the Desert Tortoise Fails to Foster Informed Decisionmaking or Informed Public Participation

The Draft PA/EIS/EIR violates NEPA and CEQA by failing to carefully describe the desert tortoise survey methodology the agencies used in a detailed, clear, and easily understandable manner. NEPA requires Lead Agencies to ensure the scientific integrity and accuracy of the information used in their decisionmaking. 40 C.F.R. § 1502.24. Additionally, CEQ regulations require that EIS’s

be written in plain language ... so that decisionmakers and the public can readily understand them. Agencies should employ writers of clear prose or editors to write, review, or edit statements, which will be based upon the analysis and supporting data from the natural and social sciences and the environmental design arts.

40 C.F.R. § 1502.8. “Clarity is at a premium in NEPA because the statute ... is a democratic decision-making tool, designed to ‘foster excellent action’ by ‘help[ing] public officials make decisions that are based on [an] understanding of environmental consequences.’” *Or. Natural Desert Ass’n v. Bureau of Land Mgmt.*, 625 F.3d 1092, 1121 n.24 (9th Cir. 2010); (citing 40 C.F.R. § 1500.1(c)). As a result, “the administrative record must disclose the studies and data used in compiling environmental impact statements. Moreover, any methodologies relied upon should be carefully described.” *Izaak Walton League of Am. v. Marsh*, 655 F.2d 346, 368 (D.C. Cir. 1981); *see also Citizens of Goleta Valley*, 52 Cal. 3d at 568.

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For example, it is unclear exactly how many surveys the Draft PA/EIS/EIR relies upon. The Draft PA/EIS/EIR seems to rely upon three main surveys: (1) a 2009 survey; (2) a 2012 survey; and (3) an April 2013 survey conducted by Kiva Biological Consulting. However, section 3.4.2.2 Wildlife Survey Methods only discusses the 2009 and 2012 surveys. Draft PA/EIS/EIR at 3.4-3. There is no discussion of the 2013 survey in this section, despite the Draft PA/EIS/EIR’s reliance upon the 2013 survey later in its discussion of the desert tortoise.

Additionally, the Draft PA/EIS/EIR fails to adequately detail the methodology used in each of the three main surveys. Although the Draft PA/EIS/EIR asserts that the USFWS protocols for surveying desert tortoises were used, the Draft PA/EIS/EIR lacks detail and contradicts itself where details are provided. For example, under USFWS protocols the 2009 survey would not be considered because results of pre-project surveys



cannot be considered if they are more than one year old. U.S. Fish and Wildlife Service, Desert Tortoise (Mojave Population) Field Manual, Ch. 4-9 (2009). Similarly, the Draft PA/EIS/EIR discusses the area that each survey covered and what was found, but fails to detail what each survey looked for. Draft PA/EIS/EIR at 3.4-3; App. E-1 at E.1-20–E.1-22. The Lead Agencies fail to explain what type of burrow was examined, the procedure followed when examining a burrow, or if rat nests were investigated for signs of desert tortoises. *Id.* The Draft PA/EIS/EIR fails to clearly inform decisionmakers and the public of the methodologies used to understand the density of desert tortoises on the Project site. Therefore, the Draft PA/EIS/EIR must be revised so that it can function as a proper decisionmaking tool.

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C. The Desert Tortoise Translocation Plan is Not an Adequate Mitigation Measure

Mitigation Measure 3.4-2b will not adequately mitigate the significant effects the Project will have on the desert tortoise. The Draft PA/EIS/EIR proposes to mitigate the Project’s impact on the desert tortoise by translocating all desert tortoises from the Project site to suitable habitat. Draft PA/EIS/EIR at 3.4-58. However, the Draft PA/EIS/EIR does not provide adequate detail for this mitigation measure to allow for an assessment of the adequacy of this measure. Furthermore, translocation is not an adequate mitigation measure for desert tortoises because of the high risk of mortality associated with translocation.

A “perfunctory description” of a mitigation measure is not adequate to satisfy NEPA’s requirements.” *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir.1998). The mitigation section is “the teeth of the EIR.” *Env’tl. Council of Sacramento*, 142 Cal. App. 4th at 1039. To be adequate, mitigation measures should be actions that actually improve the adverse environmental effects caused by the proposed action. Mitigation measures may not be plans that have not yet been formulated and have not been subject to analysis and review within the EIR. *See Pres. Wild Santee*, 210 Cal. App. 4th at 281. Furthermore, if a mitigation measure identified in an EIR would itself cause significant environmental impacts distinct from the significant effects caused by the project, an EIR must discuss those impacts. Cal. Code Regs. tit. 14 § 15126.4(a)(1)(D).

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The Draft PA/EIS/EIR does not provide enough detailed information about the provisions of Mitigation Measure 3.4-2b to allow adequate evaluation regarding its efficacy and potential to cause significant impacts to the desert tortoise. Mitigation Measure 3.4-2b consists of the development and implementation of a USFWS-approved Desert Tortoise Translocation Plan (DTTP). Draft PA/EIS/EIR at 3.4-58. However, other than a statement of goals of the DTTP,¹⁵ the Draft PA/EIS/EIR does not provide

¹⁵ The goals of the DTTP are to relocate all desert tortoises from the Project site, minimize impacts on resident desert tortoises outside the Project site, minimize stress, disturbance, and injuries to relocated/translocated tortoises, and assess the success of the translocation effort through monitoring. Draft PA/EIS/EIR at 3.4-58.

any further information regarding the provisions of the DTTP or how the DTTP will meet its stated goals. Draft PA/EIS/EIR at 3.4-58. Although the final DTTP is to be based on the draft DTTP that has already been prepared by the Applicant, the Draft PA/EIS/EIR does not discuss the draft DTTP in any sufficient detail.¹⁶

It is imperative that the draft and final DTTP be available for review to allow the public and decisionmakers to evaluate the effectiveness of the proposed mitigation. As currently drafted, the draft DTTP contains several inconsistencies. For example, the Draft PA/EIS/EIR states that a goal of the DTTP shall be to “assess the success of the translocation effort through monitoring.” Draft PA/EIS/EIR at 3.4-58. However, the DTTP concludes that “[n]o post - translocation monitoring of recipient and control sites is proposed due to the low number of desert tortoise in the project area and proposed recipient areas.” *Id.*; Panorama Environmental Inc., Desert Tortoise Translocation Plan at 25 (2013). This type of contradiction needs to be clarified in order for the public and decisionmakers to correctly assess the mitigation measures.

Additionally, the draft DTTP does not propose what would happen if more than five desert tortoises were found on the Project site. As discussed above, it is difficult to determine how many desert tortoises are located in a specific area and therefore it is reasonably foreseeable that the draft DTTP has inaccurately determined the number that will require translocation. For example, the Ivanpah solar facility, also located in the Mojave Desert, estimated that only 38 desert tortoises would be found on the Project site, but actually found 144. Ken Wells, *Where Tortoises and Solar Power Don't Mix*, Bloomberg BusinessWeek (Oct. 10, 2012). Therefore, the draft and/or final DTTP must be attached to the revised Draft PA/EIS/EIR and described in sufficient detail so that the public and Lead Agencies can understand the provision of the DTTP and how it will be implemented and can assess its effectiveness in mitigating the impact to the desert tortoise.

Finally, translocation is not an adequate mitigation measure because of the high risk of mortality associated with translocation. The Desert Renewable Energy Conservation Plan's Independent Science Advisor Report specifically recommends against translocation as an effective mitigation measure due to high mortality rates of translocated desert tortoises.¹⁷ The DRECP Independent Science Advisors, Recommendations of Independent Science Advisors for the California Renewable Energy Conservation Plan at 83 (2010). This report explains:

¹⁶ The DTTP has been available since June 2013, but it is not a part of, or attached to, the Draft PA/EIS/EIR. We received a copy of the DTTP after multiple phone calls to the BLM.

¹⁷ For example, during the Fort Irwin translocation plan in 2008, located just north-west of the Project site, the project had to be suspended because translocation left desert tortoises more vulnerable to predation from coyote predation. Louis Sahagun, *Army Grants a Stay to Desert Tortoise*, Los Angeles Times (Oct. 11, 2008). The DTTP does not discuss the potential for this extra threat to translocated desert tortoises.

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In general, moving [desert tortoises] from one area to another ... is *not* a successful conservation action and may do more harm than good to conserved populations by spreading diseases, stressing resident animals, increasing mortality, and decreasing reproduction and genetic diversity. Transplantation or translocations should be considered a last recourse for unavoidable impacts, should never be considered full mitigation for the impact, and in all cases must be treated as experiments subject to long-term monitoring and management.

Id. at vii. The Draft PA/EIS/EIR also recognizes the risks associated with translocation, “[t]he capture, handling, and relocation of desert tortoises from the Project site . . . could result in harassment and possibly death or injury.”¹⁸ Draft PA/EIS/EIR at 3.4-32.

Therefore, translocation likely will not lessen the Project’s impact to the desert tortoise and may in fact have significant adverse effects on desert tortoise. Despite this the well-known risk associated with translocation, the Draft PA/EIS/EIR includes the DTTP as a mitigation measure, even though the specifics of how the DTTP would minimize adverse impacts to translocated tortoises is unknown. Thus, the Draft PA/EIS/EIR must consider further mitigation measures. At a minimum, as part of a revised Draft PA/EIS/EIR, the final DTTP must be available to the public and decisionmakers to enable them to evaluate the DTTP and its potential effects on the desert tortoise.

VIII. THE DRAFT PA/EIS/EIR FAILS TO ADEQUATELY EXAMINE THE PROJECT’S VISUAL IMPACTS

The Draft PA/EIS/EIR fails to adequately analyze and describe the Project’s significant adverse visual impacts on nearby viewsheds and visual resources, including impacts to visitors of the Mojave National Preserve. As explained below, the Draft PA/EIS/EIR’s analysis of the Project’s visual impacts is replete with errors, omissions, and contradictory findings that require the Lead Agencies to revise and reissue the Draft PA/EIS/EIR for public comment (should the Lead Agencies still wish to consider this site for a utility-scale solar PV facility). Among the Draft PA/EIS/EIR’s most significant errors are the following: (1) failing to clearly state whether the Project meets the BLM’s Visual Resource Management (VRM) Class objectives; (2) failing to adequately analyze the VRM classification; (3) relying on inadequate assumptions in concluding that the Project’s visual impacts would be less than significant; (4) failing to substantiate conclusions regarding the Project’s visual impacts on the night sky and the visual impacts of glint and glare from the Project’s solar panels; (5) failing to consider the Project’s



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¹⁸ The Draft PA/EIS/EIR also states “the risks and uncertainties of translocation to the desert tortoise are well recognized in the desert tortoise scientific community.” Draft PA/EIS/EIR at 3.4-33.

long-term, direct and indirect aesthetic impacts; and (6) failing to consider the indirect economic effects related to the Project’s visual impacts.

A. The Draft PA/EIS/EIR Fails to Clearly State Whether the Project Meets the BLM’s Visual Resource Management Objectives

“NEPA requires federal agencies to examine the environmental effects of a proposed project and, for those actions that will significantly affect the environment, to inform the public in an EIS of the relevant factors that were considered in the decision-making process.” *Baltimore Gas*, 462 U.S. at 97. CEQA requires an adequate description of the Project’s setting that “identif[ies] and focus[es] on the significant environmental effects of the proposed project ... [and] includes relevant specifics to the area ... such as ... scenic quality.” *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.*, 60 Cal. App. 4th 1109, 1122-23 (1997).

The BLM uses VRM classes to establish management objectives for the land it administers. Draft PA/EIS/EIR at 3.18-5. “Management objectives for each VRM class set the level of visual change to the landscape that may be permitted for any surface-disturbing activity and, if that level is exceeded, whether any proposed mitigation measures can bring the project into line with the BLM’s VRM classification objectives.” *Id.* There are four VRM Classes – Classes I, II, III, and IV. *Id.* Each class has its own objectives, ranging from Class I’s primary objective to “preserve the existing character of the landscape” to Class IV’s primary objective to “provide for management activities which require major modifications of the existing character of the landscape.” *Id.* A project that fails to conform to its VRM class objectives “would need to be mitigated to the greatest extent possible, and to the VRM class objective at a minimum.” *Id.* at 3.18-13. Where a “project cannot be mitigated to meet the VRM class objectives, then the application may be denied or the proposal redesigned or relocated to meet the objective.” *Id.*

Here, the BLM designated the Project site as VRM Class III. *Id.* at 3.18-14. “The objective of Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but *should not dominate the view of the casual observer.*” *Id.* (emphasis added).

The Draft PA/EIS/EIR fails to clearly explain whether the Project’s visual impacts would conform to the Project site’s VRM Class III objectives. Initially, the Draft PA/EIS/EIR states that all of the action alternatives, Alternatives A, B, C, D, and F, fail to meet VRM Class III objectives because their visual impacts “would dominate the visual character of the landscape.” *Id.* at 3.18-22, 3.18-29, 3.18-30, 3.18-31. In contrast, a later section of the Draft PA/EIS/EIR states that the Project’s impact “on scenic vistas would be adverse, but it would not dominate the landscape character from the main vantage points in the study area.” *Id.* at 3.18-40. The phrase “not dominate the landscape character” parrots the language of the VRM Class III objectives, but the meaning of the phrase “main vantage points,” which informs the determination that the Project’s impact

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“on scenic vistas... would not dominate the landscape character...” is unclear. *Id.* The Draft PA/EIS/EIR fails to adequately explain this contradiction and never plainly states whether the Project’s visual impacts would comply with VRM Class III objectives. Thus, in its current form, the Draft PA/EIS/EIR provides insufficient information to enable the public and decisionmakers to make a well-informed decision about the Project, including whether to exercise discretion to deny, relocate or redesign the Project.

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B. The Draft PA/EIS/EIR Fails to Adequately Analyze the Visual Resource Management Classification of the Project Site

The Draft PA/EIS/EIR fails to support its designation of the Project site as VRM Class III, because the BLM ignores certain factors in determining the class designation. VRM classes are determined by considering the Visual Resource Inventory (VRI) class designations as well as the applicable resource allocations, demands, and management decisions. Draft PA/EIS/EIR at 3.18-5. The VRI is BLM’s official record of the existing status and condition of visual resources on BLM-administered lands. Draft PA/EIS/EIR at 3.18-5. VRI classes provide the basis for considering visual values in the resource management planning process. *Id.* The VRI is comprised of three factors: (1) visual sensitivity, (2) scenic quality, and (3) and distance zones. Draft PA/EIS/EIR at 3.18-4. These factors are evaluated, scored, and combined to determine the VRI Class. Draft PA/EIS/EIS at 3.18-4. The Draft PA/EIS/EIR has inadequately analyzed all three VRI factors, thus raising doubts about whether the Project should be classified as VRM Class III. These doubts are heightened by the BLM’s questionable management decision to classify the Project as VRM Class III given that it lies immediately next to the Preserve, a scenic area of critical environmental concern.

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1. The Draft PA/EIS/EIR Fails to Adequately Analyze the Visual Resource Inventory for the Project Site

The Draft PA/EIS/EIR fails to adequately analyze all three factors of the Project site’s VRI: (1) visual sensitivity, (2) scenic quality, and (3) and distance zones. Because the VRI contributed to the determination of the Project’s VRM class, the VRM classification is also flawed.

a) The Draft PA/EIS/EIR fails to adequately analyze the visual sensitivity level of the Project site

The BLM assigned a visual sensitivity level (VSL) of medium to the Project area based on low levels of recreation use (primarily off-highway vehicles), but ignored other important factors that are supposed to be considered in assigning a sensitivity level for a particular area. Draft PA/EIS/EIR at 3.18-7. “Sensitivity levels are a measure of public concern for scenic quality.” *Id.* “Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern: type of users, amount of use, public interest, adjacent land uses, special areas (*i.e.*, Wilderness Areas, Wild and Scenic Rivers, Scenic Roads or Trails, Areas of Critical Environmental Concern).” *Id.*

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In assigning a sensitivity level of medium to the Project area, the BLM focused solely on the level of recreation use and ignored the other listed indicators of public concern. For example, BLM ignored the fact that the Project site is located adjacent to the Mojave National Preserve, which receives hundreds of thousands of visitors a year.¹⁹ BLM also did not adequately consider the Project area’s proximity to designated Wilderness Areas. *See* Appendix K.

While both the “type of use” and “public interest” factors for the Project site are rated as high, these factors are ignored in assigning the visual sensitivity level. These other factors should have been considered:

- Factor 1 - type of users – states that “[r]ecreational sightseers may be highly sensitive to any changes in visual quality.” BLM Visual Resource Inventory Manual at 4. In other words, this factor recognizes that the visual sensitivity rating should not be entirely contingent upon the number of users an area receives.
- Factor 3 – public interest – takes into account the concerns of local, state, and national groups, as expressed through instruments such as land-use plans. *Id.* Here, both the San Bernardino County and Preserve land use plans express concern for preserving the scenic qualities of the Preserve.²⁰ *See* Section X.
- Factor 4 – adjacent land uses – states that the “interrelationship with land uses in adjacent lands can affect the visual sensitivity of an area.” *Id.* The Draft PA/EIS/EIR fails to explain why BLM failed to account for the scenic importance of the Preserve when it rated the “adjacent land use” of the Project site as low. *Id.*
- Factor 5 – special areas – “frequently require special consideration of the visual values” of Natural Areas, Wilderness Areas, or Wilderness Study Areas.” *Id.* The Preserve contains natural areas and Wilderness Areas. National Park Service, Mojave National Preserve,

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¹⁹ For example, the Preserve received 600,897 visitors in 2010. Headwaters Economics, National Park Service Units: Economic Impacts of Visitation and Expenditures, <http://headwaterseconomics.org/apps-public/nps/impacts/> (last visited March 2, 2014).

²⁰ According the Mojave National Preserve’s General Management Plan, “[t]he vision for the Preserve is the protection and perpetuation of a natural environment and cultural landscape, where protection of self-sustaining native desert ecosystems and processes is ensured for future generations. The plan strives to perpetuate the solitude and quiet, and the sense of discovery and adventure that now exists. The plan emphasizes minimum overall development that would detract from the setting and sense of discovery that currently exists.” National Park Service, Mohave National Preserve General Management Plan at 1 (2002).

<http://www.nps.gov/moja/planyourvisit/wilderness.htm> (last visited March 2, 2014); *see also* Appendix K.

There are five factors that contribute to the assignment of a VSL rating, and each of the five factors must be considered. Here, BLM does not take all five factors into consideration and instead assigns the Project site a VSL of medium based entirely on the amount of use, failing to account for the fact that the Preserve and Wilderness areas are also directly adjacent to the Project site.

If properly analyzed and considered, the visual sensitivity factors would arguably support a rating of “high” rather than “medium.” BLM must adequately consider all five factors in assigning a VSL for the Project site, and the Draft PA/EIS/EIR must be revised to include this additional analysis.

b) The Draft PA/EIS/EIR fails to adequately analyze the scenic quality rating of the Project site

The Draft PA/EIS/EIR assigns a Scenic Quality Rating of medium to the Project site, but it fails to explain the basis for its numeric rating. Draft PA/EIS/EIR at 3.18-6 – 3.18-7. The scenic quality rating criteria consists of Landform, Vegetation, Water, Color, Adjacent Scenery, and Scarcity. *Id.* at 3.18-6,7. The Draft PA/EIS/EIR should give particular emphasis to the Adjacent Scenery criterion, which measures the degree to which scenery outside the scenery unit being measured (*e.g.*, the Project site) enhances the overall impression of the scenery unit. Here, the Preserve’s Soda Mountains abut the Project site and, arguably, would significantly enhance the Project site’s visual quality. A revised Draft PA/EIS/EIR must provide and consider this analysis.

c) The Draft PA/EIS/EIR fails to adequately analyze the distance zones of the Project site

The Draft PA/EIS/EIR gives scant analysis to the distance zones of the Project site, simply stating that, “[a]ccording to the VRI...all portions of the Project site are within the foreground/middleground zone because I-15 and other public routes of travel are located within a distance of 5 miles.” *Id.* 3.18-8. First, the Draft PA/EIS/EIR does not explain how this “foreground/middleground zone” analysis affects the VRI rating.²¹ Second, the Draft PA/EIS/EIR fails to acknowledge and analyze the implications of the Preserve being adjacent to the Project site. BLM must complete a more thorough analysis of the distance zones and clearly explain their significance to the Project’s VRI rating.

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²¹ Foreground/middleground is defined as observation points with a view of the Project landscape located three to five miles away. Draft PA/EIS/EIR at 3.18-5.

2. ***BLM’s Decision to Classify the Project Site as a Class III VRM Area is Inappropriate***

The BLM’s decision to classify the Project area as Class III is not appropriate because the site lies immediately adjacent to the Preserve and Wilderness Areas. *See* App. K. The BLM must consider the visual values of the areas surrounding the Project site. BLM Visual Resource Inventory Manual at 5. “For example, highly scenic areas which need special management attention may be designated as scenic Areas of Critical Environmental Concern and classified as VRM Class I based on the importance of the visual values.” *Id.* The Preserve contains numerous unique features, including the world’s largest forest of Joshua trees, tall sand dunes, and volcanic cinder cones, that collectively comprise a plethora of biological diversity. National Geographic, Top 10 Underappreciate Parks, <http://travel.nationalgeographic.com/travel/top-10/underappreciated-national-parks/#page=2> (last visited March 3, 2014). Consequently, the Lead Agencies should consider the possibility of classifying the Project site as VRM Class I.

71-22

C. **The Draft PA/EIS/EIR Relies Upon Inadequate Analysis and Conclusory Assumptions to Determine that the Project’s Visual Impacts Would be Less Than Significant With the Implementation of Mitigation Measures**

NEPA dictates that “an agency may not rely on incorrect assumptions or data in an EIS.” *Native Ecosystems Council*, 418 F.3d at 964. “NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that the agency will not act on incomplete information, only to regret its decision after it is too late to correct.” *Marsh*, 490 U.S. at 371. Similarly, under CEQA an EIR must “effectively disclose to the public the analytic route the . . . agency traveled from evidence to action.” *Citizens of Goleta Valley*, 52 Cal. 3d at 568. In general, “the EIR must contain facts and analysis, not just the agency’s bare conclusions or opinions.” *Id.* As explained below, the Draft PA/EIS/EIR’s conclusion that the Project’s visual impact to scenic vistas “would be less than significant” with mitigation measures, is based on incorrect and conclusory assumptions and inadequate analysis. *Id.* Consequently, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately analyze the significant visual impact to the Preserve’s vistas.

71-23

1. ***The Draft PA/EIS/EIR Fails to Analyze an Adequate Number of KOPs Situated in the Preserve***

The Draft PA/EIS/EIR analyzes an inadequate number of KOPs located in the Preserve (Preserve KOPs). Given the Project’s significant impact on numerous Preserve vistas, the Lead Agencies should have examined impacts on more than three KOPs. The Project site is adjacent to the Soda Mountains, which lie along the western border of the 1.6-million-acre Preserve. Draft PA/EIS/EIR at 3.18-1, 3.18-2. As acknowledged in the Draft PA/EIS/EIR, “large areas within the Preserve would potentially afford views of some portions of the solar array areas and/or substation site.” *Id.* at 3.18-25 – 3.18-26.

These Preserve viewsheds normally offer pristine vistas overlooking the Project site, and the Project would significantly impact the aesthetic quality of these vistas. *Id.* at 3.18-39, 3.18-40.

The Draft PA/EIS/EIR analyzes 13 KOPs to determine the Project’s visual impacts. *Id.* at 3.18-15. Of these thirteen KOPs, only three – KOPs 13, 14, and 19 – are located in the Preserve, despite the visual prominence the Project would have within numerous Preserve viewsheds along the Soda Mountain ridgeline that overlooks the Project site. These are cherished vistas enjoyed by many Preserve visitors. *See Yen Le et al.*, Mojave National Preserve Visitor Study Fall 2013 at 36 (2013) http://psu.uidaho.edu/files/vsp/reports/151_MOJA_rept.pdf (reporting that sixty percent of Preserve visitors rated the scenic vistas as being extremely important). Indeed, when asked to rank the most important feature of the Preserve, visitors chose scenic vistas more often than any other feature. *Id.* Given the Preserve’s open access to numerous scenic vistas, and the Draft PA/EIS/EIR’s stated purpose of establishing KOPs “to visualize the contrast created by the proposed action from locations most representative of how the public perceives the affected landscape,” the Lead Agencies should consider additional Preserve KOPs in order to adequately analyze the Project’s significant visual impact on the Preserve’s scenic vistas. Draft PA/EIS/EIR at 3.18-15.



71-23
cont.

2. *The Draft PA/EIS/EIR Applies the Wrong Criteria for Analyzing the Project’s Visual Impacts on Preserve KOPs*

“[U]pon request of the NPS,” and in response to the NPS’s “expressed concern about the visual impact that would occur as a result of the Project,” the Draft PA/EIS/EIR analyzes impacts on three Preserve KOPs: KOPs 13, 14, and 19. *Id.* at 3.18-3, 3.18-4. In contrast to BLM guidelines for selecting KOPs, which stress “commonly traveled routes or other observation points” among other criteria (*Id.* at 3.18-3), NPS selected the KOPs that would help “identify the Project’s [visual] impact to surrounding landscapes and scenic vistas,” as well as “the effect the lighting would have on the visual landscape surrounding the project area.” *Id.* at 3.18-4. The Draft PA/EIS/EIR indicates the Visual Contrast Rating for KOPs 13 and 14 is strong and acknowledges that the Preserve “would experience the most visual impacts in line and color contrasts.” *Id.* at 3.18-20, 3.18-39. However, the Draft PA/EIS/EIR downplays these significant visual impacts based on the BLM’s finding that Preserve KOPs “receive very few visitors, on the magnitude of possibly two visitors per year.” *Id.* at 3.18-39. This analysis fails to recognize that the Preserve KOPs were selected for their scenic quality, not because they necessarily experience high levels of use or are located along commonly traveled routes. The Lead Agencies should assess the Project’s significant visual impacts on Preserve KOPs according to the same criteria used to select these KOPs.



71-24

3. ***The Draft PA/EIS/EIR Fails to Substantiate Its Conclusion that KOPs 13 and 14 Experience Recreational Use of Possibly Two Visitors Per Year***

The Draft PA/EIS/EIR fails to provide a substantial basis for concluding that Preserve KOPs 13 and 14 are accessed by recreational users “on the magnitude of possibly two visitors per year.” Draft PA/EIS/EIR at 3.18-16. According to the Draft PA/EIS/EIR, NPS personnel estimated that KOPs 13 and 14 are visited by “possibly two visitors per year,” but no further evidence is offered to substantiate this estimate. *Id.* Solely referencing undocumented claims made by unnamed NPS personnel is insufficient to support the conclusion that KOPs 13 and 14 only experience two visitors per year. Furthermore, the Preserve’s Soda Mountain range, which overlooks the proposed Project site, lacks marked trails or designated viewpoint locations and is fully accessible without a permit. Preserve visitors are free to chart their own hiking, backpacking, and camping routes throughout the Preserve, which allows visitors to enjoy the exceptional views overlooking the Project site from numerous observation points. Given that only a handful of NPS personnel are tasked with overseeing the 1.6-million-acre, open-access Preserve which received 600,897 visitors in 2010, it is difficult to estimate the number of visitors to these Preserve KOPs with a high degree of certainty. Headwaters Economics, National Park Service Units: Economic Impacts of Visitation and Expenditures, <http://headwaterseconomics.org/apps-public/nps/impacts/> (last visited March 2, 2014). In the absence of certainty, the Draft PA/EIS/EIR should provide a realistic range of the possible number of visitors to KOPs 13 and 14 so that the decisionmakers and the public can make better-informed decisions regarding the Project’s visual impacts on the Preserve.

71-25

4. ***The Draft PA/EIS/EIR Fails To Substantiate Its Conclusions Regarding the Project’s Visibility from KOP 19***

The Draft PA/EIS/EIR fails to substantiate its conclusion that visibility of the Project area from KOP 19, located within the Preserve, is negligible. *Id.* at 3.18-17. The PA/EIS/EIR justifies this conclusion by stating that the distance between KOP 19 and the Project site (17.6 miles) would render the contrast in form, line, and texture unnoticeable. *Id.* However, the Draft PA/EIS/EIR fails to justify that conclusion with any supporting evidence or data, including an explanation of why glint and glare from the solar panels would not be visible from KOP 19. In addition, the Draft PA/EIS/EIR states that “atmosphere would mute color contrast” without analyzing how atmosphere may vary according to the season or weather pattern, thereby effecting contrast visible from KOP 19. *Id.* at 3.18-20. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR with facts and analysis to support the conclusion regarding the visibility from KOP 19.

71-26

5. ***The Draft PA/EIS/EIR Improperly Concludes Under CEQA That the Project’s Visual Impact to Preserve KOPs Would be Less Than Significant With Mitigation***

The Draft PA/EIS/EIR fails to support its conclusion that the Project’s visual impacts would be less than significant with the incorporation of mitigation measures. Draft PA/EIS/EIR at 3.18-39. Under CEQA, a project would have a significant impact on visual resources if it would: a) Have a substantial adverse effect on a scenic vista; b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; c) Substantially degrade the existing visual character or quality of the site and its surroundings; or d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area. *Id.* at 3.18-38.

71-27

The Draft PA/EIS/EIR recognizes that the Project would create a “significant impact to scenic vistas,” but concludes that mitigation measures would render this impact “less than significant.” *Id.* at 3.18-40. However, the Draft PA/EIS/EIR fails to adequately explain how the proposed mitigation measures would render the impact to Preserve vistas less than significant. Instead, the Draft PA/EIS/EIR relies on the fact that the Preserve KOPs “receive very few visitors, on the magnitude of possibly two visitors per year.” *Id.* at 3.18-39. This statement is flawed in at least two respects. First, it misleads the public and decisionmakers, because the significance of visual impacts on the Preserve is not a function of the volume of visitors to its KOPs. *See* Section IX(B)(4). Second, even if Preserve KOPs do receive very few visitors, low levels of recreational use do not constitute a mitigation measure under CEQA. Therefore, the Lead Agencies should revise Draft PA/EIS/EIR that adequately analyzes whether the Project’s visual impacts to the scenic vistas of KOPs 13 and 14 would be significant under CEQA.

D. The Draft PA/EIS/EIR Fails to Substantiate Conclusions with Supporting Facts and Analysis

The Draft PA/EIS/EIR concludes that the Project lighting would not have a significant impact on the night sky, and that the glint and glare from the Project’s solar panels would not have a high contrast with surrounding areas, without providing an adequate basis for these conclusions. NEPA requires agencies to carefully consider detailed information concerning significant environmental impacts. *Methow Valley*, 490 U.S. at 349. An EIR must set forth the bases for its findings on a project’s environmental impacts. A bare conclusion without an explanation of its factual and analytical basis is not sufficient. *Laurel Heights Improvement Ass’n v Regents of Univ. of Cal.*, 47 Cal. 3d 376, 404 (1988). Because the Draft PA/EIS/EIR fails to provide an adequate explanation for its conclusions, the Draft PA/EIS/EIR is deficient.

71-28

1. *The Draft PA/EIS/EIR Fails to Substantiate Certain Conclusions Regarding the Project Lighting’s Impact on the Night Sky*

First, the Draft PA/EIS/EIR fails to substantiate its conclusion that the Project lighting would be “dark sky-compliant.” Draft PA/EIS/EIR at 3.18-23. The Draft PA/EIS/EIR provides no explanation, definition, or basis for using the phrase ‘dark sky-compliant’ as a term of art to describe the Project, nor does the Draft PA/EIS/EIR define the term itself. Despite the proposal of certain APMs and mitigation measures, the Project would produce unnatural light that would be “visible by surrounding user groups.” *Id.* at 3.18-24. Second, the Draft PA/EIS/EIR claims this “lighting would be minimized and controlled such that it would not be a nuisance and would not detract from the ability for affected viewers to enjoy their surroundings or view the night sky.” *Id.* However, the Draft PA/EIS/EIR fails to adequately explain the basis for these conclusions. This is a significant issue, because Mojave National Preserve is “located in one of the best areas in the United States for night sky viewing” due to its low humidity and air pollution, high number of cloudless nights, and relatively distant proximity from urban centers. US-Parks.com, Mojave National Preserve – Lightscape/Night Sky, <http://www.us-parks.com/mojave-national-preserve/lightscape/-/night-sky.html> (last visited March 2, 2014). Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to provide facts or analysis to support the conclusions that the Project’s unnatural light would be “dark sky-compliant” and would not pose a nuisance to viewers of the night sky.

71-28
cont.

In addition, the Draft PA/EIS/EIR fails to explain why the night sky was omitted from the Project’s Scenic Quality Rating. To determine the Scenic Quality Rating, the BLM is required to consider seven key factors, among them “adjacent scenery” and “scarcity.” Draft PA/EIS/EIR at 3.18-7; BLM Visual Resource Inventory Manual at 8. The starry night skies constitute scenery that is scarce and is also adjacent to the Project area. The Preserve contains some of the last remaining harbors of natural darkness – an endangered resource that attracts recreational visitors. National Park Service, Night Sky, www.nature.nps.gov/night/index.cfm (last visited March 2, 2014). Fifty-five percent of the Preserve visitors surveyed in 2003 rated stargazing and the night sky as either very or extremely important features. Yen, Mojave National Preserve Visitor Study Fall 2013 at 36. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately analyze the night sky within its Scenic Quality Rating, so that both the public and the Lead Agencies can make a well-informed decision about the Project’s visual impacts on the night sky.

2. *The Draft PA/EIS/EIR Fails To Substantiate Its Summary Conclusion Regarding Glint and Glare*

The Draft PA/EIS/EIR fails to justify its conclusion that the Project’s solar panels would not create a strong visual contrast with the surrounding areas in view of the Project site. The Draft PA/EIS/EIR acknowledges that the “[g]lare produced by diffuse reflections would increase the color contrast of the Project in the landscape,” and that this reflection would vary “depending on panel orientation, sun angle, viewing angle, viewing

71-29

distance, and other factors.” Draft PA/EIS/EIR at 3.18-24 – 3.18-25. Nonetheless, the Draft PA/EIS/EIR definitively concludes that the glare “would not be sufficiently intense or distracting as to increase any of the contrast ratings ... to ‘strong,’” without adequately explaining how the facts provided justify this conclusion. *Id.* at 3.18-25. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to provide facts or analysis to support this conclusion.

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E. The Draft PA/EIS/EIR Fails to Adequately Consider the Project’s Long-Term Aesthetic Impacts

The Draft PA/EIS/EIR fails to adequately analyze the Project’s direct and indirect long-term aesthetic impacts. Under NEPA, “[a]n environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of “past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7; *see also* §§ 1508.8 (including ecological [and] aesthetic...impacts) and 1508.25(a)(2), (c); *Colorado Env’tl. Coal. v. Dombek*, 185 F.3d 1162, 1176 (10th Cir. 1999). The Draft PA/EIS/EIR must examine the direct visual impacts caused by displacing flora in and around the 4,179 acre Project site, along with the indirect visual impacts caused by the displacement of fauna due to the disappearance of flora. The vegetation, wildlife, and migratory birds within the Preserve and other surrounding regions are an integral part of the visual landscape in and around the Project site. The long-term displacement of flora and fauna constitute significant direct and indirect visual impacts. The displacement of flora and fauna would be even more pronounced if the Project engages in groundwater-pumping that proves detrimental to the sustainability of the Soda Spring groundwater system. *See e.g.* Section III. At a minimum, NEPA and CEQA require that the Lead Agencies revise the Draft PA/EIS/EIR to provide an adequate analysis of the Project’s long-term, direct and indirect aesthetic impacts on the lands surrounding the Project area, including the Preserve.

71-30

F. The Draft PA/EIS/EIR Fails to Analyze the Project’s Economic Effects of Fewer Preserve Visitors Due to the Project’s Visual Impacts

The Draft PA/EIS/EIR fails to adequately disclose and consider the economic effects of fewer people visiting the Preserve due to the Project’s adverse visual impacts. Under NEPA, an environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of “...reasonably foreseeable actions (including...economic...impacts).” 40 C.F.R. § 1508.7; *see also* §§ 1508.8; 1508.25(a)(2), (c); *Colorado Env’tl. Coal.*, 185 F.3d at 1176-77. In addition to providing enormous aesthetic value, the Preserve is also a local and regional economic engine for the residents of San Bernardino County and the state of California.²² In 2010, 600,897 people visited the Preserve, spending an estimated

71-31

²² National Parks in the western United States offer growing high-tech services industries a competitive advantage. As such, federal public lands support faster rates of job growth and are correlated with higher levels of per capita income, “which is a major reason why

\$13,297,969 and supporting 228 jobs in the local economies. Headwaters Economics, National Park Service Units: Economic Impacts of Visitation and Expenditures, <http://headwaterseconomics.org/apps-public/nps/impacts/> (last visited March 2, 2014). By diminishing the beauty of the vistas that attract many Preserve visitors, the Project’s visual impacts may reduce the number of non-local visitors to the Preserve, thereby threatening the economic life of the Preserve’s gateway communities. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to fully considers and disclose the potential indirect economic effects that would result from a reduction in Preserve visitors due to the Project’s adverse impacts on the vistas and visual landscape enjoyed in the Preserve.

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cont.

IX. The Draft PA/EIS/EIR fails to adequately discuss cumulative impacts

The Draft PA/EIS/EIR’s cumulative impacts analysis is deficient because it does not adequately discuss the cumulative impacts that the Project will have on western burrowing owl, American badger, desert kit fox, connectivity for the desert bighorn sheep, and visual resources. A cumulative impact is an “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” 40 C.F.R. § 1508.7. An EIS must “analyze the combined effects of the actions [in the area] in sufficient detail to be useful to the decisionmaker in deciding whether, or how, to alter the program to lessen cumulative impacts.” *Muckleshoot Indian Tribe*, 177 F.3d at 810. “A proper consideration of the cumulative impacts of a project requires some quantified or detailed information . . .” *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management*, 387 F.3d 989, 993 (9th Cir. 2004).²³ Cumulative impacts analyses are inadequate where they contain only “general statements about possible effects and some risk . . .”²⁴ *Id.*

71-32

the western economy has outperformed the rest of the U.S economy in employment, population, and personal income during the last four decades.” Headwaters Economics, *West is Best: Protected Lands Promote Jobs and Higher Incomes*, <http://headwaterseconomics.org/land/west-is-best-value-of-public-lands> (last visited March 2, 2014).

²³ CEQA requires an EIR to discuss a cumulative impact if the project’s incremental effect combined with the effects of other projects is cumulatively considerable based on an assessment of the project’s incremental effects “viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects.” Cal. Code Regs. tit. 14 §§ 15065(a), 15130(a).

²⁴ In *Klamath-Siskiyou*, the court held that the BLM’s analysis of cumulative impacts for a timber sale was insufficient because it “[did] not provide any objective quantification of the impacts.” *Id.* at 994. Instead, the EIS in that case merely contained “a list of environmental concerns such as air quality, water quality, and endangered species . . .” *Id.* at 995. As such, the court held that the BLM’s “conclusory statements that the [cumulative] effects are not significant or will be effectively mitigated” were insufficient to satisfy the requirements of NEPA. *Id.* at 996.

The Draft PA/EIS/EIR does not discuss cumulative impacts on the western burrowing owl, American badger, or desert kit fox. The Draft PA/EIS/EIR states “[t]he four identified cumulative projects within 10 miles of the Project would presumably result in impacts to burrowing owl, American badger and desert kit fox similar to those for the Project.” Draft PA/EIS/EIR at 3.4-50. This statement merely concludes that other projects in the area may have similar effects as the Project on these species. However, the Draft PA/EIS/EIR does not actually discuss the cumulative impacts of these projects and fails to include an analysis of the manner in which the impacts of other projects in the area might combine with those of the Project to cumulatively impact the identified species. Furthermore, much like the analysis in *Klamath-Siskiyou*, the Draft PA/EIS/EIR simply lists possible adverse effects on these species, such as “the direct loss of suitable habitat, loss of individual animals, or indirect effects from human presence that result in changes to habitat” *Id.* The Draft PA/EIS/EIR does not provide any objective quantification of these potential impacts.

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cont.

Moreover, the Draft PA/EIS/EIR concludes that “[t]he implementation of mitigation measures identified to protect American badger and desert kit fox (3.4-1b), protect burrowing owls (3.4-1f), and mitigate habitat losses (3.4-2d) would reduce Project impacts to these species” Draft PA/EIS/EIR at 3.4-50. This conclusory statement is not framed in terms of *cumulative* impacts of the Project, but is framed in terms of the Project’s independent, direct impacts on the identified species. Furthermore, the Draft PA/EIS/EIR does not describe the manner in which these mitigation measures might minimize any impacts, let alone cumulative impacts.²⁵ Rather, the Draft PA/EIS/EIR states that such measures will mitigate Project impacts without any evidence to support such a conclusion. This is a conclusory statement of the type that the court in *Klamath-Siskiyou* identified as inadequate. As such, the Draft PA/EIS/EIR’s analysis of cumulative impacts on the western burrowing owl, American badger, and desert kit fox is insufficient. Therefore, the Lead Agencies must revise the Draft PA/EIS/EIR to adequately analyze the cumulative impacts on these species.

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In addition to the deficient cumulative impacts analysis described above, the Draft PA/EIS/EIR does not discuss any cumulative impacts on the connectivity of desert bighorn sheep metapopulation fragments. As discussed above in Section VI above, connectivity is vital for genetic diversity in desert bighorn sheep, and the area in which the Project would be located is crucial for such connectivity. Because these animals tend to avoid human activity, the combination of various large-scale human developments in the area may pose additional obstacles for the desert bighorn sheep to maintain connectivity. As such, the Draft PA/EIS/EIR should discuss the potential cumulative impacts that the Project would have on the connectivity between desert bighorn sheep metapopulation fragments.

71-34

²⁵ CEQA requires an EIR to examine reasonable options for mitigation or avoiding a project’s contribution to significant cumulative impacts. Cal. Code Regs. tit. 14 § 15130(b)(3).

Finally, the Draft PA/EIS/EIR only discusses the cumulative impacts that the Project will have on visual resources from the perspective of a traveler on Interstate 15. Draft PA/EIS/EIR at 3.18-31 – 3.18-33. The Lead Agencies fail to include any discussion of the cumulative impact that various projects in the area might have on the viewsheds in the Mojave National Preserve. In particular, the Draft PA/EIS/EIR omits any discussion of the cumulative impacts on the night sky, a resource that visitors to the Preserve highly value. The accumulation of large-scale development in the region in which the Project is located has the potential to adversely impact the night sky, because increased development may cause an increase in the emission of artificial light into the night sky. As discussed in Section VIII, this result would be an adverse impact because visitors to the Mojave National Preserve cherish its night sky precisely because it lacks artificial light. Therefore, the Lead Agencies should revise the Draft PA/EIS/EIR to include a discussion of the cumulative impacts on the visual resources of the Mojave National Preserve.

71-35

X. THE DRAFT PA/EIS/EIR FAILS TO PROPERLY CONSIDER APPLICABLE LAND USE PLANS

NEPA and CEQA require a lead agency to analyze whether a proposed project is consistent with federal, regional, state, and local land use plans, policies, and controls for the area concerned. 40 C.F.R. § 1502.16(c), 1506.2(d); Cal. Code Regs. tit. 14 § 15000–15387. NEPA requires the EIS to discuss “[p]ossible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.” 40 C.F.R. § 1502.16. “To better integrate environmental impact statements into State or local planning processes, statements shall discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law.” 40 C.F.R. § 1506.2. Here, the Draft PA/EIS/EIR fails to adequately consider the County’s land use plans in its Visual Resource Classification of the Project area.

71-36

A. The Draft PA/EIS/EIR is Inconsistent with the Open Space Element of the San Bernardino County General Plan

The County of San Bernardino General Plan (General Plan) is largely applicable to the entire County, including the “non-jurisdictional” County-lands that BLM owns and administers. Draft PA/EIS/EIR at 3.18-11 – 3.18-12. Specifically, the General Plan’s Open Space Element (Element) applies to the “Desert Region” that encompasses the Project site. This Element states that its goal is to “preserve and protect cultural resources throughout the County, including parks, areas of regional significance, and scenic, cultural, and historic sites that contribute to a distinctive visual experience for visitors and quality of life for County residents.” *Id.* at 3.18-12. The General Plan also states the goal of maintaining and enhancing “the visual character of scenic routes in the County,” along with the policy of designating “areas that provide a vista of undisturbed natural areas” as scenic resources. *Id.*

The Draft PA/EIS/EIR states the goals and policies of the Plan’s Open Space Element, but it fails to provide any analysis to explain how the Project is consistent with the General Plan in regards to those goals and policies. Given the Draft PA/EIS/EIR’s determination that the Project will have a negative visual impact on undisturbed natural areas, a revised Draft PA/EIS/EIR that adequately analyzes whether the Project is consistent with the Plan’s Open Space Element is required. *Id.* at 3.18-40.

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cont.

B. The Draft PA/EIS/EIR is Inconsistent with Amendments to the San Bernardino County General Plan That Relate to Solar Energy Generation Facilities

The Draft PA/EIS/EIR fails to adequately analyze whether the Project is consistent with the County’s General Plan. In response to County residents’ concerns about commercial solar energy development in proximity to residential land uses, the County authorized the Land Use Services Department “to prepare a Renewable Energy Element of the General Plan” (Plan Amendment). Memorandum from Tom Hudson, Director, Land Use Services Dep’t, San Bernardino, Cnty. to Honorable Board of Supervisors (July 17, 2013) (on file with Land Use Dep’t).²⁶ As a precursor to the completion of the Plan Amendment, on June 12, 2013, the San Bernardino Planning Board adopted Interim Urgency Ordinance No. 4198, which established a temporary moratorium on approval of commercial solar energy generation projects. *Id.* Subsequently, the County Board of Supervisors adopted an ordinance amending Chapters 84.29 and 810.01 of the County Development Code. San Bernardino, Cal., Ordinance Amending Chapter 84.29, Renewable Energy Generation Facilities, and Chapter 810.01, Definitions of the San Bernardino County Development Code, Relating to the Regulation of Commercial Solar Energy Generation Facilities (Dec. 17, 2013) (hereafter referred to as Renewable Energy Ordinance). Accordingly, the Renewable Energy Ordinance should be interpreted as expressing the intent of the General Plan until the Plan Amendment is complete.

71-37

The Renewable Energy Ordinance “recognizes not only the substantial intrinsic value of the desert’s natural and scenic setting, but also the importance of this setting for the quality of life of area residents and the economic value it creates for the area’s tourism industry.” *Id.* at § 1(a)-(b). In order to approve a commercial solar facility, the Planning Commission must find “[t]he siting and design of ... the facility will be either: unobtrusive and not detract from the natural features, open space and visual qualities of the area ... or ... be located in such proximity to already disturbed lands ... that it will not further detract from the natural features, open space and visual qualities of the area” *Id.* at § (3)(c)(3)(A)-(B). For “proposed facilities within two (2) miles of the Mojave National Preserve boundaries ... commercial solar energy facilit[ies] will not be a predominant visual feature of, nor substantially impair views from, hiking and backcountry camping areas within the National Preserve.” *Id.* at § (3)(c)(26) Furthermore, “[t]he proposed commercial solar energy generation facility will not adversely affect to a significant degree the availability of groundwater supplies ... [and]

²⁶ The Plan Amendment is estimated to take approximately 18 months. *Id.*

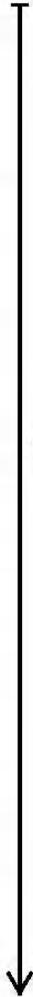
will be sited so as to avoid or minimize impacts to the habitat of special status species, including . . . important habitat/wildlife linkages or areas of connectivity designated by County, state or federal agencies, and areas of Habitat Conservation Plans or Natural Community Conservation Plans that discourage or preclude development.” *Id.* at § (3)(c)(6), (9).



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To achieve consistency with the Renewable Energy Ordinance, the BLM should strive to site the Project on disturbed lands and/or an area in which the Project will (1) not detract from the open space and visual qualities that are unique to the Preserve; (2) not threaten the groundwater of Soda Springs, the habitat of the endangered tui chub and critical connectivity area for the Bighorn Sheep; and (3) not harm the economies of the local surrounding areas. Moreover, a revised Draft PA/EIS/EIR should analyze whether the Project is consistent with the County’s General Plan.

XI. THE DRAFT PA/EIS/EIR FAILS TO ADEQUATELY CONSIDER WHETHER AN AMENDMENT TO THE CDCA PLAN IS CONSISTENT WITH THE CDCA



71-38

The Project site is within a portion of the CDCA that is currently not identified as suitable for solar power generation, and part of the site (2,108 of the 4,179 acres) is within lands designated as Multiple Use Class L for limited use. Draft PA/EIS/EIR at 3.9-13. If the BLM approves a ROW grant for any one of the proposed Project areas, a CDCA Plan Category amendment would be required. *Id.* The BLM should have fully considered a range of alternatives that exclude Multiple Use Class L lands, because “Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values.” Department of the Interior, California Desert Conservation Area Plan as Amended at 13 (1980). “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.” *Id.* Instead, the BLM should fully consider a range of alternatives comprised solely of Multiple Use Classes M and I lands, which allow for moderate and intensive uses. These classes were established for the potential approval of multiple uses involving more intensive development. *Id.* Class I in particular “provide[s] for concentrated use of lands and resources to meet human needs,” such as a utility-scale solar PV installation. *Id.*

The Draft PA/EIS/EIR fails to properly address the Projects’ impacts to Multiple Use Class L lands and their sensitive natural and cultural resources, as well as the loss of multiple uses on those lands.²⁷ Although the CDCA Plan allows for consideration of wind and solar energy generation facilities within Multiple Use Class L lands, any proposed facility, such as the Project, must conform to the management principles and guidelines for such activities. Draft PA/EIS/EIR at 3.9-14 – 3.9-15. There has been no

²⁷ In the development and revision of land use plans, BLM must “give priority to the designation and protection of areas of critical environmental concern . . . [and] consider the relative scarcity of the values involved and the availability of alternative means . . . and sites for realization of those values.” 43 U.S.C. § 1712(c)(3), (6).

meaningful analysis of how construction and maintenance of the 4,179-acre fenced utility-scale project proposed under Alternative A would conform to the Multiple Use Class L management principles and guidelines. Therefore, the Lead Agencies should revise the Draft PA/EIS/EIR to provide this analysis.

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cont.

XII. THE COUNTY SHOULD DENY THE APPLICATION FOR A GROUNDWATER EXTRACTION PERMIT

The Project does not satisfy the requirements for obtaining a permit for operation of a groundwater well under the County’s Desert Groundwater Management Ordinance. San Bernardino County, Cal., Code, tit. 3, div. 3, ch. 6, art 5 § 33.06551 *et seq.* (Desert Groundwater Ordinance) The County passed the Desert Groundwater Ordinance to protect the groundwater resources within the County to safeguard the “public health, safety and general welfare of the people of the State of California and of the County,” which depend upon the continued availability of groundwater. *Id.* § 33.06551(a). The aim of the Desert Groundwater Ordinance is to ensure “that extraction of groundwater does not exceed the safe yield of affected groundwater aquifers, considering both the short and long-term impacts of groundwater extraction, including the recovery of groundwater aquifers through natural as well as artificial recharge.” *Id.*

In order to extract groundwater within the County, a person must either obtain a groundwater permit pursuant to section 33.06554 of the Desert Groundwater Ordinance or the County must grant an exclusion from the permitting requirement pursuant to section 33.06552. *Id.* § 33.06554(f). The County will deny an application for a permit where it determines the applicant has not met the standards of the Desert Groundwater Ordinance and “where the well operations proposed would result in exceeding the groundwater safe yield of the relevant aquifers.” *Id.* The Desert Groundwater Ordinance defines groundwater safe yield as “the maximum quantity of water that can be annually withdrawn from a groundwater aquifer (i) without resulting in overdraft (ii) without adversely affecting aquifer health and (iii) without adversely affecting the health of associated lakes, streams, springs and seeps or their biological resources.” *Id.* § 33.06553. Overdraft occurs when “the average annual amount of water withdrawn by pumping exceeds the average annual amount of water replenishing the aquifer in any ten year period, considering all sources of recharge and withdrawal.” *Id.*

71-39

Here, the County must deny an application for a permit to extract groundwater from beneath the Project site because the extraction will (i) result in overdraft and (ii) adversely affect the health of Soda Spring and associated biological resources. The Draft PA/EIS/EIR concludes that there will be no overdraft of the aquifer at Soda Mountain Valley. As described in Appendix H, this conclusion is not supported by adequate analysis. Furthermore, the extraction of water from Soda Mountain Valley may impact the level of groundwater at Soda Spring. Myers, *supra*, at 6. Soda Spring not only supports the federally-listed endangered Mohave tui chub, but also supports a variety of other wildlife, including birds and the desert bighorn sheep. *See* Section V. The Project will not only result in overdraft of Soda Spring, but would adversely affect its



“associated biological resources.” Therefore, the County should deny a groundwater extraction permit for the Project.

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| cont.

XIII. ORAL COMMENTS ON THE DRAFT PA/EIS/EIR WERE NOT ACCURATELY RECORDED

We are concerned that the manner in which the Lead Agencies recorded oral comments at its public meetings precluded the agencies from accurately capturing these comments. As a result, such comments may not be given the appropriate consideration required by NEPA and CEQA. The Lead Agencies held three public meetings to accept public comment on the Draft PA/EIS/EIR, but did not adequately record the oral comments given at these meetings.²⁸ An agency preparing a final EIS must assess, consider and respond to comments received on a draft EIS.²⁹ 40 C.F.R. § 1503.4. BLM itself recognizes that “[p]ublic involvement is an important part of the NEPA process.” BLM NEPA Handbook at 62.

71-40

The Lead Agencies did not transcribe (using a stenographer or equivalent) or record (using an audio or visual recording device) the oral comments that the public gave during the meetings that the Lead Agencies specifically convened for the purpose of soliciting public comments on the Draft PA/EIS/EIR. The oral comments were “recorded” by BLM personnel taking handwritten notes. This method of documenting the oral comments cannot accurately or adequately capture the substance of the comments and does not allow the Lead Agencies to appropriately respond to the comments as required by NEPA and CEQA.³⁰ By inadequately documenting the oral comments given on the Draft PA/EIS/EIR, the Lead Agencies have undermined their ability to evaluate and respond to comments and their ability to fulfill NEPA and CEQA’s purpose of informed decisionmaking.

²⁸ BLM held three meetings on January 8, 9, and 11, 2014. These meetings were scheduled to receive “public comment on th Soda Mountain Solar Project’s draft environmental documents.” Bureau of Land Management, *Soda Mountain Solar Project Page*, http://www.blm.gov/ca/st/en/fo/barstow/renewableenergy/soda_mountain.html, last visited March 3, 2014.

²⁹ CEQA similarly requires a lead agency to evaluate and respond to comment on a draft EIR. Cal. Pub. Res. Code § 21091(d). A key purpose of the comment process is to bring deficiencies in the draft EIR to the attention of decisionmakers. Cal. Code Regs. tit. 14 § 15200, 15204.

³⁰ BLM recognizes the limitations of using notetaking to record oral comments as it is BLM’s policy that at public meetings, BLM officers “offer the commenter the opportunity to record his or her comment in writing” in order “to ensure that the true intent of the comment is captured.” BLM NEPA Handbook at 65.

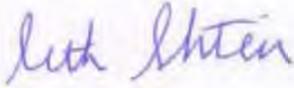
XIV. CONCLUSION

The Lead Agencies should not take lightly, the decision to construct a utility-scale solar facility next to the National Mojave Preserve. Under NEPA and CEQA, the decision must not be made without first ensuring that both the public and decisionmakers have the necessary information to understand potential impacts and make an informed choice about the Project. For all the reasons discussed in this comment letter, the attached appendices, and the comment letter submitted by the Defenders of Wildlife, the Draft PA/EIS/EIR for this Project fails to satisfy NEPA and CEQA's standards. NPCA and SBVAS therefore strongly urge the BLM and County to revise and reissue the Draft PA/EIS/EIR and allow the public sufficient time to provide written comments and testimony at a public hearing following the re-release.

71-41

In addition, the County should deny the application for a permit to extract groundwater because the Project's pumping will overdraft the aquifer and adversely affect the health of Soda Spring and its associated biological resources.

Sincerely,



Seth Shteir
California desert senior field representative
National Parks Conservation Association



Drew Feldman
Conservation Committee Chair
San Bernardino Valley Audubon Society



Jeffrey Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
sodamtnsolar@blm.gov

by mail and email

March 3, 2014

Dear Mr. Childers:

Introduction

The Nature Conservancy (“the Conservancy”) is an international non-profit organization devoted to preserving the lands and waters upon which all life depends. Since the 1970s, The Conservancy has worked to protect biodiversity and habitat in the eastern Mojave Desert. Most recently, the Conservancy has participated actively in the Bureau of Land Management’s (BLM’s) Solar Programmatic Environmental Impact Statement (SPEIS) and in the Desert Renewable Energy Conservation Plan (DRECP) proceedings, contributing a Mojave Desert Ecoregional Assessment (MDEA) that evaluated conservation value across the entire desert (http://scienceforconservation.org/downloads/mojave_desert_ecoregional_assessment). The Conservancy has also focused on protection of desert groundwater and surface water sources.

The Conservancy has primarily advocated that renewable energy facilities preferentially locate in areas that will minimize impact, such as on already disturbed lands, away from high quality habitat and outside of key migration corridors used by desert species. Apart from the Interstate 15 corridor itself, the proposed Soda Mountain project would be sited in and adjacent to intact, high quality, occupied habitat and would likely interrupt migration corridors for a number of key desert species. We have attached two maps of the proposed project area at different scales derived from the Conservancy’s Mojave Desert Ecoregional Assessment (Figure 1 and Figure 2), overlain with plots of the project. These maps show that while the interstate corridor is moderately degraded (in yellow) much of the project itself is located in areas that our assessment has identified as “ecologically core” or “ecologically intact” habitat. Ecologically core lands contain low levels of anthropogenic disturbance and support conservation targets (e.g., species, habitats, seeps, springs). In the Conservancy’s view, protection of ecologically core lands is critical for the long-term conservation of the biological diversity of the Mojave Desert ecoregion. Ecologically intact lands are those with low levels of anthropogenic disturbance that also support conservation targets. Ecologically intact lands, in our view, also require protection of ecological processes and connectivity.

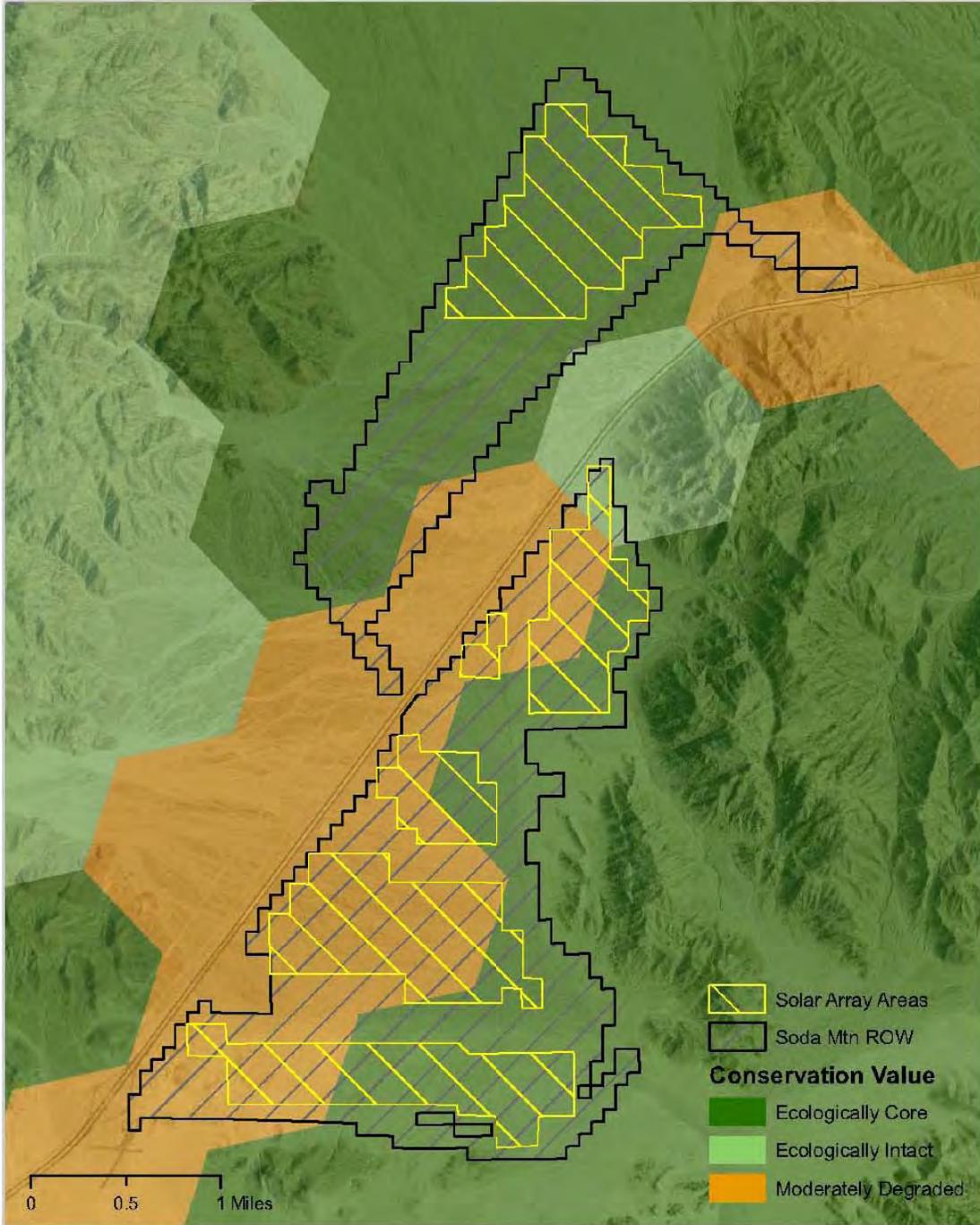
72-1



Figure 1



Soda Mountain ROW Conservation Value



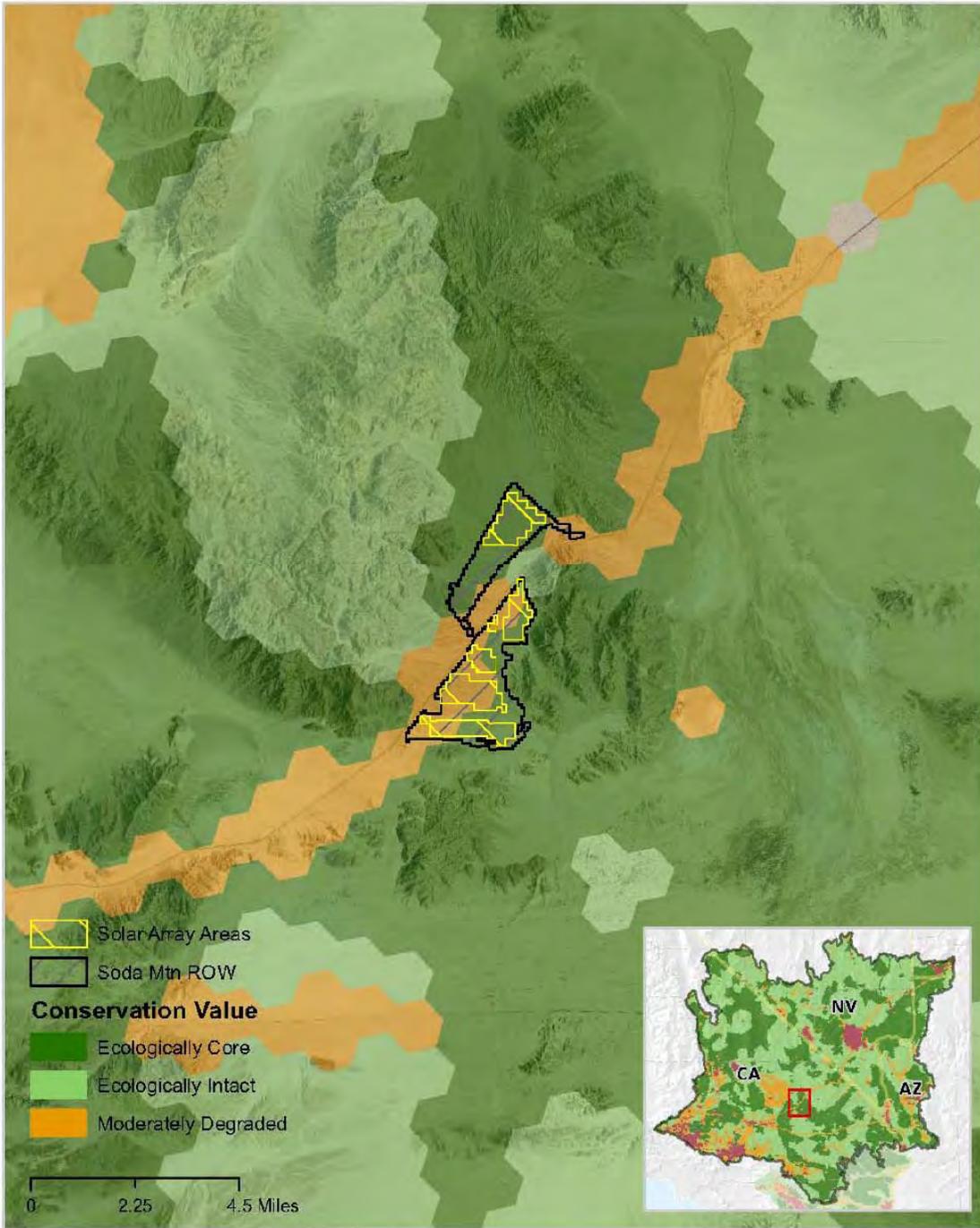
Conservation Value from The Nature Conservancy, 2010
Solar Arrays Interpreted from Vol 2_Soda Mtn EIS-EIR_App A-D_508

72-1
cont.

Figure 2



Soda Mountain ROW Conservation Value



Conservation Value from The Nature Conservancy, 2010
Solar Arrays Interpreted from Vol 2_Soda Mtn EIS-EIR_App A-D_508

72-1
cont.

Based on our analysis, the maps demonstrate that the project is proposed on and between large swaths of excellent, ecologically core habitat that would be adversely affected by project construction and operation.

72-1
cont.

In addition to, and confirming the Conservancy’s analysis of the habitat values of this area, we have included a third map (Figure 3, titled “Intactness”) with the project area overlain on a map prepared and released by the DRECP agencies, that represents their assessment of habitat intactness in the desert.

As we discuss below, we believe that the project would adversely affect a number of species, including Burrowing Owls, desert tortoise, bighorn sheep and kit fox. The proposed proposed avoidance and mitigation requirements in the draft for these species are inadequate.

The project also proposes to pump groundwater from a desert basin that may supply a critical spring (Zzyzx), lowering basin water levels, and potentially endangering a listed fish and other wildlife and riparian vegetation. Quite small decreases in groundwater levels can adversely affect existing spring flows, changes which can often be irreversible. Very little site-specific hydrologic information is available to justify the conclusion that the mitigated effects of the pumping would not be significant. The draft Environmental Impact Statement (EIS)/ Environmental Impact Report (EIR) would inappropriately rely on future unspecific and contingent mitigation actions to avoid harm.

72-2

BLM has denominated the Soda Mountain Project a “pending application,” not covered by specific provisions of the SPEIS. However, the agency’s fundamental obligations to protect species, habitats and water resources have been unchanged since the enactment of the Federal Land Policy and Management Act (FLPMA) in 1976. These obligations were adopted in a number of preexisting instructional memoranda and, most recently, interpreted by Secretary Jewell’s first secretarial order (Order No.3330) to establish a universally applicable mitigation policy, adhering to the avoid, minimize, and compensate mitigation hierarchy.

72-3

Species Specific Concerns

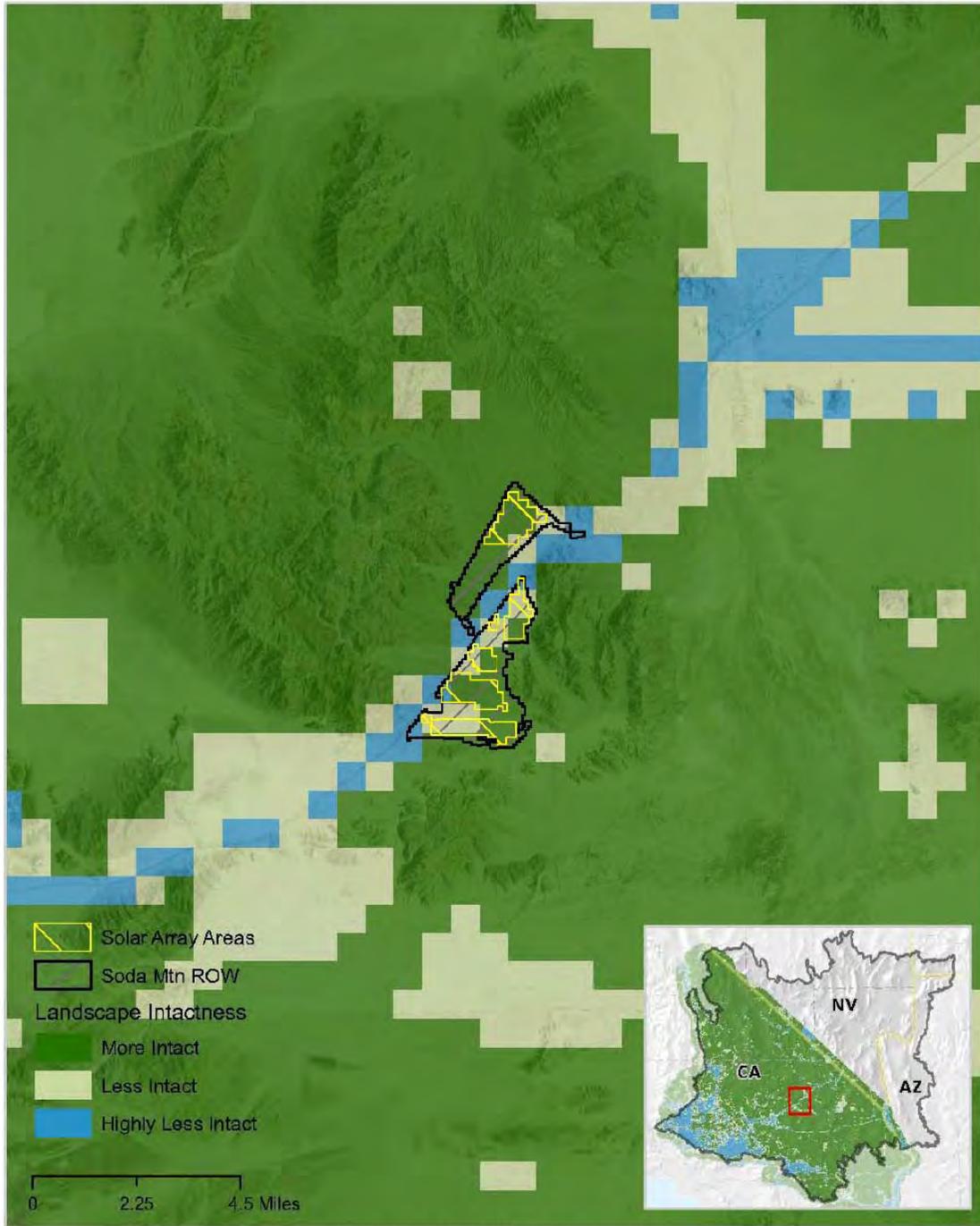
Burrowing Owl (*Athene cucularia*) would be negatively impacted by the development of the Soda Mountain site. The Burrowing Owl is a United States Fish and Wildlife Service (USFWS) Species of Concern, a BLM Sensitive Species, and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. According to the Biological Resources Technical Report for the Soda Mountain Solar Project, “It is likely that a number of the burrowing owls observed in the fall were using the project area for forage during migration. Only a portion of the owls observed on the site would be expected to over-winter in the area; other owls were likely migrating (Schnurrenberger 2012).” It is important to note that Catherine Schnurrenberger is a botanist at Garcia and Associates, and was surveying the project site for botanical values, not for burrowing owls. Definitive statements about the migratory status of burrowing owls at the project site cannot be made until burrowing owl surveys have been conducted at the site. According to burrowing owl experts, both year-round residents and migratory Burrowing Owls are found in the desert southwest (Haug et al. 1993). In the Mojave Desert, Burrowing Owls lay their eggs, raise their young, and hide from the heat of the sun from March through October in

72-4

Figure 3



Soda Mountain ROW Landscape Intactness



Landscape Intactness CBI, <http://drcp.databasin.org/galleries/bdb170f67fb048b78c6a763549e62dc3#>
Solar Arrays Interpreted from Vol 2_Soda Mtn EIS-EIR_App A-D_508

burrows previously excavated by desert tortoises, ground squirrels, and other fossorial (burrowing) animals. Garrett and Dunn (1981) stated that “open desert scrub” in the Mojave Desert is “widely but sparsely inhabited” by Burrowing Owls. Recent US Geological Survey (USGS) survey data from southern Nevada yielded estimates of 0.07-0.17 owl territories/km² in the Mojave Desert (Crowe and Longshore 2010). In the Marine Corps Air Ground Combat Center at Twentynine Palms, California, survey data showed that there were 0.9 owl territories/km². Given the observed use of the site by 9 Burrowing Owls, and the presence of 24 active Burrowing Owl burrows at the project site, a thorough survey for this species must be conducted to understand status of the species at this site—before project approvals are given.

72-4
cont.

Other bird species The Biological Resources Technical Report for the Soda Mountain Solar Project includes observations of **45 other native bird species** from the project site. All of these may well be negatively impacted by the development of the Soda Mountain project, as the bajadas and washes that would be disturbed by development contain natural habitats that are used as nesting, foraging, and/or migratory habitat by these bird species. Included on this list are a number of Neotropical migratory birds; the **Loggerhead Shrike** (*Lanius ludovivianus*), a CDFW Species of Special Concern; and the **Golden Eagle** (*Aquila chrysaetos*), which is nesting nearby and may use the project site to hunt for prey.

72-5

Desert tortoise (*Gopherus agassizii*) are present at the project site, and nearly the entire footprint for the project is located within a desert tortoise corridor as mapped by the USFWS (Averill-Murray et al. 2013; shown in light brown in Figure 4, titled “Desert Tortoise Corridors”). Preserving this connectivity for the desert tortoise is important for a number of reasons. The effective area of the 12 critical habitat units already designated for desert tortoise in the Mojave Desert will be increased by the linkage design, and the linkages will facilitate gene flow, prevent genetic isolation and divergence (Frankham 2006), and allow the desert tortoise to move in response to changes in climate or other conditions (Krosby et al. 2010). The Biological Resources Technical Report for the Soda Mountain Solar Project states that “limited sign of desert tortoise, combined with no identification of live tortoises in any of the project area surveys, indicate that there are likely a low number of desert tortoises inhabiting the project site” (Kiva Biological 2012a). “The data also indicate those tortoises are likely concentrated near the toes of hill slopes surrounding the project.” While desert tortoises may not have been recorded during official surveys, at least one live tortoise was observed on the project site (Jones 2013), and significant signs of desert tortoise were observed during each survey. Interference with a significant tortoise mitigation corridor should be avoided, and proposed mitigation in the form of 1:1 habitat acquisition is inadequate.

72-6

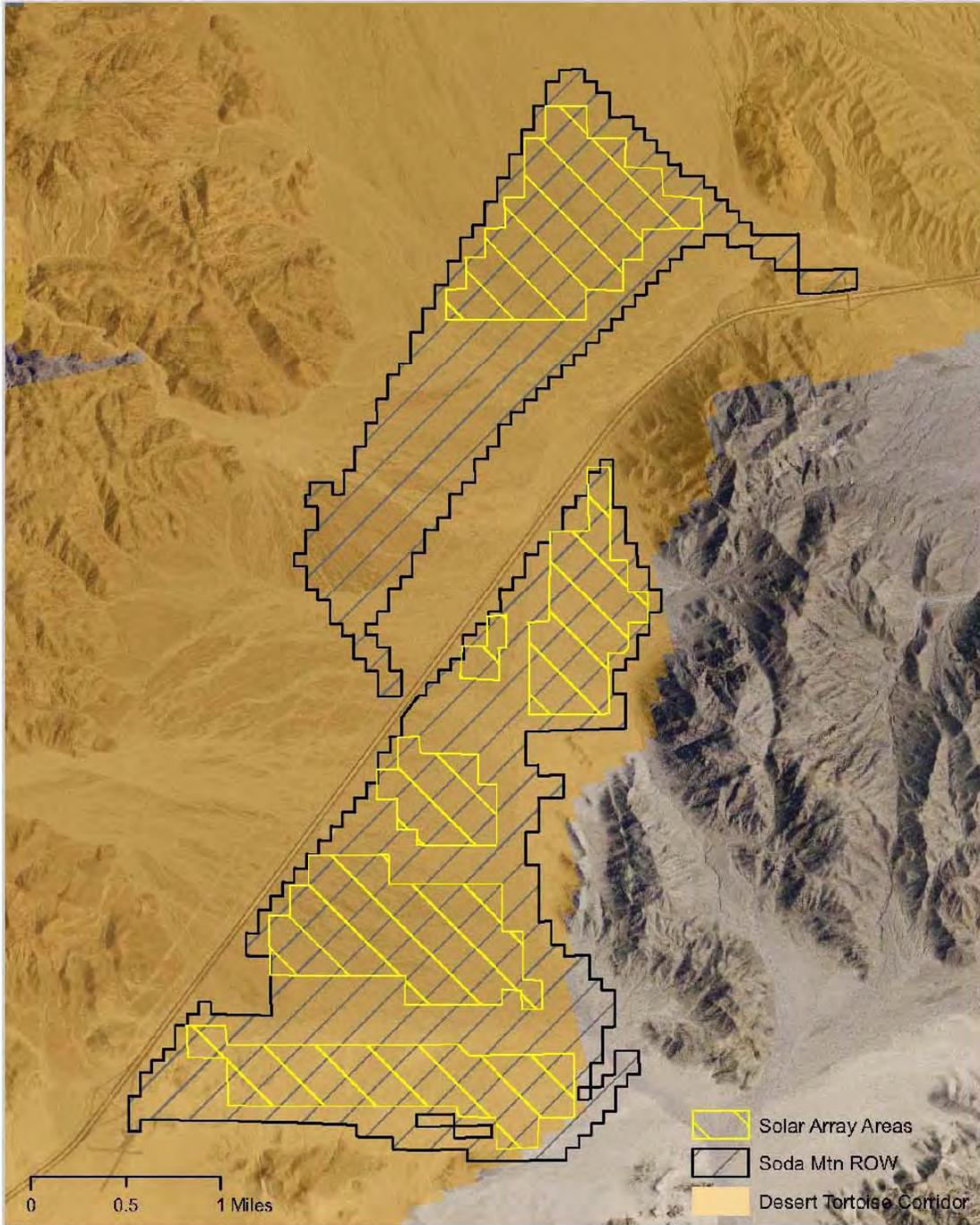
Bighorn Sheep (*Ovis canadensis nelsoni*) connectivity between the Soda Mountains north and south of I-15 and the project site could be severed by the development of the Soda Mountains solar project. As stated in the Biological Resources Technical Report for the Soda Mountain Solar Project, “The Desert Renewable Energy Conservation Plan (DRECP) identifies critical linkage areas at potential highway crossing locations along I-15 and I-40 using the expert opinion of John Wehausen (CEC 2012b). The entire Soda Mountain valley, including the project site and the surrounding mountains, is designated as a critical linkage in the DRECP.” Because the project site is known to have appropriate forage habitat for bighorn sheep, and because there are anecdotal reports of bighorn sheep in the vicinity of the project site, and a documented

72-7

Figure 4



Soda Mountain ROW Desert Tortoise Corridors



Desert Tortoise Corridors from USGS, 2012
Solar Arrays interpreted from Vol 2_Soda Mtn EIS-EIR_App A-D_508

occurrence for the species only a half mile away from the project site, it is reasonable to assume that bighorn sheep use the project site. It is also reasonable to assume that development of the site will impact their ability to use the site for forage and as a movement corridor. The Biological Resources Technical Report states that “any potential bighorn sheep use of these underpasses is infrequent”, but this statement underscores a basic misunderstanding about the bighorn sheep movement—the genetic connectivity of these areas is maintained not by a movement of large herds of animals on a consistent or frequent basis, but by (often solo) male sheep that disperse from their herd to seek mates elsewhere. As the EIS/EIR notes, even with mitigation, adverse effects on bighorn sheep would be significant and unavoidable.

72-7
cont.

Desert Kit Fox (*Vulpes macrotis* ssp. *arsipus*) would be negatively impacted by the development of the Soda Mountain solar project, as surveys have recorded 57 kit fox dens on the project site. Beyond biological monitoring, no additional mitigation is proposed for this species, despite apparent adverse effects on substantial numbers of foxes.

72-8

Mojave Tui Chub (*Gila bicolor mohavensis*), a federal and state endangered species resides in Soda (Zyzzx) Spring and Lake Tuendae in the Mojave National Preserve, which may well be partially or wholly reliant on the same groundwater aquifer from which applicant proposes to pump. The groundwater issues potentially affecting this species are discussed below.

72-9

Groundwater Issues

The agency acknowledges that very little is directly known about the hydrology of the Soda Lake Valley and surrounding groundwater basins and subbasins. No wells penetrate the project area. No aquifer tests have been conducted. Aquifer locations, recharge, groundwater storage amounts, elevations, and flow directions are inferred from models populated without confirming subsurface data, indirect measurements and geological mapping (Draft EIS (DEIS) at 3.19-5). Fundamental information about the groundwater resource should be a critical precondition of project consideration and approval.

Despite the gross uncertainty about effects of project pumping and the absence of essential pre-project hydrologic knowledge, and admissions that project pumping could affect Zyzzx Spring, the DEIS largely concludes that adverse effects on the spring and Lake Tuendae wells are unlikely, since “the aquifer at the Project site is not known to be hydrologically connected to the aquifer that supplies Soda Spring and is pumped to fill Lake Tuendae.” While that connection may be absent or attenuated, the consequences of guessing wrong could be the irreversible loss of a rare desert spring and the species that rely on it. The combined applicant proposed mitigation measures (APM 14-18) and BLM additions to those measures (Mitigation Measures 3.19-3 and 3.19-4) would in all likelihood not remedy this problem. While a future aquifer test will apparently be conducted and monitoring wells designed to detect groundwater flows in the direction of the Zyzzx Spring will be installed, the monitoring, modeling and compensating actions are uncertain, confusingly stated, and at very least impose conditions on corrective action that are inadequately protective. For example, groundwater testing and monitoring plans are to be devised and approved to San Bernardino County standards after project approvals are in place; if adverse effects on the spring are detected, agencies “could require” reduction or

72-10

cessation of pumping, pursuant to undefined future standards. The DEIS also notes that if a reduction of fewer than 50 acre feet per year is detected at the outflow of the valley, no further monitoring would be required but does not provide any justification for this threshold. In addition, the standard for taking action based on adverse effects on the spring and endangered fish would place the burden of proof of causation on the agencies—an expensive and largely impossible task. Instead, the burden of proof that pumping will not negatively impact the spring and endangered fish should be on the project proponent.

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72-10
cont.

As the DEIS notes, it is important to predict and avert potential adverse effects before they occur, and to devise measures that protect ecological resources over the long term. While a groundwater monitoring and mitigation program *could* be devised to accomplish this, currently it is not, and by deferring effective planning and controls to future determination under vague standards, ecological resources will be threatened.

We are also concerned that by investing the county with the principal regulatory authority over groundwater withdrawal conditions from public lands, BLM has neglected its duty under its organic law to protect water resources under its jurisdiction. BLM controls land use on the proposed project site, and has the obligation irrespective of state water law to limit unreasonable and harmful use of groundwater on public lands.

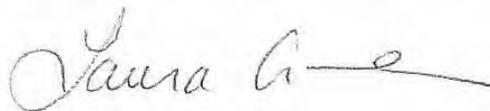
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72-11

The Conservancy has prepared and publicly disseminated our views on principles for responsible water use by desert solar facilities. (copy attached in Appendix A). In the case of at least one other pending application (e.g., Bright Source Hidden Hills proceeding before the California Energy Commission), BLM has expressed views very similar to those TNC has advocated in its water use principles. The most important of these are that the groundwater resource must be fully understood before proceeding with new pumping, and that effective monitoring with reduction/cessation triggers must be mandatory and in place prior to pumping to protect ecological resources such as springs.

↑
72-12

We believe that BLM is required, under the National Environmental Policy Act (NEPA) and FLPMA, to require the applicant, before project approval, to clearly demonstrate that its proposed pumping will not have adverse effects on endangered species habitat and a vital desert spring, and to back that requirement with BLM approved specific monitoring, modeling and mitigation conditions.

Thank you for the opportunity to comment on this project.



Laura Crane
Director, Renewable Energy Initiative
California Chapter
The Nature Conservancy

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Appendix A

Principles for Responsible Water Use by
Solar Energy Facilities in the Southwestern Deserts of the United States

Principles for Responsible Water Use by Solar Energy Facilities in the Southwestern Deserts of the U.S.

Introduction

Large-scale solar development is an important component of a comprehensive renewable energy portfolio for the United States, and The Nature Conservancy encourages responsible siting of solar energy facilities. We work with natural resource agencies, energy developers and communities to ensure that solar development in the Mojave, Great Basin, and Sonoran deserts contributes to a more balanced energy portfolio, while preserving the unique ecological resources of our desert landscapes and ecosystems.

Industrial scale solar facilities can require significant amounts of water for cooling, cleaning mirrors, generating steam, and plant operations. Water use—especially pumped groundwater—in the desert can adversely affect ecological resources. Yet, there is an absence of clearly articulated, scientifically robust agency guidelines for water resource management and protection in the desert.

Impacts to the relatively few, usually small, riparian or wetland areas where water is present at the surface can have far-reaching implications for ecosystems and species, exacerbated by the effects of climate change.

Even small increases in water use can cause dramatic changes in water conditions, including critical reductions in spring flows, stream flows, wetland areas and groundwater levels; these losses, in turn, can devastate ecosystems that depend on the water. Because of the very low precipitation inputs, and correspondingly low flow-through rates in desert groundwater systems, impacts of groundwater pumping become evident very slowly and can persist for extremely long periods of time.

Given the importance of water to natural ecological systems in the desert, and the prospect of significant new demand for water by new solar facilities, it is critically important to establish standards and guidelines to prevent unacceptable impacts to local ecosystems.

We propose that the solar industry voluntarily adopt the following standards as best management practices and mitigation requirements. Individual facility measures should be formulated and adopted as permit requirements through applicable federal (NEPA) and state (CEQA) environmental review processes.

Establish the Physical and Biological Context

Inventory Water-focused Ecosystems and Water Conditions that Support Them – Identify natural features where surface waters exist, including areas where near-surface groundwater conditions

support unique habitats. Conduct a thorough inventory of natural water features in the basin, including springs, streams (ephemeral and perennial), areas of high groundwater levels and the ecosystems that depend on these resources. This inventory should include: 1) a characterization of the water-supported habitat and the species that are known to reside in or otherwise depend upon the habitats; and 2) a characterization of the water conditions that support the habitat.

Understand Basin Water Balance – Prepare a comprehensive basin water balance for the relevant flow system using best available information to estimate inflows, outflows, developed use, and relative magnitude of new or planned water development. A basic understanding of the water balance for a given desert valley or watershed is essential to evaluating the reasonableness of each proposed development site. The appropriate flow system boundaries for defining the “basin” of interest must be established for each solar development site, and the rationale for that flow system definition should be developed using the best available information. In some cases, the flow system of relevance may be a single, isolated valley-fill groundwater basin, and in other cases the flow system may include downstream or adjacent valleys that receive, or may receive water, via surface or subsurface flows from the valley where the project is located. Cases of interbasin hydrologic connectivity via permeable bedrock aquifers are well documented in the region, and the possibility of this type of hydrologic connectivity should be explicitly considered. If an evaluation of the water balance defining “sustainable yield” already exists, it should be updated to reflect the most recent precipitation and water use data and new understanding of geology.

Consider Cumulative Impacts of Multiple Projects – Base all water resource evaluations on assumptions that consider the potential cumulative impacts of all current and reasonably likely future development in a basin, including non-energy water uses.

Conduct Groundwater Modeling – Require groundwater modeling to anticipate and avert impacts that would otherwise not be noticed until after it is too late to take corrective action. In many desert settings, the impacts of groundwater pumping may become evident over very long periods of time. In this case, reliance only on monitoring to identify impacts would mean permanent loss of natural communities. Therefore, modeling must be included in each development approval to anticipate the range of responses that may be expected over long periods of time, and to shape water use and monitoring strategies that ensure water resource sustainability in the basin. For each basin in which development is planned, a groundwater model should be built using the best available information, and simulations should be conducted to better understand the long-term (100-year range) response to the different development scenarios.

Resolving Uncertainty – In some instances, key information or parameters needed to understand and model the effects of groundwater pumping may be missing. Until adequate information is available, conservative (reasonable worst case) assumptions should be used to bound water withdrawal and use approvals. In all cases, collection and analysis of additional critical data and information during project life should be required. Where new information predicts significant adverse effects, conditions of water use should be appropriately modified.

Project Design

Minimize Project Water Use – Minimize water use through selection of power production and associated technologies and operational protocols. As an example, use of dry cooling for concentrating solar generation facilities (or photovoltaic generation) should be emphasized and incentivized over wet cooling technologies. In addition, long-term operations protocols that minimize on-going water use for cleaning, dust control, and all other plant uses should be incorporated in solar development plans and permits.

Reduce Third-Party Water Use – Where there is already some level of developed water use in the basin, development permits should require a net reduction in total basin water use, unless a credible analysis demonstrates that additional water development can be accommodated in the basin without any negative environmental or water supply sustainability impacts. Mechanisms for meeting this requirement may include: 1) acquiring existing water rights to supply the facility and retiring or reducing the previous use of the acquired water to accommodate the planned new use or 2) providing for reduction in current use to accommodate the new use without increasing the total water use.

Access Other Renewable Water Sources – Where the infrastructure already exists, renewable water sources from outside of the basin should be considered as a water source for developments. While many desert valleys are isolated and wholly reliant on local water supplies, in some cases water sources from outside the basin, such as Colorado River water, California State Water Project Water, or desalination water may be accessible, and use of these outside resources may provide immediate and long term benefits. In these cases, an evaluation of the relative risks, costs and benefits of these renewable sources, as compared with using limited local water sources should be conducted. Where such an analysis indicates that use of renewable surface water supplies may be favorable and may avoid or reduce impacts from use of resident groundwater water supplies, preference should be given to use of renewable water sources.

Use Optimal Withdrawal Sites – Minimize impacts to natural water features by choosing the best withdrawal locations. In some cases, the specific location at which water is withdrawn from a source, whether surface water or groundwater, may be more or less detrimental to the ecosystems that depend on the water. Development plans should choose least harmful locations of water withdrawals, including groundwater withdrawals. In cases where new use will replace existing uses, the location of withdrawals should be moved if impacts can be reduced by such a relocation.

Long Term Project Operations

Conduct Appropriate Monitoring and Modeling – Long-term operation of the solar site should include appropriate monitoring of the water conditions, guided by updated modeling. Monitoring should include local and regional groundwater levels and related surface water flows. An approved development plan should include sponsoring or participating in a comprehensive basin monitoring plan that is periodically updated with new information.

Identify Triggers and Develop Contingency Plans – Permits should require clearly articulated triggers that indicate when groundwater pumping is likely to cause an unacceptable drop in water levels or adverse water quality changes, and identify contingency plans and predictable and enforceable mitigation steps if those triggers are reached.

Compensate for Groundwater Impacts – Compensatory actions for groundwater impacts may be required to offset impacts at any point during the life of the project. Acquisition of ecologically valuable land with associated water rights is an available and preferred mode of compensation.

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Public Comment Card

2014 FEB 24 PM 3:32

Spade Mountain Solar Project



Commentor Name: CALIF. DESERT DISTRICT
HOFFEN WILLEY, CAROL Date: 11 Feb 14
Address: 1103 S. 3rd St. Bishop CA. 93514

Comment: #1. This, and similar, solar projects should be cited closer to the cities they feed. The destruction of wildland and loss of energy in transmission is negligent. Citing closer to urban areas would use space and resources more wisely, but without the great loss of energy via transmission. Of course this would result in decreased subsidies, which seems to be the dominant motivating factor.

73-1

#2 How great are the subsidies for this project and how much does BLM anticipate to profit?

73-2

#3 This project is likely not carbon reducing or even carbon neutral. Deserts are often carbon sinks. Breaking soil crusts, moving vegetation, etc. can potentially increase carbon emissions. (See: Lynn Fenstermaker, Carbon Neutral and Holly Cambell, Abby Metzger, Deidra Spencer, Stacey Miller, and Erika Walters, Here Comes the Sun: Solar Thermal in the Mojave Desert - Carbon Reduction or loss of Sequestration)

73-3

#4. Culverts are not corridors! Just because large, quick moving megafauna might dash through a culvert on occasion does not mean connectivity is maintained for smaller, slower moving species such as ground birds, lizards, snakes, insects, small mammals, and desert tortoise.

73-4

Please indicate whether you would like to receive a copy of the Proposed PA/Final EIS/EIR and the format you would prefer:
 Compact Disk (CD) Hardcopy Do not send me a copy

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 25, 2014

Dear Mr. Childers:

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In the short term, it would be great to see this project hire local workers to build and operate this facility. In the long term, though, the energy produced will go a long way towards getting us all off of dirty energy that could do far greater harm to our environment than a project like Soda Mountain.

Sincerely,

Nathan Mellott

Name

719 Kern ave

Address

Sugarloaf ca, 92386

City, State ZIP

909-273-7440

Phone

vtcracks805@
Email gmail.com

74-1

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Andy Meza

Name

1216 Bmt Ave.

Address

Beaumont Ca. 92223

City, State ZIP

951-315-4030

Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Daniel Novak
Name

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Cas Vegas NV 89118
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(702) 468-4882
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Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
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Sincerely,

Gilbert Ramirez

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Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

REY CRISOSTOMO SR

Name

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3059061943

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Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Greg Van Wyk
Name

32875 Ave E
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951 440 9467
Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

MARCO MORRISON

Name

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Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Jeremy Thompson

Name

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Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

MARK S. ORTIZ

Name

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909-331-1144

Phone

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

BRUCE STONE

Name

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JURUPA VALLEY CA 91752

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Phone

N/A

Email

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22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Dennis Hill

Name

5827 Cambria Rd

Address

Phelan CA 92371

City, State ZIP

760-596-2995

Phone

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,



Name

31739 Ave E

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Yucca Valley CA

City, State ZIP

92199

Phone

Email

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22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Guillermo Hernandez Jr

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951-840-5353

Phone

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,



Gilbert Ramirez

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Bloomington CA 92316

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Jeffery Childers

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Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Dennis Amador

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760-552-0141

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Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,



Name

LA Johnson

Address

PO Box 81

City, State ZIP

Pinon Az 86510

Phone

(909) 800 3751

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Don Koelling

Name

210211 Dunbar Ct.

Address

Moreno Valley Ca 92555

City, State ZIP

951-440-6639

Phone

dkoelling59@gmail.com

Email

Welding CERTS.

LA City Wire 1/2 Stick

AWG. D1.1, D1.8, D1.5, D1.4 1/2 D1.3.

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 25, 2014

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Sincerely,

Juliana R.

Name

8541 E H St

Address

Colton CA 92324

City, State ZIP

760-660-2719

Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Michael Curtis

Name

12200 galaxy st

Address

victorville CA 92392

City, State ZIP

909 273 0515

Phone

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Email

(misha trained)

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Joshua Novak

Name

13179 siena circle

Address

Victorville CA 92392

City, State ZIP

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JDNovak84@gmail.com

Email

(Msha trained)

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Thomas Koelling

Name

26211 Jun bar CT.

Address

moreno valley CA 92555

City, State ZIP

(951) 230-9534

Phone

Tkoelling91@gmail.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

ERIC GRAHAM

Name

15479 MEMPHIS DR

Address

FONTANA CA 92336

City, State ZIP

909 573 7502

Phone

EGRAHAM316@YAHOO

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Gene Community
Name

2037 Soledad Ave.
Address

Mentone Beach, Ca 92359
City, State ZIP

Phone

gn2433@gmail.com
Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Floyd DALTON

Name

2717 Arrow Hwy. Spc. 26

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ironworkerFloyd@YAHOO.COM

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

David Cox

Name

9825 Beckley Rd.

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Phelan, CA, 92371

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Phone

Blackmy.melinda@hotmail.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Sergio Contreras

Name

622 San Carlo Ave

Address

Colton CA 92324

City, State ZIP

(562) 499-9366

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gazcr7@gmail.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

FERNANDO VALDEZ

Name

15822 ATHOL ST.

Address ~~Fontana~~

FONTANA, CA. 92333

City, State ZIP

Phone

Email

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22835 Calle San Juan De Los Lagos
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Sincerely,

ELEAZAR AGUILAR

Name

P.O. Box 493

Address

Whittier, CA 90608

City, State ZIP

(562) 781-4245

Phone

alaguilar.73@yahoo.com

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 25, 2014

Dear Mr. Childers:

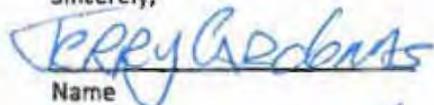
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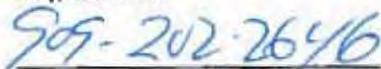
Name



Address



City, State ZIP



Phone

Email

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22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Ruben Beltran

Name

Address

City, State ZIP

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ruben0331@gmail.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Zachary Gilhouse

Name

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(951) 675-7444

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Zgilhouse@hotmail.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Clayton Rehn
Name

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Address

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562) 237-1895
Phone

Clayton Rehn@yahoo.com
Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 26, 2014

Dear Mr. Childers,

As the BLM considers the application for the Soda Mountain Solar PV project in San Bernardino, I hope that the opinions of workers like me will be taken into consideration.

I am part of a union that builds solar plants, and I think it's important to look at the location of the project when evaluating projects. Soda Mountain Solar will be located along a busy highway along an existing transmission corridor. That means that no additional disturbance will occur off the project site in order to get the power to consumers.

I want to see our desert economy thrive because of solar projects like Soda Mountain, but I also want to see the best projects built. Logically, projects should be located where there are existing roads and existing disturbance. We will not have to trek into undisturbed, pristine wilderness to build Soda Mountain. It's literally on the highway!

Like many workers, I live here in the desert and want to see it saved for future generations to enjoy—whether riding at the OHV area, camping at the Preserve, or hiking through the wilderness. That's why we should site solar projects to make use of the infrastructure that's already in place.

Please consider my support of the Soda Mountain project.

Sincerely,

Jenny Holmes
Name

1647 W. Lugonia Ave.
Address

Redlands, CA 92374
City, State ZIP

(909) 307-8700
Phone

Email

75-1

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Carl Mendenhall

Name

7241 Amestoy Rd

Address

Hesperia CA 92344

City, State ZIP

760 949 1487

Phone

CarlMendenhall@yahoo.com

Email

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22835 Calle San Juan De Los Lagos
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Sincerely,

Tiffany Tomaselli
Name

2911 Brockton Ave.
Address

Riv., CA 92501
City, State ZIP

951 750-1423
Phone

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

DAVID SIKORSKI

Name

528 Hibiscus #B212

Address

Redlands CA 92373

City, State ZIP

(909) 835-5668

Phone

N/A

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Please consider my support of the Soda Mountain project.

Sincerely,

Tiffany Horn
Name

PO Box 9462
Address

Redlands, CA 92374
City, State ZIP

909-307-2047
Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 26, 2014

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Sincerely,



Name DUANE E. FRIEL

P.O. Box 463
Address

TEMECULA, CA. 92593
City, State ZIP

951-676-1159
Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Please consider my support of the Soda Mountain project.

Sincerely,

Alfonso Fanchi

Name

5171 College Ave

Address

Riverside CA 92505

City, State ZIP

951-355-3264

Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

BON GRABER
Name

6055 MEDINA H ST
Address

FONTANA, CA 92336
City, State ZIP

909-206 4301
Phone

JMOTERHEAD@AOL.COM
Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

MARK D. WORLEY

Name

25355 LOVE ACRES RD.

Address

MENIEMEE CA 92584

City, State ZIP

562 577-4087

Phone

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Petra Tellez

Name

845 E 89th St

Address

LA, CA 90002

City, State ZIP

(323) 718-3019

Phone

petrasanchez30@me.com

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Please consider my support of the Soda Mountain project.

Sincerely,

Rob Whitaker

Name

1921 N Sherry LN #79

Address

S.A. Ca.

City, State ZIP

714 650 6709

Phone

Robertwhitaker2828

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Please consider my support of the Soda Mountain project.

Sincerely,


Name

2232 E. JACKSON
Address

ORANGE CA. 92867
City, State ZIP

(714) 351-2490
Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

SCOTT ROBLER

Name

3550 ANDOVER ST.

Address

CORONA, CA, 92879

City, State ZIP

951-258-7763

Phone

RobSc01@gmail.com

Email

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22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Kristopher Beau Nelson
Name

23406 CloudView RD.
Address

Crestline, CA, 92325
City, State ZIP

409-589-0594
Phone

N/A
Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Keith Aker

Name

13335 Chaparral Rd

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Phelan Ca 92371

City, State ZIP

760 -868- 8290

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Keith Aker@gmail.com

Email

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22835 Calle San Juan De Los Lagos
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Sincerely,

Robert Rhone

Name

13956 Ramhurst #11

Address

LA MIRADA CA 90638

City, State ZIP

626 9759530

Phone

RhoneRob@yahoo.com

Email

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Sincerely,

 Jim Jovanat

Name

221 W Third St

Address

San Dimas, CA 91773

City, State ZIP

909-592-3656

Phone

jovvie56@hotmail.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Please consider my support of the Soda Mountain project.

Sincerely,

Mike Davidson

Name

2722 Mill Creek Rd

Address

Montrose, Ca 92359

City, State ZIP

909 794 9235

Phone

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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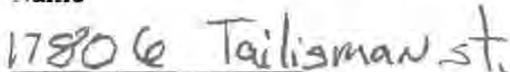
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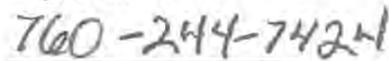
Name



Address



City, State ZIP



Phone

Email

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Sincerely,

Ben CORBIN

Name

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M.V. CA. 92555

City, State ZIP

951-345-2210

Phone

bCORBIN169@GMAIL.COM

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Jeremy Gottschall

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8855 Fairview RD

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Anaheim CA 92808

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Phone

DMGottschall@yahoo.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

William Hudson

Name

17107 DENKER

Address

GARDENA, CA. 90247

City, State ZIP

(310)-401-4594

Phone

WILLIAM HUDSON @ AOL . COM

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,



Name

28049 Pasito St.

Address

Highland CA 92346

City, State ZIP

909-754-3119

Phone

Buchreiter@MSH.com

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
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Sincerely,



Name

33640 Willow Haven Lane

Address

Minister, Ca 92563

City, State ZIP

951-239-6502

Phone

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

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Sincerely,

Thomas Ybarra.

Name

10362. Ballard DR.

Address

GARDEN GROVE CA. 92840

City, State ZIP

818 812-0501

Phone

Email

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Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
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Sincerely,

Robert Scott

Name

8859 MONTCLAIR AVE.

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City, State ZIP

760-948-0462

Phone

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Email

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Moreno Valley, CA 92553

February 26, 2014

Dear Mr. Childers,

As the BLM considers the application for the Soda Mountain Solar PV project in San Bernardino, I hope that the opinions of workers like me will be taken into consideration.

I am part of a union that builds solar plants, and I think it's important to look at the location of the project when evaluating projects. Soda Mountain Solar will be located along a busy highway along an existing transmission corridor. That means that no additional disturbance will occur off the project site in order to get the power to consumers.

I want to see our desert economy thrive because of solar projects like Soda Mountain, but I also want to see the best projects built. Logically, projects should be located where there are existing roads and existing disturbance. We will not have to trek into undisturbed, pristine wilderness to build Soda Mountain. It's literally on the highway!

Like many workers, I live here in the desert and want to see it saved for future generations to enjoy—whether riding at the OHV area, camping at the Preserve, or hiking through the wilderness. That's why we should site solar projects to make use of the infrastructure that's already in place.

Please consider my support of the Soda Mountain project.

Sincerely,

Robert Spinney

Name

9545 Balsa St.

Address

R. Cucamonga, CA.

City, State ZIP

91730

(909) 987-5868

Phone

DebNR061@yahoo.com

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 26, 2014

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Please consider my support of the Soda Mountain project.

Sincerely,

David Kayl

Name

2113 Reimeman Rd

Address

Fallbrook Ca 92028

City, State ZIP

562-254-8745

Phone

dkayl@sbglobal.net

Email

Jeffery Childers
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 26, 2014

Dear Mr. Childers,

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Please consider my support of the Soda Mountain project.

Sincerely,

Stacia Bone

Name

1647 W. Ugonia Ave

Address

Redlands, CA 92374

City, State ZIP

909. 307. 8700

Phone

Email

Jeffery Childers, Soda Mountain Solar Project Manager
BLM
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

February 27, 2014

Dear Mr Childers,

As a resident of Baker, California, I am writing today in support of the Soda Mountain Solar project, currently proposed for BLM land in San Bernardino County, just a few miles from our community.

76-1

As you may know, our community has suffered a number of economic setbacks in recent years. The recession, and the complete dependence of our community on providing travel services, has left the community vulnerable to economic fluctuations.

The Soda Mountain project would benefit the local service industry, like restaurants and gas stations businesses for the 2-3 years of local spending from construction, and also businesses like mine, as a property manager.

76-2

Here in the community we would like to know what benefits the developer would bring in addition to local spending, such as helping to lower our utility bills or bring solar panels to the community, where we have very high electricity bills.

I appreciate your attention to this letter.

Sincerely,



William Thacker
p.o. box 416
Baker, CA 92309

RECEIVED
BUREAU OF LAND MGMT.
MAIL ROOM

2014 FEB 28 PM 3:32

CALIF. DESERT DISTRICT
MORENO VALLEY, CA

Clark's Mobil Home Park

P. O. Box 69
Baker, CA, 92309
February 25, 2014

Jeffery Childers, Soda Mt. Solar Project
22835 Calle San Juan De Los Largos
Moreno Valley, Ca. 92553

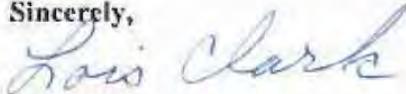
To Whom it May Concern:

My name is Lois Clark and I have owned a business in Baker for many years. During that time I have watched the town's economy steadily decline do to the restrictions of government regulations. The town is boxed in by the Mojave National Preserve and the BLM and it is impossible to expand the business community.

The Solar Project would not only be beneficial to the economy of the town but would benefit the energy shortage of California and the nation. It would also be a benefit to our necessary small school and give our young people a chance to be involved in a new vocation like the solar industry.

77-1

Sincerely,



Lois Clark
lclark5@wildblue.net

Dear Mr. Childers,

I attended the public meeting for the Soda Mountain Solar Project on January 8, 2014. As a member of the International Union of Operating Engineers, I attended in support of the project. Unions have an interest in supporting construction projects that will result in work for their members of course. I think it is important to recognize that union members also have strong feelings about what kind of projects should be built. We want to see projects that benefit the economy and the environment both projects that produce green energy, without also harming the air and water of the Mojave Desert.

78-1

What kind of project will be proposed if the so-called environmentalist have their way and this project is not built? Will we build a nuclear plant, another coal fired plant or start fracking for natural gas? What kind of impact would there be on the environment if we build those kind of energy production facilities? I think the impact of projects like Soda Mountain should be compared to the traditional energy production to get a better idea of its real impacts.

78-2

At the January meeting the representative from Bechtel explained that the site had been selected because of existing infrastructure and the freeway. It just makes sense to put a solar plant with transmission and transportation already there on the site.

78-3

Thank you,



Carl Mendenhall

Attention:
Jeffrey Childers, BLM
Soda Mountain Solar Project Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

RE: Soda Mountain Solar Project Application Comment

I recently met with a representative from the Soda Mountain Solar project. I've lived here in Baker for over 20 years, and I'd really like to know about the long-term benefits for my community.

79-1

Of course Baker would benefit in the short-term from spending by the construction workers. I understand the total number of long-term jobs is not as high but is still brings employment to the area.

I support renewable energy and think this project would be a good idea as long we can work with the developer to find community benefits and to know who to go to when we have concerns.

79-2

Sincerely,



Preston Hales
PO BOX 15
Baker, CA 92309
760-899-8794 cell

January 9, 2014

Congressman Paul Cook
 Bureau of Land Management
 California Energy Commissioners
 San Bernardino County Supervisors

Dear Congressman Paul Cook, Bureau of Land Management Staff, California Energy Commissioners, & San Bernardino County Supervisors,

I have lived in Joshua Tree since 1988, where I have worked in a number of public service positions, including jobs at the Town of Yucca Valley, the Morongo Unified School District, and Joshua Tree National Park. I have seen my Mojave Desert community grow and change in the past 26 years, and I care deeply about how that growth affects the desert ecosystem. The Mojave Desert has been a place of healing and transformation for me and those close to me, and I would like to see it remain a healthy and healing place for others who seek its tranquility and solace.

I have explored and traveled through the Mojave National Preserve many times, and appreciate its stark beauty. I am opposed to the Soda Mountains Solar Project because of its adverse impacts on the Preserve, the Soda Mountains Wilderness Study Area, the viewsheds, water resources, bighorn sheep populations, tortoise habitat, and tui chub fish populations.

80-1

The Soda Mountains Solar Project might be one of the worst renewable energy projects sited next to a unit of the National Park Service. It should not be constructed in a high-resource conflict area adjacent to the Mojave National Preserve, the third-largest national park unit in the lower forty-eight states.

As a national park ranger, I understand the economic importance parks have on the surrounding communities, as well as the preservation and conservation roles of our "greatest idea." The Soda Mountains Solar Project jeopardizes National Park Service management goals and objectives at the Mojave National Preserve. I believe there is an economic, as well as, an environmental, imperative to protect the Preserve's scenic vistas, visitor experience, wildlife habitat, and hydrologic resources.

As a mother and environmental educator, I feel very strongly that we have a moral and ethical duty to preserve our natural and cultural resources for future generations. Constructing a solar project in the Soda Mountains would have a significantly negative impact on the Mojave Desert, and, as a consequence, I oppose this project.

Sincerely,
Caryn Davidson

Caryn Davidson
61159 El Coyote Ln.
Joshua Tree, CA 92252
i. brevifolia62@gmail.com

80-1
cont.

Jan 10th 2014

Congressman Paul Cook
 BLM
 California Energy Commissioners
 San Bernardino County Supervisors

Dear Sirs & Madams,

My names is Annie Stockley

I live in San Diego & am frequent visitor to
 the Mojave National Preserve. (MNP)

I am very concerned about the impact of the
 Soda Mountains Solar Project on the MNP.

In particular its impact on the views in the
 area, water quality, big horn sheep migrations &
 connectivity & desert tortoise habitats.

This project seems to me to be in the wrong
 place (too close to a National Park boundary), & wrong
 time (seems to be outdated & redundant).

Why aren't rooftop projects that are close to use
 & close to transmission being emphasized?

Yours sincerely Annie Stockley.

81-1

81-2

January 10, 2014

Congressman Paul Cook
 Bureau of Land Management
 California Energy Commissioners
 San Bernadino County Supervisors

Dear Congressman Cook, BLM staff, California Energy Commissioners and San Bernadino County Supervisors:

I am a avid supporter of solar power but I cannot understand why the Soda Mountain Solar Project is seriously being considered. As a resident of Joshua Tree and a frequent visitor to our desert parks, I am aware of the importance of a buffer zone around our parks to provide protection.

The Soda Mts project would be one of the closest renewable energy projects to a national park. We have already seen the problems of the solar plant adjacent to Joshua Tree National Park.

The Soda Mt Solar Plant would adversely impact views, water resources, bighorn sheep migration paths and tortoise habitat. These are all important & precious desert resources which make the area so important. Please consider that once degraded we cant recover this fragile environment.

Sincerely,

Linda Hunter
 872 Border Ave C-1
 Joshua Tree, CA
 92252

82-1

Daniel Elbrook
 61159 El Coyote Ave
 Joshua Tree, CA
 92252

January 10, 2014

Dear Congressman Paul Cook, Bureau of Land Management Staff, California Energy Commissioners and San Bernardino County Supervisors,

I am a Park Ranger working in the Sierra Mtns during the summer, and in Joshua Tree Nat Park in the winter. I am very concerned about the development of solar energy in the Soda Mountains.

Just as the proposed project in Owens Valley would be a huge threat to wildlife, scenic vistas, water quality and economic stability, the

Soda Mountain project would have the same or even more negative impact ~~water~~ locally.

It is very sad to me that yet another huge swath of beautiful desert land would be dissected untold numbers of animal populations and create nothing to replace them. These desert lands are becoming ~~for the most part~~ smaller and smaller, and more impacted all the time.

I would like to hear about other alternatives to this solar project.

Daniel Elbrook

83-1

83-2

Eva Soltes
6881 Mount Lassen Ave
Box 416
Joshua Tree, CA
92252

January 10, 2014

To: San Bernardino County
Board of Supervisors
Congressman Paul Cook
California Energy Commission
Bureau of Land Management,

I am a filmmaker, performing arts producer
and presenter of a historic landmark
location in Joshua Tree.

I am opposed to the Soda Mountain Area
project for so many reasons including preservation
of wilderness, migration corridors of
native animals, scenic vistas, Tourism and
water resources.

The Mojave Preserve is a world-class
destination for international visitors and is
a powerful economic engine for the entire
area. The Soda Mountain Project jeopardizes
so many important economic & cultural aspects
of our region it's hard to believe it's even
being considered. Please STOP it!

Eva Soltes

84-1

84-2

January 10, 2014

Congressman Paul Cook
Bureau of Land Management
California Energy Commissioners
San Bernardino County Supervisors

Dear Congressman Cook Bureau of Land
Management Staff, CEC Commissioners and
San Bernardino County Supervisors

I am writing on behalf of the members
and Board of Directors of the Desert Protective ^{Coordinator}
Council (DPC) and the conservation and projects for
the DPC. I and members of the DPC
have camped, hiked, photographed and bird-watched
and studied botany in the Mojave Preserve.

We treasure the vast open spaces + wildness
of this spectacular National Treasure.

We oppose the construction of the Soda
Mountains Solar Project within 2 miles of
the boundary of the Mojave National
Preserve. Constructing a large-scale solar
project in the vicinity of the Preserve
would irreparably harm the resources
of the Preserve and have severe deleterious
impacts on the resources of this
unspoiled piece of Mojave desert ecosystem.

85-1

85-2

The Soda Mountains Solar Project would interfere with wildlife corridors for bighorn sheep; from north Soda Mts to south Soda Mts and from the Cady Mountains to the Soda mountains.

85-3

There are many unknowns regarding the aquifer. With other impacts to Mojave Desert aquifers, springs and seeps it is unconscionable to build a remote industrial-scale project with so little facts about the impacts to the local aquifer.

85-4

I will be commenting on behalf of the DPC in more depth during the DEIS process.

85-5

Thank you very much for your attention + concern.

Sincerely,
 Terry Werner
 Desert Protective Council
 PO Box 3635
 San Diego, CA 92163

January 10, 2014

Dear Congressman Cook, BLM, CA Energy Com,
 SO County Supervisors,

The Soda Mountain Solar project is not "smart from the start." It is an inappropriate project that is outdated and makes ~~no~~ sense in the goal to have a certain amount of renewable by 2013.

- 1.) there are more appropriate already disturbed sites
- 2.) it completed impacts wild life corridors, watersheds and critical tortoise habitat.
- 3.) the unknown water impact makes this even more hazardous.
- 4.) It is too close to a National Park - one of the 3 largest in the lower 48.
- 5.) too close to 22900 - a very important and special habitat for big horn sheep.

This project should be redirected to a more appropriate not disturbed location - ~~the~~ "the desert is not a lifeless void" it contains a critical habitat necessary for biological balance and to combat climate change.

Sincerely, Danielle Segura

86-1

86-2

86-3

86-4

86-5

86-6

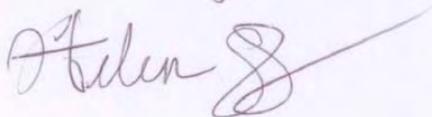
Dear Congressman Paul Cook, Bureau of Land Management Staff, California Energy Commissioners, and San Bernardino County Supervisors:

My name is Helen Grey. I live in Joshua Tree, and I am a student in high school. I want to preserve the Mojave National Preserve from being destroyed by solar and renewable energy projects.

I am opposed to the Soda Mountains Solar project because of its adverse impacts to the Mojave National Preserve and all of its wild and plant life.

The Soda Mountains project would be the closest renewable energy project located next to a national park unit. This is not okay. The Mojave National Preserve is a powerful economic engine, recreational haven, and island of biodiversity. I believe there is an environmental imperative to protect the Preserve's scenic vistas, visitor experience, wildlife habitat, and water resources.

Sincerely,



Helen Grey

87-1

Dear congressman Paul Cook, Bureau of Land Management
Staff, California Energy Commissioners, and San Bernardino
county Supervisors:

My name is Samantha Johnson, I live in Murango Valley
and I am a high school student. I love visiting
the preserves around my desert and want them
protected from solar energy projects. I find it very
unfair to destroy natural areas that are very
important to others and home to a diverse amount
of wildlife. I greatly oppose the Soda Mountains solar
project for many reasons: water source quality, study
areas, and destruction of big horn sheep and tortoise
habitats.

This project is very close to the national park
and should be constructed nowhere near the
Mojave National Preserve. It is the third largest
national park in lower forty-eight states.

Please consider my views on this issue and
stop this project.

Sincerely,

Samantha Johnson

88-1

Dear Congressman Paul Cook, Bureau of Land Management staff, California Energy Commission and San Bernardino County Supervisors:

My name is Elizabeth Bushong, and I am a high school senior at Yucca Valley High School, CA. My residence is on the Mesa—very close to several project solar locations. I care about this issue not only because of the environmental factors, tourism conflicts, socio-economic issues, and flaws in the project—but because this is my home. Desert environments are the most preserved environments in the world—but also the most fragile. Miniscule differences in water-rain-fall can affect the environment—then a massive solar project would ruin one of the most intact ecosystems. When I come home from college to visit my parents, I don't want to see solar fields in front of my house. I want to see a protected desert. Please protect my home.

Thank you for your time. This project is extremely close to my heart. It affects my home—but all the native species' home as well.

Sincerely,

ESB

Elizabeth Bushong

Gregory Harlan Jenn
PO BOX 1853
JOSHUA TREE CA 9252

TO: SAN BERNARDINO COUNTY
BOARD OF SUPERVISORS
CONGRESSMAN PAUL COOK
CALIFORNIA ENERGY COMMISSION
BUREAU OF

I am a business owner, builder and
designer in Joshua Tree Ca

I AM OPPOSED TO THE SOLAR MOUNTAIN
Mountain Solar Project for many reasons
including bad economic reality lack of
proper planning development and
infrastructure as well as environmental
concerns regarding the close proximity
to the Mohave National Preserve
for both economic (tourism) and
ecological reasons.

Please stop this project or reexamine
the project in the Land Use rules and
guidelines
Thank You Greg Jenn

90-1

3/21/14

Albert Cutillo
13796 Trinidad Drive
Victorville, CA 92395

760-245-4020

Soda Mountain Solar
Project

Concerns with impacts
on wildlife, especially
Desert Tortoise

91-1

Too much solar development
in California. Raises
temperature

91-2

Land does not belong
to BLM, it belongs to
the people!!

91-3

Concerns with impacts on
ground water.

91-4

- Over -

Requested to be added
to mailing list.

Conversation took
place via phone

Katana Symons

* Will be contacting
Congressman Paul Cook
to stop this project

Alexandra Kostalas

Subject: FW: Soda Mountain Solar Project Details

----- Forwarded message -----

From: **Larry Bechtold** <lbechtold1969@gmail.com>
Date: Tue, Dec 3, 2013 at 5:26 PM
Subject: Soda Mountain Solar Project Details
To: sodamtnsolar@blm.gov

I'm a student at Victor Valley college and just finished our Solar Technician Program class. I'm interested in the process to secure the proper permits and how the government mandates effect solar system in the county of San Bernardino. We are informed on how the local systems work but we are interested in a large scale project. We would like to attend the public hearings and support the solar industry.

92-1

Larry Bechtold
22240 Nisqualli Rd.
Apple Valley Ca. 92307
LBECHTOLD1969@GMAIL.COM

Alexandra Kostalas

Subject: FW: Soda Mountain Solar Project

----- Forwarded message -----

From: **James Jackson** <rvfriendly@gmail.com>
Date: Thu, Dec 5, 2013 at 10:17 AM
Subject: Soda Mountain Solar Project
To: "sodamtnsolar@blm.gov" <sodamtnsolar@blm.gov>

Please do not permit solar projects on undisturbed desert lands. This project is also adjacent to the East Mojave National Preserve. Solar projects are ugly and ruin the deserts' natural beauty. Use areas already destroyed by mining and other uses. Thank you for considering my comment.

93-1

James A Jackson
113 Crane Creek
Beaumont, CA 92223
909 553-4768

Alexandra Kostalas

Subject: FW: Public Comment

----- Forwarded message -----
From: Andrew Slade <aslade90@gmail.com>
Date: Thu, Dec 12, 2013 at 11:14 AM
Subject: Public Comment
To: sodamtnsolar@blm.gov

12/12/13

To whom it may concern,

While reading the EIS for the Soda Mountain Solar plant project I think overall an impact on the environment will be reduced by the methods listed in the EIS. The correct measures have been taken to prevent any big issues that may arise. I think that more projects like this should be started providing solar energy with a minimal environmental impact. With more of these type of projects becoming successes the easier it will be to put solar plants in many different types of areas. Though there are a few items that i would like to address that I have questions about which I will go into more detail about. In Impact Water-1: Mitigation Measure 3.19-1: Brine Pond Design, and Impact Wild-1: Mitigation Measure 3.4-1b: Biological Monitoring during Construction. Impact Water-1: Mitigation Measure 3.19-1: Brine Pond Design

94-1

In this section of EIS I feel that the easiest road is being taken. It is good that a biologist will be present during construction activities to ensue that harm to specific species will be minimized, but there needs to be some work done before the construction even begins. A field survey must be taken of the entire potential construction site and some areas close by in order to see the relative population of animal and vegetation species. This will reveal if this area at Soda Mountain is biologically important compared to neighboring areas. The biologist should not just be present, but rather active in studying this ecosystem to see if the potential harm is great. Another concern about this section is the relocation of discovered non-listed special-status ground dwelling animals and other animals in the construction site. Something to take into consideration is what time of year construction will take place, and how long construction will take; in relation to correlating mating periods for many species. If relocation of animals occurs during a mating period, that action could disturb the specific species. This could be highly inappropriate especially if the species is special-status since their numbers are limited already. This could be avoided by doing a field survey and having the hired biologist research the species' mating periods within the construction zone, and if necessary wait till a certain time of year to begin specific portions of the construction. My last concern in this section is the Desert Tortoise fencing that will keep the animal out of the solar site once it is completed. Consideration must be taken if the this fenced of zone will highly fragment local tortoise population's habitat. This can be found out through a field study of the potential fencing zone to see population sizes and possible tortoise movements in the local area. Since the Desert Tortoise is a protected species, this should be of high importance.

94-2

94-3

94-4

Impact Water-1: Mitigation Measure 3.19-1: Brine Pond Design

When looking over this section of this EIS a very brief paragraph is given that revolves around flooding concerns. Other concerns should be brought up as well such as what type of liner will the ponds be using. Specific Geomembranes of high quality must be used in order to protect the environment from leakage or any other kinds of breaches. If other cheap alternative liners are used, these risks can increase severely. Another potential problem might be if there are any local animals that might use this brine pond as a potential water source mistaking it as a natural water pond. Proper fencing and possibly netting should be considered.

94-5

Overall I feel that this project is well developed and will be implemented successfully and without any large impacts to the local environment of Soda mountain, if the concerns listed in the EIS and those listed here are taken into account and then followed when necessary.

Thank you for your time,
Andrew Slade
Denver, Colorado

Alexandra Kostalas

Subject: FW: Soda Mountain Solar Project Public Comment

----- Forwarded message -----
From: **Erin Horwith** <erinpaige15@gmail.com>
Date: Thu, Dec 12, 2013 at 12:13 PM
Subject: Soda Mountain Solar Project Public Comment
To: sodamtnsolar@blm.gov

December 12, 2013

Jeffery Childers,
Soda Mountain Solar Project Manager,
22835 Calle San Juan De Los Lagos,
Moreno Valley, CA 92553

To whom it may concern,

I am writing this to support the Soda Mountain Solar Project Draft Plan proposed action. It is proposed that photovoltaic solar panels will be installed on Soda Mountain on a 4,179 acre area, in San Bernardino County. This project would require an amendment to the *California Desert Conservation Area Plan of 1980*. To support my argument I will be using information gathered from the Soda Mountain Solar Project Draft Plan Amendment/EIS/EIR- Volume 1.

This project would produce 358 MW of solar energy. This power would feed into the Market Place Adelanto 500 kV transmission line. Therefore, there is no need to build new infrastructure, which is a large issue when implementing renewable energy. Solar energy is also cheap to produce, although there is a large upfront cost. Once solar infrastructure is in place the cost for the consumer should be an average of .12/KWH. There is also a net reduction of 280,470 metric tons of CO2 associated with this project. Since CO2 accounts of 84% of the United States greenhouse gas emissions this reduction is significant.

In order to build these solar panels construction will take a toll on the natural environment however, damage is minimal. There is a low likelihood of leaking any hazardous materials into ground, air and water. There will be short term noise during construction, however, overall noise pollution is minimal. During construction 215-290 jobs will be created. Employment will be compensated a total of \$300 million over construction time and the total output of the California economy will be \$755 million. Compared to other

95-1

energy sources water usage is relatively low. This is an important issue for Southern California, as water resources are already very low. Construction will require a total of 480 acre-feet of ground water. Air quality will decrease during construction, as with all construction. Therefore, the air quality reduction is significant and unavoidable. Issues to the environment to consider are the increase fire risk because of the reduction of native plant species. There are also 4 archaeological sites and 2 recreational routes that will be impacted due to construction. It is important to note that compared to other non-renewable means of energy generation, solar has minimal environment impact.

When the project is finished there will be 40 jobs available for operation and maintenance. Employees will be compensated a total of 2.9 million annually. Overall, the California economy would \$9.7 million annually. In order to maintain good air quality after the project is finished it is important that the employees at the solar plant are required to apply water to all unpaved roads and parking lots twice daily. There are needs to be measures taken to decrease native plant species loss.

The Soda Mountain Solar Project is important in regards to President Obama's action plan to control climate change. As 2012 was the hottest year The United States has ever experienced. Therefore, California needs to continue being a leader to the rest of The United States by generating renewable energy. The United States needs to get to a place where it is not relying on other countries for energy means.

Thank you for reading,

Erin Horwith



95-1
cont.

Ben Chesley

Issues in Conservation Biology

Public Response to an EIS: Soda Mountain Solar Project

The Soda Mountain Solar Project and the associated Environmental Impact Statement explores the development of a large solar power facility on Bureau of Land Management (BLM) Land. The different alternatives explored in the Environmental Impact Statement include different possible capacities of the proposed facility and the associated amount of land that would be required to achieve these capacities, with one possible alternative to deny development of any new solar power facility on BLM land. As a student who has almost earned their bachelor’s degree in the Biological Sciences with associated studies in the Environmental Sciences, I feel that I am qualified to analyze this Environmental Impact Statement and offer informed public commentary on the matter from the academic stand point of a citizen concerned with ecological conservation.

I am writing in support of the planned action because of the increasing need to develop alternative, renewable energy sources in the United States in response to the threat of global climate change associated with greenhouse gas emissions and the dwindling global supply of fossil fuels. According to the Solar Energy Industries Association one mega-watt of solar energy can power 164 homes. The proposed 358 mega-watt facility could therefore power nearly 60,000 American homes. The development of such a large solar powered facility has the potential to cut down on harmful air pollution emissions as well. According to the Environmental Protection Agency, generating one mega-watt of electricity through coal-fired power plants leads to the emission of 2,249 pounds of carbon dioxide, 13 pounds of sulfur dioxide, and 6 pounds of nitrogen oxide per hour (EPA, 2013). By offsetting 358 mega-watt hours of coal electricity production with the same amount of energy produced through solar energy the emission of carbon dioxide would be cut by 800,000 pounds of carbon dioxide per hour, 4,600 pounds of sulfur dioxide per hour, and 2,100 pounds of nitrogen oxide per hour. By eliminating this harmful pollution emissions from the atmosphere the air quality of California could be greatly improved. The offsets in pollution emission by transitioning the energy from coal fire to solar energy could also help the study area reach attainment designation under State and Federal air quality laws, since according to the EIS the area currently is not in total compliance with established air quality standards. Since the projects projected emissions will all be from the construction activities associated with the installation of solar panels, the offset in emissions the operations of the 358 mega-watt facility will attain will cause the installation to have an overall negative effect on the amount of air pollution present in the atmosphere.

Additionally the selected site for the proposed development of the solar power facility is ideal because it does not occupy any wildlife refuges or management areas and is also situated far from residential areas judging by the provided description in the text of the EIS, helping it to avoid the “not in my backyard” effect and minimizing disturbance to wildlife



associated with the development and operation of the proposed facility. Existing power transmission infrastructure in the area will also ease some of the development requirements for the facility leading to lower environmental disturbance than if the proposed area was located in an area with no existing infrastructure.

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cont.

Some may argue against the installation of solar facilities because of claims that the environmental impact of manufacturing solar panels and the extraction of the materials required to fabricate photo voltaic cells outweighs the potential benefit of their operation. While there are certainly detrimental environmental effects associated with the extraction of silicon and other rare Earth metals associated with the creation of solar panels, it should be pointed out that these environmental costs only need to be paid once in the lifetime of a solar power facility. On the contrary, coal fire power plants require both materials for their construction, but also require a continuous stream of fossil fuels in the form of mined coal to continue operations. Furthermore, a recent life cycle analysis of solar cells concluded that they are a promising form of renewable energy in spite of any environmental costs associated with their fabrication. The scientists conducting this study based their conclusion on the benefits that solar power facilities provide including carbon sequestration outweighing the current environmental costs of producing the current models of photo-voltaic cells, and they also stated that future development of this technology would further increase benefits and decrease environmental costs of fabricating solar panels (Sherwani et. al, 2010).

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Overall, it seems that the benefits of the purposed facility outweigh the possible costs, and it seems that there are several advantages of developing the facility on the purposed site. The site seems to have marginal to low value to existing wild life and the development of the facility would not cause major disturbances to the local flora and fauna. By locating the solar power facility in a desert, it ensures that the maximum level of sunshine can be collected for the maximum amount of days, as deserts are noted for low cloud cover, few rainy or overcast days, and for high levels of sunshine throughout the year. Locating the site far from other human developments and settlements lowers potential public backlash and resentment of the facility by avoiding the “not in my back yard” syndrome associated with large development projects. The potential of a solar facility of this size to offset air pollution emissions and improve air quality is very high, a fact that should merit special consideration in lieu of the study of area of the EIS being noted for not being currently in attainment of Federal and State air quality laws. Currently it seems that the land around the purposed development area has low use potential for both wildlife and human beings, thus there are not many foreseeable reasons to forestall or prevent development of the purposed solar power facility. The changing demands of the energy sector of the economy combined with heightened pressure to develop and implement sustainable, alternative, renewable energy sources means that every effort should be made to go forth with the development of this facility and others which are purposed in the future in order to improve environmental quality and avoid potential energy sources as global fossil fuel supplies decrease and disappear in the future.

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