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Re: Comments of Backcountry Against Dumps, the Protect Our Communities Foundation, the East County Community Action Coalition, and the Desert Protective Council, on the Presiding Member's Proposed Decision for the Imperial Valley Solar Energy Project, Docket No. 08-AFC-5

Dear Mr. Meyer:

On behalf of Backcountry Against Dumps, the Protect Our Communities Foundation, the East County Community Action Coalition, and the Desert Protective Council (collectively, the "Conservation Groups"), we respectfully submit the following comments regarding the Presiding Member's Proposed Decision ("PMPD") for the Imperial Valley Solar Project (formerly the SES Solar Two Project) ("Project") proposed by Imperial Valley Solar, LLC (formerly Stirling Energy Systems Solar Two, LLC) ("Applicant"). Although slight progress was made between the Staff Assessment/Draft Environmental Impact Statement ("SA/DEIS") and the Supplemental Staff Assessment ("SSA"), the PMPD does little to improve the Commission's environmental review of the Project. Not only does the PMPD fail to address numerous deficiencies in the SA and SSA, it presents new problems of its own. Thus, at the very least, the Commission must augment its environmental review of the Project and modify its certification conditions before it can legally certify it. We incorporate by reference our previous comments on the SA/DEIS and the SSA.

INTRODUCTION

The Yuha Desert, where the Project is to be located, is a pristine but extraordinarily sensitive landscape. Damage to it from this Project is likely to be irreversible. "Implementation

of this [P]roject will forever change the landscape of this area,"[1] and also lead to "the permanent destruction of hundreds of cultural resources. . . ."[2] The environmental devastation that this Project will cause is permanent, but the Project's benefits are only temporary. SA/DEIS at ES-7 ("The planned life of the SES Solar Two Project is 40 years"). The California Energy Commission ("CEC" or "Commission") continues to rush through critical environmental reviews and refuses to extend any deadlines, no matter how unreasonable, because the Project "must meet extraordinarily tight time-lines with respect to state and federal agency permitting decisions to qualify for funding from the U.S. Department of Energy under the American Recovery and Reinvestment Act ["ARRA"]. . . . Even a slight delay could cause projects to miss critical deadlines in the permitting process, and therefore lose access to recovery act funding."[3] The Commission must not allow itself to miss the forest for the trees. The Commission's primary responsibility is to produce a legally adequate environmental document, not to process the Project's application within a specified period of time. The California Environmental Quality Act ("CEQA") does not allow agencies to exempt certain projects from CEQA's requirements due to a project applicant's needs or desires.[4] Producing a legally inadequate environmental document will cause the Project to be delayed for far longer than the time it would take to compile a proper report in the first instance.

I. THE COMMISSION'S STATUTORY DUTIES

Before certifying any energy project, such as the IV Solar Project, the Commission must comply with the requirements of both the Warren-Alquist Act, Pub. Res. Code §§ 25500 et seq., and CEQA, Pub. Res. Code §§ 21000 et seq.

First, as the lead CEQA agency for the Project, the Commission has the responsibility to make sure its decision on the Project, and the environmental review process and documents leading up to it, comply with CEQA. *See* Pub. Res. Code § 25519(c).[5] To wit, the

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[1] National Park Service, Comments on the Imperial Valley Solar Project Draft EIS, received May 4, 2010, p. 1.

[2] Quechan Indian Tribe, Comments on the SA/DEIS, received May 19, 2010, p. 7.

[3] California Energy Commission, Decision re: Data Concerning Cultural Resources on BLM Land, *available at* http://www.energy.ca.gov/2010-CRD-1/documents/2010-07-14_Commission_Decision_Cultural_Resources_on_BLM_Land.pdf, at 10.

[4] The Conservation Groups note that the impact of the "safe harbor" provision of the ARRA, added March 2010, on these timetables has apparently not been considered. More information can be found at http://www.treas.gov/recovery/docs/guidance.pdf.

[5] Even though the Commission has a certified regulatory program under CEQA, it is still bound by requirements substantially similar to those of the statutory environmental impact report ("EIR") process. *See* Pub. Res. Code § 21080.5; 20 Cal. Code Regs. §§ 1741 et seq.

environmental review process must "inform [the Commission, other] governmental decision makers, and the public about the . . . environmental effects of proposed activities," 14 Cal. Code Regs ("CEQA Guidelines" or "Guidelines") § 15002(a)(1), and "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological impacts of its action." *Id.* § 15003. And if the Commission omits essential environmental review, this informational void is a prejudicial abuse of discretion. *Sierra Club v. State Board of Forestry* (1994) 7 Cal.4th 1215, 1237.

In addition, under CEQA, the Commission may not certify the Project unless it finds that either (1) changes have been incorporated into the Project that "mitigate or avoid" any significant environmental impact, or (2) mitigation measures or less harmful alternatives are infeasible, and the Project has specific overriding benefits that outweigh its significant impacts. Pub. Res. Code §§ 21080.5(d)(2)(A), 21081; CEQA Guidelines §§ 15250, 15251; 20 Cal. Code Regs. § 1755. Furthermore, the Commission's findings and conclusions must be supported by substantial evidence in the record, Pub. Res. Code. §§ 21080, 21081.5, i.e. "fact, a reasonable assumption predicated upon fact, or expert opinion supported by fact." *Id.* § 21080(e).

Second, under the Warren-Alquist Act, before it can certify the Project the Commission must determine whether the Project complies with all "other applicable local, regional, and state . . . standards, ordinances, or laws," and "federal standards, ordinances, or laws" (collectively, "LORS"). Pub. Res. Code § 25523(d); 20 Cal. Code Regs. § 1752(a). The Commission may not certify any project that does not comply with the applicable LORS unless it finds both that (1) the project "is required for public convenience and necessity" and (2) "there are not more prudent and feasible means of achieving public convenience and necessity." Pub. Res. Code § 25525; 20 Cal. Code Regs. § 1752(k).

Additionally, before certification the Commission must determine whether the Project site is one of the areas in which the Warren-Alquist Act prohibits siting of power plant facilities, including "wilderness, scenic or natural reserves, [and] areas for wildlife protection, recreation [and/or] historic preservation." Pub. Res. Code § 25527. If the Project site is within one of the

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Furthermore, the Commission must still comply "with all of CEQA's other requirements" not directly pertaining to the EIR process, i.e. all requirements except those in CEQA chapters 3 and 4. 14 Cal. Code Regs ("CEQA Guidelines" or "Guidelines") §§ 15250 ("A certified program remains subject to other provisions in CEQA such as the policy of avoiding significant adverse effects on the environment where feasible."), 15252; *Mountain Lion Foundation v. Fish and Game Commission* (1997) 16 Cal.4th 105, 113-114. This includes such substantive obligations as providing a project description, analyzing alternatives to the proposed action and developing mitigation measures (i.e. "conditions of certification") to minimize significant environmental impacts. *See Schoen v. California Department of Forestry & Fire Protection* (1997) 58 Cal.App.4th 556, 567, 572.

prohibited areas, then the Commission may not certify the Project unless it (1) determines that the Project is not inconsistent with the primary land use of the area in which it is to be sited, (2) determines that it will have no "substantial adverse environmental effects," and (3) ensures that it receives approval by the public agency "having ownership or control of such lands." Pub. Res. Code § 25527; 20 Cal. Code Regs. §§ 1752(f), 1755(k).

As detailed below, however, the Commission has thus far failed to fulfill its statutory duties under CEQA and the Warren-Alquist Act with respect to the IV Solar Project. The environmental review process and the documents produced along the way, culminating in the PMPD, are far from adequate.

II. CEQA VIOLATIONS

A. The Project Description is Inadequate

The project description is the essential starting point of an adequate environmental analysis under CEQA. Among other things, the EIR - or equivalent document prepared under a certified regulatory program - must contain the "precise location and boundaries of the proposed project" and a "description of the project's technical, economic, and environmental characteristics." CEQA Guidelines §§ 15124, 15252(a)(1); *see also* Pub. Res. Code § 21080.5(d)(3)(A). Additionally, the document "must include a description of the physical environmental conditions in the vicinity of the project." *Id.* § 15125.

Here, the Commission has failed to meet this basic requirement. Most prominently, nowhere in the SA/DEIS, SSA or PMPD is there an adequate description of the 709 MW selected alternative. The selected proposal was not even *mentioned* as a possible option in the SA/DEIS and SSA, and the PMPD does little to explain the differences between the 709 MW facility and the previously preferred 750 MW design. Instead of describing in detail the engineering and locational differences between the two designs and presenting the Commission staff's analysis of the 709 MW facility, the PMPD merely notes that the 709 MW alternative would, logically, have fewer SunCatchers and produce less electricity. PMPD at 1, 2, I-1, I-7. Indeed, the PMPD allocates more space to explaining why the 709 MW alternative need not be fully described and analyzed than to actually describing and analyzing it. PMPD at II-20 to II-23. This is unacceptable for an environmental review document.

In addition, the description of area surrounding the Project remains inaccurate in the PMPD and must be clarified. For instance, in describing the Project and its location the PMPD, like the SA/DEIS and SSA before it, makes no mention of the close proximity of Centinela State Prison, situated approximately five miles to the northeast of the Project site. Indeed, the prison is barely mentioned at all in the PMPD, with the only references coming in the sections on the impacts to soil and water, and cultural resources. The lack of any discussion or analysis of the

prison - and the Project's impacts on it - in the project environment, public health and other sections is especially glaring since it is the closest sizeable population center to the Project, with approximately 4,345 inmates and over 1,000 employees.[6]

Furthermore, the PMPD still contains many of the locational mistakes made in the SA/DEIS and SSA. For example, the SA/DEIS and SSA frequently misrepresent that the Project would be located about four miles east of Ocotillo Wells (SSA at ES-2, C.4-6, C.11-4), a mistake that is replicated in the PMPD. PMPD at VII.B-1. Ocotillo Wells is located more than *20* miles to the northwest of the Project site. Rather, it is the communities of Ocotillo and Coyote Wells that are located nearby the Project, approximately five miles to the west. These types of mistakes not only confuse the public and decisionmakers, they reveal a disturbing lack of concern for the Project area and the people who live there.

The end result of the shortcomings discussed above, among others, has been to stymie the realization of CEQA's goals of informed decisionmaking and constructive public participation and cooperation. The reaction of Edie Harmon - a committed participant in both the Commission certification and BLM decisionmaking processes - is an apt example. In response to, among other things, BLM's continued reference in its Final Environmental Impact Statement: Imperial Valley Solar Project ("BLM FEIS") to Ocotillo Wells instead of Ocotillo being near the IV Solar Project site, Mrs. Harmon voiced her frustrations thusly: "Please note that I gave up because it seems so obvious that no one involved in decision-making seems to care, so why finish reviewing and commenting on the inadequacies of the FEIS for the IVS project."[7]

To rectify these problems, and before the Commission can certify the Project, the public must be given ample opportunity to study and comment on the Project's *actual* design, i.e. the 709 MW alternative. This necessitates providing the public with a full and accurate description of the Project and its surroundings.

B. The Analysis of the Project's Environmental Impacts is Inadequate

As was bluntly stated by the Commission staff, "the direct project impacts to biological resources, and soil and water resources, and visual resources, and the cumulative impacts associated with biological resources, land use, soil and water resources, and visual resources for

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[6] California Department of Corrections and Rehabilitation, Institution Statistics for California State Prison at Centinela, *available at* http://www.cdcr.ca.gov/Facilities_Locator/CEN-Institution_Stats.html.

[7] Eddie Harmon, Comments to BLM on its Proposed Resource Management Plan Amendment PRMP-A/FEIS for the CDCA Plan and Imperial Valley Solar Project (IVS), August 26, 2010, p. 10.

the Imperial Valley Solar (IVS) Project *will be significant*" (emphasis added).[8] While it is true that the Commission may certify a project with significant environmental impacts if it finds that mitigation of the impacts is infeasible and substantial benefits override the negative impacts, it is nonetheless not absolved from fully analyzing the project, its impacts, any potential mitigation measures and a reasonable range of alternatives, and providing for public review and comment. *See* Pub. Res. Code § 21080.5(d); 20 Cal. Code Regs. §§ 1742, 1742.5; *see also* Pub. Res. Code §§ 21002.1, 21091, 21092; CEQA Guidelines §§ 15126, 15126.2, 15126.4, 15126.6, 15250, 15252. The Commission has not met its duties in this case.

1. The Commission Has Not Provided Any Analysis of the Impacts of the 709 MW Facility Selected in the PMPD

The Commission has shirked its duty under CEQA to describe and analyze the specific impacts of the 709 MW alternative selected by the Imperial Valley Solar AFC Committee ("Committee") in the PMPD. As has been made clear by the Commission staff, intervenor California Unions for Reliable Energy ("CURE") and others, the impacts of the 709 MW alternative will not just be a reduced version of the impacts from the 750 MW alternative that was analyzed more thoroughly in the SA/DEIS and SSA.[9] To the contrary, they will be fundamentally different in numerous respects.

For example, the 709 MW alternative changes the number of roads and method of travel by which the SunCatcher units would be accessed for maintenance. The new plan calls for removal of numerous east-west roads and all stabilized spur access roads, which presumably means maintenance workers would have to access many of the SunCatcher units by *off-road* driving.[10] This would not only change the location of the biological, air quality, hydrological and other environmental impacts, it would likely increase some of the negative effects. For instance, the off-road driving would likely increase erosion and sediment transport into nearby washes. In addition, it would reduce air quality and exacerbate public health risks by increasing the amount of dust - and thus particulate matter and the Valley Fever-inducing *coccidiodides immitis* fungus - in the air.[11]

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[8] Terry O'Brien, CEC Deputy Director, "Staff's Comments Regarding a Possible Energy Commission Finding of Overriding Considerations - Imperial Valley Solar Project (08-AFC-5)," July 27, 2010.

[9] *See* California Energy Commission, "Staff's Comments on the Presiding Members Proposed Decision," Docket No. 08-AFC-5, September 16, 2010; *see also* CURE, Reply Brief re: Imperial Valley Solar Project (08-AFC-5), August 18, 2010, pp. 1-2.

[10] *See* U.S. Army Corps of Engineers, "Draft 404(b)(1) Alternatives Analysis For the Imperial Valley Solar Project (aka Solar II)," July 16, 2010, p. 24.

[11] *See, e.g.,* Edward L. Arsura *et al.*, "Coccidioidomycosis (Infectious Diseases)," December 21, 2009, *available at* http://emedicine.medscape.com/article/215978-overview.

Furthermore, as compared to the 750 MW facility, the 709 MW alternative would impact seven *more* main stem washes, even though the total acreage of impacted U.S. waters would be less.[12] Moreover, as acknowledged by the Commission staff, "[a]lthough the alternatives analyzed by staff and the [709 MW alternative] are within the same outer boundaries, the relative impacts can *differ significantly* based on type and location of impacts within that are due to the uneven distribution of environmental resources" (emphasis added).[13]

However, despite these and other significant changes in the Project design, the environmental impacts of the 709 MW alternative have not been properly analyzed or disclosed. As the Commission staff admits in its review of the PMPD, its "ability to provide detailed technical comments on the PMPD is limited due to the adoption of an alternative *not analyzed* in Staff's Supplemental Staff Assessment."[14] The public should not have to ferret out the details of the selected facility and develop its own environmental analysis of the project; this should be provided through the Commission's environmental review process.

By failing to study the differences in impacts between the two alternatives - indeed, by even failing to fully describe the 709 MW alternative in the PMPD - the Commission has thus violated its statutory duty to inform the public about the Project and its impacts and allow for public review and comment. Pub. Res. Code § 21080.5(d)(3); 20 Cal. Code Regs. §§ 1742, 1742.5, 1747, 1749. Moreover, without a full description and analysis of the 709 MW alternative anywhere in the record - indeed, without even an assurance that the selected design for the Project will not change again post certification[15] - the Commission lacks the requisite substantial evidence upon which to approve the Project. Pub. Res. Code §§ 21080(d)-(e), 21081, 21081.5; CEQA Guidelines §§ 15250, 15252; 20 Cal. Code Regs. §§ 1751, 1752, 1755. Accordingly, the Commission should suspend the certification proceeding until a revised staff assessment of the Project's new design is completed and circulated for review by the parties and the public.

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[12]*See* California Energy Commission, "Staff's Comments on the Presiding Members Proposed Decision," Docket No. 08-AFC-5, September 16, 2010; *see also* CURE, Reply Brief re: Imperial Valley Solar Project (08-AFC-5), August 18, 2010, pp. 1-2.

[13]California Energy Commission, "Staff's Comments on the Presiding Members Proposed Decision," Docket No. 08-AFC-5, September 16, 2010, p. 3.

[14] *Id.* at p. 1.

[15] The 709 MW alternative recommended in the PMPD is based on and identical to the United States Army Corps of Engineers' ("ACOE's") preliminary Least Environmentally Damaging Practicable Alternative ("LEDPA"), developed pursuant to ACOE's authority under section 404 of the federal Clean Water Act. However, as the Commission staff itself has been quick to note, "the final LEDPA could be different depending on how [ACOE] addresse[s] public and agency comments on the preliminary LEDPA" and "[s]taff cannot comment on the actual impacts of the final LEDPA until it has been developed and adopted." *Id.* at pp. 3-4.

2. The Applicant Has Failed to Identify - and the Commission Has Failed to Analyze - an Adequate and Reliable Water Supply for the Project

Water supply has long been a pivotal issue in California land use, and is becoming more and more critical with time. With this premise in mind, the California courts have long held that EIRs - and their counterparts in certified regulatory programs - must analyze the effects of providing water to projects. *See Vineyard Area Citizens for Responsible Growth, Inc. v. City of Ranch Cordova* (2007) 40 Cal. 4th 412, 428-32. According to the California Supreme Court in *Vineyard*, "CEQA's informational purposes are not satisfied by an EIR that simply ignores or assumes a solution to the problem of supplying water to a proposed land use project." *Id.* at 430-31. Further, the environmental review document "for a land use project must address the impacts of *likely* future water sources, and the [document's] discussion must include a reasoned analysis of the circumstances affecting the likelihood of the water's availability." *Id.* at 432. And, "where, despite a full discussion, it is impossible to confidently determine that anticipated future water sources will be available, CEQA requires" identification of reasonably foreseeable alternative sources, analysis of the environmental impacts of utilizing those sources and development of mitigation measures to minimize those effects. *Id.*[16] Finally, CEQA requires a showing that there is "a *likelihood* water would be available, over the long term, for this project." 40 Cal.4th at 441, emphasis in original.

Nonetheless, as described in detail in our July 27, 2010 comment letter on the SSA, the Applicant had not then identified, and the Commission had not yet described and analyzed, an adequate and reliable water supply for either the construction or operational phases of the Project. Furthermore, they put forth *conflicting* estimates of exactly how much water the Project would require. And despite our and others' attempts to flag the problem and encourage the Applicant and the Commission to rectify it before issuing the PMPD, these deficiencies still remain, as detailed below.

a. *There Is Insufficient Water Available to Meet the Project's Construction Phase Needs*

The estimates for water use during the Project's 39-month construction period are the same in the PMPD as they are in the SSA. Specifically, the Project will average 51.1 acre-feet per year ("AFY") of water for dust control and other construction activities. PMPD at VI.B-13. In addition, the construction workers will require approximately 0.23 additional AFY of potable water. *Id.* Thus, during the construction phase, the Project will require at least 51.3 AFY of water, a substantial amount in such an arid environment. Indeed, given the contradictory

[16] For a fuller discussion of the *Vineyard* case and CEQA's water supply requirements, see Jamey Volker, 2008, "Water Supplies Finally Take Center Stage in the Land Use Planning Arena," 35 Ecology L. Q. 573.

numbers provided for water use, it is possible that the Project will require 228 acre-feet of water in the first year of construction.[17]

However, the Applicant has only identified one source of water for construction activities, the Dan Boyer Water Company's well (State Well No. 16S/9E-36G4), which pumps from the Ocotillo-Coyote Sole Source Aquifer. PMPD at VI.B-24 to 26. There is one other potential source of water for the Project, the Seeley Waste Water Treatment Facility ("SWWTF"), but the necessary upgrading of the facility is currently undergoing environmental review and will likely not be ready for service until after the Project has been constructed, if ever.[18] As such, the Applicant proposes to rely solely on the Boyer well for up to three years. BLM FEIS at Appendix B, p. B-16. The trouble with the Applicant's plan, though, is that the Dan Boyer well cannot supply nearly enough water to meet the Project's needs.

The first problem is that the Dan Boyer Water Company's "Will Serve Letter" only discusses providing water to the Project for a six-to-eleven month period, far less time than the estimated three years during which the Project will have no other water source besides the Boyer well.[19] More importantly, though, is the fact that the Dan Boyer Water Company is prohibited from pumping more than 40 AFY of water out of its well. PMPD at VI.B-25.[20] In addition, according to the Commission staff, approximately 6 AFY of water is already being drawn from the Boyer well by the company's current clients, leaving only 34 AFY for the Project. SSA at C.7-52. The Committee disputes the staff's findings, concluding in the PMPD that the Project could use up to 39 AFY of water from the Boyer well, but its decision amounts to a distinction without much of a difference. PMPD at VI.B.-26 to 27. Even if the well could provide the Project with 39 AFY of water, and the Dan Boyer Water Company was willing to continue providing that much for the three years (or more) the Project will need it, it still would not come close to meeting the Project's construction period water needs of at least 51.3 AFY.

Moreover, the 12.3 AFY gap between available water supplies and Project demands during construction does not even account for the additional water that will be needed to operate each group of Stirling Engine modules as they are completed, as the Applicant plans to do. PMPD at I..2. And while the certification conditions for the Project would require suspension of mirror washing in such cases where water demand exceeds supply, there are no provisions for

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[17] Exhibit 499-I to Rebuttal Testimony for CURE, p. 4

[18] *See, e.g.,* U.S. Environmental Protection Agency, Detailed Comments on the Bureau of Land Management FEIS for the Imperial Valley Solar Project, August 30, 2010, p. 3.

[19] *See id.*

[20] *See also* Imperial County Planning and Development Commission, Letter to Dan Boyer re: Westwind Water Company, APN 033-564-002-000, November 12, 2008.

curtailing other operational water uses or *any* construction activities.[21]

Thus, not only are the estimates of water use during the construction phase inconsistent, the Applicant has yet to identify a reliable source of water that could meet even the lowest use estimates, regardless of whether the Committee-recommended certification conditions are followed to reduce water demand. As such, contrary to the Commission staff's contention in their August 19, 2010 Reply Brief, the Commission cannot comply with CEQA's demand for a water supply analysis by relying solely on the Boyer well. Where uncertainty remains as to whether the identified water source for a project will meet the project's water needs, as is the case with the Boyer well with respect to the Project's water needs for the first three years, CEQA requires identification of reasonably foreseeable alternative sources, analysis of the environmental impacts of utilizing those sources and development of mitigation measures to minimize those effects. *Vineyard*, 40 Cal. 4th at 432. This has not been done here, and therefore the Commission cannot certify the Project without violating CEQA.

b. *There Is Significant Uncertainty as to Whether There Will Be Sufficient Water Available to Meet the Project's Operational Needs*

Like the estimates for construction water use, the estimates for operational water use during the Project's expected 40-year life, with all their attendant discrepancies, are the same in the PMPD as they are in the SSA. The PMPD states that operational water needs will be 37.6 AFY of water. However, as explained in our July 27, 2010 comment letter on the SSA, total operational water use could amount to a total of 47.6 AFY given the seeming underestimates in the SSA and PMPD of the volume of water needed to wash the SunCatcher mirrors, satisfy workers' demands for potable water and control dust.[22] In any case, regardless of whether the Project's operational water needs are 37.6 AFY, 47.6 AFY or somewhere in between, it is highly uncertain that sufficient water supplies will be available to the Project. This uncertainty violates CEQA's command that the agency must "show a *likelihood* water would be available, over the long term, for this project." *Vineyard*, 40 Cal.4th at 441, emphasis in original.

As aforementioned, the Dan Boyer Water Company has only committed to serving the Project for the first six-to-eleven months, before most operational activities will have

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[21] *See* Exhibit 499-I to Rebuttal Testimony for CURE, p. 4. Furthermore, even if there was a certification condition that required Project construction and operation to halt if sufficient water supplies were not available, that still would not meet CEQA's requirements. For when named water supplies are uncertain, CEQA's "informational demands may not be met . . . simply by providing that development will not proceed if the anticipated water supply fails to materialize." *Vineyard*, 40 Cal. 4th at 432.

[22] *See* Exhibit 499-I to Rebuttal Testimony for CURE, pp. 3-4; *see also* Backcountry Against Dumps, *et al.*, Comments on SSA, July 27, 2010, pp. 8-9.

commenced. Furthermore, the PMPD's condition of certification Soil&Water-2 expressly prohibits the Project from relying on groundwater for more than three years unless the owner seeks a Project Amendment. PMPD at VI.B-41. Moreover, extraction from the Boyer well is capped at 40 AFY of water in any case, some of which has already been allocated to existing residential users. PMPD at VI.B-26 to 27. Thus, the Boyer well will not be sufficient to meet the Project's operational water needs over the course of its planned 40-year life.

Not surprisingly, however, given the extremely arid climate around the Project site, the Applicant has only been able to identify one additional potential water source besides the Boyer well. That source is the Seeley Waste Water Treatment Facility, and its ability to provide water to the Project is still highly uncertain. Before the SWWTF can supply water to the Project it has to be upgraded and a 12-mile pipeline from the facility to the Imperial Valley Solar water treatment plant built. SSA at C.7-50. However, those proposed projects are still undergoing environmental review. And despite the Committee's conclusion on page VI.B-29 of the PMPD that "it is more likely than not that this treated effluent will become available in less than three years," even the U.S. Environmental Protection Agency recognizes that "[u]nanticipated delays in the upgrade of the SWWTF could occur."[23] Furthermore, environmental review is not a rubber-stamp process and there is no guarantee that the upgrade will ever be approved.

As such, there remains substantial uncertainty regarding the operational water supplies for the Project. And as discussed above in relation to the Project's water supplies for construction, when such uncertainty arises CEQA requires identification of reasonably foreseeable alternative sources, analysis of the environmental impacts of utilizing those sources and development of mitigation measures to minimize those effects. *Vineyard*, 40 Cal. 4th at 432. This has not been done here; no other alternatives beyond the SWWTF have been discussed. The only measure taken to protect the Project from running out of water is the inclusion of a requirement that mirror washing would be suspended if demand outpaced supply.[24] Yet according to the California Supreme Court, CEQA's "informational demands may not be met . . . simply by providing that future development will not proceed if the anticipated water supply fails to materialize." *Vineyard*, 40 Cal.4th at 432. Therefore, the Commission cannot certify the Project without violating CEQA.

3. The Commission's Analysis of the Impacts of Pumping from the Ocotillo-Coyote Wells Sole Source Aquifer Remains Inadequate

Not only has the Applicant failed to identify adequate water supplies for the Project, the Commission has failed to properly analyze the impacts of using the Project's most assured water

[23] U.S. Environmental Protection Agency, Detailed Comments on the Bureau of Land Management FEIS for the Imperial Valley Solar Project, August 30, 2010, p. 3.
[24] *See* Exhibit 499-I to Rebuttal Testimony for CURE, p. 4.

supply, the Boyer well, which draws from the Ocotillo-Coyote Wells Sole Source Aquifer.

a. *The PMPD's Conclusion That Pumping from the Boyer Well Will Not Significantly Impact Nearby Residential Water Wells Is Unfounded*

In the PMPD, the Committee concludes "that the project's proposed use of groundwater from the Boyer well during the period of time water from the SWWTF is unavailable will not have a significant direct or cumulative impact on the Ocotillo/Coyote Basin." PMPD at VI.B-29. The Committee bases its conclusion on the Applicant's "Groundwater Evaluation Report," which found the Boyer well to have a limited zone of influence, i.e. not great enough to reach any of the surrounding private wells, for up to three years of 40 AFY pumping. PMPD at VI.B-28 to 29. The Committee's analysis, however, is incomplete and its conclusion unfounded.

The most notable problem is that the Committee does not account for the possibility of the Project using Boyer well water for more than just three years. As noted, the SWWTF upgrade project is still undergoing environmental review and there is no guarantee it will be completed and able to meet the Project's operational water needs within three years, or potentially ever. Furthermore, the Applicant has identified no alternative backup sources of water for its operational needs. Accordingly, it is possible the Project would seek to rely on Boyer well water for greater than three years. There is no evidence that the Dan Boyer Water Company and Imperial County would allow that to occur. In any event, the Committee failed to analyze the possibility of extended reliance on the Boyer well.

The Commission staff, on the other hand, recognized that possibility in the SSA and analyzed the drawdown impacts of pumping 40 AFY of water out of the Boyer well for the entire 40-year life of the Project. SSA at C.7-41 to 50. According to the Commission staff, the nearest residential well would experience a drawdown of between 1.4 feet (if the Boyer well were just used during Project construction) and 5.6 feet (if the Boyer well were used for the entire period of Project operation and the storage coefficient were 0.02 instead of 0.10). SSA at C.7-49. And while the Commission staff concluded this would not constitute a significant impact, they failed to account for the average ongoing 0.21 feet/year decline in the groundwater level and the fact that at least two of the ten closest private wells have only five feet of water above their well screens.[25] When taking these factors into account, the Project's pumping, combined with the annual decline in groundwater level, would cause the water level in at least two nearby wells to drop below the top of the well screen, creating a significant hardship for those well owners. This is a significant impact that the Commission failed to acknowledge and analyze.

[25] *See* Exhibit 499-I to Rebuttal Testimony for CURE, p. 5.

Furthermore, the impacts on nearby private wells would be even greater when considered alongside the groundwater pumping of other current and reasonably foreseeable future projects overlying the aquifer. For example, the Wind Zero project, which is currently being considered by Imperial County for permitting, would likely use groundwater from the same aquifer.[26] In addition, the drawdown effects from the Project would likely be greater when pumping from the Boyer well occurred simultaneously with groundwater extraction by U.S. Gypsum and from other commercial wells. However, neither the Commission staff in the SA/DEIS or SSA, nor the Committee in the PMPD, mentions these cumulative projects. And in the PMPD, the Committee merely concludes without analysis of *any* cumulative projects that there would be no direct or cumulative impacts on surrounding wells. PMPD at VI.B-28 to 29. This constitutes a fatal lack of analysis and severely undermines the basis for the Committee's conclusions.

b. *The PMPD's Conclusion that Pumping from the Boyer Well Will Not Have a Significant Impact on Overdraft of the Ocotillo-Coyote Sole Source Aquifer Is Unfounded*

In addition to concluding that the Project's use of the Boyer well by itself would not have a significant drawdown impact on nearby private wells, the Committee also asserts in the PMPD that the pumping would not have a direct or cumulative impact on the Ocotillo-Coyote Sole Source Aquifer. PMPD at VI.B-29. Again, however, the Committee's analysis is incomplete and its conclusion unfounded.

It is uncontested by the parties, the Commission staff and the Committee that the Ocotillo-Coyote Sole Source Aquifer is in overdraft. PMPD at VI.B-27 to 28. Furthermore, as the Committee admits in the PMPD, water "[c]onservation is apparently not a viable option in this case," nor are other measures of mitigating the Applicant's extraction of groundwater from the Boyer well. PMPD at VI.B-28. Thus, as again admitted in the PMPD, the Project could permanently deplete the aquifer by 1,600 acre-feet, barring some large unforeseen increase in aquifer recharge. PMPD at VI.B-28.

Based on this information, at least two Commission staff groundwater experts, Christopher Dennis and John Fio, concluded the Project would cause an unmitigable significant impact to the aquifer and its users. PMPD at VI.B-27 to 28. Furthermore, their opinions do not even take into account the cumulative effects from other current and foreseeable future projects. When considering these projects, such as the proposed Wind Zero project discussed above, the groundwater impacts are even more significant.

Despite this evidence, however, and without even addressing the applicable cumulative projects, the Committee still concludes in the PMPD that there will be "no significant direct or

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[26] *See id.*

cumulative impact on the Ocotillo/Coyote Basin." PMPD at VI.B-29. And the only evidence adduced in the PMPD to support that conclusion is the Applicant's self-serving "Groundwater Evaluation Report," which opined that other wells near the Boyer well would not be impacted in the *short* term (up to three years) by the Project's groundwater extraction. PMPD at VI.B-28 to 29. In view of this report's lack of supporting data, misplaced assumptions and failure to address *long* term water supply shortfalls, there is no substantial evidence to support the PMPD's conclusion. The Commission must not ignore the Project's significant direct and cumulative impacts on overdraft of the Ocotillo-Coyote Sole Source Aquifer, and it must assess alternative potential sources of water to reduce those impacts, such as reclaiming water from the Centinela State Prison.[27]

c. *The Project's Impacts on Water Quality Have Still Not Been Disclosed and Analyzed*

It is undisputed that pumping in the Holocene alluvium portion of the Ocotillo-Coyote Sole Source Aquifer causes upflux of lower-quality water from the underlying Palm Springs and Imperial formations. PMPD at VI.B-31. However, in addressing the impacts of the upflux that would be caused by the Project's groundwater extraction, the PMPD, like the SSA before it, only discusses the upflux volume and not the concentration of contaminants therein. Thus, while the upflux volume may only be 0.4 percent of minimum affected aquifer volume, the "average percent change in quality or Total Dissolved Solids (TDS) concentration in the minimum affected aquifer volume is close to 4.5%" based on a weighted average.[28] This constitutes a potentially significant groundwater quality impact that the Commission must analyze. Its failure to address this impact violates CEQA.

d. *The Project's Impacts on Phreatophytic Vegetation Have Still Not Been Disclosed and Analyzed*

Despite the expert evidence introduced by Tom Budlong showing that there are a number of mesquite hummocks and tamarisks in the Project vicinity, the Committee in the PMPD failed to correct the Commission staff's error in the SSA and analyze the Project's impacts on phreatophytic vegetation.[29] The observed mesquite hummocks and tamarisks could not survive if their roots did not reach the groundwater table, so it is imperative that the Commission analyze the Project's impact on the groundwater level underlying the vegetation.

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[27] For a discussion of the possibility of using reclaimed water from the Centinela State Prison, see Exhibit 591 to Rebuttal Testimony of Tom Budlong, p. 3.

[28] Exhibit 499-I to Rebuttal Testimony for CURE, p. 5.

[29] Exhibit 591 to Rebuttal Testimony of Tom Budlong, pp. 6-7.

4. The Commission's Analysis of Biological Impacts Remains Inadequate

a. *The Commission's Analysis of the Impacts to the Peninsular Bighorn Sheep and the Associated Mitigation Measures Must Be Updated Once Section 7 Consultation Has Been Completed*

The Conservation Groups appreciate that the U.S. Fish and Wildlife Service ("FWS"), along with the California Department of Fish and Game, have decided to require section 7 consultation under the federal Endangered Species Act ("ESA") regarding the Project's impacts on the Peninsular bighorn sheep ("PBHS"). SSA at ES-27. Nonetheless, in order to satisfy CEQA and ensure compliance with the ESA, as required by the Warren-Alquist Act, the Commission must wait until consultation is complete before certifying the Project. *See* Pub. Res. Code §§ 21080.5(d)(2)(A) (requiring incorporation of mitigation measures), 25523(d) (requiring that the Commission make a determination of compliance with all LORS). Once consultation has been completed, the Commission must update its PBHS impact analysis to incorporate any new findings from the consultation and alter its mitigation plan to comport with the requirements of the biological opinion. In addition, a subsequent comment period on those changes, if any, should be provided.

b. *The Commission's Analysis of the Impacts on the Flat-Tailed Horned Lizard Remains Inadequate*

In the Conservation Groups' July 27, 2010 comment letter on the SSA, we identified seven concrete deficiencies in the Commission's assessment of the Project's impacts on the FTHL. The PMPD, however, does not correct them. Further, additional deficiencies also remain. These two other issues are discussed first, followed by a summary of the inadequacies noted in our July 27 comment letter.

First, the PMPD, just like the SA/DEIS and SSA, fails to account for and analyze the substantial edge effect that the Project will have. According to CURE's biology expert, Scott Cashen, the Project will have an edge effect of 450 meters, which translates into an increase in impacted FTHL habitat of 2,800 acres beyond the 6,063.1 acres affected by the Project site and 92.8 acres impacted by the off-site transmission line.[30] Not only has the Commission failed to analyze the impact on the FTHL of this edge effect, it has failed to account for it in the mitigation measures developed to offset FTHL impacts. For example, while condition of certification BIO-10 provides for acquisition of off-site habitat to compensate for the habitat loss on the Project site and around the transmission line, there is no proposed acquisition to offset the 2,800 acres of FTHL habitat impacted by edge effects. This omission violates CEQA.

[30] Exhibit 499-K to Rebuttal Testimony for CURE, pp. 2-4.

Second, the PMPD fails to rectify the inadequate analysis in the SA/DEIS and SSA of the Project's impacts on connectivity between the two FTHL management areas on either side of the Project, the Yuha Desert Management Area to the south and the West Mesa Management Area to the north. The Conservation Groups agree with the Commission staff that the loss of connectivity between the two management areas will lead to significant impacts on the FTHL; however, there are additional impacts that the Commission has not yet identified or analyzed. Of particular note is the fact that nowhere in the SA/DEIS, SSA or PMPD has the Commission discussed the increased predation on the FTHL - as well as other migratory animals - that occurs when their movement corridors are narrowed and/or reduced in number. As the lizards - like any prey animal - are forced to use fewer and narrower corridors, it will make it much easier for predators to find and kill them.

Third and finally, the problems with the FTHL impact analysis we noted in our July 27, 2010 comments remain. In summarized form, those seven issues are as follows:

- First, the proposed Raven Management Plan (condition of certification BIO-12) fails to mitigate the effects of predation on the FTHL to less than significant levels, as the Commission staff claims it would.[31]

- Second, the PMPD, like the SSA, fails to detail the process that will be used to move the FTHLs encountered during construction "out of harm's way," even though the outcome of the relocation depends entirely on the process used to effectuate it. PMPD at VI.A-31.

- Third, the Commission still has yet to explain why clearance surveys to confirm that relocation of TTHLs to other suitable habitat would occur prior to Project *decommissioning*, but not before Project *commissioning*.

- Fourth, the selection criteria that are to be used to select FTHL compensation lands are too vague.[32]

- Fifth, the Commission has still failed to explain how the in-lieu fee would be calculated. The fee's adequacy is slated to be determined by the Commission at a later date, but without more detail now it is impossible to ascertain whether or not impacts on the FTHL will in fact be mitigated.

- Sixth, the mitigation proposed by the Commission ignores the effects on the FTHL that will occur during the two years give to the Applicant to acquire, and prepare a

[31] *Id.*
[32] *Id.* at 13.

management plan for, compensation habitat.

- Seventh and finally, the 709 MW alternative selected by the Committee in the PMPD (i.e. the LEDPA) is not likely to have a lesser impact on the FTHL than the original 750 MW alternative. While the chosen alternative does contain additional movement corridors for the FTHL, it is unlikely that they would be used because they would be located adjacent to the Project site. "Research has shown FTHL are absent along human-induced edges."[33]

For the reasons discussed above, the PMPD fails to identify and properly analyze the significant impacts the Project would have on the FTHL, and fails to mitigate those impacts to the maximum extent feasible.

c. *The Mitigation Measures Proposed for Special Status Plants Are Inadequate*

As in the SSA, the PMPD uses an insufficiently sized buffer around "environmentally sensitive areas" to protect special-status plants. Condition of certification BIO-19 specifies the use of a buffer of 10 to 20 feet instead of the 50-foot buffer recommended in the SA/DEIS. Not only has the Commission given no explanation for the buffer size reduction, the 10 to 20 foot buffers are likely to be ineffectual. Mr. Cashen, CURE's biology expert, could not imagine *any* scenario in which a buffer of such a small size would be adequate.[34] Thus, the reduction in buffer size vitiates that portion of certification condition BIO-19 and should be reversed.

d. *The Commission's Analysis of the Impacts on the Western Burrowing Owl Must Be Updated to Account for the Owl's Recent Precipitous Population Decline in the Imperial Valley*

In the SA, SSA and PMPD, the Commission has acknowledged that the Project would impact the western burrowing owl. PMPD at VI.A-24. However, significant new information has come to light since the PMPD was issued that bears on the Project's effects on the owl. As a September 22, 2010 article in the *Los Angeles Times* explains, there has been an "alarming decline in the number of burrowing owls in the Imperial Valley," including a 27 percent drop in the number of pairs between 2007 and 2008 (4,879 pairs to just 3,557).[35] Based on this information, the Project's impacts on the owl, including the "permanent[] eliminat[ion] of a large expanse of

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[33] *Id.* at 15.

[34] *Id.* at 10.

[35] Louis Sahagun, September 22, 2010, "Number of Burrowing Owls in Imperial Valley Falls Sharply," Los Angeles Times, Greenspace Blog, *available at* http://latimesblogs.latimes.com/greenspace/2010/09/burrowing-owls-in-imperial-county.html.

habitat on the plant site and along the linear facilities that is currently available for foraging and breeding," become proportionally greater than they otherwise would be. PMPD at VI.A-40 to 41. The Commission must assess this new information and incorporate it into its western burrowing owl impact analysis.

e. *The Commission's Biological Impacts Analysis Must Be Updated to Account for the Changes in the Project Design*

Despite the fact that changes in the Project from the 750 MW facility to the 709 MW alternative will likely have substantial changes on the Project's biological impacts, the PMPD fails to update the biological resource impact analysis to account for the changes. For one, as compared to the 750 MW design, the 709 MW alternative calls for removal of numerous east-west roads and all stabilized spur access roads, which presumably means maintenance workers would have to access many of the SunCatcher units by off-road driving.[36] As noted above, this change is likely to cause much different – and likely greater – impacts to the flora and fauna on the Project site due to erosion, noise and dust. Therefore those impacts must be analyzed.

In addition, the removal of the spur roads "increases the temporary disturbance for the construction of the SunCatchers by the use of a temporary 50-foot road that includes the 2-foot wide trench for the installation of an underground utility line and hydrogen pipeline."[37] While the U.S. Army Corps of Engineers ("ACOE") failed to quantify or discuss this increased "temporary disturbance," the Commission does not have that option; it must analyze and potentially develop mitigation measures for that impact. Furthermore, it should be noted that disturbances of the extremely fragile desert soils and desert pavement may themselves be "temporary," but their impacts are all too often permanent in nature.

5. <u>The Commission's Air Quality Impacts Analysis Must Be Updated to Account for the Changes in the Project Design</u>

As with the changes in biological impacts caused by the selection of the 709 MW facility over the 750 MW design, the PMPD also fails to update the air quality impact analysis to account for the changes in the Project. For example, the 709 MW alternative calls for removal of numerous east-west roads and all stabilized spur access roads, which presumably means maintenance workers would have to access many of the SunCatcher units by off-road driving. In turn, the road removal and increased off-road driving is likely to reduce air quality and exacerbate public health risks by increasing the amount of dust - and thus particulate matter and the Valley

[36] *See* U.S. Army Corps of Engineers, "Draft 404(b)(1) Alternatives Analysis For the Imperial Valley Solar Project (aka Solar II)," July 16, 2010, p. 24.
[37] *Id.*

Fever-inducing *coccidiodides immitis* fungus - in the air.[38] These impacts must be disclosed and analyzed.

6. The Commission's Analysis of Cultural Resources Impacts Remains Inadequate

While greater discussion of the Project's cultural resource impacts has occurred since the SSA, the Commission's analysis of those impacts remains wholly inadequate. Instead of fully investigating, analyzing and mitigating the Project's cultural resource impacts, the Commission has opted for a fast-track certification process that impermissibly defers impact analysis and mitigation measure formulation until after approval.

As a prime illustration of the Commission's delinquency, the PMPD's analysis of cultural resource impacts essentially begins with an attempted excuse for its inadequacy:

> Given the American Recovery and Reinvestment Act (ARRA) deadlines, [the Commission and BLM] staff have not had time to provide a detailed evaluation of each resource potentially eligible for historic register nomination. Resources instead will be evaluated according to protocols established by the Conditions of Certification and Cultural Resources Programmatic Agreement. There likely are undiscovered resources on the site and they will be permanently changed and/or destroyed during construction.

PMPD at VI.C-3. The Commission's admitted dereliction of its CEQA duties is not excused by ARRA's funding deadlines.

CEQA does not allow agencies to ignore or defer their environmental review duties for purposes of obtaining federal grant money. The Commission's primary responsibility is to produce a legally adequate environmental document and ensure that the Project, if approved, will include all feasible mitigations. Instead, the Commission appears to be treating its primary responsibility as processing the Project's application within a specified period of time. This is impermissible. The Commission must identify, fully analyze, prepare mitigation measures for and allow public comment on the Project's cultural resources impacts *before*, not *after*, it considers certifying the Project. Were the Commission to certify the Project based on the current environmental record, its omission of essential environmental review would constitute a prejudicial abuse of discretion. *Sierra Club v. State Board of Forestry* (1994) 7 Cal.4th 1215, 1237.

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[38] *See, e.g.,* Edward L. Arsura *et al.*, "Coccidioidomycosis (Infectious Diseases)," December 21, 2009, *available at* http://emedicine.medscape.com/article/215978-overview.

C. Formulation of Mitigation Measures Cannot Be Deferred

As discussed in our prior two letters, CEQA prohibits the deferred formulation of mitigation measures. Requiring an "applicant [to] adopt mitigation measures recommended in a future study is in direct conflict with the guidelines implementing CEQA." *Sundstrom v. County of Mendocino* (1st Dist. 1998) 202 Cal. App. 3d 296, 306. Nonetheless, the PMPD follows in the footsteps of the SA/DEIS and SSA and, under the guise of certification conditions, unlawfully defers the formulation of essential mitigation measures.

For example (and for illustrative purposes only), the Drainage Erosion and Sediment Control Plan would require the implementation of Best Management Practices ("BMPs") that are "designed to prevent wind and water erosion." PMPD at VI.B-40. It is not specified what these BMPs will consist of, and, as testified by expert civil engineer Dr. Christopher Bowles, the "assumption" that the project will not increase erosion "has not been quantified by accurate calculations."[39] The Stormwater Pollution Prevention Plan apparently "has been developed" but "is in the process of being updated," so its contents are not disclosed. PMPD at VI.B-15. "[I]t is assumed by the Applicant that all soil erosion concerns will be adequately addressed in the DESCP and SWPPP. This assumption is unwarranted . . . ."[40]

Another example of an unlawfully deferred mitigation measure is the Weed Management Plan, which states, regarding post-closure revegetation, that "a site reclamation and revegetation plan should be drafted with the goal of reducing the extent of weeds that persist on the site following closure."[41] How this will be accomplished is not specified.

Furthermore, formulation of most of the cultural resources mitigation measures has been impermissibly deferred. To wit, the PMPD states that "[i]mplementation of Conditions of Certification CUL-1 through CUL-12[, i.e. all the cultural resources mitigation measures, are] subject to the consultation process for the development of the Programmatic Agreement," which is still in draft form. PMPD at VI.C-89. Thus, there is nothing concrete on which the public can comment; the actual content, implementation and success of the mitigation measures is wholly dependent on the Programmatic Agreement.

Similarly, the PMPD fails to specify how the Project will comply with the federal Endangered Species Act with respect to such species as the Peninsular bighorn sheep and the flat-tailed horned lizard. Both of these species are currently the subject of section 7 consultation between BLM and FWS, and the process is likely to result in an incidental take statement specifying additional mitigation measures the Project must take to comply with the ESA.

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[39] Exhibit 499-I to Rebuttal Testimony for CURE, p. 7.

[40] *Id.* at p. 8.

[41] Imperial Valley Solar, LLC, Draft Noxious Weed Management Plan, p. 6-5.

However, if the Commission certifies the Project before consultation is complete, neither it nor the public will have had the opportunity to analyze and comment on the full range of mitigation measures ultimately required for the Project. This too constitutes an impermissible deferral of mitigation measure formulation.

The public must be given the opportunity to comment on the final versions of the plans and mitigation measures of which the PMPD has deferred formulation, including those mentioned above and others, so as to ensure that they actually mitigate impacts to the extent claimed by the Applicant and the Commission.

D. Selection of the Preliminary LEDPA/709 MW Alternative Violates CEQA

The Commission must not approve any activity "if there are feasible alternatives . . . available that would substantially lessen a significant adverse effect that the activity may have on the environment." Pub. Res. Code § 21080.5(d)(2)(A); CEQA Guidelines §§ 15250, 15252(a)(2). And a finding of infeasibility requires more than just conclusory statements. "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. Board of Supervisors* (2nd Dist. 1988) 197 Cal. App. 3d 1167, 1181 (emphasis added).

In contravention of CEQA's mandate, however, the Committee's selected alternative, the 709 MW facility, is not the least environmentally damaging feasible alternative. To wit, the single 300 MW plant alternative has been found by both the BLM and EPA to be feasible *and* capable of meeting the project's purpose and need as set forth in the BLM FEIS: approval of non-hydropower renewable power on public lands. BLM FEIS at 1-2 to 1-4. And the purpose and need identified in the BLM FEIS is very similar to the purpose and need detailed in the PMPD. PMPD at II-2 to II-3.

Moreover, the Project Applicant itself has admitted the economic feasibility of a 300 MW facility through its contract with San Diego Gas and Electric ("SDG&E") for 300 MW produced on the Project site.[42] Indeed, regardless of the Commission's certification of the Project - or the approval of any of the other action agencies, such as BLM and ACOE - a 300 MW plant may be the *only* alternative that *is* feasible. That is because the second phase of the Project, which would add the additional 400 plus megawatts, is entirely "dependent on the approval and construction of additional transmission capacity, such as the proposed Sunrise Powerlink 500-kV transmission line." PMPD at 2.

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[42] *See* Exhibit 499-M to Rebuttal Testimony for CURE; *see also* CURE, Reply Brief re: Imperial Valley Solar Project (08-AFC-5), August 18, 2010, p. 5..

In sum, the Commission cannot certify the 709 MW facility without violating CEQA because there is a feasible, yet less environmentally damaging, alternative. Pub. Res. Code § 21080.5(d)(2)(A); CEQA Guidelines §§ 15250, 15252(a)(2).

III. WARREN-ALQUIST ACT VIOLATIONS

A. Selection of the Preliminary LEDPA/709 MW Alternative Violates LORS

Under the Warren-Alquist Act, the Commission cannot certify the Project unless and until it determines whether the Project complies with all "other applicable local, regional, and state . . . standards, ordinances, or laws," and "federal standards, ordinances, or laws." Pub. Res. Code § 25523(d); 20 Cal. Code Regs. § 1752(a). The Commission may not certify any project that does not comply with the applicable LORS unless it finds both that (1) the project "is required for public convenience and necessity" and (2) "there are not more prudent and feasible means of achieving public convenience and necessity." Pub. Res. Code § 25525; 20 Cal. Code Regs. § 1752(k). Here, the Commission cannot certify the Project until it determines that it will comply with, among other laws, the federal Clean Water Act ("CWA") and the ESA.

First, as to the CWA, because the Project would impact jurisdictional waters of the United States, it must obtain a CWA section 404(b) permit from ACOE. And before it will issue a permit, ACOE must first determine the Least Environmentally Damaging Practicable Alternative for the Project, so as to minimize and mitigate unavoidable impacts. Here, however, ACOE has only issued a *preliminary* LEDPA, not a *final* LEDPA.

Thus, until ACOE approves a final LEDPA, the Commission cannot be sure that the Project design it approves will comport with the LEDPA and comply with the Clean Water Act. Contrary to the Committee's assertion in the PMPD, the mere fact that the 709 MW alternative selected by the Committee in the PMPD is the same as ACOE's preliminary LEDPA is not enough compliance with the Clean Water Act. While there might be "nothing in the record that would lead [the Committee] to believe [the preliminary LEDPA] will not be adopted by the Corps as proposed," there is nothing in the record to indicate that it *will* be adopted. PMPD at VI.B-35. By comparison, there was nothing in either the SA/DEIS or SSA to indicate that the Committee would select the 709 MW alternative instead of the 750 MW facility or any of the other designs that were described and analyzed in the record, yet the 709 MW facility is the one it approved. And in any case, an *absence* of information does not constitute the *substantial* evidence that CEQA and the Warren-Alquist Act require to be the basis of the Commission's findings and conclusions. *See* Pub. Res. Code. §§ 21080, 21081.5, 25901; CEQA Guidelines § 15384.

Second, as to the Endangered Species Act, BLM and FWS are currently in section 7 consultation over the Project's likely taking of Peninsular bighorn sheep, a federally listed endangered species, and the flat-tailed horned lizard, which is expected to be listed soon. PMPD

at VI.A-50. However, FWS has not yet issued a biological opinion, let alone an incidental take statement. Therefore, it is not yet clear whether the Project, as approved by the Committee, would comply with the conditions FWS will impose. As such, the Commission cannot determine whether Project will comply with the federal Endangered Species Act, and may not certify the Project, until after section 7 consultation has been completed.

Until the Commission determines that the Project will comply with the federal Clean Water Act and the Federal Endangered Species Act, which it cannot yet do, it must not certify the Project.

B. The Commission Has Not Complied with Public Resources Code Section 25527

The Warren-Alquist Act prohibits the siting of power plant facilities in certain areas of the state, including "wilderness, scenic or natural reserves, [and] areas for wildlife protection, recreation [and/or] historic preservation." Pub. Res. Code § 25527. If the Project site is within one of the prohibited areas, then the Commission may not certify the Project unless it (1) determines that the Project is not inconsistent with the primary land use of the area in which it is to be sited, (2) determines that it will have no "substantial adverse environmental effects," and (3) ensures that it gets approved by the public agency "having ownership or control of such lands." Pub. Res. Code § 25527; 20 Cal. Code Regs. §§ 1752(f), 1755(k).

Here, the Project site is located primarily on BLM-managed land, with a small portion (about five percent of the total Project area) situated on private land. PMPD at I-1. The BLM land on which most of the Project would be located is managed pursuant to the California Desert Conservation Area Plan ("CDCAP"). And under the CDCAP, the Project area is designated as "Multiple-Use Class L," which is designed to "protect[] sensitive, natural, scenic, ecological, and cultural resource values" and is the second most restrictive designation (out of five).[43] More specifically, 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."[44] As such, the CDCAP prohibits the siting of nuclear and fossil fuel power plants on Class L lands, and only allows wind and solar projects "after NEPA requirements are met."[45]

Thus, as illustrated by the Project area's Class L designation, the site falls within the ambit

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[43] U.S. Bureau of Land Management, "California Desert Conservation Area Plan," 1980 (as amended), p. 13, *available at* http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/cdd/cdcaplan.Par.15259.File.dat/CA_Desert_.pdf.

[44] *Id.*

[45] *Id.* at p. 14.

of Public Resources Code section 25527 as a "wilderness, scenic or natural reserve" and/or a place "for wildlife protection, recreation [or] historic preservation." Indeed, the site's inclusion in the California Desert Conservation Area alone should suffice to make section 25527 applicable. To date, however, the Commission has entirely failed to comply with this provision of the Warren-Alquist Act. Indeed, there isn not even a single mention of the section 25517 siting restrictions anywhere in the SA/DEIS, SSA or PMPD.

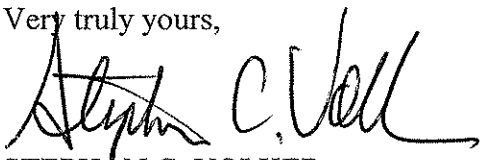
Therefore, the Commission is prohibited from certifying the Imperial Valley Solar Project in its current location unless and until it determines that the Project is not inconsistent with the primary land use of the surrounding area and will have no substantial adverse environmental impacts. Pub. Res. Code § 25527; 20 Cal. Code Regs §§ 1752(f), 1755(k). The Commission must also withhold certification until the Project is approved by the BLM. *Id.* However, given that the Project will have substantial adverse environmental impacts (as even the Committee admits in the PMPD) and still has not been approved by the BLM, the Commission may never be able to certify the Project.

IV. CONCLUSION

For these reasons, the PMPD violates, and the Commission has failed to comply with, CEQA and the Warren-Alquist Act. Before the Commission can even consider certifying the Project, it must revise and augment the environmental review done to date and recirculate it for public comment. And before reaching a final decision on this matter, the Commission must respond in writing to all "significant points raised during the" environmental "evaluation process." Pub. Res. Code § 21080.5(d)(2)(E).

Thank you for considering our views on this important matter.

Very truly yours,



STEPHAN C. VOLKER
Attorney for Conservation Groups

LIST OF EXHIBITS

1. Backcountry Against Dumps, *et al.*, Comments on Staff Assessment/Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment for Imperial Valley Solar Project, May 27, 2010.

2. Backcountry Against Dumps, *et al.*, Comments on Supplemental Staff Assessment for Imperial Valley Solar Project, July 27, 2010.

3. California Energy Commission, "Commission Decision re: Data Concerning Cultural Resources on BLM Land," July 14, 2010.

4. California Department of Corrections and Rehabilitation, Institution Statistics for California State Prison at Centinela, 2010.

5. Eddie Harmon, Comments to BLM on its Proposed Resource Management Plan Amendment PRMP-A/FEIS for the CDCA Plan and Imperial Valley Solar Project (IVS), August 26, 2010.

6. Terry O'Brien, CEC Deputy Director, "Staff's Comments Regarding a Possible Energy Commission Finding of Overriding Considerations - Imperial Valley Solar Project (08-AFC-5)," July 27, 2010.

7. Edward L. Arsura *et al.*, "Coccidioidomycosis (Infectious Diseases)," December 21, 2009.

8. "Additional Testimony of Dr. Christopher Bowles and Christopher Campbell . . . on Soil and Water Resources for the Imperial Valley Solar Project," CURE Exhibit 499-I, July 21, 2010.

9. Imperial County Planning and Development Commission, Letter to Dan Boyer re: Westwind Water Company, APN 033-564-002-000, November 12, 2008.

10. "Testimony on Alternative Water Supply of Witness Edie Harmon for Intervenor Tom Budlong," Exhibit 591, July 21, 2010.

11. "Additional Rebuttal Testimony of Scott Cashen . . . on Biological Resources for the Imperial Valley Solar Project," CURE Exhibit 499-K, July 21, 2010.

12. Louis Sahagun, "Number of Burrowing Owls in Imperial Valley Falls Sharply," Los Angeles Times, Greenspace Blog, September 22, 2010

EXHIBIT 1

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Re: Comments of Backcountry Against Dumps, *et al.*, on Staff Assessment/Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment for Imperial Valley Solar Project

Dear Mr. Meyer and Mr. Stobaugh:

On behalf of Backcountry Against Dumps, the Protect Our Communities Foundation, the East County Community Action Coalition, and the Desert Protective Council, we respectfully submit the following comments regarding the Staff Assessment/Draft Environmental Impact Statement ("SA/DEIS") and Draft California Desert Conservation Area ("CDCA") Plan Amendment for the Imperial Valley Solar Project (formerly the SES Solar Two Project) ("Project"). We support the No Project/No Action Alternative (as well as the No Action/CDCA Amendment to make area unavailable for future solar development Alternative), but the SA/DEIS has a number of significant flaws which require revision and recirculation of the document before any action may be taken.

INTRODUCTION

The Yuha Desert, where the Project is to be located, is a pristine but extraordinarily sensitive landscape. Damage to it from this Project is likely to be irreversible. "Implementation of this [P]roject will forever change the landscape of this area,"[1] and also lead to "the permanent destruction of hundreds of cultural resources. . . ."[2] The environmental devastation that this Project will cause is permanent, but the Project's benefits are only temporary.[3] Nonetheless, the California Energy Commission ("CEC") and United States Bureau of Land Management ("BLM") are rushing through critical environmental reviews and omitting essential information for the sake of the Project applicant's arbitrary timetables. An applicant's supposed time constraints are not a recognized exception to the requirements of either the California Environmental Quality Act ("CEQA") or the National Environmental Policy Act ("NEPA"). It is crucial that a complete and thorough inquiry into the Project's impacts be made *before* the CEC and BLM commit themselves to allowing irreversible environmental damage.

The SA/DEIS fails to comply with CEQA and NEPA in seven distinct ways. First, it omits essential information and, as a result, fails as an informational document. Second, the SA/DEIS unlawfully defers the formulation of various studies and mitigation measures. Third, the assessment of the Project's environmental impacts is inadequate. Significant impacts are deemed insignificant and impacts that can be mitigated are mistakenly found to be unavoidable. Fourth, significant unstudied changes have been made to the Project since the SA/DEIS' release, and significant new information is planned to be added to the SA/DEIS at a future date, so the SA/DEIS must be recirculated and an additional public comment period provided. Fifth, the discussion of Alternatives is inadequate insofar as BLM declined to evaluate Site Alternatives on the sole basis that they are inconsistent with the *applicant's* purpose and need. Sixth, the SA/DEIS unlawfully segments the Project by failing to consider the impacts of the related Sunrise Powerlink project. Seventh, the Project applicant now proposes to satisfy the Project's water needs with well water, but such use of that water would violate the federal Safe Drinking Water Act because the underlying aquifer has been designated a "sole source aquifer" by the United States Environmental Protection Agency.

For these reasons, the SA/DEIS must be revised and recirculated.

I. THE SA/DEIS OMITS CRUCIAL INFORMATION AND FAILS AS AN INFORMATIONAL DOCUMENT.

NEPA "is our basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). The purpose of NEPA is "to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." *Id.* § 1500.1(c). NEPA's "procedures . . . insure that environmental information" of "high quality" is

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1 National Park Service Comments regarding Imperial Valley Solar Project Draft EIS ("NPS Comments"), received May 4, 2010, p. 1.

2 Quechan Indian Tribe Comments on SA/DEIS ("Tribe Comments"), received May 19, 2010, p. 7.

3 SA/DEIS, p. ES-7 ("The planned life of the SES Solar Two Project is 40 years").

"available to public officials and citizens before decisions are made and before actions are taken." *Id.* § 1500.1(b). This is because "[a]ccurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." *Id.* "[B]y requiring agencies to take a 'hard look' at how the choices before them affect the environment, and then to place their data and conclusions before the public, NEPA relies upon democratic processes to ensure . . . that 'the most intelligent, optimally beneficial decision will ultimately be made.'" *Oregon Natural Desert Ass'n v. Bureau of Land Mgmt.*, 531 F.3d 1114 (9th Cir. 2008) (internal citations omitted). CEQA is similarly intended to "[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities." CEQA Guidelines [14 C.C.R.; "Guidelines"] § 15002(a); *No Oil, Inc. v. City of Los Angeles,* 13 Cal.3d 68, 86 (1974). The Guidelines emphasize that agencies "must use [their] best efforts to find out and disclose all that [they] reasonably can." Guidelines § 15144.

In violation of these fundamental precepts, the SA/DEIS fails to include a number of critically important studies whose inclusion is necessary for both the public and CEC/BLM to fully understand the environmental consequences of the Project. For example, many viewpoint simulations were omitted "due to fast-track time constraints," so the public has no idea of the actual visual impacts of the Project on the Juan Bautista de Anza National Historic Trail ("Anza NHT"). SA/DEIS, p. C.13-18. As discussed more fully in the following section, nearly *every* section of the SA/DEIS mentions an omitted study.

Because the SA/DEIS fails to include critical studies and information necessary to fully understand the impacts that the Project will have, it violates both CEQA and NEPA.

II. THE SA/DEIS IMPROPERLY DEFERS THE FORMULATION OF MITIGATION MEASURES AND STUDIES.

Because both NEPA and CEQA are intended to make decisions *based upon* high quality information, they both prohibit agencies from relying on the contents of studies and documents that are to be developed at a future date. "Formulation of mitigation measures should not be deferred until some future time." Guidelines § 15126.4(a)(1)(B). Reliance on yet-to-be-developed studies inevitably leads to a "post hoc rationalization of agency actions" that "inevitably ha[s] a diminished influence on decisionmaking." *Sundstrom v. County of Mendocino*, 202 Cal.App.3d 296, 307 (1988). Agencies "may not 'act first and study later.'" *Western Land Exch. Proj. v. United States Bureau of Land Mgmt.* 315 F.Supp. 2d 1068, 1092 (D. Nev. 2004) (quoting *Nat'l Parks & Conserv. Ass'n. v. Babbitt*, 241 F.3d 722, 734 (9th Cir. 2001). Doing so "provides no . . . guarantee of an adequate inquiry into environmental effects." *Sundstrom, supra,* 202 Cal. App. 3d at 307. Agencies are similarly prohibited from conditioning the approval of projects upon the "adopt[ion] of mitigation measures recommended in a future study." *Id.* at 306.

Here, the SA/DEIS unlawfully relies on a number of studies whose content has yet to be formulated, and conditions project approval upon the adoption of mitigation measures that have not yet been created. For example, the Army Corps of Engineers' identification of the Least Environmentally

Damaging Alternative has not yet occurred, but "[m]itigation for unavoidable impacts to waters of the U.S. is" to be "addressed only" *after* this is completed. SA/DEIS, p. C.7-2; *see also* SA/DEIS, pp. C.7-65 through 66 (compliance with section 404 of the Clean Water Act cannot be determined). A Drainage, Erosion and Sedimentation Control Plan "that ensures protection of water quality and soil resources" is also incomplete,[4] as is the Stormwater Damage Monitoring and Response Plan. SA/DEIS C.7-56, C.7-61. Similarly, an examination of the historically significant cultural resources present at the site "has not been completed." SA/DEIS, p. C.3-136.[5] The Visual Resources section requires the applicant to (1) "develop and implement a glare mitigation plan" and (2) pay an amount that "will be determined" in the future to fund unspecified measures that are intended "to mitigate . . . visual impacts to recreational users of the Anza" NHT. SA/DEIS, p. C.13-45 through 46. The Traffic and Transportation section requires the applicant to develop and implement a plan designed to mitigate the Project's traffic impacts, and to prepare and implement a "Mirror Positioning Plan" to minimize the health and safety impacts that could result from excessive glare. SA/DEIS, p. C.11-20 through 22. A noise control program and community noise survey, and the mitigation measures they will lead to, also have yet to be developed. SA/DEIS, p. C-9-21. A Safety Management Plan, intended to reduce the likelihood of a hazardous waste spill, is unformulated, as is a Construction Security Plan and an Operation Security Plan. SA/DEIS, p. C.5-20 through 21. Impacts to paleontological resources are undisclosed because the pertinent studies are, again, incomplete. SA/DEIS, p. C.4-25 through 27. The Programmatic Agreement that is intended to ensure mitigation of certain cultural impacts was not complete when the SA/DEIS was published, so comment on it is not possible. SA/DEIS, p. C.2-145. Finally, the Biological Resources mitigation Implementation and Monitoring Plan also has yet to be developed. SA/DEIS, p. C.2-78.

The sheer volume of omitted information is staggering. The public is prevented from assessing the adequacy of the Project's mitigation measures because most of them have not yet been created. Whether or not these unformulated mitigation measures will themselves have environmental impacts is impossible to determine. The CEC and BLM must recirculate the SA/DEIS when all of these omitted studies have been completed and included in the SA/DEIS. Without these studies, the SA/DEIS is incomplete as a matter of law.

III. THE DISCUSSION OF THE PROJECT'S ENVIRONMENTAL IMPACTS IS INADEQUATE.

Both NEPA and CEQA require agencies to identify the significant environmental effects of their actions. CEQA also requires either mitigate these impacts, or make a finding of overriding considerations. Pub. Res. Code § 21081(a). All significant impacts *must* be mitigated *unless* mitigation measures to reduce these impacts are infeasible. *Id.* Here, the SA/DEIS (1) fails to identify certain

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4 The Plan "has been developed" but "the calculations and assumptions used to evaluate potential . . . impacts are imprecise and have limitations and uncertainties associated with them." Thus, "the magnitude of potential impacts that could occur cannot be determined precisely without additional detailed numeric modeling of project effects," which, of course, has not yet occurred. SA/DEIS, p. C.7-65.

5 The pages of the Cultural Resources section are misnumbered; they read C.2-[page] instead of C.3-[page], and, as a result, certain pages in the Biological Resources section share pages numbers with pages in the Cultural Resources section. To avoid confusion, we refer to Cultural Resources pages by their intended, C.3, numbers.

impacts altogether; (2) mislabels other significant impacts as insignificant; and (3) fails to adopt mitigation measures for those impacts found to be significant.

A. *Aesthetic and Visual Impacts*

The Project "would substantially degrade the existing visual character and quality of the site and its surroundings. . . ." SA/DEIS, p. C.13-1. The SA/DEIS claims that "these impacts are . . . unavoidable." SA/DEIS, p. C.13-1. This portion of the impact assessment is deficient because (1) the specific nature and magnitude of the aesthetic and visual impacts are undisclosed and unknown; (2) some of the adopted mitigation measures could have significant impacts, but these impacts are undisclosed; and (3) it is unclear whether or not the project transmission line will be relocated or not. (As previously mentioned, the SA/DEIS also unlawfully defers formulation of the glare mitigation plan, so it is impossible to tell whether the plan actually will mitigate the potentially significant glare impacts.)

First, the discussion of aesthetic impacts is insufficient because it does not even attempt to ascertain what the *actual* aesthetic impacts of the Project will be. The Project applicant failed to include information about the Project's visual impacts on the Jacumba Wilderness, Coyote Mountain Wilderness, Painted Gorge, and Yuha Basin, and "fast-track time constraints" apparently prevented CEC and BLM from creating their own simulations, so the analysis of impacts on these areas is limited at best. SA/DEIS, pp. C.13-10, C.13-18. Staff simply assumed that the Project would have the same impacts as the Plaster City facility.6 *Id.* The contrast in the depth of analysis of aesthetic impacts to these areas *vis-à-vis* those areas that the Project applicant *has* provided information about is striking. The public is prevented from ascertaining anything about the nature of these aesthetic impacts beyond that they will be sizeable. Because the SA/DEIS fails to include simulations of these viewpoints, it is also impossible for members of the public to suggest methods of avoiding or mitigating these impacts.

Second, the mitigation measures themselves could have significant impacts, but these impacts were not disclosed. The Guidelines specify that "[i]f a mitigation measure would cause one or more significant effects . . . , the[se] effects shall be discussed. . . ." Guidelines § 15126.4(a)(1)(D). The SA/DEIS requires the applicant to submit and implement "a glare mitigation plan that minimizes visibility of the" Project by "utilizing . . . 20-foot tall slatted fencing, . . ; earth berms; and/or an increase in the setbacks of the" Project from I-8. These mitigation measures, which themselves involve the construction of enormous structures, could have significant visual and other impacts, but these impacts are not disclosed or analyzed.

Finally, mitigation measure VIS-3 is unclear. One the one hand, the SA/DEIS' summary of this measure states that it would require, "**[i]f feasible**, re-alignment of the segment of the project transmission line paralleling I[-]8 to be set back from the roadway at least ½ mile." SA/DEIS, p. C.13-18. But the measure itself contains no such "if feasible" language and instead states that "the applicant **shall** set back the transmission line. . . ." SA/DEIS, p. C.13-44. This example illustrates why it is

6 The comparison is improper because, as the SA/DEIS admits, solar energy projects have visual impacts which "dwarf" the impacts of other types of projects "by orders of magnitude." SA/DEIS, p. C.13-36.

impermissible to rely on undeveloped mitigation measures – the public cannot tell if it is feasible to relocate the transmission line or not. If not, the magnitude of visual impacts will be different than what the SA/DEIS assumes.

B. *Cultural Impacts*

The Project would have significant cultural impacts and could "wholly or partially destroy all archeological sites on the surface of the project area." SA/DEIS, p. C.3-102. The discussion of impacts to cultural resources is incomplete and inadequate. Assessment of the short and long term adverse impacts to cultural resources is "[t]o [b]e [p]rovided." SA/DEIS, p. ES-15. The Project would have significant impacts on "a presently unknown subset of approximately 330 known prehistoric and historical surface archaeological resources and may have significant impacts . . . on an unknown number of buried archaeological deposits, many of which may be determined historically significant. . . ." SA/DEIS, p. C.3-1. The project would also have indirect cultural impacts, because the Flat-tailed horned lizard ("FTHL") has cultural significance to the Tribe – it is "part of the Tribe's creation story" – but, as discussed below, FTHL would be adversely affected by the Project. Tribe Comments, p. 9. Indirect cultural impacts would also result from the Project's aesthetic impacts on culturally significant areas. *Id.* at 7.

As discussed more fully in Exhibit A to the Tribe Comments, BLM has failed to satisfy its obligations under section 106 of the National Historic Preservation Act ("NHPA"), 16 U.S.C. section 470(f). Tribe Comments, Exhibit A, at 1. This section of the NHPA requires agencies to take into account the impact of effects of their actions on historical resources "*prior to the issuance of any license.*" 16 U.S.C. § 470(f). "Instead of completing this required process, BLM is opting to use a programmatic agreement to defer evaluation, mitigation, and treatment until after approval. . . ." Tribe Comments, Exhibit A, at 2.

Here again the assessment of impacts and the formulation of mitigation measures is impermissibly deferred. CEC plans to "fulfill the bulk of its obligation[s] under CEQA" by conditioning approval on the applicant's compliance with a programmatic agreement whose contents are *not* disclosed. SA/DEIS, p. C.3-12. "[F]ormal evaluations of some ethnographic resources and all archeological resources . . . will occur subsequent to [CEC/BLM] decisions on the proposed action." SA/DEIS, p. C.2-106. Although "the ideal intensity of the geographic coverage in a project area of analysis would be 100%," here the "geographic coverage . . . presently includes a . . . sample of 25% of the archaeological sites. . . ." SA/DEIS, pp. C.3-57 through 58. Moreover, the applicant's studies have been repeatedly rejected, giving little confidence in the 25% sample that was used. DEIS/SA, p. C.3-58. Before committing to the permanent destruction of irreplaceable cultural resources for the sake of a temporary project, CEC and BLM must, at the very least, determine the nature and extent of the cultural heritage they are obliterating.

C. *Biological Impacts*

The SA/DEIS fails to disclose potentially significant impacts to the Peninsular bighorn sheep ("PBHS") and the FTHL. Both PBHS and FTHL have been "observed on [the] project site" SA/DEIS, pp. C.2-16, C.2-18. PBHS is listed under the federal Endangered Species Act (61 FR 13134, 13136) and a proposed listing of FTHL is currently under review. SA/DEIS, p. C.2-40 (detailing process that led to a federal court order requiring USFWS to consider listing FTHL). The SA/DEIS also fails to disclose significant impacts to special-status plant species. The deficiencies are exemplified by the SA/DEIS' statement that the significance of biological impacts is "to be provided," in violation of both CEQA and NEPA. ES-15.

Although PBHS was observed on the Project site, the SA/DEIS claims that PBHS' use of the project site "is transitory at best" and that therefore impacts to PBHS would be less than significant. SA/DEIS, p. C.2-40. This conclusion is based solely upon BLM's and the applicant's "speculat[ion] that the [PBHS] sited [*sic*] at the Project location could have been flushed by OHV activity and possibly became disoriented and wandered onto the project site." SA/DEIS, p. C.2-24. This is "pure speculation" that "is contradicted by the evidence regarding known [PBHS] behavior." Testimony of Dr. Vernon Bleich on behalf of California Unions for Reliable Energy ("CURE"), Exhibit 400 to opening testimony for CURE, p. 4. It is quite likely that PBHS appear in the Project vicinity on a regular basis. In fact, just three days ago (May 24, 2010), a group of five adult PBHS ewes were seen about 4-5 miles west of the Project site. Comment letter by Denis Trafecanty, sent May 27, 2010, p. 1.

As Dr. Bleich testified, on behalf of California Unions for Reliable Energy ("CURE"), "the SA fails to adequately analyze the *potential reason(s)* that PBHS were using [the Project site] and, as a result," its conclusions that PBHS' appearance was a mere coincidence are "indefensible." *Id.* at 1, 5. The SA/DEIS also fails to identify or mitigate impacts to forage habitat, and fails to identify and mitigate the loss of 6,063 acres of bighorn sheep habitat within the CTCRA. *See generally id.* 5-9. The SA/DEIS' "fail[ure] to adequately identify the[se] significant impacts" is unlawful. *Id.* at 1.

Furthermore, consultation with the Fish and Wildlife Service regarding the Project's impacts on PBHS is required. The Endangered Species Act specifies that "[t]he agency taking the action must assess the project's effects on endangered or threatened species and consult with the FWS to assure the project's compliance with the ESA." *Sierra Club v. Marsh*, 816 F.2d 1376 (9th Cir. 1987). "The consultation process is triggered when a federal agency . . . undertakes *any* activity which *could* impact an endangered species or threaten its critical habitat." *Florida Key Deer v. Stickney,* 864 F.Supp. 1222, 1228 (S.D. Fla. 1994) (*citing* 16 U.S.C. § 1536(a)(2)) (emphasis in original). Here, as discussed above, the Project "could" affect the PBHS. Thus, consultation with FWS is mandated.

Scott Cashen, an expert biologist, testified as to the Project's undisclosed impacts on special status plant species and the FTHL. Exhibit 429 to opening testimony for CURE. In his professional opinion, the SA/DEIS contains "inadequate information on the presence of special-status plant species within the Project area" and "as a result . . . the SA/DEIS cannot conclude [that] proposed mitigation

would reduce Project impacts" on these species "to less than significant levels." *Id.* at 2; *see also* mitigation measure BIO-19, SA/DEIS pp. C.2-97 through 100. The size of the buffer zone for special-status plant species is unknown and likely insufficient.[7] *Id.* at 2-3. Mr. Cashen also testified that the proposed mitigation measures to mitigate impact to *non*-listed species are unenforceable and that impacts to these species would be significant as well. *Id.* at 3-4. Unless all required plant surveys are completed *before* the mitigation measures are adopted, it is impossible to tell whether the mitigation measures will be effective. *Id.* at 5. Moreover, fall surveys for special-status plant species have not yet been prepared. *Id.* at 6. Because of these informational inadequacies, the SA/DEIS is legally deficient.

With regard to the FTHL, the SA/DEIS contains no conclusion regarding the Project's impacts. "[S]taff is in the process of evaluating if the use of compensation funds is sufficient for CEQA mitigation." SA/DEIS, p. C.2-61. As discussed above, the DEIS *itself* is required to include this information. There is a "possibility that *thousands* of FTHL will die as a result of the Project"; a population of this size is "roughly half the size of the population within the entire West Mesa MA." Exhibit 429 to opening testimony for CURE, pp. 8-9. Additionally, "the loss of 6.063 acres of habitat" that would accompany the Project "represents a tremendous impact" on the FTHL, which "is proposed for listing due to habitat loss." These impacts must be mitigated *before* the Project is approved, not after.

The Project also "would cause considerable fragmentation to the remaining FTHL habitat." *Id.* at 9. Nonetheless, "[t]he SA/DEIS proposed no mitigation for impacts to FTHL movement between MAs." *Id.* at 11. The SA/DEIS' conclusion that such mitigation is infeasible is unsupported by the record. *Id.* There is no basis to assume that a corridor underneath I-8 would be impractical. *Id.* Additionally, the SA/DEIS contemplates that the FTHL "would be moved out of harm's way," SA/DEIS at C.2-55, but this strategy "only partially addresses the[FTHL's] survivorship" and, accordingly, only partially mitigates this impact. Exhibit 429 to opening testimony for CURE, p. 12. CEQA requires these potentially significant impacts to be mitigated and the SA/DEIS' failure to do so is unlawful.

Finally, the compensatory mitigation measure, BIO-10, also fails to fully mitigate habitat loss. This measure would allow current habitat to be replaced by "poor quality habitat." SA/DEIS, p. C.2-85. As such, the SA/DEIS fails to "prevent[] a net loss of FTHL habitat," as claimed. Exhibit 429 to opening testimony for CURE, p. 14.

D. *Hydrology and Soils Impacts*

The SA/DEIS' assessment of impacts to soil and water resources is likewise deficient, for three reasons. First, it is inaccurate. The SA/DEIS states that "[n]o groundwater would be used by the

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7 For example, staff working on the Calico Solar Project, which would use the same technology, "concluded a 250-foot buffer would be needed for on-site plan protection. *Id.* at 2 (*citing* Calico Solar Project SA/DEIS, p. C.2-175). Yet this SA/DEIS provides for only a "50 feet" or even "smaller buffer." SA/DEIS, p. C.2-98. "[T]he discrepancy highlights the fact that the SA/DEIS's approach to establishing adequate buffers is largely guesswork." Exhibit 429 to opening testimony for CURE, p. 3.

project." SA/DEIS, p. C.7-3. Yet the Project applicant has recently modified the Project so as to satisfy its water needs with groundwater. This substantial change must be recognized in the DEIS.

The DEIS' failure to acknowledge that the Project will use groundwater leads to the second inadequacy: the availability of this water, and the impacts of its use, are unknown because neither has been studied. As a result, it is impossible for members of the public to determine whether the Project's water needs can actually be satisfied in this manner. The environmental impacts of such use also have yet to be ascertained. CEC staff has noted that "the amount of water identified for project use . . . exceeds the permitted amount of groundwater extraction for the well." Staff Comments on Schedule Impacts of AFC Supplement, received May 17, 2010, p. 1. Furthermore, it is unknown how long groundwater will be used. The DEIS must be revised to include this critical information.

Third, the impacts that the Project will have on waters of the United States is unknown. The Project has the potential to cause massive amounts of runoff and erosion. Whether or not these impacts will be significant has yet to be determined because the Project applicant failed to include sufficient information in its application "to resolve uncertainties regarding the ability of the applicant-proposed measures to reduce sedimentation and stream morphology impacts to less than significant." The Project's consistency with section 404 of the Clean Water Act "cannot [be] determine[d] at this time." SA/DEIS, p. C.7-66.[8] This information must also be included in the SA/DEIS.

E. *Land Use and Recreational Impacts*

The discussion of land use impacts is inadequate because (1) the Project has numerous undisclosed inconsistencies with the Imperial County General Plan; and (2) because the SA/DEIS contains conflicting information regarding whether or not land use impacts will in fact be significant.

CEQA requires EIRs to "discuss any inconsistencies between the proposed project and applicable general plans and regional plans." Guidelines § 15125(d). In conflict with this requirement, the SA/DEIS fails to disclose two such inconsistencies. First, the Project is inconsistent with General Plan Objective 2.6, which requires "alternative resource production to be in energy zoned areas to minimize off-site impacts and lessen need for more transmission corridors." SA/DEIS, p. C.8-23. The Project is inconsistent with this requirement because it "would not be [located] in an energy zoned area." *Id.* The SA/DEIS' conclusion that the Project *is* consistent because the project site "consists of undeveloped desert land" is unreasonable; the "off-site impacts" required to be "minimize[d]" under this Objective are likely to be *more*, not *less*, serious in pristine "undeveloped" areas.

Second, the Project is inconsistent with the Ocotillo/Nomiragee Community Area Plan, which directs that "most private enterprises or land uses are not allowed in" areas under the Open Space designation, such as the Project site. The SA/DEIS concludes that "[a]lthough the proposed project

8 The SA/DEIS refers readers to "Section C.7.8.4 of this report" for more information as to why the Project will affect "waters of the United States," but the SA/DEIS contains no such section. It proceeds straight from section C.7.8 to section C.7.9. This information should not have been omitted.

would not be allowed under this area plan's open space classification," the Project is nonetheless consistent with this plan because "BLM jurisdiction . . . supersedes Imperial County's area plans. . . ." SA/DEIS, p. C.8-27. In essence, the SA/DEIS claims that the Project is consistent with the Area Plan because it will lead to the abolishment of it. Such a finding is contrary to the purposes of disclosing these inconsistencies, in conflict with Guidelines section 15125(d), and contrary to both CEQA and NEPA.

The SA/DEIS is also inadequate because it contains conflicting statements regarding whether or not there will be a significant Land Use impact. The Project does not comply with the site's zoning designation. The Executive Summary states that, even though the Project fails to comply with all applicable laws, ordinances, regulations, and statutes ("LORS"), nonetheless all land use impacts are less than significant under CEQA after mitigation. SA/DEIS, p. ES-17. Yet the Land Use discussion itself states that such impacts "would be significant and unavoidable." SA/DEIS, p. C.8-30; *see also* SA/DEIS, p. C.8-49 ("the inconsistency with the S-2 zoning designation is a significant and unavoidable impact under CEQA." These conflicting statements within the SA/DEIS must be resolved.

F. *Cumulative Impacts*

Both NEPA and CEQA require agencies to consider the cumulative impacts of their actions. The Guidelines state that "[a]n EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." Guidelines § 15130(a). NEPA similarly requires this discussion. 40 C.F.R. §§ 1508.7, 1508.27(b)(7). The Project will have numerous cumulative impacts that were not disclosed.

First, the Project will have cumulative impacts on the PBHS, but the EIR fails to identify these impacts, perhaps due to a mistaken belief that the Project will have *no* significant impacts on the PBHS. Exhibit 400 to CURE opening testimony, p. 9; SA/DEIS, p. C.2-70 through 73 (cumulative impacts section solely analyzing impacts on FTHL and ignoring impacts on PBHS). The Project's impacts on the FTHL cannot be mitigated, as detailed above, and, accordingly, the SA/DEIS' conclusion based on this premise – that impacts to the FTHL are not cumulatively "considerable" or "significant" – is unfounded.

Second, the Project will have cumulative growth inducing impacts. The SA/DEIS concludes that no significant growth-inducing impacts will occur because the size of the Project's workforce is modest. SA/DEIS, p. C.10-8. It then concludes that there will be no cumulative impacts because again the workforce is modest and the cumulative projects will "have beneficial public impacts" such as higher taxes and lower unemployment. SA/DEIS, p. C.10-20. This conclusion is in direct conflict with CEQA, which directs that "**it must not be assumed that growth in any area is necessarily beneficial . . . or of little significance to the environment.**" Guidelines § 15126.2(d). This conclusion also violates CEQA because it fails to consider the totality of the Project's cumulative growth-inducing impacts. The SA/DEIS only considers the growth-inducing impacts of other *solar projects* being considered in the area. SA/DEIS, p. C.10-20. Yet, as the SA/DEIS admits elsewhere, Project approval "could have the

indirect effect of encouraging additional subsequent development. . . [b]ecause the relatively intact existing landscape would appear highly compromised after introduction" of the Project. SA/DEIS, p. C.13-22. The SA/DEIS must attempt to quantify the growth inducing impacts of all other types of projects that are likely to spring up in the Yuha Desert after Project approval, because these impacts are "reasonably foreseeable." Guidelines § 15355.

The Project will also have cumulatively significant biological and cultural impacts.

IV. THE SA/DEIS MUST BE RECIRCULATED WHEN THE MISSING INFORMATION IS ADDED.

As discussed above, huge amounts of crucial information were omitted from the SA/DEIS. Moreover, the applicant's decision to modify the Project's water source would, as also discussed above, at the very least create a possibility of new significant environmental impacts. The public was significantly hindered in commenting on the Project by the absence of all of this information. In these situations, both NEPA and CEQA require recirculation of the environmental document. *See, e.g.,* Pub. Res. Code § 21092.1 (renotification required where significant new information is added to EIR prior to certification); Guidelines § 15088.5 (new information is significant, and recirculation accordingly required, where the EIR "deprives the public of a meaningful opportunity to comment upon" the project's significant impacts or mitigation measures); 40 C.F.R. § 1502.9(c)(1) (agencies "shall prepare supplements to . . . draft . . . environmental impact statements" where "substantial changes" are made to the Project or "significant new circumstances or information" was added to the document). Because NEPA and CEQA are intended to provide the public with access to high-quality information, it is unlawful to release the DEIS and then attempt to fix its problems out of the public eye. If significant new information is added to the SA/DEIS, it must be recirculated.

V. BLM UNLAWFULLY REJECTED SITE ALTERNATIVES ON THE BASIS OF INCONSISTENCY WITH THE *APPLICANT'S* PURPOSE AND NEED.

A. *BLM's Statement of Purpose and Need Reflects the Applicant's Needs, and Is Too Narrowly Drawn.*

BLM failed to consider the three site alternatives under NEPA because "none would accomplish the purpose and need for the proposed action." SA/DEIS p. B.2-2. However, BLM's statement of purpose and need for the SA/DEIS is too narrowly drawn. As the Ninth Circuit has held, although an agency has discretion to define the purpose and need of a project, it cannot use "unreasonably narrow" terms to define a project's objective. *City of Carmel-By-The-Sea v. United States Dep't. of Transp.,* 123 F.3d 1142, 1155 (9th Cir.1997). Otherwise, "the EIS would become a foreordained formality." *Friends of Southeast's Future v. Morrison,* 153 F.3d 1059, 1066 (9th Cir.1998), (quoting *Citizens Against Burlington, Inc. v. Busey,* 938 F.2d 190, 196 (D.C.Cir.1991), *cert. denied,* 502 U.S. 994, 112 S.Ct. 616, 116 L.Ed.2d 638 (1991)).

"[T]he Department of Interior has promulgated no regulations emphasizing the primacy of private interests. The DOI . . . regulation, 40 C.F.R. § 1502.13, merely requires that an EIS "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." *National Parks & Conservation Ass'n v. Bureau of Land Management* 587 F.3d 735, (2009) *as modified by* 2010 Daily Journal D.A.R. 7271, at 7277. As the Ninth Circuit noted:

> DOI's NEPA handbook explains that the "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.* " Department of Interior, Bureau of Land Management, National Environmental Policy Act Handbook 35, (citing 40 C.F.R. § 1502.13) (emphasis added), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.24487.File.dat/h1790-1-2008-1.pdf (citing 40 C.F.R. § 1502.13) (emphasis added). "The applicant's purpose and need may provide useful background information, but this description must not be confused with the BLM purpose and need for action.... It is the BLM purpose and need for action that will dictate the range of alternatives...." *Id.*

National Parks & Conservation Ass'n v. Bureau of Land Management, supra, 2010 D.J. at p. 7280 n. 9.

Instead, however, the SA/DEIS statement of BLM's purpose and need is "to respond to the SES application under Title V of FLMPA for a ROW grant to construct, operate and decommission a solar thermal facility and associated infrastructure in compliance with FLPMA, BLM ROW regulations, and other applicable federal laws." SA/DEIS p. B.2-11. For this reason, BLM has declined to examine any off-site alternatives, despite its duty to comply with NEPA. SA/DEIS p. B.2-2. As the Energy Policy Act, and related Secretarial and Executive Orders direct BLM to "encourage the development of environmentally responsible renewable energy" while complying with existing environmental laws, its purpose and need statement need not be so narrowly drawn as to preclude the consideration of alternative locations. To do so reflects the needs of the Project applicant, not the needs of BLM, in violation of NEPA.

B. *BLM Unlawfully Rejected Site Alternatives.*

BLM additionally failed to consider the three site alternatives under NEPA on the grounds such alternatives were "unreasonable" because they did not fall within the BLM's jurisdiction. SA/DEIS p. B.2-19. However, NEPA itself does not declare such alternatives unreasonable.

Indeed, "[a]n agency may not reject a reasonable alternative because it is 'not within the jurisdiction of the lead agency.' 40 C.F.R. § 1502.14(c); *see also Muckleshoot Indian Tribe,* 177 F.3d at 814. An agency's refusal to consider an alternative that would require some action beyond that of its congressional authorization is counter to NEPA's intent to provide options for both agencies and

Congress." *National Wildlife Federation v. National Marine Fisheries Service*, 235 F.Supp.2d 1143, 1154 (W.D. Wash. 2002).

BLM's determination to narrow its purpose and need to preclude the analysis of alternative sites, and to avoid analysis of offsite alternatives because they are outside of its jurisdiction, renders the SA/DEIS deficient.

C. *Relocation to an Alternative Site Would Reduce the Project's Impacts.*

Both the Agricultural Lands Alternative and the Mesquite Lake Alternative are environmentally superior to the proposed Project's environmentally sensitive location within the undisturbed desert environment, amid washes and habitat for protected species. BLM and the Energy Commission should adopt either of these alternatives in lieu of the Project alternative, to avoid the Project's significant impacts, including its degradation of visual resources, cultural resources and artifacts, and habitat for bighorn sheep.

The Mesquite Lake Alternative site is an environmentally superior location to the proposed Project. Selecting the Mesquite Lake Alternative would reduce the Project's impacts on visual resources (SA/DEIS p. B.2-43) and on Native American cultural resources. SA/DEIS p. B.2-31. Likewise, selecting the Agricultural Lands Alternative would reduce the project's impact on Native American cultural resources. SA/DEIS p. B.2-58. Accordingly, one of these two alternatives should be adopted.

VI. THE SA/DEIS UNLAWFULLY SEGMENTS THIS PROJECT BY IGNORING ITS RELIANCE ON THE SUNRISE POWERLINK PROJECT.

CEQA requires agencies to consider the environmental impacts of "the whole of [their] action" so as to ensure "that environmental considerations do not become submerged by chopping a large project into many little ones – each with a minimal potential impact on the environment – which cumulatively may have disastrous consequences." Guidelines § 15378(a); *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 283-84; *see also Plan for Arcadia, Inc. v. City Council of Arcadia* (1974) 42 Cal.App.3d 712, 726 (CEQA's requirements "cannot be avoided by chopping up proposed projects into bite-size pieces which, individually considered, might be found to have no significant effect on the environment or to be only ministerial").

NEPA also requires that connected actions be considered together in the same EIS. *See* 40 C.F.R. § 1508.25; *Thomas v. Peterson*, 753 F.2d 754, 758-759 (9th Cir. 1985) ("*Thomas*"). Connected actions are those that (1) "[a]utomatically trigger" other actions potentially requiring EISs; (2) "cannot or will not proceed unless other actions are taken previously or simultaneously;" or (3) are "interdependent parts of a larger action and depend on the larger action for their justification." 40 C.F.R. § 1508.25. Courts commonly apply an "independent utility" test to "determine whether multiple actions are so connected as to mandate consideration in a single EIS." *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 969 (9th Cir. 2006). In applying this test, courts have consistently "held that approval of access

roads across federal lands requires federal agencies to analyze impacts of the road as well as the activities for which the road is being constructed." *Sierra Club v. U.S. Department of Energy*, 255 F. Supp. 2d 1177, 1184 (D. Colo. 2002) (*Sierra Club v. DOE*) (holding that a road easement granted by the Department of Energy was connected for NEPA purposes to the mining activities it enabled); *see also Thomas*, 753 F.2d at 758-59 (holding that a road approved for construction by the Forest Service was connected to the timber sales that could not proceed without it).

Here, phase II of the Project is dependant on construction of the Sunrise Powerlink Project. SA/DEIS, p. B.1-19. The Sunrise Powerlink Project is currently under challenge in both state and federal court. Until Sunrise Powerlink is completed, this entire Project cannot proceed. Accordingly, "whole . . . action" would include both of these "connected" Projects; their environmental impacts should be considered in the same document. Guidelines § 15378(a); 40 C.F.R. § 1508.25. Here, however, staff simple declined to "independently review th[e] related [Sunrise Powerlink] project." SA/DEIS, p. B.1-19. Because the SA/DEIS fails to include an assessment of the environmental impacts of the entirety of the Project, it violates both CEQA and NEPA.

VII. THE PROJECT VIOLATES THE FEDERAL SAFE DRINKING WATER ACT BECAUSE IT WILL LEAD TO THE CONTAMINATION OF A SOLE-SOURCE AQUIFER.

The DEIS for the Project claimed that wastewater from the Seeley Wastewater Reclamation Facility (SWWRF) would be used to clean the solar panels. This decision, however, was based on a mitigated negative declaration for the SWWRF. The Seeley County Water District (SCWD) decided not to adopt the mitigated negative declaration, but instead to prepare an Environmental Impact Report for the SWWRF. Because of this change, the Project now intends to rely on a sole-source aquifer to provide the wash-water for the panels. The impacts of the groundwater pumping that would be required by the Project are completely unknown, and present many risks.

The aquifer from which the wash-water for the Project will be pumped, the Ocotillo-Coyote Wells Aquifer, has been deemed the "sole or principal source of drinking water for Ocotillo, Nomirage, Yuha Estates, and Coyote Wells." 61 Fed. Reg. 47752 (Sept. 10, 1996). If this aquifer is contaminated it "would create a significant hazard to public health." *Id.* It is irresponsible for the Project to use four cities' sole-source of drinking water as wash-water, especially in the desert. This impact is not recognized, analyzed or mitigated in the DEIS.

As was admitted in the "Staff Comments on Schedule Impacts of AFC Supplement," dated May 17, 2010, the amount of water needed for the Project "exceeds the permitted amount of groundwater extraction for the well." The risk of groundwater depletion from the Ocotillo-Coyote Wells Aquifer is not recognized, analyzed or mitigated in the DEIS.

Further, the Public Health and Welfare Code forbids projects that receive federal monies that "may contaminate" a sole-source aquifer. 42 U.S.C.A. § 300h-3(e). "Contaminant" is defined as "any

physical, chemical, biological, or radiological substance or matter in water." 42 U.S.C.A. § 300f(6). By drastically increasing the rate of groundwater pumping from the Ocotillo-Coyote Wells Aquifer, the Project may contaminate this sole-source aquifer by creating a cone of depression in the area of the aquifer, allowing physical, chemical, biological or radiological substances present elsewhere in other groundwater aquifers to leach into the Ocotillo-Coyote Wells Aquifer. If such contamination were to occur, a "significant hazard to public health" would result, in violation of the Public Health and Welfare Code. 42 U.S.C. § 300h-3(e). Because the DEIS did not analyze the possible impacts of pumping groundwater from the Ocotillo-Coyote Wells Aquifer, the risk of contamination from pumping is unknown. The Project's impacts on groundwater pumping must therefore be fully acknowledged, analyzed and mitigated to protect the sole-source of water for Ocotillo, Nomirage, Yuha Estates and Coyote Wells.

VIII. IF AN ACTION IS TAKEN, BLM SHOULD ADOPT THE NO ACTION ALTERNATIVE WHICH WOULD MAKE THE AREA UNAVAILABLE FOR FUTURE SOLAR DEVELOPMENT.

The SA/DEIS studies three No Action Alternatives under NEPA, each of which would result in a different CDCA Plan: (1) the No Action/No CDCA Plan Amendment Alternative; (2) the No Action/Amend the CDCA to make the area *available* for future solar development Alternative; and (3) the No Action/Amend the CDCA to make the area *unavailable* for future solar development Alternative ("Unavailable Alternative") (emphasis added). We support the third alternative because it will provide the greatest protection to this immaculate landscape and will ensure that the character of the area is preserved for future generations.

The SA/DEIS recognizes that adoption of this alternative would prevent future environmental impacts from other renewable energy projects. Unless this alternative is adopted, "other renewable energy projects" with "similar[ly]" devastating cultural impacts could be approved. SA/DEIS, p. C.2-142. Adoption of the Unavailable Alternative would also prevent future impacts to the PBHS, FTHL, and special-status plant species. SA/DEIS, p. C.2-70. Visual resources would be similarly protected. SA/DEIS, p. C.13-33.[9] BLM should demonstrate its commitment to the preservation of our nation's rapidly disappearing desert lands by adopting the Unavailable Alternative.

9 This portion of the SA/DEIS appears to be incomplete; it ends mid-sentence.

CONCLUSION

For these reasons, the SA/DEIS violates both NEPA and CEQA. Accordingly, it should be revised and re-released. With regard to the various CDCA Amendment alternatives, the No Action/Amend the CDCA to make the area unavailable for future solar development Alternative should be adopted.

Thank you for considering our views on this important matter.

Very truly yours,

STEPHAN C. VOLKER (DGS)

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EXHIBIT 2

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Re: Comments of Backcountry Against Dumps, *et al.,* on Supplemental Staff Assessment for Imperial Valley Solar Project

Dear Mr. Meyer:

On behalf of Backcountry Against Dumps, the Protect Our Communities Foundation, the East County Community Action Coalition, and the Desert Protective Council (collectively, the "Conservation Groups"), we respectfully submit the following comments regarding the Supplemental Staff Assessment ("SSA") for the Imperial Valley Solar Project (formerly the SES Solar Two Project) ("Project"). Although slight progress has been made in a few areas – for example, the planned section 7 consultation – for the most part the SSA remains an inadequate informational document. We incorporate by reference our previous comments on the SA/DEIS.

INTRODUCTION

The Yuha Desert, where the Project is to be located, is a pristine but extraordinarily sensitive landscape. Damage to it from this Project is likely to be irreversible. "Implementation of this [P]roject will forever change the landscape of this area,"[1] and also lead to "the permanent destruction of hundreds of cultural resources. . . ."[2] The environmental devastation that this Project will cause is permanent, but the Project's benefits are only temporary.[3] The California Energy Commission ("CEC") continues to rush through critical environmental reviews and refuses to extend any deadlines, no matter how unreasonable, because the Project "must meet extraordinarily tight time-lines with respect to state and federal agency permitting decisions to

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1 National Park Service Comments regarding Imperial Valley Solar Project Draft EIS ("NPS Comments"), received May 4, 2010, p. 1.

2 Quechan Indian Tribe Comments on SA/DEIS, received May 19, 2010, p. 7.

3 SA/DEIS, p. ES-7 ("The planned life of the SES Solar Two Project is 40 years").

qualify for funding from the U.S. Department of Energy under the American Recovery and Reinvestment Act ["ARRA"]. . . . Even a slight delay could cause projects to miss critical deadlines in the permitting process, and therefore lose access to recovery act funding."[4] The CEC must not allow itself to miss the forest for the trees. The CEC's primary responsibility is to produce a legally adequate environmental document, not to process the Project's application within a specified period of time. CEQA does not allow agencies to exempt certain projects from CEQA's requirements due to a project applicant's needs or desires.[5] Producing a legally inadequate environmental document will cause the Project to be delayed for far longer than the time it would take to compile a proper report in the first instance.

The SSA is deficient in four main areas. First, the public comment process itself is flawed. The idea that meaningful public comment on a highly technical document exceeding 1,400 pages can be obtained in less than three weeks is untenable. Second, the SSA continues to unlawfully defer the formulation of mitigation measures by invoking "performance standards."[6] Third, the impact analysis remains inadequate. Significant impacts are deemed insignificant, and avoidable impacts are deemed unavoidable with little or no documentation. Moreover, the SSA fails to provide an analysis of the impacts of the project on cultural resources. Finally, due to all of these deficiencies, the environmental document *must* be recirculated and an additional noticed public comment period provided.

I. THE PUBLIC COMMENT PROCESS IS FLAWED

The Conservation Groups object to the cavalier manner in which public comment has been handled in this proceeding. CEQA is intended to "inform . . . decision makers *and the public* about the . . . environmental effects of proposed activities," and, indeed, one of an EIR's most important purposes is to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological impacts of its action." CEQA Guidelines [14 C.C.R.; "Guidelines"] § 15002(a)(1), 15003(d). Here, the CEC has treated public comment not as central to the CEQA process but as an unanticipated afterthought.

The SSA *must* be re-released for additional *noticed* public comment because only 20, not 30, days were provided for the public to review this document. The 20-day public comment

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[4] COMMISSION DECISION RE: DATA CONCERNING CULTURAL RESOURCES ON BLM LAND, *available at* http://www.energy.ca.gov/2010-CRD-1/documents/2010-07-14_Commission_Decision_Cultural_Resources_on_BLM_Land.pdf, at 10.

[5] The Conservation Groups note that the impact of the "safe harbor" provision of the ARRA, added March 2010, on these timetables has apparently not been considered. More information can be found at http://www.treas.gov/recovery/docs/guidance.pdf.

[6] *See, e.g.,* SSA at p. C.2-115.

period provided for public review of the 1,410 page SSA is legally insufficient, for two reasons.

First, Public Resources Code[7] section 21080.5 *specifically requires* that environmental documents prepared under a certified regulatory program ("CRP") be "available for a reasonable time for review and comment by other public agencies and the general public." Twenty days is *not* a reasonable time in which to expect members of the public, who unlike the CEC and Applicant, cannot devote all of their time to review of this document, to be able to meaningfully comment on the SSA.

Second, and additionally, CEQA requires a *bare minimum* of 30 – not 20 – days of public review. *Ultramar, Inc., v. South Coast Unified Air Quality Management Dist.* (1993) 17 Cal.App.4th 689 is instructive. In *Ultramar,* the agency, which also operated pursuant to a CRP, inadvertently omitted *one chapter* of its environment document when it distributed the document to the public. As a result, the public was given only 24 days to comment on that chapter. CEQA, however, requires a 30-day public review period, and this requirement is *not* contained within either of the two CEQA chapters from which agencies with CRPs are exempt. *Id.* at 699. (The 30-day requirement is found in section 21091(a), which is contained within Chapter 2.5, but agencies with CRPs are only exempt, under section 21080.5, from requirements in Chapters 3 and 4.) The court "c[ould]not overemphasize the importance of compliance with all notice provisions . . . so that there will be maximum public comment and involvement." *Id.* The court found it irrelevant that, by its terms, section 21091(a) applies only to "draft environmental impact reports."[8] *Id.* at 699.

The *Ultramar* court *enjoined the project and required that the agency re-release the entire document* for additional noticed comment because a single chapter was available for only 24, not 30 days. *Id.* at 705 & n. 6. Here, as in *Ultramar,* less than 30 days were provided for public comment. Here, as in *Ultramar,* the entire document must be re-released for additional noticed public comment.

Furthermore, the Conservation Groups object to the manner in which public comments were responded. The CEC has an obligation to prepare "written responses . . . to significant environmental points raised during the evaluation process." § 21080.5(d)(2)(D). The Commission apparently somehow divided up the comments instead of responding to all comments serially in a single location. As a result, comments were overlooked. For example, the Conservation Groups previously noted that the Project "will have cumulative growth-inducing impacts" and that the SA's conclusions that these impacts would "have beneficial

[7] Undesignated references are to the Public Resources Code.

[8] Nor is it relevant that this is a *supplemental* (rather than draft) Staff Assessment. A variety of new significant impacts not mentioned in the SA were identified in the SSA. Recirculation was accordingly required pursuant to Guidelines section 15088.5(a), and pursuant to CEQA Guidelines section 15088.5(d), the public review provisions applicable to draft EIRs are also applicable to recirculated EIRs.

public impacts" such as higher taxes directly conflicts with CEQA's express requirement that "it must not be assumed that growth in any area is necessarily beneficial . . . or of little significance to the environment." Conservation Groups' comment letter dated May 27, 2010 at 10-11; Guidelines § 15126.2(d). The Conservation Groups pointed out that the SA's conclusions were unfounded because (1) the "modest" size of the workforce does not *per se* mean that growth-inducing impacts will be insignificant, and (2) the SA acknowledges that the Project may have the effect of drawing *non-renewable energy* projects to the area, yet this potential environmental impact was ignored. Conservation Groups' comment letter dated May 27, 2010, at 10-11. The CEC did not respond to this comment. One might expect to find a response in the Land Use, Recreation and Wilderness, or the Socioeconomics and Environmental Justice sections of the SSA, but no such response exists. The CEC should revise its public comment response procedures to avoid such mistakes in the future. Additionally, the CEC *must* respond to *all* public comments before a final decision is reached.

II. THE SSA IMPROPERLY DEFERS THE FORMULATION OF MITIGATION MEASURES

As discussed in our prior letter, CEQA prohibits the deferred formulation of mitigation measures. "[R]equir[ing an] applicant [to] adopt mitigation measures recommended in a future study is in direct conflict with the guidelines implementing CEQA." *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 306.

It is true that an agency may properly condition project approval on, for example, an applicant's compliance with air and water quality, or other environmental, standards. *Id.* at 308. This is because compliance with such standards is based on "specific performance criteria articulated at the time of project approval." *Sacramento Old City Ass'n v. City Council* (1991), 229 Cal.App.3d 1011, 1028. However, such a situation only arises where an agency "[1] recognize[s] the significance of the potential environmental effects, [2] commit[s] itself to mitigating their impact, and [3] articulate[s] specific performance criteria." *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th, 1359, 1395. When dealing with deferred mitigation measures, the agency must either "treat the impacts in question as being significant" or demonstrate that the deferred mitigation "is known to be feasible." *Sacramento, supra,* 229 Cal.App.3d at 1028-29.

For example, in *Sacramento,* the court upheld an environmental document that mitigated potential future parking problems by relying on any of seven *specific* potential mitigation measures. *Id.* at 1025. This was permissible because "the city . . . set forth a list of alternative[]" mitigation measures that could be deployed, and public comment on these mitigation measures was thus not precluded (and in fact was considered). *Id.* at 1022, 1028.

Requiring applicants to *commission future studies* and comply with the mitigation measures *recommended in them,* on the other hand, has been repeatedly held to violate CEQA. For example, in *Sundstrom*, a developer was planning to construct a hotel and restaurant. After potential impacts to hydrology and soils became apparent, the County required the applicant to "have a study prepared by a civil engineer which evaluates potential effects of the proposed

development upon soil stability, erosion, sediment transport, and the flooding of downslope properties and contains recommended mitigation measures to minimize such impacts." *Sundstrom, supra*, 202 Cal.App.3d at 306. The County also required review and approval of the plan by planning and building services, after which the mitigation measures would be incorporated into the use permit. *Id.* The court held that this condition constituted a "post hoc rationalization of agency actions" that would "inevitably have a diminished influence on decisionmaking"; this violated CEQA. *Id.* at 307. Moreover, such deferral of mitigation measures subverts one of the key purposes of CEQA: to ensure the adequacy of environmental review by exposing it to the public and interested agencies. *Id.* at 307-08. "By merely requiring administrative approval of the hydrological studies, the use permit provides no . . . guarantee of an adequate inquiry into environmental effects." *Id.* at 307. The public was prevented from commenting upon, or assessing the adequacy of, these deferred mitigation measures.

Similarly, in *Gentry, supra,* 36 Cal.App.4th at 1396, the court also found an environmental document to violate CEQA because it contained a deferred mitigation condition. There, the project approval permitted the City to require the applicant to submit a biological report regarding the Stephens' kangaroo rat; if such a report were to be required, the applicant would have to comply with "any recommendations" in it. *Id.* This condition was "on all fours with the condition in *Sundstrom*" and therefore also constituted an improper deferral of mitigation. *Id.* Because there was evidence "that the Project, even as mitigated . . . would have a significant effect on the Stephens' kangaroo rat . . . any proposed mitigation for impacts on the . . . rat had to be made available for public review" and not deferred for future formulation. *Id.* at 1397.

Here, formulation of mitigation measures is unlawfully deferred. As discussed in our prior letter, the SSA is replete with mitigation measures whose content will not be determined until a later date. For example (and for illustrative purposes only), the Drainage Erosion and Sediment Control Plan would require the implementation of Best Management Practices ("BMPs") that are "designed to prevent wind and water erosion." SSA at C.7-79. It is not specified what these BMPs will consist of, and, as testified by expert civil engineer Dr. Christopher Bowles, the "assumption" that the project will not increase erosion "has not been quantified by accurate calculations." Exhibit 499-I to rebuttal testimony for CURE, at p. 7. The Stormwater Pollution Prevention Plan apparently "has been developed" but "is in the process of being updated," so its contents are not disclosed. SSA at C.7-18. "[I]t is assumed by the Applicant that all soil erosion concerns will be adequately addressed in the DESCP and SWPPP. This assumption is unwarranted . . . ." Exhibit 499-I to testimony for CURE, at p. 8. Another example of an unlawfully deferred mitigation measure is the Weed Management Plan, which states, regarding post-closure revegetation, that "a site reclamation and revegetation plan should be drafted with the goal of reducing the extent of weeds that persist on the site following closure." Applicant's Draft Noxious Weed Management Plan, at 6-5. How this will be accomplished is not specified. The public must be given the opportunity to comment on the final versions of these, and similar plans so as to ensure that they actually mitigate impacts, to the extent claimed by the applicant and the CEC.

III. THE ANALYSIS OF THE PROJECT'S ENVIRONMENTAL IMPACTS IS INADEQUATE

The CEC may not "approve[] or adopt[]" the Project "if there are feasible alternatives or feasible mitigation measures available that would substantially lessen a significant adverse effect that the [Project] may have on the environment." Again the SSA (1) fails to identify certain impacts altogether; (2) mislabels other significant impacts as insignificant; and (3) fails to adopt mitigation measures for those impacts found to be significant, as discussed thoroughly below.

A. Biological Resources

The Conservation Groups appreciate that the SSA now provides for formal section 7 consultation with USFWS regarding the Project's impacts on Peninsular Bighorn Sheep ("PBHS"), although public comment must be provided regarding the outcome of this consultation.[9] Nonetheless, the SSA fails to adequately identify and mitigate the Project's impacts on biological resources, in the following areas:

1. Flat-Tailed Horned Lizard ("FTHL")

There are at least seven deficiencies in the SSA's assessment of the Project's impacts on the FTHL.

First, as testified by expert biologist Scott Cashen, the proposed Raven Management Plan (BIO-12) fails to minimize the effects of predation on the FTHL to less than significant levels, as the SSA claims on page C.2-81. Exhibit 499-K to rebuttal testimony for CURE, at 2-4. Mr. Cashen's testimony speaks for itself and need not be repeated at length here, but, briefly, the Raven Management Plan, among other deficiencies: (1) fails to reduce, and does not purport to reduce, the impacts of FTHL predatation from *non-raven* predators; (2) contains a timeline too hurried to ensure that the plan will mitigate raven predation, as ravens are highly adaptable and require adaptive management; (3) proposes inadequate monitoring methods; and (4) contains a success criterion (the Raven Management Plan will be discontinued if "ravens are not adversely affecting the local [FTHL] population") that, scientifically, cannot be determined. Moreover, because the ravens are highly adaptable, it is possible that the ravens could be successfully managed for the two-year period provided for in the success criterion (leading to the discontinuance of the Raven Management Plan), but could later impact the FTHL when adaptive management techniques are withdrawn.

Second, the SSA fails to detail the process which will be used to "move[]" the FTHLs encountered during construction "out of harm's way," yet the outcome of this relocation depends entirely on the process used to handle and transport lizards, and the release sites selected. SSA at

[9] This consultation also must address outstanding issues regarding PBHS, as detailed in the testimony of Dr. Vernon Bleich (Exhibit 499-F to Rebuttal Testimony for CURE).

C.2-74; Exhibit 499-K to rebuttal testimony for CURE, at 12. It is thus unknown whether this relocation will be successful; if not, unaddressed impacts will result.

Third, while clearance surveys would occur prior to *decommissioning* to relocate FTHLs to other suitable habitat, no clearance surveys prior to *commissioning* are provided. Exhibit 499-K to rebuttal testimony for CURE, at 12. The SSA fails to explain the justification for this distinction.

Fourth, the selection criteria that will be used to select FTHL compensation lands are inadequate. SSA at C.2-169 through 170. The selection criteria are vague and lacking in specificity and certainty. *See* Exhibit 499-K to rebuttal testimony for CURE, at 13. For this reason, mitigation of impacts is not assured.

Fifth, the SSA fails to explain how the amount of the in-lieu fee, which allows the applicant to satisfy its mitigation obligations with a cash payment, would be calculated. *See* SSA at C.2-176; Exhibit 499-K to rebuttal testimony for CURE, at 14. The fee's adequacy is simply to be determined by the CEC at a later date. *Id.* (in-lieu fee may only be used "to the extent" it "is found by the [CEC] to be in compliance with CEQA and CESA requirements"). The public cannot comment on the sufficiency of the cash payment. Without such detail, it is impossible for the public to ascertain whether or not impacts on FTHL will in fact be mitigated.

Sixth, the Applicant has been given 24 months to acquire, and prepare a management plan for, compensation lands. The mitigation proposed by the SSA ignores the effect of this two year delay on the FTHL. It is likely that mitigation in excess of the 1:1 ratio compensated would be required to actually offset impacts to the FTHL.

Finally, the applicant's Least Environmentally Damaging Preferred Alternative ("LEDPA") is deficient. It proposes nearly 220 wash crossings by road *daily* (6,602 monthly) yet claims that these "roads . . . would be used minimally. . . ." Moreover, while the LEDPA does contain additional movement corridors for the FTHL, it is unlikely that the provided corridors would be used because they would be located adjacent to the Project site yet "[r]esearch has shown FTHL are absent along human-induced edges. . . ." Exhibit 499-K to rebuttal testimony for CURE, at 15. This absence can be attributed to increased noise and predation near human activity. *Id.*

For these reasons, the SSA fails to mitigate impacts to the FTHL to the maximum extent feasible.

2. Special-Status Plants

The SSA's proposed methods of mitigating impacts to special status plants are inadequate. As mentioned in our previous comment letter, and as testified by Mr. Cashen, but

unaddressed in the SSA, the size of the proposed buffer (now down to 10 to 20 feet, from a previous size of 50 feet in the SA (SA at C.2-98)) is inadequate. Mr. Cashen could not imagine *any* scenario in which a buffer of such a size would be adequate. Exhibit 499-K to rebuttal testimony for CURE, at 10. No explanation is given as to why, when comments were received that the prior 50 foot buffer was too small, *the buffer was reduced to 10 to 20 feet*. Moreover, the Special-Status Plant Mitigation Plan (BIO-19) is another example of an unlawful deferral of mitigation.

B. Hydrology and Soils (Groundwater) Impacts

Although previously it was stated that "[n]o groundwater would be used by the project," SA/DEIS, p. C.7-3, the Project now proposes to satisfy its "construction and possibly operation[al]" water needs through the use of groundwater from the Dan Boyer Water Company Well, which draws water from a Sole-Source Aquifer. The rushed assessment of impacts from groundwater use is inadequate in no less than eleven ways.

1. Construction Water Use

The SSA states that "[p]umping for construction of the . . . Project will average 51.1 acre-feet per year" ("AFY") of water "for slightly more than three years." SSA at C.7-44. The SSA, however, "limits water purchases from the Dan Boyer Water Company to 34" AFY. *Id.* at C.7-80. The SSA does not specify where the other 17.1 AFY will come from. "There is currently no backup water supply for the project." *Id.* at C.7-51. "[T]here appear to be no feasible water conservation options available for this project." *Id.* The SSA does not specify how water use will be curtailed during *construction* if demand exceeds permitted use. *See* Exhibit 499-I to rebuttal testimony for CURE, p. 4 (mitigation if demand exceeds permitted use is to suspend washing of mirrors, but this does not address construction impacts). Moreover, the numbers provided for the construction water use are contradictory and it is possible that the Project will require 228 AF of water in its first year of construction. Exhibit 499-I to rebuttal testimony for CURE, pp. 2-3. This fundamental deficiency calls into question the entirety of the groundwater analysis, as impacts may be drastically understated.

2. Operational Groundwater Use

The SSA's statements regarding operational water use are also dubious. It is unclear how many mirror washings will be conducted annually; one the one hand, the SSA states that "[e]ach mirror would be washed . . . once per month, with *another* wash of approximately 42 gallons every 3 months"[10] but on the other hand, the SSA bases its water use assumptions on "every SunCatcher having approximately 8 normal washer per year with one additional scrub wash." SSA at C.7-17, Table 3 n. 3. As a result, water use for mirror washing may actually amount to

[10] SSA at C.7-16 (emphasis added); *see also id.* at C.1-17 ("[m]irror washing would be required approximately once every month").

25.8 AFY, not 14.2 AFY, as claimed. Exhibit 499-I to rebuttal testimony for CURE, p. 3. Moreover, the Project may require an additional 2.2 AFY to satisfy workers' demands for potable water. *See* Exhibit 499-I to rebuttal testimony for CURE, p. 4. The projected operational water use calculations also ignore that "enhanced" dust control, which uses twice the water of standard dust control, may be required on occasion by mitigation measure WorkerSafety-8. As a result, total operational water use could amount to a total of 47.6 AFY, which is 13.6 AFY above the permitted use. Exhibit 499-I to rebuttal testimony for CURE, p. 4. Again, it is unknown how the Project's water use would be accommodated if the Dan Boyer source is insufficient. This fundamental deficiency calls into question the entirety of the groundwater analysis, as impacts may be drastically understated.

3. The Possibility of Simultaneous Construction and Operation Was Ignored.

The soil and water resources section of the SSA ignores the fact that the Project may simultaneously be under construction and operating. *Compare* SSA at C.1-20 ("applicant plans to start operation of SunCatchers as soon as they are ready; therefore it is anticipated that starting at Month 8 in the construction schedule, the first SunCatchers would be ready to operate and produce electricity"). The effects of such simultaneous operation was not considered when calculating the Project's water use. Simultaneous operation would exacerbate already-devastating groundwater impacts and must not be allowed.

4. The SSA's Conclusion That "Projected Well Interferences From Project Pumping Will Be Less Than 8 Feet and Therefore Considered Less Than Significant"[11] is Unfounded.

The SSA concludes that the Project will not significantly interfere with nearby residential water users' wells or significantly affect the yield of these wells. SSA at C.7-48 through 50. This conclusion is unfounded, for two reasons.

First, staff improperly utilized *average* well characteristics. Staff assumed an average "depth to water of 125 feet" in nearby residential wells, but many nearby wells contain water between 20 and 50 feet from the surface. Testimony of Edie Harmon, Exhibit 591 to rebuttal testimony of Tom Budlong, p. 8. Moreover, two of the ten neighboring wells "only have 5 feet of water above the well screens," but staff assumed an average depth of 15 feet to well screens. Exhibit 499-I to rebuttal testimony for CURE, p. 5. If the aquifer continues its "average observed decline of 0.21 feet per year," SSA at C.7-42, the water level at these two wells will drop below the well screen, and *any* additional decline attributable to the project could "exacerbate yield conditions at those 2 wells." Exhibit 499-I to rebuttal testimony for CURE, p. 5. The SSA acknowledges that "drawdown among two or more wells is . . . 'well interference.'" SSA at C.7-44. Here, two wells will be drawn down by the project's water use. As such, this

[11] SSA at C.7-49 (capitalization added).

significant impact must be analyzed and disclosed. Staff should also re-do the groundwater assessment using observed measurements, not averages.

Second, staff failed to assess the cumulative impacts of the Project's groundwater use combined with groundwater use by US Gypsum and other nearby projects such as the Wind Zero project. Exhibit 499-I to rebuttal testimony for CURE, p. 5; Exhibit 591 to rebuttal testimony of Tom Budlong, pp. 8-9. These cumulative impacts must be acknowledged and, if feasible, mitigated.

5. The Project's Impacts On Water Quality Were Not Disclosed.

The Project may increase concentrations in the Sole-Source Aquifer of Total Dissolved Solids by almost 5%. Exhibit 499-I to rebuttal testimony for CURE, p. 5. This impact was ignored in the SSA. Nor does the SSA consider the Project's cumulative impacts on water quality if other industrial or commercial uses draw water simultaneously with the project. *Id.* Moreover, as discussed below, it appears that, in fact, the vast majority of the Project's water use will be exported from the Sole-Source Aquifer; this reduction will also increase the remaining concentration of groundwater contaminants. Because the Project may contaminate a sole-source aquifer, it is prohibited from receiving federal monies. 42 U.S.C. § 300h-3(e).

6. The Project Has No Long-Term Water Supply.

No long-term water supply has been identified for the project. The Dan Boyer Water Company has only stated that it "will serve" the Project's water needs for 6 to 11 months. SSA at C.7-52. No backup water supply exists. *Id.* at C.7-54. "[W]ater supplies are not sufficient to satisfy the water demands of the project. . . ." *Id.* at C.7-53. It is unknown when, if ever, the SWWTF upgrades will be completed. *Id.* at C.7-52. Nobody knows how the Project's water needs will be met after 11 months. Staff cannot simply throw up their hands at this deficiency. As detailed below, potentially feasible alternative water supplies exist and have not been studied.

7. A New Method of Groundwater Modeling Should be Used.

As testified by two experts on groundwater, the SSA's chosen model used to determine groundwater impacts is insufficient. Exhibit 499-I to rebuttal testimony for CURE, p. 6; Exhibit 591 to rebuttal testimony of Tom Budlong, p. 10. The specific deficiencies with the chosen model are discussed by those experts and need not be replicated here. In sum, a "[f]ailure to use the best available information and science can lead to a . . . misrepresentation of potential project impacts. . . ." Exhibit 499-I to rebuttal testimony for CURE, p. 6. Use of the best available science is particularly important where, as here, potential impacts on groundwater are hugely controversial and where, as here, even small differences in data can lead to substantial environmental impacts.

8. Potentially Feasible Alternative Sources of Water Exist and Should be Studied.

The SSA fails to study alternative potential sources of groundwater other than the Dan Boyer well. At least three potentially feasible sources have been identified. As noted by Ms. Harmon, it may be feasible to obtain reclaimed water from the Centinela State Prison. Exhibit 591 to rebuttal testimony of Tom Budlong, p. 3. Further, it may be feasible – with congressional action – to obtain water from the Imperial Irrigation District. The fact that congressional action would be required does not automatically render this alternative infeasible.[12] The feasibility of this alternative is further underscored by the fact that such Congressional approval has been obtained in the past. Exhibit 591 to rebuttal testimony of Tom Budlong, p. 3. Finally, it is unclear why the Project's water needs cannot be met through the importation of water. Indeed, the Executive Summary contemplates "[p]otable water . . . deliver[y] . . . by truck." SSA at ES-6. If it is too expensive or too many other environmental impacts would result from such delivery, this should be clearly stated in the SSA.

9. Because None of the Project Site Actually Overlies the Sole Source Aquifer, All Water Used by the Project Will Be Exported From that Aquifer.

As discussed extensively by Ms. Harmon, the Project site is actually to the east of the Ocotillo-Coyote Wells Sole Source Aquifer. Exhibit 591 to rebuttal testimony of Tom Budlong, pp. 4-5. The SSA's statement that the Project "site lies primarily over the Ocotillo-Coyote Wells aquifer" is incorrect. SSA at C.7-11. 0%, not 96%, of the Project site overlies this Sole Source Aquifer. *Compare. id.* at ES-36 *with* Exhibit 591 to rebuttal testimony of Tom Budlong, pp. 4-5, and exhibits referenced therein. Because none of the Project site overlies the Sole Source Aquifer, any water from the Dan Boyer well that is used on the Project site will be exported from the aquifer. This would be in violation of mitigation measure Soil&Water-1, as well as Imperial County Land Use Ordinance 9. Nothing explanation is given in mitigation measure Soil&Water-1 as to how such exporting would be avoided. As such, it must be assumed that all of the Project's water will be exported from the Sole-Source Aquifer. The attendant impacts must be studied.

10. Contrary to the SSA's Statements, Phreatophytic Vegetation *Does* Exist in the Area.

[12] For example, courts have repeatedly held that the federal statute on which CEQA was patterned, NEPA, is intended to "inform [all] three branches of government." *Rhode Island Committee on Energy v. Gen. Svcs. Admin.,* 397 F.Supp. 2d 41, 56 n.19 (D.C.R.I. 1975). Accordingly, "even if an alternative requires 'legislative action', this fact 'does not automatically justify excluding it from an EIS.'" *Methow Valley Citizens Council v. Regional Forester,* 833 F.2d 810, 815 (9th Cir. 1987) (quoting *City of Angoon v. Hodel,* 803 F.2d 1016, 1021 (9th Cir. 1986)). *Methow Valley* was "reversed only in part" by the Supreme Court at 490 U.S. 332. *Methow Valley Citizens Council v. Regional Forester,* 879 F.2d 705, 706 (9th Cir. 1989). "The Supreme Court . . . did not address the portion of the Ninth Circuit decision dealing with alternatives; thus, that aspect of the Circuit court's decision remains good law." Remy, *et al., Guide to CEQA*, p. 1028 n. 78 (11th ed. 2007).

The SSA claims that no phreatophytic[13] vegetation exists in the Project area because the "water table is too deep to support" such "vegetation (average depth to water is about 125 feet)." SSA at C.7-45. This statement is incorrect. As noted by Ms. Harmon, there are a number of mesquite hummocks and tamarisks in the general Project vicinity. Exhibit 591 to rebuttal testimony of Tom Budlong, p. 6-7. This error also arose because of an improper use of averages. The fact that the *average* depth to water is 125 feet does *not* mean that there are not *areas* that can support phreatophytic vegetation. These observed species could *not* survive if their roots did *not* reach the groundwater table. Exhibit 591 to rebuttal testimony of Tom Budlong, pp. 6-7. The Project's impacts on such vegetation must be assessed.

11. The SSA's reliance on Drainage Avoidance Alternative # 1 is Improper.

The SSA bases the bulk of its analysis of impacts to water of the United States upon the staff's preferred alternative of Drainage Avoidance Alternative #1. This alternative was rejected by the USEPA. SSA at C.2-5. It is unreasonable to base the SSA's assessment of impacts upon an alternative is *clearly not* going to be adopted. The SSA must be recirculated when the final format of the Project is determined by the Army Corps of Engineers to allow members of the public to actually comment on the Project that will be constructed.

C. Worker Safety and Fire Protection

The SSA acknowledges that the Project site is "bisect[ed]" by the Sunrise Powerlink project. However, staff's assessment of the Project's fire risks only examines the impacts of a fire upon I-8 and ignores the impacts that a fire may have on the Sunrise Powerlink project.[14] This impact should be studied and acknowledged. Furthermore, apparently construction of a new firehouse is going to be necessary in order for the Imperial County Fire Department to be able to adequately respond to these fire risks. *Id.* The environmental impacts of this construction, which will involve land disturbance, water use, and attendant injury to the environment, must be disclosed in the SSA.

IV. THE SSA MUST BE RECIRCULATED AND A PERIOD FOR ADDITIONAL NOTICED PUBLIC COMMENT PROVIDED

As discussed above, the SSA is inadequate as an informational document. The public was significantly hindered in commenting on the Project by the absence of detailed information. Indeed, the discussion of the Project's impacts to Cultural Resources, an significant consequence of this project, was simply omitted. In this situation, CEQA requires recirculation of the environmental document. *See* Pub. Res. Code § 21092.1 (renotification required where

[13] Phreatophytic vegetation is defined as vegetation whose roots reach the groundwater table.

[14]http://www.energy.ca.gov/sitingcases/solartwo/documents/2010-07-21_Staff_Rebuttal_Testimony.pdf

significant new information is added to EIR prior to certification); Guidelines § 15088.5 (new information is significant, and recirculation accordingly required, where the EIR "deprives the public of a meaningful opportunity to comment upon" the project's significant impacts or mitigation measures). Because CEQA is intended to provide the public with access to high-quality information, it is unlawful to release the SSA and then attempt to fix its problems out of the public eye. If significant new information is added to the SSA, it must be recirculated. Moreover, as discussed *supra* section I, the CEC is required to re-release the SSA for an additional 30-day noticed public comment period

V. CONCLUSION

For these reasons, the SSA violates CEQA. It must be re-released for public comment, as well as revised and recirculated.

Thank you for considering our views on this important matter.

Very truly yours,

___/s/_____
STEPHAN C. VOLKER
Attorney for Conservation Groups

EXHIBIT 3

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

Applications for Certification for the	)	Docket Nos.
	)	
Calico Solar (SES Solar One) Project,	)	08-AFC-13,
Genesis Solar Energy Project,	)	09-AFC-8,
Imperial Valley (SES Solar Two) Project	)	08-AFC-5,
Solar Millennium Blythe Project,	)	09-AFC-6,
Solar Millennium Palen Project, and	)	09-AFC-7,
Solar Millennium Ridgecrest Project.	)	09-AFC-9, and
	)	
Consolidated Hearing on Issues	)	10-CRD-1
Concerning U.S. Bureau of Land	)	
Management Cultural Resources Data	)	Order No. 10-0714-11
_____	)	

COMMISSION DECISION
RE: DATA CONCERNING CULTURAL RESOURCES ON BLM LAND

I. Introduction and Summary

Cultural resources, such as historical artifacts, ancient art, and ancestral burial grounds, are often found on the sites of power facilities proposed for licensing by the California Energy Commission ("CEC" or "Commission"). In order to protect those sensitive resources, federal and state laws require confidential treatment of data on their locations and other key characteristics. However, in the Commission's licensing (formally, "certification") proceedings, we must assess potential impacts to cultural resources, along with mitigation measures and alternatives that would avoid or minimize the impacts (we must also assess projects' compliance with the cultural resources laws), and doing so requires reasonable access to such data. In turn, formal parties in our proceedings (usually referred to as "intervenors") may also seek access to this data to facilitate their participation. Balancing the competing legal, factual, and policy considerations that may be present in any given proceeding is difficult.

In several of the Commission's current proceedings on applications for certification ("AFC") for solar power plants located on U.S. Bureau of Land Management ("BLM") land, intervenor California Unions for Reliable Energy ("CURE") has asked us for access to confidential information about cultural resources. (In the Imperial Valley AFC proceeding, CURE has received some data.) Applicants and BLM oppose those requests.

The Commission:

1. Agrees with BLM that the federal agency has ultimate control over the data; therefore, the Commission orders CURE to return the Imperial Valley data to BLM.

2. Concludes that CURE, like all other intervenors, has no legal right to the most detailed data on the location of cultural resources, even though the Commission may need such data for decision making purposes and even though BLM and AFC applicants may, as a result of that need, provide data to the Commission Staff.

3. Recognizes, nevertheless, that having access to such data could enhance participation in Commission power facility proceedings by appropriate intervenors, and therefore encourages BLM to provide access under conditions that BLM finds to be sufficient to protect the resource.

4. Provides direction on how requests for confidential data in our certification proceedings should be handled in the future.

II. Procedural History

On September 29, 2008, the Imperial Valley Solar applicant filed an application for confidentiality to protect draft reports prepared by its consultant, URS Corporation ("URS"). The reports contained confidential information concerning cultural resources located on the project's proposed site. The application was filed under the Commission's regulations that govern access to, and confidentiality of, all of the CEC's public records (i.e., not only the documents that are filed in licensing proceedings), and that implement the provisions of California's Public Records Act ("PRA"). (See Cal. Code Regs., tit. 20, § 2501 et seq.) Our Executive Director granted the Imperial Valley applicant's request for confidentiality approximately one month after receiving it, and she subsequently granted several additional, similar requests by the applicant. (See *Id.*, § 2505, subd. (a)(1) & (3).) The same basic process occurred in all of the solar AFCs.

On March 10, 2010, CURE petitioned the Commission for access to the confidential cultural resources data in the Imperial Valley proceeding. Although CURE filed its petition under the Commission's PRA regulations (as the regulations allow), CURE did so in its status as an intervenor in the proceeding. "CURE's petition stated that the requested information is necessary for CURE to fully participate in the proceeding with regard to cultural resource issues, that CURE is a formal consulting party in the federal National Historic Preservation Act Section 106 consultation process for the project, and that CURE would be participating in developing a programmatic agreement for protection of the cultural resources on the project site." (CEC Staff Brief, p. 4.) CURE's petition stated that both the organization itself and the cultural resources expert it retained would sign nondisclosure agreements protecting the sensitive data.

On April 15, 2010, the Commission's Chief Counsel, who acts as our delegatee in such matters, granted CURE's petition. (See Cal. Code Regs., tit. 20, § 2506.) "The [Chief Counsel's] determination concluded that CURE satisfied requirements of Section 2506 of the Commission's regulations, noted that Commission proceedings are open for public participation, and further noted that . . . any person granted intervention has the rights of a party." (CEC Staff Brief, p. 4.) The Chief Counsel's determination also concluded that there was no risk of damage to the cultural resources or the site upon which they were located. He reached this conclusion because CURE had hired a qualified archaeologist to review the requested documents, only he and other similar individuals would be able to review the documents, and the reviewer(s) would be given access only if they signed a stringent non-disclosure agreement.

Our regulations provide a fourteen-day period in which any party may request the full Commission to reconsider the determination of the Chief Counsel. (Cal. Code Regs., tit. 20, § 2506, subd. (b)(6).) BLM attempted to file a request for reconsideration, but it was untimely. Since then, BLM has filed additional documents strongly asserting that it has legal control over the data and objecting to the CEC's release of the data to CURE. BLM insists that CURE return the data to BLM, and demands that the Commission remove from its Docket and return all confidential information regarding cultural resources on BLM lands. (In this decision, we are treating BLM's request as if it were timely filed.) [See Cal. Code Regs., tit. 20, § 1203, subds. (c), (d), (f).]

Although the Commission had released information concerning only the Imperial Valley project, we had received an additional request from CURE for access to confidential cultural resources data in connection with the Genesis Solar Energy Project (which we are here treating as if it were granted and then appealed by BLM), and it appeared likely that similar issues would arise in other current proceedings. Taking those considerations into account, the Commission's Siting Committee (Chairman Karen Douglas, Presiding Member, and Commissioner Robert B. Weisenmiller, Associate Member, collectively "the Committee") consolidated all of the solar AFC proceedings "for the limited purpose of considering and resolving issues related to BLM-related cultural resources data." (Notice and Orders (May 21, 2010), p. 3; see Cal. Code Regs., tit. 20, §§ 1203, subds. (c), (d), 1208, 1719, subd. (a).) Since then we have received from CURE requests for confidential data in all of the consolidated proceedings except Ridgecrest (and a request still could be submitted there).

The Committee "[invited] [a]ll parties who have an interest in cultural resources in any of the cases . . . [to] submit briefs and testimony" and held an evidentiary hearing on June 9, 2010. Applicants in the cases, CURE, the CEC Staff, other parties, and BLM participated. The Committee issued a Proposed Decision on July 7, and the full Commission held a hearing on July 14 to consider whether to adopt the Proposed Decision.

III. Analysis

A. Confidentiality of the Data and the Documents.

CURE requested access to the data at issue, subject to a non-disclosure agreement, pursuant to Section 2506 of Title 20 of the California Code of Regulations. As noted above, this regulation is designed to implement the Energy Commission's obligations under the PRA. Consequently CURE's request would seem to have been made pursuant to the PRA, although CURE's request did not explicitly cite the PRA or any other underlying statute.

No one disputes that the data at issue, and the documents in which the data is embodied, are properly confidential under both federal and state laws pertaining to cultural resources and to government documents: the federal Archaeological Resources Protection Act ("ARPA"), the federal National Historic Preservation Act ("NHPA"), the federal Freedom of Information Act ("FOIA") and the California PRA. (5 U.S.C. § 552(b)(3); 16 U.S.C. §§ 470hh, 470w-3; Gov. Code, §§ 6253.9, subd. (g), 6254, subd. (k).); see also *Hornbostel v. U.S. Dept. of Interior* (D.D.C. 2003) 305 F. Supp. 2d 21, 30.) Furthermore, the PRA does not anticipate selective disclosure of confidential information to one member of the public, such as an intervenor in a siting case, while keeping the records otherwise confidential. (See, e.g., *Coastal Delivery Corp. v. U.S. Customs Service* (C.D.Cal. 2003) 272 F.Supp.2d 958, 964 [interpreting the FOIA] ["There is no room for confidentiality agreements, non-disclosure agreements, or other selective revelation in FOIA jurisprudence."]; see also Gov. Code, § 6257.5 [prohibiting denial of a PRA request because of its purpose].)

We must deny CURE's request for selective access to confidential information to the extent it was made pursuant to the PRA. However, CURE sought the data in question in its capacity as a party to a siting case. We believe CURE should have sought access to the data in question pursuant to the provisions of Section 1716 of itle 20 of the California Code of Regulations, which governs data requests in siting cases. (See Palo Verde Solar I, LLC & Palen Solar I, LLC Reply Brief p. 2.) For the sake of expediency, the remainder of this Order treats CURE's request as if it had filed a petition to compel production of documents pursuant to Section 1716(g). As is more fully explained below, we find such a petition could not be granted over BLM's objection.

B. BLM's Control of the Data and the Documents.

Federal laws assigning BLM responsibility for cultural resources on the lands within its jurisdiction lead us to accept BLM's argument that it "owns" or otherwise controls the disputed data.[1] Therefore BLM has the authority to determine the conditions (if any) under which any particular person or entity may have access to the data in question.

[1] When interpreting and applying statutes and regulations, we must give appropriate deference to the agencies responsible for implementing those laws. (See, e.g., *Udall v. Tallman* (1965) 380 U.S. 1, 16 [explaining that the U.S. Supreme Court "shows great deference to the interpretation given [a] statute by the officers or agency charged with its administration"].).

1. BLM's responsibility for cultural resources under Federal law.

As we explain more fully in the next paragraph, BLM has the legal duty to maintain the integrity of cultural resources on the land for which it is responsible. (See 16 U.S.C. §§ 433, 470aa *et seq.*; 43 U.S.C. § 1701; 36 Fed. Register 8921; see generally BLM Manuals 8100, 8140.) As a result, BLM has the legal authority to control access to those resources (and to the locations where other resources potentially may be found). (See 16 U.S.C. §§ 432, 470cc-dd, 470ee; see generally BLM Manual 8150.) We believe that in order to implement its authority and to carry out its responsibilities, BLM must be able to control the dissemination of properly-confidential data concerning cultural resources which are created in the course of reviewing the environmental impacts of a prospective project located on BLM land.

Two federal statutes govern, respectively, archaeological and historical cultural resources that are or may be found on the sites of the solar AFCs: the Archaeological Resources Protection Act ("ARPA") and the National Historic Preservation Act ("NHPA"). Under ARPA, "information concerning the nature and location of any archaeological resource . . . may not be made available to the public" unless the Federal land manager determines that such disclosure would further the purposes of ARPA and would not create a risk of harm to the resources or to the site on which they are located. (16 U.S.C. § 470hh(a)(1)-(2).) As BLM correctly notes in its brief, "the Federal land manager in this instance is the California Office of the BLM"; as such, only that Office can make the determination as to whether the cultural resources data should be disclosed to the public under ARPA. (April 29, 2010, letter of BLM Acting State Director James Abbott, p. 2; see also 16 U.S.C. § 470bb(2) [defining "Federal land manager" as "the Secretary of the department, or the head of any other agency or instrumentality of the United States, having primary management authority over [public] lands"].) "ARPA provide[s] the 'federal land manager' with substantial discretion to disclose or withhold 'information concerning the nature and location' of cultural resources, based on an assessment of the risks and benefits of disclosure." (*Southern Utah Wilderness Alliance v. U.S. Bureau of Land Management* (D.D.C. 2005) 402 F. Supp. 2d 82, 90; see also *U.S. v. Quarrell* (10th Cir. 2002) 310 F.3d 664, 671 [noting that archaeological sites are kept confidential to protect resources from vandalism and looting].) The provisions of NHPA are similar. (See 16 U.S.C. § 470w-3.)

2. BLM's ownership of the documents within which the data is contained.

The U.S. Federal Records Act "ma[kes] it clear that Congress regard[s] the ownership of agency records to be in the United States." (*Nixon v. United States* (D.C. Cir. 1992) 978 F.2d 1269, 1283.) It is equally clear that BLM documents containing cultural resources data are "agency records" and that therefore BLM owns those documents.

The FRA defines "agency records" as:

> All books, papers, maps, photographs . . . or other documentary materials [that are] made or received by any agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency . . . as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the information value of data in them.

(FRA, Pub. L. No. 81-754, 64 Stat. 583 [codified as amended in scattered sections of 44 U.S.C.].) BLM's cultural resources records were "made or received" by BLM "under Federal law": applicants' contractors generated the records and provided them to BLM in accordance with BLM national standards. (See BLM Manual 8150, Permitting Uses of Cultural Resources; April 29, 2010, letter of BLM Acting State Director James Abbott, p. 2). The cultural resources records were also "made . . . in connection with the transaction of public business": the data was gathered for the purpose of conducting cultural resources investigations of proposed solar facility sites on government-owned land. (See *Id.*, p. 2.) Furthermore, the records are "evidence of [BLM's] functions . . . procedures, [and] operations": because the data was gathered subject to a BLM State Permit for Archaeological Investigations, it provides an inside look into BLM's Field Authorization and permit processes. (*Ibid*.) In addition, it is obvious that the records are "preserved [and] appropriate for preservation . . . because of the information value of [the cultural resources] data in them" as specified in the FRA. And finally, BLM requires qualified archaeologists to "safeguard and preserve [cultural resources] materials as property of the United States." (43 C.F.R. § 7.6(b)(5).) For all of these reasons, the documents containing the disputed cultural resources data are agency records owned by BLM as the applicable representative of the United States government.

In sum, BLM has the authority to determine the conditions (if any) under which any particular person may have access to the data in dispute here. BLM has exercised its authority by saying that CURE cannot have access (at least at this time). We now examine what impact CURE's inability to access the information it seeks might have on the Energy Commission's siting process.

C. Intervenors' Rights to Data.

There is nothing in constitutional, statutory, or regulatory law giving CURE (or any other party) a right to the data that is in dispute here.

1. The California Administrative Procedure Act.

The adjudicative portion of the California Administrative Procedure Act (APA) embodies and implements all of the due process protections that must constitutionally be provided to any participant in an agency adjudicative proceeding. (See Cal. Law Revision Com. com., foll. Gov. Code, § 11425.10 ["minimum due process and public interest

requirements"].) There is nothing in the APA that provides a right to intervene, let alone any specific type of intervention or participation such as discovery. (See generally Gov. Code, § 11340 *et seq.*) Therefore, nothing in the APA compels release of the disputed cultural resources data to CURE.

This conclusion is reinforced by the intervention provision that is found in the APA. Government Code section 11440.50 provides an optional intervention process that agencies may adopt. Subdivision (c)(2) of that section expressly gives the agency the substantial discretion to "impose conditions on the intervenor's participation in the proceeding, either at the time that intervention is granted or at a subsequent time . . . so as to promote the orderly and prompt conduct of the proceeding." (Gov. Code, § 11440.50, subd. (c)(2).) Thus the agency may impose any condition – such as no discovery, or limited discovery – that it believes is appropriate "to promote the orderly and prompt conduct of the proceeding." (See *Id.*)

Indeed, there is no due process right to discovery even for defendants in agency disciplinary proceedings such as license revocation hearings. Yet such persons are entitled to more due process protections than are those who do not have but only seek a license (e.g., applicants in our AFC proceedings), who in turn are generally entitled to more protection than persons intervening in license application proceedings. As the leading practice guide on administrative hearings explains, "[d]ue process of law does not guarantee a prehearing right to discovery." (Cal. Administrative Hearing Practice (Cont. Ed. Bar 2d ed. 2008) Overview, § 1.70, p. 50 [quoting *Mohilef v. Janovici* (1996) 51 Cal. App. 4th 267].) Instead, "[t]he scope of discovery in administrative hearings is governed by statute and the agency's discretion. " (*Id.* [quoting *Cimarusti v. Superior Court* (2000) 79 Cal. App. 4th 799].)

The federal APA is to the same effect. (See 5 U.S.C. § 555(b); cf. F.R. Civ. P. § 24(a) [intervention as of right in civil judicial litigation].) "[T]he agency 'may' permit intervention if it chooses" (7 West's Fed. Admin. Prac. § 7721 (3d ed. 2009)), and "inherent in the provision for intervention is the power to limit the form and extent of participation by the intervener" (2 Admin. L. & Prac. § 5:20 (2d ed. 2010)).

2. Warren-Alquist Act.

The Warren-Alquist Act is the Energy Commission's enabling legislation, which is part of the California Public Resources Code (PRC). PRC section 25114 defines "Interested party" as **"**any person whom the commission finds and acknowledges as having a real and direct interest in any proceeding or action carried on, under, or as a result of the operation of, this division." Regarding access to data for intervenors in AFC proceedings, PRC section 25519(b) provides: "The commission, upon its own motion or in response to the request of any party, may require the applicant to submit any information, document, or data, in addition to the [application for certification], that it determines is reasonably necessary to make any decision on the application." Notably, Section 25519(b) speaks only to access to information by the Energy Commission and

its staff for the purpose of completing its environmental analysis, but not to access to information by intervenors (or "interested parties") such as CURE.

a. Section 1716 of Title 20 of the California Code of Regulations.

To implement the Warren-Alquist Act, the Energy Commission has adopted regulations governing both intervention and discovery. Section 1716 governs the processes by which both Energy Commission staff and intervenors in AFC proceedings may obtain information. (Cal. Code Regs., tit. 20, § 1716.) Section 1716(a) grants Energy Commission staff "authority to request or otherwise obtain from the applicant such information as is necessary for a complete staff analysis of the notice or application." In contrast, section 1716(b) provides that intervenors "may request from the applicant any [relevant] information *reasonably available* to the applicant"; 1716(d) further limits intervenor's access to information from other parties to relevant information which is "reasonably available to the responding party *and cannot otherwise be readily obtained*." (Cal. Code Regs., tit. 20, § 1716 (b) & (d) (emphasis added).) Section 1716 draws a marked distinction between staff and intervenors. While staff may request "any information necessary for a complete analysis," intervenors are limited to data which is "reasonably available" to the requesting party. (See Cal. Code Regs., tit. 20, § 1716(a) (b) & (d).) This is an acknowledgement of different roles; unlike intervenors, staff is responsible for undertaking the environmental analysis.

When discovery disputes arise, Section 1716(g) provides that any party may bring what amounts to a petition to the relevant siting committee to compel production of data. This subsection gives the committee broad discretion adjudicating such petitions, providing that the committee "may grant or deny the petition, in whole or in part," or may "direct the commission staff to supply such of the information request as is available to staff. (Cal. Code Regs., tit. 20, § 1716(g).)

Here, CURE has submitted what amounts to a request pursuant to Section 1716(g) for cultural resources data.[2] As discussed extensively above, BLM has asserted ownership and control of the data requested by CURE in this proceeding, and has demanded the return of all such data by both CURE and Staff. Whether the data is in Staff's possession or not, it cannot be transferred to CURE without BLM's approval. Consequently, the data is not "reasonably available," as required to Section 1716 (b) & (d). For this simple reason, we find CURE's request must be denied.

b. Section 1207 of Title 20 of the California Code of Regulations.

Section 1207 of Title 20 sets forth the general process for intervening in Energy Commission proceedings, including AFC proceedings. (Cal. Code Regs., tit. 20, §§ 1207.) Section 1207(c) provides that any party granted intervenor status has "all the

[2] See *supra* Section III. A.

rights and duties" afforded to other parties. CURE contends that because the CEC Staff, which is a party, has access to the BLM cultural resources data that has been docketed here, it too must have the same access. Relatedly, Californian's for Renewable Energy asserted that Section 1207 prevents the Energy Commission from pursuing an AFC proceeding until CURE has been afforded access to all information available to the Staff. We disagree with both contentions.

Section 1207 must be read in conjunction with, and harmonized with, the other applicable provisions of our regulations, including but not limited to Section 1716. True, the Staff is a party in AFC proceedings. (See Cal. Code Regs., tit. 20, § 1201, subd. (e); see also Gov. Code § 11405.60). However, as noted above, the Staff has access to, and uses, cultural resources data not primarily in an advocacy role as a party, but in carrying out its unique responsibility to ensure that the Commission's record contains a legally-adequate assessment of all environmental matters under the California Environmental Quality Act (CEQA) and of compliance with all applicable laws. (See Pub. Resources Code, § 21082.1, subd. (c); Cal. Code Regs., tit. 20, § 1742, subd. (c); see also Cal. Code Regs., tit. 20, § 1716 (discussed *supra*).) To the extent that the Commission needs access to any particular information to carry out its duties under CEQA and the Warren-Alquist Act, we must rely on the Staff to analyze that information on our behalf. Section 1207 does not change that fact, nor the fact that neither CURE nor any other intervenor has a similar duty. (The applicant also has a unique responsibility under the law to present adequate evidence to meet its burden of proof, but that is not at issue here.)

In sum, we find that nothing in the Warren-Alquist Act or the Commission's regulations, or any other law, requires that CURE must be permitted access over BLM's objection to sensitive cultural resources data controlled by BLM pursuant to federal law. Furthermore, there is nothing which suggests that our process cannot proceed if is denied access to the information it seeks. Rather, our regulations suggest that CURE's request should be denied because the information it seeks is not reasonably available for release to CURE.

D. CURE Access to Data Pursuant to BLM Processes.

While intervenors do not have an absolute right to discovery, to facilitate vigorous public participation and transparency the Commission has consistently exercised its discretion to grant intervenors access to data to the extent feasible. In this instance, we lack the authority to give CURE access to the information it seeks.

In our view it would be consistent with the purposes of ARPA and NHPA for BLM to grant access to cultural resources data to intervenors with appropriate qualifications and pursuant to the requisite confidentiality requirements. Expert witnesses are frequently given access to confidential data that is unavailable to the general public; they have access to confidential information such as autopsy reports, ballistic reports, psychiatric records, and medical records. (See, e.g., *Stewart v. U.S.* (1961) 366 U.S. 1, 12; *Abdul-Kabir v. Quarterman* (2007) 550 U.S. 233.) They are provided access to this

information so that they can draw on their expertise and guide the parties through complex and technical scientific issues. (See Federal Rules of Evidence Rule 702.)

The record indicates that CURE has already initiated discussions with BLM to obtain from it the data it seeks from us, and that BLM is considering these requests. Under different circumstances, we might consider delaying a siting case to afford an intervenor access to relevant information. We do not have that luxury in this instance. Each of the above-captioned projects must meet extraordinarily tight time-lines with respect to state and federal agency permitting decisions to qualify for funding from the U.S. Department of Energy under the American Recovery and Reinvestment Act. (Public Law 111-5 (2009).) Even a slight delay could cause projects to miss critical deadlines in the permitting process, and therefore lose access to recovery act funding. These projects also provide options for California's electric utilities' in meeting their statutory obligation per the Renewable Portfolio Standard, and they have the potential to help reduce greenhouse gas emissions. We therefore encourage BLM to accommodate CURE to the extent it can without violating its obligation to protect the cultural resources in question, as expeditiously as possible. We further direct Staff to do what it can to facilitate such resolution.

IV. Findings, Conclusions, Orders and Other Concluding Matters

1. BLM controls the dissemination of confidential data on cultural resources that are or may be located on land within its jurisdiction. We will not disclose records that (a) are in our possession or control, (b) concern cultural resources on BLM land, and (c) are confidential under ARPA or NHPA, without permission from BLM.

2. The confidential data sought by CURE is not reasonably available to staff for disclosure to CURE.

3. CURE shall return all disputed confidential data received to date to BLM.

4. Energy Commission staff shall comply with BLM's direction with respect to the confidential data on cultural resources in question, while working with BLM staff to ensure that it has access to the information it needs for its environmental analysis under CEQA.

5. In proposed generation facility proceedings, the Staff has unique duties that are not within the scope of section 1207, subdivision (c) of the Commission's regulations.

6. The constitutional and statutory provisions that we implement do not create or provide an absolute right to intervention, or to any particular form or activity of intervention.

7. The Commission's regulations provide two potential courses of action for persons who are seeking information from the Commission in AFC proceedings: discovery under our siting case regulations and Public Records Act requests under our PRA regulations. To implement both sets of regulations in an efficient manner, parties in power facility proceedings should use the discovery process wherever possible (including but not limited to submitting data requests to the CEC Staff for documents that are within the Commission's possession or control). Of course, members of the public may seek access under the PRA to non-confidential documents related to siting cases.

8. This is a precedent decision under section 11425.60 of the Government Code.

Dated: July 14, 2010 in Sacramento, California

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Chair

Absent
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Vice Chair

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JEFFREY D. BYRON
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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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APPLICATION FOR CERTIFICATION

For the CALICO SOLAR (Formerly SES Solar One)

Docket No. 08-AFC-13

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(Revised 7/12/10)

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APPLICATION FOR CERTIFICATION FOR THE *GENESIS SOLAR ENERGY PROJECT*

Docket No. 09-AFC-8

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APPLICATION FOR CERTIFICATION FOR THE
IMPERIAL VALLEY SOLAR PROJECT
(formerly known as SES Solar Two Project)
IMPERIAL VALLEY SOLAR, LLC

Docket No. 08-AFC-5
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APPLICATION FOR CERTIFICATION
FOR THE *BLYTHE SOLAR*
POWER PLANT PROJECT

Docket No. 09-AFC-6

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APPLICATION FOR CERTIFICATION FOR THE *PALEN SOLAR POWER PLANT PROJECT*

Docket No. 09-AFC-7

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1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the *RIDGECREST SOLAR POWER PROJECT*

Docket No. 09-AFC-9

PROOF OF SERVICE
(Revised 7/6/2010)

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DECLARATION OF SERVICE

I, Maggie Read, declare that on July 15, 2010, I sent hard copies of the attached *Commission Decision Re; Data Concerning Cultural Resources on BLM Land,* dated July 14, 2010. The original documents, filed with the Docket Unit, are accompanied by a copy of the most recent Proof of Service list, located on the web pages for the following projects at :

[www.energy.ca.gov/sitingcases/calicosolar]
[www.energy.ca.gov/sitingcases/genesis_solar]
[www.energy.ca.gov/sitingcases/solartwo/index.html]
[www.energy.ca.gov/sitingcases/solar_millennium_blythe]
[www.energy.ca.gov/sitingcases/solar_millennium_palen]
[www.energy.ca.gov/sitingcases/solar_millennium_ridgecrest].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service lists) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

__x__ sent electronically to all email addresses on Proof of Service lists for the following projects;
09-AFC-6 *Blythe Solar Power Plant Project*, 08-AFC-13 *Calico Solar*, 09-AFC-8 *Genesis Solar Energy Project*, 08-AFC-5 *Imperial Valley Solar Project*, 09-AFC-7 *Palen Solar Power Plant Project* and 09-AFC-7 *Ridgecrest Solar Power Project;*

____ by personal delivery;

__x__ by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__x__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 10-CRD-1
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original signed by:
Maggie Read
Hearing Adviser's Office

EXHIBIT 4

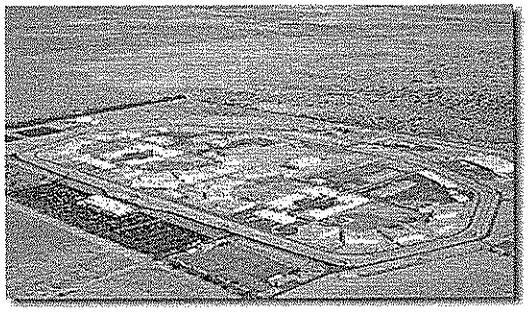
Visitation

Adult Facilities Locator

To learn more about an institution, select one in the drop-down menu:

Adult Institutions

California State Prison, Centinela (CEN)



Domingo Uribe, Jr.,
Warden (A)

Physical Address:
2302 Brown Road
Imperial, CA 92251
(760) 337-7900

Mailing Address:
P.O. Box 731
Imperial, CA 92251-0731

Institution Statistics:

Centinela State Prison was opened in October 1993, and covers 2,000 acres. As of Fiscal Year 2010/2011, the following statistics apply:

Number of custody staff:	805
Number of support services staff:	461
Total number of staff:	1,266

Annual budget:

Institutional:	$125.6 million
Medical:	29.1 million
Education:	$6.3 million

Designed Bedspace & Count

Facility Level	Design Capacity	Count
Level I and Firehouse	208	273
Level III and CTC	2,000	3,808
ADSEG	300	264
Total	2,558	4,345

CEN Links

- Mission Statement
- Institution Statistics
- Inmate Programs
- Press Releases
- Historical Notes
- Visiting and Directions

Visitation

- Visitation Home
- Facility Locations
- Juvenile Facilities
- CDCR Adult and Juvenile Institutions and Camps in California PDF
- General Information
- Family Svcs/3rd Day Visiting
- Get on the Bus/Chowchilla Family Express
- How to Send Money to an Inmate
- Inmate Package - Approved Vendors
- Inmate Packages - Msg to Vendors
- Receiving calls from CDCR Inmates and Youths
- Inmate Visiting Guidelines PDF

EXHIBIT 5

Edie Harmon, P.O. Box 444, Ocotillo, CA 92259
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August 26, 2010

Jim Stobaugh
National Project Manager
BLM
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Reno, NV 89520-0006
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Re: 1610-5.G.1.4 Proposed Resource Management Plan Amendment PRMP-A/FEIS for the CDCA Plan and Imperial Valley Solar Project (IVS)

Dear Mr. Stobaugh,

I am submitting these comments as an individual so I will feel free to tell BLM what my reactions to the FEIS and associated documents are, perhaps in not any special order. This letter and the Protest with exhibits make up my comments on the FEIS

Per your direction that materials be received by the end of day on August 26th, I sent by express mail a CD from El Centro on August 24th with 96 documents including exhibits previously submitted to California Energy Commission on this project **prior** to submitting the comment letter electronically. Daniel Steward informed me earlier that any comments I had submitted to the CEC must also be resubmitted to BLM to be considered for the FEIS and Plan Amendment decisions. **Per your recent email, I am now assured that the FEIS comment deadline will be COB on Friday August 27, 2010.**

BLM's Preferred Alternative is still a massive industrial scale solar technology inconsistent with the language of the CDCA Plan and FLPMA.

1. BLM's Preferred Alternative for the IVS is the 709 MW Alternative with 28,360 SunCatchers on a Right of Way grant for approximately 6,144 acres (about 9.65 sq miles) under BLM jurisdiction and includes private lands also. The Bureau of Land Management (BLM) should deny the Right of Way Grant (ROW) for the Imperial Valley Solar Project and not approve the Proposed CDCA Resource Management Plan (PRMP-A) pursuant to the Land Use Amendment Alternative No Action, No ROW grant and Amend the CDCA Plan for No Solar to make the project site unavailable for future solar development. As described at FEIS Vol2 B-6. It is this alternative that seems consistent and compatible with the text of FLPMA and the CDCA Plan.

2. The PRMP-A is proposed at different places in the IVS FEIS including p. 2-10 and in Appendix B ov Vol 2 at B-9. BLM's preferred alternative would allow the installation of 28,360 large solar dishes intensively industrializing the 6,144-acre site under BLM jurisdiction (FEIS 2-33) or is it 6,140 acres (FEIS b-3)and includes about 360 acres of private land. The IVS would result in permanent fill of 177 ac non wetland waters of the US, 5 ac temporary impacts to waters of the US and indirect impacts to 13 ac of waters of US (FEIS B-7,8). Why did BLM chose as a preferred alternative, the 709 MW alternative, the one with the greatest impacts to the largest acreage of waters of the US? FEIS at B-4 states that this alternative was developed after the release of the SA/DEIS. But how many members of the public or organizations commenting realized that there had been another alternative added?

3. Once developed it will be a fenced industrial site with a substation and hundreds of miles of roads of paved and unpaved on public land. Ultimately, this Project will require construction of the 500-kV Sunrise Powerlink transmission line proposed by SDG&E in order to transmit its power to the electrical grid. Clearly, this is not a low-intensity energy development as contemplated by the CDCA Multiple-use class L (Limited Use). (MUC L).

4. The preferred alternative would be no more acceptable than any others given the language of the CDCA Plan and FLPMA. A large area of land immediately adjacent to the Interstate would become an eyesore of an industrial scale unneeded wasteland of solar mirrors, a solar sacrifice area, a constant visual reminder of the power of greed and failure to value those public lands resources for which urban decision-makers can find no monetary value, inspiration, or beauty. An industrial wasteland adjacent to the interstate as a reminder of how not to do things.

5. The proposed IVS project is on public lands with Multiple Use Class L (Limited use) designation (CDCA Plan as Amended in 1999, Chap.2 p.13) and proposed intensive industrial scale solar development on public lands that are rich in significant cultural resources that are an essential part of the cultural landscape, includes a portion of a National Historic Trail, and important habitat for the proposed threatened flat-tailed horned lizard (FTHL) between two FTHL management areas, provides forage for the listed endangered Peninsular bighorn sheep (PBS) observed and photographed on site. According to expert testimony at the CEC Evidentiary Hearing, it would normally take three to five years just to complete the required studies on cultural resources, yet this project has been a rush job with a changing project description as time goes by. Through recent studies related to this project review, the resource values which prompted BLM to designate the area as MUC L in 1980 have been revealed to be even more important than originally known when BLM produced its 1980 CDCA Draft Plan and repeatedly made reference to the project site area as the Plaster City ACEC. (http://www.energy.ca.gov/sitingcases/solartwo/documents/2010-08-16_Transcript_Evidentiary_Hearing.pdf)

6. I strongly object to the precedent that would be established for the CDCA if the allowed used in the Multiple Use Class L (Limited Use) is permitted and thereby changes allowable uses from low intensity to intensive industrial scale development that would allow the scraping of the surface and construction of hundreds of miles of paved and unpaved roads in an area designated for the protection of sensitive resource values. Specifically, the CDCA Plan as Amended in 1999 defines the intended use as follows sating that: “Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower- intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.” (CDCA p. 13)

7. It is inconceivable that any person could believe that a project that proposed more than 28,000 enormous SunCatchers covering a site of 6,144 acres of Public Lands entrusted to BLM’s management could ever, by any stretch of the imagination, be considered “lower intensity uses”: while ensuring that sensitive resource values are not significantly diminished. No they won’t be significantly diminished, they will be destroyed, all in the name of profits for a private applicant seeking public monies to engage in speculative and resource destructive development on public lands long known for their high cultural resource density, diversity and sensitivity and long know as important habitat for the flat tailed horned lizard a candidate for listing by the FWS..

8. I am incorporating by reference the content of my Protest of the Director’s PRMP-A and them appending it hereto. An advance copy of the protest was emailed to Brenda Williams at the Director’s Washington DC office mid afterno0n on August 26, 2010 with a copy to Jim Stobaugh m IVS Project Manager in Reno NV and to Daniel Steward, Resources Branch Chief at the BLM EL Centro CA Field Office. Said electronic transmission of the protest will be received as part of my comments on the FEIS prior to the email for these comments. Thank you.

FEIS contains inconsistent and inaccurate project locations, ignoring public comments. By omitting any reference to the involuntary population of more than 4345 inmates (2010) at the nearby Centinela State Prison the FEIS attempts to minimize the health impacts of particulates and possibly valley fever

9. Appendix B Determination of NEPA Adequacy (DNA(in vol 2). The same old inaccurate project location is once again repeated (B-3) and in the Vol 1 Executive Summary (p. iii). The project is NOT located 4 miles east of Ocotillo Wells, no matter what the preparers of the FEIS may want to believe. Didn't anyone look at maps to make corrections after Scoping comments were submitted. Ocotillo Wells is located in San Diego County on Hwy 78 ? Ocotillo Wells is nowhere near the proposed project site!

10. Repeating the same project location errors suggests overwhelming inattention to detail on the part of the preparer of the FEIS and BLM reviewers and lack of consideration of public comments. As a resident of the Ocotillo area, I am always upset when someone mistakes Ocotillo (a predominantly low income retirement community) for Ocotillo Wells which I consider an ORV area near Anza Borrego State Park to the north. Why not make corrections to something you signed in July 2010? Therefore, the FEIS contains an incorrect and inconsistent description of the project location which reveals sloppy inattention to public comment and review of maps. But on the rush to designate a solar sacrifice area, did anyone really care?

11. FEIS 3.1-3 Geographic setting does a better job of location nearby small population centners, but fails to disclose the location of the nearby Centinela State Prison which is several miles to the NE of the project site and has an involuntary population of more than 5,000 in 2009, but down to 4,345 in 2010 in addition to a workforce of 1,266 employees. (See Wikipedia Aug 2009 and the official site at .http://www.cdcr.ca.gov/Facilities_Locator/CEN-Institution_Stats.html and http://www.cdcr.ca.gov/Facilities_Locator/CEN-Institution_Stats.html). This information was provided very early on in the environmental review process but ignored. One cannot reach the project site from the east or west without seeing signs for the state prison. Failure to disclose the location of this involuntary population serves to underestimate the potential adverse health impacts of increased windblown particulate matter and potential exposure to Coccidioidomycosis (Valley Fever) as fungal spores in surface layers are disturbed and become airborne. Earlier I submitted exhibits and expressed concern about Valley Fever outbreaks at several state prisons when inmates from urban areas were moved to prisons in the desert. Increasing health problems in the inmate population translates to a potentially adverse financial liability for taxpayers in addition to lots of bad PR.

12. After reading the EIS and listening to the evidentiary hearings and visiting the site, it is appalling to think that anyone from BLM, especially anyone from the BLM EL Centro Field Office would ever consider the site to be "vacant" land (B-3). The site is rich with biological diversity and abundant evidence of prehistoric use of the area by people who lived and traveled through the area in earlier times. Or do they turn the other way as they drive by?

KOP photos are terrible and do not adequately reflect views of the site as it was in Spring or Summer 2010 or during past decades

13. It is not surprising that the KOP views appear so grim, given that they mist have been taken near mid-day to reflect applicant bias, or was it the use of added yellowing filters. I have lived here for 33 years and been coming to Imperial County for research many years before I moved here. Never in all that time have I ever seen such bizarre yellowed photos that look so unlike the real desert one sees when driving on Interstate 8 regardless of time of day.. I agree that the photos for the KOPs are really ugly, but they certainly did work hard to get such a strange representation. There is also no consideration of the views of Mount Signal to the South. I certainly am glad that the desert I drive past on I-8 when I pass the proposed project site has never looked as shown in the KOPs Appendix A, vol 2. No wonder BLM 's consultant could describe the site as vacant. However, I am certain that BLM El Centro Field Office staff know very well that the KOP photos do not reflect the washes and vegetation or terrain at the proposed site. The journalist from Swedish Public Radio got some great photos on when we visited the site before and after the CEC Evidentiary hearing on August 16th, 2010. The KOP photos do not reflect the views of

the project site observable to the public.

CDCA Plan Amendment for IV Solar destroys the meaning of protecting sensitive resource values in Multiple Use Class L (Limited Use)

14. Appendix B. B. Land Use Plan (LUP) Conformance (B-9) states that:

> The IVS project site is currently designated as Multiple-Use Class L (Limited Use) Designation in the CDCA Plan. The Limited Use designation is intended to protect sensitive, natural, scenic, ecological, and cultural resources values. Public lands designated as Limited Use are managed to provide for multiple use of resources at a lower intensity, ensuring that sensitive values are not significantly diminished. The construction and operation of a solar generating project on the IVS project site would require the BLM to amend the CDCA Plan to allow wind/solar energy generating activities in the Multiple Use Class L (Limited Use) on the IVS project site. (Appendix B at B-9)

15. To allow such a proposed project in a Multiple Use Class L, even if only on this site, negate the meaning and intended uses of the Multiple Use Class L throughout the California Desert District Conservation Area. Multiple Use Class L would then become acceptable as a sacrifice area everywhere else because from documentation for the proposed project it is painfully obvious that cultural resources would be destroyed, biological resources adversely impacted or destroyed, visual resources industrialized through the massive intensive project. To assert that sensitive values would not be significantly diminished on the more than 6,000 acres of BLM Multiple Use Class L lands is simply not credible given the magnitude of acreage and intensity of surface disturbing activities including road construction, buried electrical and hydrogen lines , and access to pound in the suncatchers, an unproven technology.

Proposed project if approved essentially privatizes and fences off now public lands for private profit and resource destruction

16. Be realistic. BLM may be processing a ROW application, but the now public lands managed by BLM will become de facto private lands fenced and controlled by the project applicant. A giant give away of public lands for a project not needed, and for which BLM refused to apparently consider alternative sites on disturbed lands or alternative technologies to reduce energy demand, technologies such as improving structure insulation, conservation and distributed rooftop and structure PV . If the goal is to reduce dependence of diminishing fossil fuels, then there are realistic alternatives to turning environmentally sensitive, culturally sensitive lands into sacrifice areas that will add to particulate air pollution and further degrade public health for Imperial County residents!

17. Public lands for private profits and return of capital to investors at the expense of public lands resource values and public health. What kinds of oversight would the El Centro Field Manager have for site management (FEIS Vol 1 Abstract) after the land has been converted from Limited Use desert lands with vegetated washes and cultural resource values, much of which apparently still has not been discovered according to testimony at the CEC Evidentiary Hearing on Cultural Resources that I listened to in the BLM office on August 16, 2010. What kinds of activities on damaged lands? Does this refer to the clean-up when things go wrong or if the project fails and is abandoned?

Why does such a complex system with so many moveable parts choose a site adjacent to and south of an OHV Open area

18. Just this past week I had to wait out a dust storm from the south by staying in El Centro where the visibility was less than one city block with sheets of sand blowing parallel to the ground surface, even in town. This was the second time in the past month that blowing sand has been so

strong that I have not felt safe to drive west on I-8 through the open desert toward Ocotillo. Chubascos come up suddenly and often with unexpected violence.

19. Increased deposition of dust and sand on the mirrors is likely to necessitate increased water use for washing the reflective surfaces. Twice during the past two weeks I was forced to wait in El Centro to travel west on Interstate 8 past the project site because the waves of blowing sand several feet above the ground and parallel to the ground made visibility too low for high speed travel on the interstate. On one occasion last week visibility was less than one city block and the sky was brown even in the city. What would this kind of windstorm event mean for the SunCatchers, stability and need for rinsing off dust? Such sand storms always come suddenly and without apparent warning. Although the issue has been raised a number of times it seems to have been ignored.

20. What is it that the public doesn't understand about the desire of a project proponent with a technology with so many moveable parts to seek a location where there will be maximum exposure to winds carrying a high load of sand? Is that why the applicant chose a site to the south and east of the Plaster City OHV Open area, to be sure there would be maximum amounts of sand and dust to pit the reflective surfaces and get into moving joints leading to early failure, maximum requirements for repairs, or possibly early abandonment leaving behind destroyed lands. Or does the applicant not believe, and the ever rotating BLM staff not get into the field enough to see and remember?

Project Area was identified as part of Plaster City ACEC to protect cultural resource values in 1980 Draft CDCA Plan

21. Lands that were once public lands of such significance that BLM's 1980 Draft CDCA Plan had repeatedly identified the proposed project site as part of the Plaster City ACEC for cultural resources. Knowing what I have learned about protecting sensitive resources by not disclosing what or where they may be located I can only assume that BLM decided the best protection for cultural resources might just be to not disclose that this was an important cultural resource area. That silence has a penalty that now leads to consideration for destruction of an important cultural resource area and the veiwshed of an important cultural landscape.

A Biological Opinion from US FWS is required contrary to text at FEIS B-11

22. Re Appendix B art C "other documents that cover the proposed action" (Vol 2 B-11) Why does the text fail to state that a biological opinion is required. Contrary to the statement that no biological opinion is required, Guy Wagoner of Fish and Wildlife Service , Carlsbad Field Office (760-760-431-9440 x 372) confirmed on August 23, 2010 that a Biological Opinion is indeed being prepared for the Imperial Valley Solar Project. However, the BO has not yet been publicly released and is not included in the FEIS. It is well understood that a BO is essential and must be completed prior to BLM issuance of a ROD.

23. But even more importantly why has there been no BO for the much smaller ROW for a water pipeline through BLM land adjacent to Old Hwy 80 for a pipeline from the WestSide Main Canal to the Plaster City factory so the manufacture of wallboard can be done using Colorado River Water supplied by IID rather than potable water from the EPA designated Sole Source Aquifer known as the Ocotillo-Coyote Wells Groundwater Basin? BLM cannot issue the USG ROD until the BO is completed, and the FEIS for that project was completed in Spring 2008.

24. Sounds like unnecessary delays for a small project and an incredible rush to a decision on a massive project with much greater biological impacts.

Appendix B discussion of Dan Boyer well historic pumpage is incorrect and unsubstantiated. No site specific geohydrology study has ever been done for use of this well as required by County General Plan.

25. Discussion of Dan Boyer well provides erroneous information about historical pumpage and owner could not provide any documentation for assertion, See Harmon testimony for Evidentiary Hearings before the California Energy Commission related to use of the Dan Boyer well. (Exhibits 566 and 567 and associated exhibits submitted with that trestimony.)

26. There is no historic documentation that this well ever pumped 200 AF/Y any more than there is any evidence that US Gypsum ever pumped its asserted 767 AF/Y. If either were to be true, given the fact that the Boyer well is asserted to be 500 ft from the USG well that does much to explain the evidence of well interference and the dramatic decline in static water levels from west to east and from NW to SE where these wells are at the center of a large cone of depression.

27. Water levels decline 69 feet in 3.75 miles from Miller's Garage to the west to just east of Coyote wells, and decline 60 feet in 6 miles from the Ocotillo Mutual Water Company well to the levels in Yuha Estates to the SE. See **Exhibits 599 and 599 A** which are graphic representations of the water level data in EH Table 10, a compilation of monitoring data from USGS website (**Exhibits 516 and 551**)

28. The proposed Imperial Valley Solar Project does not overlie the Ocotillo-Coyote Wells Groundwater Basin as asserted at B-16 or the larger Coyote Wells Valley Groundwater basin identified (at FEIS 3.17-6) if one considers hydrology rather than political boundaries/ This was noted by the CEC and can be clearly seen in the Campbell overlay of the EPA SSA with IV Solar on Google earth aerial image. (**Exhibit 600**) As the CEC noted Imperial County does not make groundwater use/export decisions based on safe yield from the overdrafted groundwater basin.

29. Indeed the CEC staff's determinations about the impacts of the use of the Boyer well are more serious than found in the FEIS. The CEC staff in its Opening Brief at p 19 noted that : " However, the use of the Boyer well, which has a permitted capacity of 40 acre feet per year (afy) does create potentially unmitigable impacts, both to residential users of the well and the groundwater basin itself, which is in a state of overdraft." Furthermore, the CEC states that:

30. a. *Local Residents Depend on the Boyer Well and a Conservative Approach to Determining the Acceptable Level of Project Use of this Water is Essential* (CEC OB at 19) Requiring the IVS project to leave this small amount of water (6AF/Y) available for residential water use is the only way to ensure that the Commission decision does not leave local residents without water, and that impacts to these residents are not significant." (CEC OB at 20)

31. "*b. The Fact that the Groundwater Basin is in Overdraft Combined with its Designation as a Sole Source Aquifer Supports a Finding that Any Additional Withdrawals Constitute a Significant Impact*." (Italics in original. CEC OB at 20)

    a. The Ocotillo/Coyote aquifer is a sole source aquifer, providing more than 50% of the drinking water for local residents. (Exh. 302, p. C.7 11.) The basin is in overdraft, meaning that more water is being withdrawn from the basin than is recharged. (*Id*. at C.7 41.) Although the County requires registration of wells, it is not implementing a regulatory scheme based on an analysis of safe yield. (July 26, 2010, RT 160:22 25 – 161:1(Scott).) The only other sources of water in the vicinity of the Boyer well are other wells that produce water from the same aquifer. (Exh. 302, p.C.7 50.) Several residents commented during the public comment session that there have been recent incidents of failures of residential wells. (*See e.g*., July 26, 2010, RT 280:24 – 281:1 6*;* 282:5 20.) In sum, water is a scarce resource in the project vicinity, and public comment indicates that residents of local communities are increasingly challenged to find a reliable source of water. (CEC OB at 21)

    b. In addition to assessing impacts of project water use on local residents (discussed above),

staff identified the following types of impacts associated with water extraction: water quality impacts from upflux, impacts to wells and/or groundwater dependent vegetation, and impacts to basin storage. Staff and the applicant agree that the available analysis indicates that impacts associated with the first two types of effects will not be significant. (Staff is uncertain whether the other parties agree.) However, staff and applicant disagree about the significance of the impact to basin storage. The applicant testified that use of the Boyer well would not cause a significant impact to basin storage because the project's individual use represents a small percentage of the total amount in storage, and because it wouldn't make a measurable difference in the water levels in the basin. (Exh. 140, p.2.) However, the applicant's witness conceded that there can be measurable impacts to water levels that only occur as a collective result of pumping – even when each individual's activities may not have a measurable effect on groundwater levels. (July 26, 2010, RT 163:12 (Scott).) This situation is very common in overdrafted water basins, with many small incremental uses creating an impact that is significant in the aggregate. (CEC OB at 21-22.)

c. Staff believes that water is a finite and precious resource, and that incremental use that exacerbates a significant cumulative impact should be identified as cumulatively considerable. Staff's concern is heightened by the fact that this basin is a sole source aquifer. Staff's concern is heightened by the fact that this basin is a sole source aquifer . .... When it comes to water in the desert, and a water supply that is the sole source of drinking water, staff believes a conservative approach is called for. Staff believes that this project's use of water from the Boyer well is cumulatively considerable and should be identified as a significant adverse impact. ... the water used by the project is gone forever.[7] (July 26, 2010, RT 214:4 12 (Fio).) (CEC OB at 22)

d. Fn 7 It is important to note that CEQA case law is clear that a Lead Agency should not consider a permitted use as the baseline to which project impacts are compared, unless that use was the subject of environmental review. (*Benton v. Board of Supervisors* (1991) 131 Cal.App.3d 350, [182 Cal.Rptr. 317]) In this case, no such review has occurred. (CEC OB at 22)

e. [Importing water and recharging the basin is infeasible,] Thus, staff concluded that the use of Boyer well water is a significant impact and that mitigation is not feasible. (CEC OB 23)

32. What is significant from the perspective of a groundwater user with 33 years of analyzing USGS monitoring data and studies, is the knowledge that the County's Ordinances were never believed to be serious efforts toward groundwater management, reduction of local conditions of overdraft or involving any consideration of safe yield.

33. The original water well ordinance was written at a time when the County was engaged in litigation to prevent the export of groundwater from two wells in the Ocotillo-Coyote Wells Groundwater basin, wells that were about 6 miles apart, but each having either well interference, excessive drawdown form pumping, and/or changes in water quality. However, the County made no attempts to restrict or eliminate the export of water from the wells operated by US Gypsum, carefully crafting the ordinance language so as to not have to apply the ordinance to US Gypsum, wits its three wells which combined pumped more than three times as much as either of the wells exporting water to Mexico by tank truck.

34. With respect to the groundwater management ordinance, it was carefully crafted with major assistance from the US Gypsum attorney and the original ordinance had special language related to "district off basin users" of which there was only one known in the County, surprise, surprise, it

was US Gypsum. There was specific text intended to ensure that ultimately, even though US Gypsum electrical and production records could never prove asserted usage of 767 AF/Y, that USG would actually be able to convince the County Planning Director to approve use of a quantity that USG had asserted as a past historic high decades ago.

35. Requirements for a Groundwater commission are paper requirements. I was able to document only two meetings during the almost fifteen years since the ordinance's approval, And there were no groundwater users on the commission. Whether or not it exists, I have no idea and I have never been aware of noticed groundwater commission meetings.

36. I submitted extensive analysis of the USGS monitoring data with respect to the Boyer well and its close proximity in relation to the largest volume pumping wells operated by USG. I noted well interference, a pump test too short to be meaningful, and significant declines in water level at the Boyer well even when there was very little water being pumped. If you look at the list of exhibits that accompanied the CEC testimony, you will realize that the vast majority are about groundwater, but cultural resources, air quality and biological resources are discussed in depth in both written comments, exhibits, and public comments that are included in portions of transcripts included as exhibits.602, 605 and 606.

37. The IVS site has an extraordinary quantity of cultural extremely important and significant resources: Indeed, the site contains an "extraordinary" number of cultural resources, according to California Energy Commission archeologist Michael McGuirt. The number of cultural resources in this one project area exceeds all the cultural resources that the Energy Commission has dealt with to date." The Project area is a part of a continuous cultural landscape that must be taken as a whole and includes areas that extend from the project site in every direction. These resources include two prehistoric districts, multiple stone scatters with human worked bones, stone tools, ceramics, geoglyphs, 11 segments of a prehistoric trail system, and a considerable number of cremations on and adjacent to the Project site. The cultural resource landscape has been described by Claudia Nissley (formerly with ACHP and a SHPO) as being of unique national significance given that so much has been preserved because of the low rainfall and aridity.

38. The cultural resource issues related to the IVS site are of such importance that the CEC spent an entire day, August 16, 2010 for evidentiary hearings on the subject., My comments on cultural resources at the public comment period at the end of the day can be found in Exhibit 601 which is appended to the Protest.

39. But wait, today is August 26, 2010, and by mid-day the CEC announces it is time to give up caring and stop wasting time, energy, and paper. because Imperial County is to be a Solar Sacrifice Area. Does BLM care enough to just say no?

Timing of decisions by the CEC are insulting to the concerned public and to the sensitive resources on public lands

40. There is something very tragic about how both the BLM and the CEC have conducted their CEQA and NEPA reviews with timing of their decisions prior to the end of public comment or during the middle of an Evidentiary Hearing. The message to the public is clear. How could you have been so dumb as to think there was any serious consideration of public participation and/or public input? And, to let you know just how much you have wasted your time, we will announce a pre-decision before you even finish reviewing documents and commenting, because the decision makers are tired of the charade of wasting time listening to the public. However, Jennifer Jennings of the CEC Public Advisor's office stands out as a heroic figure who genuinely seemed

to care about public participation, care enough to spend three days in El Centro as the only staff to enable those with no landline phone access the opportunity to listen and add comments. On Aug 16th, BLM kindly let us listen to the Evidentiary Hearing at the BLM conference room. Briefly there seemed hope that either CEC or BLM might care enough to really consider public input. Apparently not.

41. The CEC Presiding Member Decision of August 26, 2010, which, without reading very far into the document reaches the conclusion that the public lands, sensitive resource values of those lands and the people of Imperial County warrant nothing more than to be designated a Solar Sacrifice Area so that the project applicant and San Diego Gas and Electric Company can reap profits. A Solar Sacrifice Area so the urban populations in remote coastal areas can continue their ever more resource and electrical consumptive lifestyles at the expense of environmentally, educationally, and economically challenged communities and desert lands that they don't know and for which they could care less. Coastal areas should be the first to reduce their electrical usage because the climate is moderate, but as always, the poor are expected to pay more and bear the adverse health impacts so the more affluent can continue their ways ignoring resource constraints and the impacts on other places and people they choose not to see or understand.

42. The cover page of the CEC document is about the ugliest depiction I have seen for this bizarre project, uglier even than the covers for the BLM FEIS. One can only hope for early project failure so that more than 6,000 acres of now beautiful public lands with washes and cultural resources will not be destroyed and so that the taxpayers will realize what a waste of money it is to try for industrial scale solar development rather than improving housing stock and installing distributed roof-top PV systems which could actually improve the quality of people's lives and provide good paying jobs in the communities where real working people live. Four billion dollars, 2 billion for IVS and another 2 billion for Sunrise Powerlink could do much good if money were spent in the public interest for reducing electrical demand rather than fueling private profits.

43. I just read the gibberish that constitutes the CEC Presiding Member Decision on groundwater (Soils and Hydrology Groundwater p. 9-12) and it appears as chaotic and unrelated to the groundwater resources as earlier CEQA/NEPA documents, a perfect example of garbage in and garbage out, don't confuse anyone with facts or serious hydrology because the overarching determination is to find any and all possible justification for designating everything in Imperial County as one colossal renewable energy sacrifice area. And why not? After all, most of Imperial County isn't a built urban area. So, therefore, these BLM managed public lands must be just a desert wasteland not worthy of any serious consideration for anything of value. Or, they soon will become a wasteland.

44. I have lived here for 33 years, and I have no idea of what one calls the Ocotillo-Coyote Wells Valley Groundwater Basin. That is not any name of a basin in all the decades of groundwater related litigation related to the Ocotillo-Coyote Wells Groundwater Basin and Sole Source Aquifer, Those OCWBGB are empty words that have little if anything to do with the US EPA designated Ocotillo-Coyote Wells Groundwater Basin, a Sole Source Aquifer in the SW corner of Imperial County an so designated in 1996. See Exhibit 600 of the Protest letter for the EPA basin boundaries and the location of the proposed IVS project which lies outside the SSA and to the east of it, overlying highly saline water rather than the potable water west of the fault system.

45. The politics of groundwater is a very stinky political business in California where big money not data pushes decisions. Therefore, it is no wonder the state of California is headed for some very grim times ahead when it comes to recognizing that water resources are limited and declining.. No decision-makers want to be disturbed by facts that don't support their preconceived decisions.

46. I can see by reading the groundwater discussions that I wasted a tremendous amount of time and energy in taking the process of participaing for an Intervenor seriously. It was painfully obvious that no amount of information from USGS data and analysis could influence anyone's thinking, and I note that not one exhibit submitted by an Intervenor was considered by the CEC staff at all on the Alternative Water Supply issue, at least not one was cited..

47. Why don't the CEC and BLM just be honest and tell the public not to waste time, because anything any applicant wants will be granted and everything will be deemed worthy only of designation as a Sacrifice Area necessary to support affluent urban lifestyles in locations remote from the sacrifice areas.

48. Let us all who are concerned hope for early bankruptcy and/or project failure in hopes of saving something of the sensitive resource values of the California desert. Before the entire 6,144 acres of ouublic lands are destroyed. As the CDCA plan states, the California Desert is not a wasteland.

49. Oh, but that was what BLM thought in 1980 and again 1999 when the Plan was amended. But this is 2020, and now BLM wants to amend the Plan to designate the Multiple Use Class L (Limited Use) so that it will mean Limited to becoming a solar sacrifice area, adjoining what will soon be additional Limited Use solar and wind sacrifice areas.. Yes, if as it is going, BLM will indeed succee in turning the California Desert into a wasteland through which no one will want to drive or walk and where sensitive biological resources and cultural resources are doomed. A beautiful desert, rich with sensitive resource values officially designated a renewable energy sacrifice area full of the ugliness of SunCatchers.

50. The good may stay, but the alert move on and will have to take their photos and memories of a once exciting and healthy desert rich with cultural resources that could tell important stories with them.

51. Writing as an individual I can tell you what I really think of the process. And that is that BLM and CEC just don't care and that you, as agencies and individuals, are tired of the deadlines and pressures and ready to give up as you have been directed from the top persons (Governor of CA or Secy of Interior) who simply have no use for deserts they have never visited, their resources or their people.

Thank you for considering these comments on the IVS FEIS. Please note that I gave up because it seems so obvious that no one involved in decision-making seems to care, so why finish reviewing and commenting on the inadequacies of the FEIS for the IVS project.

s/

Edie Harmon

Protest letter and exhibits also constitute part of my comments on FEIS.

Cc interested parties

EXHIBIT 6

State Of California The Resources Agency of California

Memorandum

Date: July 27, 2010
Telephone: (916) 654-4894

DOCKET
08-AFC-5
DATE 07/27/10
RECD. 07/27/10

To: Commissioner Jeffrey D. Byron, Presiding Member
Commissioner Anthony Eggert, Associate Member
Hearing Officer Raoul Renaud

From: California Energy Commission – Terry O'Brien, Deputy Director
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **STAFF'S COMMENTS REGARDING A POSSIBLE ENERGY COMMISSION FINDING OF OVERRIDING CONSIDERATIONS - IMPERIAL VALLEY SOLAR PROJECT (08-AFC-5)**

The Energy Commission staff believes that the direct project impacts to biological resource, and soil and water resources, and visual resources, and the cumulative impacts associated with biological resources, land use, soil and water resources, and visual resources for the Imperial Valley Solar (IVS) Project will be significant. There is no feasible mitigation that would reduce the impacts to a level that is less than significant given the scale of the project, and other projects that were cumulatively considered. In addition, staff has concluded that the project will not be able to comply with Imperial County several laws, ordinances, regulations and standards, also referred to as "LORS." Finally, staff recognizes that due to a lack of information regarding the long-term performance of this new technology, it is uncertain whether the applicant's claims regarding reliability will be met.

Notwithstanding the unmitigable impacts, consideration needs to be given to the fact that the project is a solar power plant that will help California meet its renewable portfolio standard (RPS) of 33 percent in 2020 and AB 32 greenhouse gas emission reduction goals. As such, it will provide critical environmental benefits by helping the state reduce its greenhouse gas emissions, and these positive attributes must be weighed against the project's adverse impacts. It is because of these benefits and the concerns regarding the adverse impacts that global warming will have upon the state and our environment, including desert ecosystems, that staff believes it would be appropriate for the Commission to approve the project based on a finding of overriding considerations, consistent with CEQA Guideline Section 15093, if the Commission adopts staff's proposed mitigation measures/conditions of certification.

For the same reasons as state above, staff believes the Commission could address the LORS inconsistency by finding that the project is needed for the public convenience and necessity, and that there are not more prudent and feasible means for achieving such, pursuant to Public Resources Code section 25525 (the so-called "LORS override").

PROOF OF SERVICE (REVISED 5/10/10) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 7/27/10
MS

Staff's position on the IVS Project should not be read as a blanket endorsement of all solar projects, nor as an indication that we will consistently conclude that it is appropriate for the Commission to adopt overriding considerations for unmitigable significant environmental impacts or findings of public convenience and necessity for any LORS non-compliance. Our determinations will be made on a case-by-case basis. As with all electricity infrastructure projects, site selection is a critical factor in determining impacts and staff's position on whether a Commission override is appropriate or warranted.

The fact that the IVS Project's site is adjacent to, and in the vicinity of, existing and planned development, (e.g., Plaster City, Interstate 8, and existing electricity infrastructure, including major transmission lines and other proposed renewable energy projects), is a significant factor in reaching the conclusion that an override is appropriate in this case.

As indicated in its November 19, 2008 Renewable Energy Transmission Initiative comments on the proposed competitive renewable energy zones, staff believes renewable energy development should occur in areas proximate to "existing transmission infrastructure and load centers" and recognizes that it is important to "protect the unique visual resources of the desert and to preserve the special qualities of remoteness and isolation that are inherent in the appeal of desert landscapes."

One final observation is that, in the future, after several of the new solar power plants have been constructed and have been operational for an appropriate period of time, staff and others will have more information about their collective impacts to evaluate and compare the characteristics of the various solar thermal technologies. Based upon this information, staff will be better informed to determine whether some technologies are preferable from an environmental perspective and will factor that evaluation into our alternatives analysis. Important issues to analyze will include water use, land use (amount of land needed per megawatt of generating capacity), visual impacts, and ground disturbance.

In support of staff's position for consideration by the Committee, staff requests that notice is taken of the following documents:

1) Climate Action Team Report to Governor Schwarzenegger and the Legislature. CalEPA, March 2006.
2) AB 32 Scoping Plan. CARB, December 2008.
3) Integration of Renewable Resources. CAISO, Nov. 2007.
4) 2007 Integrated Energy Policy Report. CEC, Nov. 2007.
5) 2009 Integrated Energy Policy Report. CEC. Nov. 2009.
6) Draft Final Opinion on Greenhouse Gas Regulatory Strategies: Joint Agency Proposed Final Opinion. CPUC/CEC 2008.
7) Framework for Evaluating Greenhouse Gas Implications of Natural Gas-Fired Power Plants in California. CEC (MRW and Associates). May 2009.

DECLARATION OF TERRY O'BRIEN

I, Terry O'Brien declare as follows:

1. I am presently Deputy Director of the Siting, Transmission and Environmental Protection Division at the California Energy Commission.

2. I am personally familiar with the IMPERIAL VALLEY SOLAR PROJECT currently under review by the Energy Commission staff. I have reviewed relevant sections of the Supplemental Staff Assessment and have discussed the case with technical staff, siting management and legal staff. In addition to the IMPERIAL VALLEY SOLAR PROJECT, I reviewed the filings and staff's analysis regarding all the solar power projects currently filed with the Energy Commission.

3. I prepared the attached testimony regarding Biological Resources, Land Use, Soil & Water Resources, and Visual Resources and the appropriateness of recommending a finding of overriding considerations. The testimony is based on my independent analysis and review of the relevant documents submitted in the case.

4. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness, could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated:_____ Signed:_____

At: Sacramento, California

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION FOR THE
IMPERIAL VALLEY SOLAR PROJECT
(formerly known as SES Solar Two Project)
IMPERIAL VALLEY SOLAR, LLC

Docket No. 08-AFC-5
PROOF OF SERVICE
(Revised 5/10/10)

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*indicates change

DECLARATION OF SERVICE

I, Maria Santourdjian, declare that on July 27, 2010, I served and filed copies of the attached, Staff's Comments Regarding A Possilbe Energy Commission Finding of Overriding Considerations. The original documents, filed with the Docket Unit, are accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/solartwo/index.html]

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

__x__ sent electronically to all email addresses on the Proof of Service list;

__x__ by personal delivery;

__x__ by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__x__ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Originally Signed by
Maria Santourdjian

*indicates change

EXHIBIT 7

emedicine from WebMD emedicine.medscape.com

eMedicine Specialties > Infectious Diseases > Fungal Infections

Coccidioidomycosis (Infectious Diseases)

Edward L Arsura, MD, Chair, Department of Medicine, Chief Medical Officer, Richmond University Medical Center
Duane R Hospenthal, MD, PhD, Chief, Infectious Disease Service, San Antonio Military Medical Center, Brooke Army Medical Center; Professor of Medicine, Uniformed Services University of the Health Sciences; **Ana Paula Oppenheimer, MD, MPH,,** Staff Physician, Department of Medicine, Richmond University Medical Center

Updated: Dec 21, 2009

Introduction

Background

Coccidioides immitis and *Coccidioides posadasii* are dimorphic fungi that are endemic to the Western Hemisphere, to certain arid regions in the southwestern United States, and to Mexico, Central America, and South America. The 2 species are morphologically identical but genetically and epidemiologically distinct. *C immitis* is geographically limited to California's San Joaquin valley region, whereas *C posadasii* is found in the desert of the southwest United States, Mexico, and South America. The manifestations of exposure to either organism are assumed to be identical; however, this hypothesis has not been formally tested.

The disease has numerous designations related to the location it is acquired (eg, valley fever, San Joaquin fever, desert fever, California fever) or its clinical manifestations (eg, desert rheumatism, coccidioidal granuloma). Most simply and commonly, the symptomatic infection is referred to as cocci.

Coccidioidomycosis was first recognized as a distinct disease entity in 1892. In 1900, coccidioidomycosis was identified as a fungal infection. The first documented case of coccidioidomycosis was diagnosed in an Argentinean soldier with predominantly cutaneous manifestations. The actuality that coccidioidomycosis is not a rare, uniformly fatal infection was not appreciated until a medical student accidentally inhaled the *Coccidioides* organism and developed a nonfatal pulmonary illness accompanied by erythema nodosum. Researchers then noted the association between this presentation and the clinical condition known as San Joaquin Valley fever.

The importance of the illness increased during the 1930s and 1940s, with the influx of immigrants from the Midwest who arrived in the San Joaquin Valley of California to escape drought and to seek agricultural employment. The entry of thousands of military personnel building airstrips and participating in desert combat training during World War II also influenced the importance of the illness. The importance of coccidioidomycosis to the military led to many important studies on the pathogenic organisms and the epidemiology, clinical features, and diagnosis of coccidioidomycosis.

Interest in coccidioidomycosis has been renewed because of massive migration to the Sunbelt states. Areas of the country that were sparsely populated are now major population centers filled with individuals who are now susceptible to coccidioidomycosis. Phoenix and Tucson, Arizona; Bakersfield and Fresno, California; and El Paso, Texas, are prime examples. These locales also have a growing segment of individuals who are unusually susceptible to the most serious consequences of infection, particularly older and immunocompromised populations. Interest also has increased because of an explosion in the number of cases that occurred during the great coccidioidomycosis outbreak in California in 1991-1994.

The ecologic niche of the fungus is the lower Sonoran life zone. This zone is characterized by low elevations, scant rainfall (5-15 in/y), mild winters (40-54°F) and hot summers, and sandy alkaline soil with increased salinity. The *Coccidioides* organism is chiefly restricted to areas of the Western Hemisphere from latitudes 40° north to 40° south. Areas of highest endemicity include the southern-central portions of California (San Joaquin Valley), Arizona, southern

New Mexico, western Texas, and northern Mexico. In addition, certain regions of Central America and South America have appropriate climatic conditions for the organism.

Infection is acquired via the respiratory tract. The number of cases of coccidioidomycosis in endemic regions rises sharply in the late summer and early fall. In the fall (ie, dry season), soil disturbances, either natural (wind) or man-made (agricultural endeavors, construction, archeological excavations) are likely to send the fungus airborne, enhancing the likelihood of its inhalation.

Coccidioidomycosis is considered to be an occupational hazard in endemic regions, and it is a compensable illness. Given the mode of transmission, outdoor activities are the primary risk factor. Infection may be acquired outside of endemic areas via transport of contaminated material. Alternatively, the infection may be acquired in endemic areas, but the initial symptom complex occurs after the patient has left the area.

Pathophysiology

Inhaled airborne arthroconidia are deposited into the terminal bronchiole and transform into spherules, causing an inflammatory reaction. Spherules react with complement and promote chemotaxis of neutrophils and eosinophils. The spherules reproduce by a process known as endosporulation, rupture, and liberate viable endospores. Some of the endospores are engulfed by macrophages, initiating the acute inflammation phase. If the infection is not cleared during this process, a new set of lymphocytes and histiocytes descend on the infection site, leading to granuloma formation with the presence of giant cells. This is the chronic inflammation phase. People with severe disease may have both forms of inflammation.

The following unproven possibilities for dissemination have been proposed:

- Hematogenous dissemination: Spherules or endospores gain access to alveoli and pulmonary parenchyma and then to the bloodstream.
- Lymphatic spread followed by hematogenous spread: Infected macrophages from the initial terminal bronchiole lesion travel through the lymphatic channels to the thoracic duct and then gain access to the bloodstream.

Numerous studies have established that immunity mediated by T cells is critical to controlling the infection.[1] The innate cellular response (neutrophils, macrophages mononuclear cells, NK cells) also contributes to host defense. T-cell activation and cytokine formation stimulate inflammatory cells and facilitate killing of the organism. T-helper type 1 (Th-1) cytokines, particularly interferon-gamma, promote macrophage killing of endospores.

A failure of the host to respond appropriately indicates either a specific or a generalized deficiency in cell-mediated immunity. This is clinically overt in patients who have conditions that impair cell-mediated immunity and in those who are using agents that interfere with T-cell function. Other factors, such as immune-complex formation and antigen overload, can also cause failure of host response.

Frequency

United States

An estimated 100,000 infections occur annually in the United States, and approximately one third to two thirds of these cases are subclinical. An occasional case transmitted via fomites is reported outside of endemic areas.

Several sharp upsurges in the incidence have occurred. The western migration of the 1930s and the influx of military personnel in the 1940s triggered notable increases. In 1978, the first true epidemic occurred after an unprecedented dust storm that originated in the lower end of the San Joaquin Valley, quadrupling the incidence of disease.

The great coccidioidal epidemic occurred in California in 1991-1994. In 1992, this outbreak produced a peak of approximately 4200 cases, an increase of more than 14-fold from baseline. One explanation for the epidemic is that it occurred after a 5-year drought that was terminated by above-average rainfall. This rainfall allowed dormant arthrospores to germinate and to be carried aloft by summer winds. At the same time, a marked influx of disease-naïve individuals into the area further set the stage for the epidemic.

In areas of highest endemicity, the infection rate is approximately 2-4% per year. The prevalence in endemic areas has varied over time; the disease affects 30% of the population within the endemic regions of California and Arizona.[1] This figure is lower than findings from epidemiologic studies performed 50 years ago, when 68% of the population was found to have skin tests positive for coccidioidal antigens. Positive skin test results are related to the duration of residence in endemic areas and to occupational and recreational exposure to dust.

International

The frequency of infection in endemic areas of Central America, Mexico, and South America, is unknown.

Mortality/Morbidity

Potential complications of coccidioidomycosis are numerous (see Complications).

Race

Although no specific immunologic defect has been detected, African American, Hispanic, Filipino, and Asian individuals with *Coccidioides* infection are at higher risk of serious coccidioidomycosis, with both pulmonary and disseminated disease. This risk persists when analyses are controlled for age, sex, additional demographic features, concurrent medical problems, duration of exposure, and occupation.[2] When these populations are infected with the *Coccidioides* organism, their rate of skin-test positivity decreases, and their complement-fixation titer increases compared with findings in the non-Hispanic white population.

- One large study of 536 individuals demonstrated that 2.6% of non-Hispanic whites had dissemination, compared with 3.4% of Hispanic individuals, 7.3% of Filipinos, 22% of African Americans, and 20% of Asians.[3]
- The elevated incidence of disease in these individuals does affect clinical decision-making, particularly regarding the interpretation of symptoms and options for treatment.
- Patients treated with tumor necrosis factor (TNF) antagonists are at an increased risk for coccidioidomycosis, adding this population to other immunosuppressed individuals (eg, those with HIV infection or organ transplants). Substantial resources are being directed toward vaccine development.

Clinical

History

As in much of clinical medicine, interpretation of the patient's history, physical findings, and clinical data, as directed by previous experience and knowledge, is crucial for focusing the diagnostic possibilities. More than in many other illnesses, the patient's travel history is of considerable importance, and even transient exposure to endemic areas greatly increases the likelihood of infection in a patient presenting with a compatible illness.

Presentation

Coccidioidomycosis can manifest in various forms. Symptoms depend on the location and number of individual lesions, reflecting the site of infection. More than 60% of patients remain asymptomatic, while others develop mild

illness 1-4 weeks following the initial infection.

- Primary pulmonary coccidioidomycosis
  - After exposure to the organism, a 2- to 3-week incubation generally occurs. In 50-75% of immunocompetent individuals who inhale arthrospores (infectious particles derived from breakdown of hyphae), symptoms do not occur or are so mild that the infected individual does not seek medical attention.[1,4] The only evidence of infection is a skin test that is positive for coccidioidal antigens.
  - The natural history is a gradual resolution of symptoms, even without antifungal treatment, over 2-6 weeks.
  - In symptomatic patients, the most common initial presentation is pulmonary infection. Symptoms in these individuals include the following:
    - Fever
    - Cough
    - Chest pain
    - Fatigue
    - Shortness of breath
    - Chills
    - Sputum production
    - Night sweats
    - Headache (common, even in the absence of meningitis)
    - Weight loss
    - Arthralgias, myalgias
  - These symptoms are nonspecific, but diagnosis may be aided by observing for erythema nodosum or erythema multiforme, skin manifestations that develop during the primary infection and that affect 25% of infected individuals, mostly women. These symptoms tend to resolve after several weeks.

- Chronic coccidioidomycosis
  - Five to 8% of patients with primary pulmonary disease develop chronic coccidioidomycosis. This is characterized by pulmonary disease, with or without extrapulmonary spread, or by extrapulmonary disease alone. Chronic pulmonary disease generally represents failure of local defenses and is commonly associated with advanced age and/or diabetes. The most common forms are cavity or nodule formation, which frequently represent a transition from acute disease to resolution (see also Complications).
    - Coccidioidal nodules represent inflammatory debris-filled cavities that may persist or, more commonly, may become thin-walled cavities or resolve. Symptoms are rare, and diagnostic confusion can occur because only 12% of these lesions become calcified.
    - Cavities are frequently solitary, thin-walled, apical, and peripheral. They are usually asymptomatic, and 50% completely disappear within 2 years.
    - Diagnostic difficulties are more likely to occur when an air-fluid level is present or when an infiltrate surrounds the cavity.

- Progressive pulmonary disease: Diffuse progressive pulmonary disease involves increasing portions of the lungs, with symptoms persisting from months to years. Chest radiographs show progressive interstitial changes, with fibrosis, volume loss, and inflammation. Cavitary disease may be noted. Although treatment may be effective in patients with progressive pulmonary disease, the prognosis is poor in those with advanced age and/or diabetes.

- Disseminated disease
  - Extrapulmonary disease represents a progression from the initial pulmonary presentation, occurring within weeks or up to more than 2 years. Less than 1% of affected individuals develop disseminated

disease, which can be rapid and fatal. The male-to-female ratio is 5:1, but this disparity reverses in pregnant women.

- Patients present with dramatic sweats, dyspnea at rest, fever, and weight loss.
- Disseminated disease suggests hematogenous spread of the *Coccidioides* infection beyond the pulmonary parenchyma. Virtually any organ of the body can be involved (endocrine glands, eye, liver, kidney, prostate and peritoneal cavity), but organs of predilection reportedly include skin, bone, joints, and the CNS. Rare infection sites include the subserosal intestines, heart, and urinary bladder. The disease usually spreads via lymphatic drainage as demonstrated by sequential involvement of the hilar nodes, followed by the paratracheal and then supraclavicular nodes, and finally reaching the common lymphatic duct. From there, spread of the coccidioides becomes hematogenous.
- The most common sites of disseminated disease include the skin, meninges, and skeleton.
- Certain host factors, clinical findings, and laboratory findings suggest dissemination. Established risk factors include advanced age, an immunocompromised state, late stages of pregnancy, and ethnic or racial factors (see Race). Diffuse spread revealed on chest radiographs indicates a high risk of extrapulmonary dissemination. Patients who do not develop a cutaneous response to coccidioidal antigens and those with a pronounced serologic response are also at an increased risk.
- Involvement of the skin and subcutaneous tissues is characterized by the following:
  - Skin manifestations are part of the primary illness. A transient, fine, nonpruritic papular rash appears early in the disease process but is often missed.
  - Erythema nodosum appears as tender lesions, generally on the anterior surface of the lower extremities, although the lesions may develop virtually anywhere. The lesions are tender to palpation, erythematous, and 1-2 cm in diameter.
  - Erythema multiforme manifests as relatively symmetric erythematous, expanding macules, or papules that evolve into classic iris or target lesions with bright-red borders. Central vesicle formation is common.
- Involvement of the brain meninges and spinal cord is characterized by the following (see also Complications):
  - Coccidioidal meningitis can be part of disseminated disease but can also occur without involvement of other sites; the latter is associated with an increased risk of complications and death.
  - Meningitis manifests as a persistent headache, which should be evaluated thoroughly upon worsening, unusual severity, associated nausea and vomiting, blurry vision, or a change in mental status (eg, drowsiness and confusion). Other common manifestations include nuchal rigidity and photophobia. Symptoms related to increased intracranial pressure (eg, nausea, vomiting, altered mental status) are relatively common.
  - Less-common presentations include focal neurologic deficits, cranial nerve palsies, tremulousness, intention tremor, papilledema, gait abnormalities, seizure, and coma.
  - CSF usually contains increased protein levels and decreased levels of glucose and lymphocytic pleocytosis. Eosinophils in the CSF in the appropriate clinical situation support the diagnosis.
  - MRI shows ventricular enlargement and hydrocephalus.
  - Nonspecific laboratory abnormalities may include hyponatremia in association with syndrome of inappropriate antidiuretic hormone (SIADH).
- Bone and joint manifestations are characterized by the following (see also Complications):
  - Migratory arthralgias, especially of the knees and ankles, are common. The triad of arthralgias, fever, and erythema nodosum is termed desert rheumatism.
  - Patients report dull, persistent bone pain and localized percussion tenderness.
  - Osteomyelitis presents in 40% of disseminated disease cases. The spine, ribs, cranial bones, and distal ends of long bones are commonly involved.
  - If the vertebral column is involved, careful neurologic examination is warranted to evaluate for

cord impingement. Joint involvement is usually monoarticular or oligoarticular. Physical findings are not helpful in differentiating coccidioidomycosis from other causes of monoarthritis or oligoarthritis.

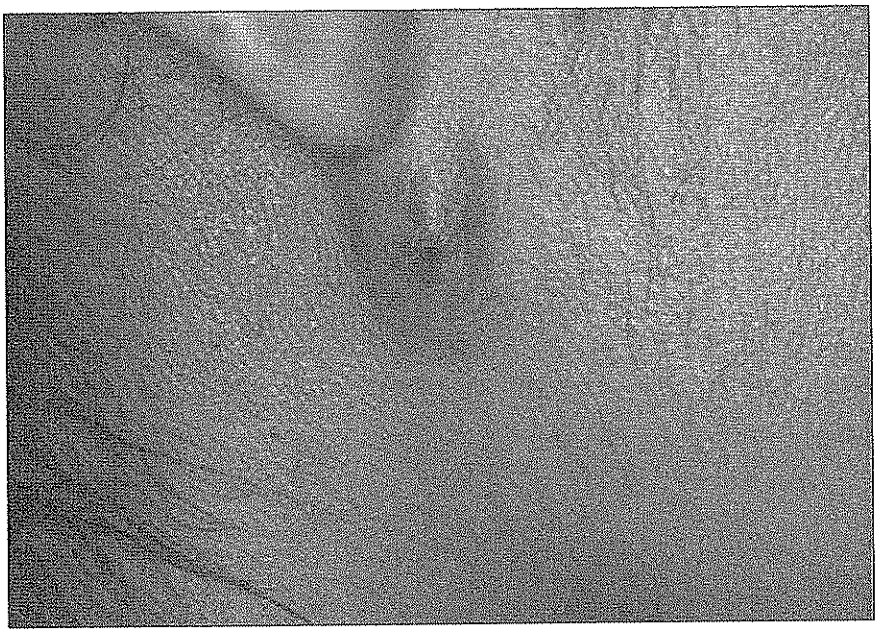
- All patients with disseminated disease should undergo CT scanning to evaluate for asymptomatic bone disease.

- Presentation in special hosts: Several conditions predispose to dissemination of the disease. These include conditions that create a T-cell disturbance, such as immunotherapy administered for transplants, HIV infection, high-dose steroid therapy, and anti-TNF therapy. Third-trimester pregnancy and the peripartum period also predispose to disseminated infection.
- Immunosuppressed patients display unremitting symptoms (ie, fever, chest pain, weight loss) for months. Chest radiographic findings are similar to those of pulmonary tuberculosis.
- Patients infected with HIV may present with a fulminant picture of respiratory failure, diffuse pneumonia, fungemia, and septic shock that resembles a gram-negative infection. The mortality rate is very high in such cases. The CD4 count is usually below 100 cells/µL, and the viral load is usually high. Few patients with HIV infection who develop *Coccidioides* infection have survived longer than a few months.

Physical

Findings on physical examination reflect the organ system or systems involved.

- Pulmonary involvement may reveal evidence of consolidation with bronchial breath sounds, rales, rhonchi, dullness to percussion, and increased tactile and vocal fremitus.
  - Chest radiographic findings are abnormal in most cases, revealing infiltrates, hilar adenopathy, and even pleural effusion and pneumothorax. The presence of peritracheal adenopathy indicates spread of the infection. Nodules and cavities occur usually in association with enlarged lymph nodes.
  - Less commonly, diffuse coccidioidal pneumonia in immunocompetent hosts manifests as respiratory failure due to either high inoculum or fungemia seeding the lung at several sites.
  - Apical fibronodular lesions with small cavities that are similar to findings in pulmonary tuberculosis are common in chronic progressive pneumonia.
  - A chest radiograph that reveals a miliary pattern is less common. This is an ominous sign that represents the development of small millet seed granulomas throughout the lung and other organs. It can occur in immunocompromised or immunocompetent hosts.
- Extrapulmonary physical findings depend on the involved organ.
  - Skin - Erythema nodosum, erythema multiform, verrucae (especially around the nasolabial area), ulcerations, abscesses (see image below)



Soft tissue abscess due to cocci.

- Bones - Osteomyelitis, septic arthritis, synovitis
- Meninges - Tremulousness, gait abnormalities (especially in children), papilledema

Causes

- The *Coccidioides* organism is dimorphic, meaning that it assumes 2 different forms, depending on the environment. It grows in the mycelial form in the soil of endemic areas.
  - As the mycelial structure matures, alternating hyphal cells either expand into barrel-shaped structures or shrink and die, producing the characteristic arthroconidia.
  - The arthroconidia are the infectious particles of coccidioidomycosis. These conidia require little nutrition and can withstand extreme heat, desiccation, and changes in soil salinity.
- When the soil is disrupted, the arthroconidia can become airborne and, if inhaled by a susceptible host, produce infection.
  - Localized in the pulmonary acinus, the arthrospore sheds its outer coating, swells, and becomes a spherical structure, ie, the spherule.
  - The spherule is the parasitic stage of the organism, which reproduces by a process known as endosporulation. Rupture of the spherule leads to release of contained endospores, each of which matures into spherules, repeating the cycle.
  - If the organism is cultured, it reenters the mycelial phase, with hyphae formation, hence its classification as dimorphic.

Differential Diagnoses

Acute Respiratory Distress Syndrome	Paracoccidioidomycosis
Blastomycosis	Pericarditis, Acute
Brucellosis	Pericarditis, Constrictive

Cryptococcosis
Enteropathic Arthropathies
Eosinophilia
Eosinophilic Pneumonia
Histoplasmosis
Hodgkin Disease
Hypercalcemia
Legionnaires Disease
Lymphoma, B-Cell
Mycetoma
Mycoplasma Infections
Myelophthisic Anemia
Pneumonia, Bacterial
Pneumonia, Community-Acquired
Pneumonia, Fungal
Pneumonia, Viral
Pott Disease (Tuberculous Spondylitis)
Pulmonary Eosinophilia
Sarcoidosis
Septic Arthritis
Septic Shock
Solitary Pulmonary Nodule
Tuberculosis

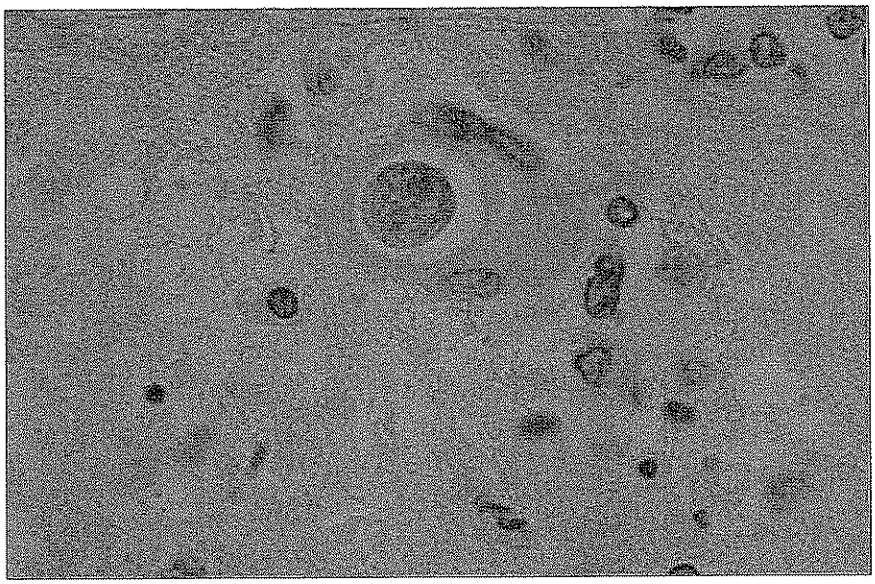
Other Problems to Be Considered

Bacterial lung abscesses with thick-walled cavities with extensive surrounding infiltrates
Chlamydial and mycoplasmal infections
Cold abscesses of skin tuberculosis
Pneumocystis jiroveci pneumonia in persons with HIV infection or AIDS

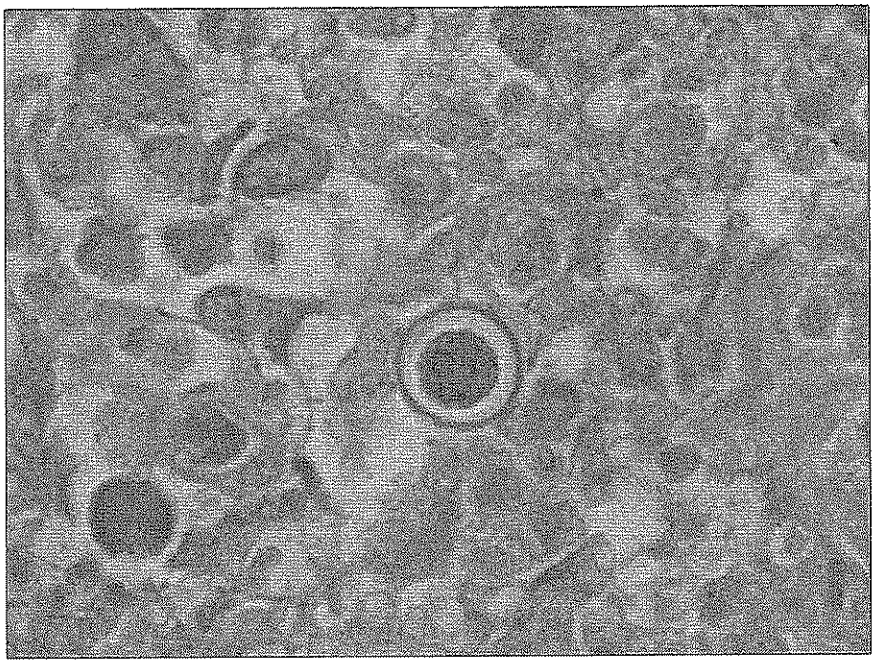
Workup

Laboratory Studies

- Routine laboratory examination
  - Elevated ESR
  - Blood eosinophilia
- Direct examination
  - The diagnosis can be made by observing spherules (≤70 µm in diameter) that contain endospores in clinical material of any body fluid, including sputum or lesion smears and biopsy material.
  - Identification on smears may be made by using calcofluor white or cytologic stains.
  - Identification in biopsy material may be made by using standard hematoxylin and eosin or fungal stains (silver or periodic acid-Schiff) (see images below).



Pulmonary cocci spherule (Hematoxylin-eosin stain).



Pulmonary cocci spherule, periodic acid-Schiff stain.

- Cultures
  - The most definitive method for diagnosis is isolation of the organism from clinical specimens. The fungus grows well on most common laboratory media within 5 days. Identification of colonial morphology, a white and cottony mold, is not adequate because other organisms have similar mycelial forms.
  - Observation of typical arthroconidia may be used to identify the *Coccidioides* organism.
  - Identification can be confirmed with a commercially available nucleic acid (gene) probe. Confirmation with exoantigen testing may also be performed, although this test is no longer in common use because

of the availability of nucleic acid probes.

- Arthroconidia are infectious and therefore pose a significant risk to laboratory personnel. Always warn laboratory personnel in advance if coccidioidomycosis is suspected.

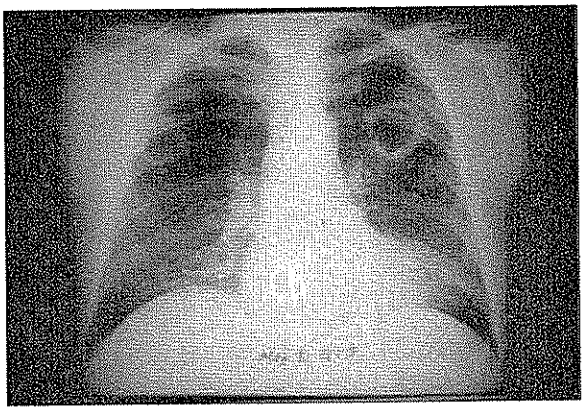
- Serology
  - For more than half a century, detection of antibodies to coccidioidal antigens has been used to establish the diagnosis of coccidioidomycosis and to monitor patients undergoing therapy. A positive serologic result is very likely to be clinically relevant in the appropriate clinical setting; however, a negative result does not exclude the diagnosis.
  - Repeat testing following a negative result improves sensitivity.
  - The 2 major antigens used to detect antibodies are the tube-precipitating (TP) antigens, so named because of the tube precipitant button at the bottom of the test tube when the test was originally performed, and the complement-fixation antigen, which reacts with immunoglobulin (Ig) G.
    - TP antibodies are serum IgM antibodies to mycelial-phase antigens that appear in more than 85% of patients with primary infection and are most commonly detected with enzyme immunoassay (EIA).
    - IgM antibodies are found early in infection, detected within the first week after the onset of symptoms, and peak after several weeks. In most patients, these antibodies dissipate within 6 months. A concern with IgM EIA antibodies is that the false-positive rate may be high, especially in conditions that stimulate humoral immunity.
    - IgG antibodies detected via complement fixation appear later, with results becoming positive in 85-90% of patients. However, serum positivity may occur only after 2 months of illness. The antibody usually disappears after several months.
    - Quantification of IgM antibodies is of no prognostic value, whereas the degree of elevation of complement-fixation antibody, IgG, is proportional to the disease extent. A titer of 1:32 or higher is a marker of dissemination.
    - These tests can be performed on CSF upon suspicion of coccidioidal meningitis.
  - Polymerase chain reaction (PCR) is a better alternative to handling highly virulent cultures of the organism, which can be performed only in biosafety level-3 laboratories and takes about 3 weeks to yield results. PCR amplification has been used successfully to identify the highly specific *Ag2/PRA* antigen gene of *C posadasii* in inappropriate samples of sputum[5] and can be applied to both clinical specimens and cultures.[6,7] The *MBP-1* gene for both *Coccidioides* species and the *SOW-gp82* gene for *C posadasii* have also been identified with high sensitivity and high specificity via PCR.[8]

- Skin testing
  - The assessment of cutaneous reactivity to coccidioidal antigens has limited diagnostic utility because of its low sensitivity and specificity in endemic areas. Results in infected individuals may be falsely negative because of a lack of immune response, and results may be falsely positive in healthy individuals because of previous infection.
  - This delayed-type hypersensitivity reaction appears 2-21 days after the onset of symptoms and precedes the appearance of serologic markers.
  - Cutaneous reactivity to coccidioidal antigens has epidemiologic and prognostic implications. The lack of delayed-type hypersensitivity is a negative prognostic factor in infected individuals.

Imaging Studies

- Obtain chest radiography in all patients with suspected or confirmed coccidioidomycosis. The most common finding is a localized infiltrate. Less-common findings include diffuse reticulonodular disease, pleural effusion,

hilar adenopathy, single or multiple cavities (thin-walled and usually apical), miliary disease, or pneumothorax with associated pleural effusion (see image below).



Chest radiograph with a thin-walled cavity in the left upper lobe consistent with coccidioidomycosis.

- Perform neuroimaging studies in patients with suspected meningitis.
- MRI is more sensitive than other studies for CNS involvement, yielding positive findings in approximately 75% of patients with coccidioidal meningitis, whereas CT scanning yields only 42%. The 3 most common findings include hydrocephalus with ventricular enlargement, basilar meningitis, and vascular occlusion. The detection of hydrocephalus and vascular occlusion has negative prognostic implications.
- Skeletal images usually reveal an osteolytic lesion in patients with symptomatic bone disease. The MRI appearance of coccidioidomycosis varies; findings may include heterogeneous marrow signal intensity and soft tissue involvement.
- In patients with confirmed skeletal involvement or highly suspected osseous dissemination, a bone scan should be obtained to assess concurrent silent or multifocal osteomyelitis. Abnormal uptake on a bone scan should be investigated further with additional imaging modalities, such as CT scanning or MRI.
- CT imaging provides information on bony destruction that is more precise than that on MRI, but CT imaging yields less information on spinal and soft tissue damage. MRI is the preferred modality if spinal cord impingement is considered. Both modalities are useful in establishing the extent of disease and in planning surgical debridement of the infected area.

Procedures

- Lumbar puncture (This is mandatory in patients with suspected meningitis. Many physicians perform lumbar puncture in all patients with extrapulmonary disease or significantly elevated compliment-fixation titers.)
- Bronchoscopy
- Fine-needle biopsy (Open lung biopsy and video-assisted thoracoscopy [VATS] are usually unnecessary because the diagnosis can be obtained with noninvasive or minimally invasive procedures.)
- Pleural, bone, skin, and lymph node biopsy, when indicated

Histologic Findings

The predominant tissue reaction is granulomatous. In acute lesions, macrophages and polymorphonuclear

neutrophils may be numerous. As lesions become chronic, fibrosis ensues. Caseation may occur.

The characteristic tissue form of the organism is the spherule. Pathogenicity of the organism is largely related to the resistance of the spherule to eradication by host defenses. Spherules and endospores produce no known toxins, and, as new spherules are propagated in infected tissue, progressive suppuration and tissue necrosis occur. Neutrophils and mononuclear cells attempt phagocytosis of the organism, and giant cells are formed to attack larger fungal structures.

Treatment

Medical Care

Three questions should be asked before a case of coccidioidomycosis is treated.

1. Is intervention necessary?
2. If antifungal therapy would be beneficial, which agents are appropriate?
3. Which surgical procedure is necessary for debridement and reconstruction of destructive lesions?

Because most infections resolve without specific therapy, few clinical trials have assessed outcomes of individuals with less-severe disease. Even physicians in endemic regions disagree on who should be treated, the length of treatment, and what agent should be used. However, evidence and guidelines do address which patients should be treated.[9]

In the decision-making process, significant weight is given to the severity of infection, risk factors for dissemination (eg, race and ethnicity, extremes of age, immunologic status), any severe comorbidity (eg, diabetes, pregnancy, significant preexisting vital organ dysfunction, lack of cutaneous reactivity to spherulin), and a serum complement-fixation titer of at least 1:32.

Commonly used indicators to judge the severity of illness include the following:

- Body-weight loss of more than 10%
- Intense night sweats that persist for more than 3 weeks
- Infiltrates that involve more than half of one lung or portions of both lungs
- Prominent or persistent hilar adenopathy
- Anticoccidioidal complement-fixing antibody concentrations in excess of 1:16
- Absence of dermal hypersensitivity to coccidioidal antigens
- Inability to work
- Symptoms that persist for more than 2 months
- Patients of African or Filipino descent (Such populations are at a greater risk of early dissemination.)

If the option to treat is chosen, numerous medications are available for management. Before the introduction of amphotericin B in 1957, no effective therapy for coccidioidomycosis existed. Although the introduction of azoles revolutionized therapy for cocci, amphotericin B remains the treatment of choice for severe infections, either in the classic amphotericin B deoxycholate formulation or as a lipid formulation. The lipid preparations were developed to lower the agent's toxicity and to provide efficacy at least equivalent to that of the parent compound. Amphotericin B is usually reserved for worsening disease or lesions located in vital organs such as the spine.

The treatment of coccidioidal meningitis may require a combination of intravenous and intracisternal or intrathecal therapy. These modalities cause headache, nausea, and fever beginning about 30 minutes following the injection and may last for hours. Corticosteroids (25 mg cortisone succinate) are added to the amphotericin injection to reduce these drug-related inflammation symptoms. Azoles, (triazoles) are usually the first line of therapy. Among these, ketoconazole is the only one that is FDA-approved for treatment of coccidiomycosis. Although ketoconazole was initially used in the long-term treatment of nonmeningeal extrapulmonary cocci, more-potent, less-toxic triazoles (fluconazole and itraconazole) have replaced it.

Fluconazole can be used in the treatment of mild-to-moderate disease and, occasionally, life-threatening disease in patients who opt against amphotericin B or who have contraindications to its use. Because of its excellent penetration into the CSF, fluconazole has become the drug of choice for long-term therapy of meningeal infection.

Itraconazole 400 mg/d appears to have efficacy equal to that of fluconazole in the treatment of nonmeningeal infection and have the same relapse rate after therapy is discontinued. However, itraconazole seems to perform better in skeletal lesions, while fluconazole performs better in pulmonary and soft tissue infection. Serum levels of itraconazole are commonly obtained at the onset of long-term therapy, as its absorption is sometimes erratic and unpredictable.

Several case reports have studied the efficacy of 3 newer antifungal agents in the treatment of disease that is refractory to first-line therapy: posaconazole and voriconazole, which are triazole compounds similar in structure to fluconazole, and caspofungin, a glucan synthesis inhibitor of the echinocandin structural class. However, these drugs have not been approved, and clinical trials are lacking.

- Anecdotal reports show that 800 mg/d of posaconazole (a derivative of itraconazole) in divided doses was successful and caused relatively few side effects in patients in whom conventional therapy had failed. Long-term therapy (1-2 y) was well-tolerated. In another study, 17 of 20 patients with pulmonary and nondisseminated disease responded well to posaconazole 400 mg/d, and no adverse events were noted.[10] The drug has been approved by the European Commission as salvage therapy for refractory coccidioidomycosis.[11] Clinical trials are now ongoing for further evaluation.[12,13,14]
- Voriconazole is also being studied in salvage therapy for refractory cases. A case report indicated that voriconazole in combination with amphotericin B as salvage therapy for disseminated coccidioidomycosis was successful.[15]
- Several case reports have studied caspofungin, with differing results. Caspofungin 50 mg/d following administration of amphotericin B in a patient with acute pulmonary coccidioidomycosis who had undergone transplant showed promising results.[16] In a patient with disseminated coccidioidomycosis, first-line therapy with amphotericin B and caspofungin alone failed to elicit a response, but the patient was then given caspofungin combined with fluconazole, with good results.[17] A third published report described a patient with disseminated and meningeal coccidioidomycosis in whom conventional therapy with fluconazole, voriconazole, and amphotericin B failed; caspofungin 50 mg/d after a loading dose of 70 mg IV was also unsuccessful.[18]

Suggestions have been made for the use of interferon-gamma in the treatment of fungal infections, given their association with cell-mediated immunity, although coccidioidomycosis was not specifically mentioned among them.[13] Clinical trials are necessary to evaluate promising in vitro findings against *Blastomyces, Paracoccidioides, Candida,* and *Histoplasma* infections.

Recombinant vaccines against coccidioidomycosis are also a possibility in the future if the right financial support is in place.[19]

The duration of therapy ranges from months to years, and long-term suppressive doses are necessary to prevent

relapses. Immunocompromised patients require life-long therapy. Regular follow-ups with a primary physician are necessary to document resolution or development of complications, usually every 3-6 months for up to 2 years after the initial infection. Further follow-up is dictated by the patient's response and the development of signs of disseminated disease.

The cost of antifungal therapy is high, from $5,000 to $20,000 per year. These costs increase for critical patients in need of intensive care.

None of the azoles is safe to use in pregnancy and lactation, as they have shown teratogenicity in animal studies.

Several case series have highlighted the importance of corticosteroids in the treatment of patients with vasculitis; however, this information is anecdotal.

The treatment of septic shock associated with coccidioidomycosis relies on the use of antifungal therapy and appropriate resuscitative and supportive measures. However, this entity carries a poor prognosis. Two patients with coccidioidomycosis and septic shock treated with drotrecogin alfa (activated protein C) were the first survivors reported.

- Over the past 10 years, therapies with toxic-to-therapeutic ratios substantially better than those of amphotericin B have emerged.
    - A retrospective study showed several important outcomes in 224 patients with moderately severe pulmonary disease who were treated within 30 days of onset of symptoms with oral azoles or were treated 30 days after the onset of symptoms.[20]
    - The incidence of dissemination and the need for chronic antifungal therapy for longer than 1 year were significantly reduced in the group who received early treatment with azoles. However, mortality rates were reduced insignificantly in this group, and only 27% of patients developed a complement-fixation titer of greater than 1:32 (vs 45% in the group who received late treatment with azoles).
    - These results suggest that, in patients with moderately severe pulmonary disease, institution of early or azole therapy should be considered. Further study is needed to confirm this finding.
- Meningeal disease
    - Meningitis remains difficult to treat, and, because treatment is suppressive rather than curative, prolonged or indefinite therapy is required.
    - The 2005 guidelines of the Infectious Diseases Society of America recommend fluconazole as initial therapy. The usual dose is 400 mg/d, but many physicians start with 800 or 1000 mg/d. Itraconazole 400-600 mg/d offers comparable efficacy. Some physicians initiate intrathecal amphotericin B along with the azole, while others reserve amphotericin B for cases in which azoles fail. The intrathecal dose of amphotericin, administered via cisternal injection, is 0.01-1.5 mg/dose administered at intervals that range from daily to ever 48 hours to once per week. These injections continue until signs of intolerance appear, including vomiting, prostration, and dose-related mental-status changes.
    - If azole therapy elicits a response, treatment is continued indefinitely.
    - Liposomal amphotericin is lipid-based and has less nephrotoxicity than the deoxycholate formulation.
- Bone and joint disease: This is treated as disseminated coccidioidomycosis, although itraconazole is thought to perform better than fluconazole in bone disease. This may also require surgical treatment.

Surgical Care

Surgical intervention may be required in cases of complicated pulmonary disease, bone disease, and hydrocephalus.

- Surgical reduction of cavities is usually performed after 4 weeks of amphotericin treatment.
- Ruptured nodules may require lobectomy with decortication.
- The management of bone and joint disease generally involves surgical procedures with curettage of the bone. Surgical debridement of bone and soft tissue is often necessary.
- If fracture is imminent, stabilization of the bony structures is warranted.
- Ventricular peritoneal shunts may be required to treat complications of meningitis (eg, hydrocephalus). In the absence of a CSF block, lumbar peritoneal shunting may be required.

Consultations

Consultation with infectious disease or pulmonary specialists should be pursued if the treating physician does not have experience with this disease.

Consultation with a neurosurgeon, neurologist, orthopedic surgeon, and/or wound surgeon may be needed to manage complications.

Medication

The goals of pharmacotherapy are to reduce morbidity, to prevent complications, and to eradicate the infection.

Antifungals

Their mechanism of action involves preferentially binding to the primary fungal cell membrane sterol, ergosterol, and increasing the permeability of the cell membrane, which in turn causes intracellular components to leak (amphotericin B), interfering with an enzyme in the sterol biosynthesis pathway production of cell membrane ergosterol (azoles) or blocking fungal cell wall synthesis by inhibiting 1,3-beta glucan synthase (echinocandins).

Amphotericin B (Amphocin, Fungizone)

Polyene antifungal agent for IV or intrathecal administration for severe and life-threatening infections. Metabolic clearance prolonged and not affected by renal or hepatic insufficiency. Produced by a strain of *Streptomyces nodosus*; fungistatic or fungicidal. Binds to sterols (eg, ergosterol) in fungal cell membrane, causing intracellular components to leak, with subsequent cell death.
Three lipid formulations promising for reducing toxicity (Ambisome, Abelcept, Amphotec) are currently licensed for use when amphotericin B fails or is unacceptably toxic. How they compare with 24-h continuous infusion is being investigated.
Significant reduction in nephrotoxicity and infusion-related reactions with continuous 24-h infusion vs conventional 2- to 6-h infusion.

Dosing

Adult

IV: 0.5-0.7 mg/kg/d in 5% glucose over 2-6 h, often to total dose of 1.5-3 g (if amphotericin B is sole agent); test dose of 0.5-1.0 mg sometimes administered (not in acutely ill patients) to assess for possible severe constitutional response though this is severely questioned

Intrathecal: Start at 0.01-0.1 mg; titrate to 0.5 mg q48-72h; frequency adjusted to clinical symptoms and CSF results

Pediatric

0.25 mg/kg/d IV infused over 2-6 h, titrated to 1 mg/kg/d

Interactions

Antineoplastic agents may enhance potential for renal toxicity, bronchospasm, and hypotension; corticosteroids, digitalis, and thiazides may potentiate hypokalemia; cyclosporine increases risk of renal toxicity

Contraindications

Documented hypersensitivity

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

Administration usually accompanied by fever, chills, and other constitutional signs; some attempt to limit symptoms with premedication with acetaminophen or aspirin, diphenhydramine, meperidine, or hydrocortisone; significant adverse effects include renal insufficiency (frequent, usually responds to saline volume repletion); reasonable guideline is cessation when serum creatinine level >3 mg/dL and reinstating when <2 mg/dL (or change to lipid-based preparation if creatinine level >2.5-3.0); non-anion gap acidosis related to distal acidification defect common, as is hypokalemia and hypomagnesemia

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Fluconazole (Diflucan)

Triazole antifungal agent to treat mild-to-moderate infections or severe or life-threatening infections in patients intolerant of amphotericin B. May be used for maintenance after course of amphotericin B in coccidioidal meningitis. Penetrates CSF well. Metabolic clearance is prolonged in renal dysfunction.

Dosing

Adult

400 mg PO/IV qd; in some cases, 800 mg/d or higher have been given

Pediatric

3-6 mg/kg PO/IV qd

Interactions

Hydrochlorothiazides may increase levels; long-term coadministered rifampin may decrease levels; may increase theophylline, phenytoin, tolbutamide, cyclosporine, glyburide, and glipizide levels; effects of anticoagulants may increase with coadministration

Contraindications

Documented hypersensitivity

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

Monitor closely if rash develops, and discontinue if lesions progress; may cause clinical hepatitis, cholestasis, and fulminant hepatic failure (including death) with underlying medical conditions (eg, AIDS, malignancy) and with multiple concomitant drugs; not recommended for nursing mothers; weigh convenience and efficacy of single-dose regimen for vaginal yeast infections vs increased incidence of adverse reactions reported with oral fluconazole vs intravaginal agents

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Ketoconazole (Nizoral)

Azole antifungal; used infrequently. Administer PO for mild-to-moderate infections that warrant treatment. Penetrates CSF poorly, but in unusual cases used to treat coccidioidal meningitis.

Dosing

Adult

400 mg PO qd

Pediatric

<2 years: Not established
>2 years: 3.3-6.6 mg/kg PO qd

Interactions

Interference with drugs metabolized in P450 pathway is significant concern; isoniazid may decrease bioavailability; coadministration of rifampin decreases effects of either; may increase effect of anticoagulants; may increase toxicity of corticosteroids and cyclosporine (can adjust cyclosporine dose); may decrease theophylline levels

Contraindications

Documented hypersensitivity; fungal meningitis

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

Hepatotoxicity (primarily hepatocellular damage or mixed hepatocellular and cholestatic changes) reported in about 1 case per 10,000 people and is major concern; may reversibly decrease corticosteroid levels (adverse effects avoided with 200-400 mg/d); administer antacids, anticholinergics, or H2-blockers at least 2 h after dose

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Itraconazole (Sporanox)

Triazole analogue of ketoconazole and preferred to parent compound because of enhanced safety and efficacy. Used for mild-to-moderate infections that warrant treatment. Penetrates CSF poorly, but successfully used to treat coccidioidal meningitis.

Dosing

Adult

200-400 mg PO qd, administer with food to enhance absorption

Pediatric

Not established; suggested dose of 100 mg/d for systemic fungal infections

Interactions

Antacids may reduce absorption; edema may occur with coadministration of calcium channel blockers (eg, amlodipine, nifedipine); hypoglycemia may occur with sulfonylureas; high doses may increase tacrolimus and cyclosporine plasma concentrations; rhabdomyolysis may occur with coadministration of HMG-CoA reductase inhibitors (lovastatin or simvastatin); coadministration with cisapride can cause cardiac rhythm abnormalities and death; may increase digoxin levels; coadministration may increase plasma levels of midazolam or triazolam; phenytoin and rifampin may reduce levels (phenytoin metabolism may be altered)

Contraindications

Documented hypersensitivity; coadministration with cisapride (no longer available) may cause adverse cardiovascular effects (possibly death)

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

Caution in hepatic insufficiencies

Voriconazole (Vfend)

Triazole antifungal structurally related to fluconazole for PO/IV administration. Some case reports detail in disseminated disease or meningitis refractory to first-line agents.

Dosing

Adult

200 mg PO bid or 3-6 mg/kg IV q12h; actual range limited by limited experience

Pediatric

Not established; passage into breast milk unknown

Interactions

Metabolized by CYPP450 enzymes, CYP2C19, CYP2C9 and CYP3A4; may significantly increase plasma drug levels of tacrolimus, cyclosporine, methadone, phenytoin and omeprazole; anticoagulation may be markedly increased with warfarin

Contraindications

Known hypersensitivity to drug or excipients; drug interactions with ritonavir and efavirenz; coadministration with rifampin, carbamazepine, and long-acting barbiturates (significantly decrease plasma levels); significant interactions with pimozide, quinidine and ergot alkaloids (do not coadminister)

Precautions

Pregnancy

D - Fetal risk shown in humans; use only if benefits outweigh risk to fetus

Precautions

Caution in hepatic dysfunction; common adverse effects include visual disturbances, fever, rash, vomiting, nausea, diarrhea, and headache

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Posaconazole (Noxafil)

Triazole antifungal agent that possesses structural similarities to itraconazole. Blocks ergosterol synthesis by inhibiting the enzyme lanosterol 14-alpha-demethylase and sterol precursor accumulation. This action results in cell membrane disruption.

Dosing

Adult

Available as oral susp (200 mg/5 mL), given 200 mg (5 mL) PO 3 times daily with meals to enhance absorption

Pediatric

<13 years: Not established
>13 years: Administer as in adults

Interactions

Metabolized via UDP glucuronidation; P-gp efflux substrate; CYP3A4 inhibitor
UDP-G inducers (eg, rifabutin, phenytoin) and drugs that increase gastric pH (eg, cimetidine) decrease serum levels (avoid concomitant use unless benefit outweighs risk)
Inhibits CYP3A4 and may elevate serum levels of cyclosporine, tacrolimus, sirolimus, rifabutin, midazolam, phenytoin, calcium channel blockers, HMG-CoA reductase inhibitors, ergot alkaloids, terfenadine **(withdrawn from US market)**, astemizole **(withdrawn from US market)**, cisapride, pimozide, halofantrine, quinidine, and vinca alkaloids (eg, vincristine, vinblastine)

Contraindications

Documented hypersensitivity; coadministration with ergot alkaloids; coadministration with CYP3A4 substrates likely to result in serious toxicities (eg, terfenadine, astemizole, cisapride, pimozide, halofantrine, quinidine)

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

Common adverse effects include nausea, vomiting, diarrhea, rash, hypokalemia, thrombocytopenia, and elevated liver enzyme levels; closely monitor patients with severe diarrhea or vomiting for breakthrough fungal infections; rare adverse events include arrhythmias caused by QTc prolongation, bilirubinemia, or liver function impairment; caution with preexisting cardiac risk factors (eg, history of arrhythmia, hypokalemia, hypomagnesemia); food improves absorption and provides optimal serum concentration; shake well before use; administer with measuring spoon provided in package; avoid if breastfeeding.

Caspofungin (Cancidas)

Used to treat refractory invasive aspergillosis. First of a new class of antifungal drugs (glucan synthesis inhibitors). Inhibits synthesis of beta-(1,3)-D-glucan, an essential component of fungal cell wall.

Dosing

Adult

Empiric therapy:
Initial dose: 70 mg IV day 1
Subsequent dosing: 50 mg/d; may increase to 70 mg/d if tolerated, and clinical response inadequate
Dosage adjustment with concomitant use of enzyme inducer:
Patients receiving rifampin: 70 mg caspofungin IV qd
Patients receiving carbamazepine, dexamethasone, efavirenz, nevirapine, or phenytoin (and possibly other enzyme inducers): May require increased daily dose of caspofungin (70 mg/d)

Limited data are available concerning treatment durations longer than 4 wk; however, treatment appears to be well tolerated
Renal impairment: No specific dosage adjustment required; supplemental dose not required following dialysis
Hepatic impairment:
Mild hepatic insufficiency (Child-Pugh score 5-6): No adjustment necessary
Moderate hepatic insufficiency (Child-Pugh score 7-9): 35 mg/d; initial 70 mg loading dose should still be administered in treatment of invasive infections
Severe hepatic insufficiency (Child-Pugh score >9): No clinical experience

Pediatric

Not established

Interactions

Coadministration with cyclosporine may increase risk of hepatotoxicity; carbamazepine, nelfinavir, efavirenz, and dexamethasone may decrease levels of caspofungin; caspofungin may decrease levels of tacrolimus; rifampin decreases caspofungin levels by 30% (ie, adjust dose to 70 mg/d)

Contraindications

Documented hypersensitivity

Precautions

Pregnancy

C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions

Caution in moderate hepatic dysfunction (ie, decrease dose to 35 mg/d); may exacerbate pre-existing renal dysfunction or myelosuppression

Follow-up

Further Inpatient Care

- In a retrospective assessment of 536 patients identified during the first 4 months of the great coccidioidal epidemic, 158 patients required hospitalization.[3]
    - Various factors, as evaluated with univariate analysis, were associated with hospitalization.

- The most important factor was shortness of breath; followed by age older than 50 years; African American descent; chills, fever, and cough; a negative skin test result; and an initial complement-fixation titer greater than 1:32.
- Patients who developed erythema nodosum were approximately one third as likely as the others to require hospitalization.

Further Outpatient Care

- Patients with complications such as chronic pulmonary and all extrapulmonary infections should receive routine follow-up for several years after diagnosis. Many clinicians obtain serial complement-fixation titers in such patients.
- Patients receiving antifungal therapy require continued monitoring for adverse effects of these agents.
- Monitoring visits should be scheduled every 1-3 months and should include patient interview, physical examination, serologic testing, radiographic examinations, and procedures, as necessary. The decision to treat should be evaluated and current treatment should be re-evaluated. Expert consultations should be considered if needed.

Complications

- After acute infection
  - In more than 90% of symptomatic individuals, no further sequelae develop. In approximately 8% of symptomatic individuals, serious pulmonary disease or extrapulmonary spread with or without pulmonary disease ensues.
  - Reappearance of fever, shortness of breath, and hemoptysis indicate complications of residual lung disease.
  - Rupture of nodules or cavities into the pleural space leads to bronchopulmonary fistula and/or empyema.
- Septic shock
  - One manifestation of coccidioidomycosis is septic shock, which generally develops in older individuals.
  - This condition is diagnosed based on established criteria and hemodynamic monitoring. Cytokine assays reveal elevated levels TNF and interleukin-6, as in bacterial sepsis. Unfortunately, the outcome of these patients is uniformly poor.
- Disseminated disease: Disseminated disease can be fatal if dissemination occurs rapidly. Suggestive signs include dramatic sweats, dyspnea at rest, fever, and weight loss. Diffused miliary lesions on chest radiograph are associated with rapid clinical deterioration and death.
- Meningitis
  - The most significant complication of *Coccidioides* infection is meningitis. Patients present with subacute-to-chronic (or occasionally acute) symptoms. More so than with other extrapulmonary manifestations, meningitis may be the only overt infection without concomitant pulmonary manifestations.
  - CSF analysis reveals a lymphocytic pleocytosis with elevated protein levels and hypoglycorrhachia. In up to 70% of patients, coccidioidal meningitis is associated with eosinophils in the CSF.

Coccidioidomycosis is the most common cause of eosinophilic pleocytosis in the United States.

- The diagnosis is aided by the detection of complement-fixating antibodies in the CSF, which are present in 90% of patients. Coccidioidal meningitis preferentially involves the basilar meninges.
- Untreated, it is fatal in 90% of patients within 1 year and universally fatal within 2 years. Mortality rates can be 20-40%, even with treatment. Mortality is significantly increased in patients with complications such as hydrocephalus or infectious arteritis.
- Hydrocephalus is most common (30%), and MRI may facilitate its diagnosis. Hydrocephalus carries a mortality rate of 40%. Occlusion of the cranial vessels by inflammatory exudates may lead to stroke. Occlusion occurs in 10% of patients and increases the likelihood of mortality.

- Cutaneous infection
  - The skin is the most common site of extrathoracic spread. Direct cutaneous *Coccidioides* infection has a variable appearance, with papules, plaques, and verrucous lesions being the most common. They can be single or multiple and persist for a long period. Vesicular lesions, pustules, and subcutaneous abscesses may also develop.
  - Spread is usually hematogenous, but direct inoculum may occur, evidenced by lymphangitis.
  - Abscess formation may be associated with underlying bone or organ involvement. Facial involvement is associated with a 10-fold increase in the probability of coccidioidal meningitis.
- Bone and joint disease
  - Bones and joints are common sites of extrapulmonary infection. Bony lesions are most common in the axial skeleton and usually produce osteolytic lesions. The contiguous joints and surrounding soft tissues may be involved. The most frequently involved bones include the vertebrae, skull, bones of the digits, and long bones.
  - Progressive bony destruction in the vertebrae can lead to spinal cord compression that may require urgent surgical intervention. Destructive bony lesions can lead to diagnostic confusion. Isolated joint involvement also occurs. The most frequently involved joints are the knee and the ankle. Bone and articular involvement also may be associated with tendonitis and inflammatory muscle involvement.
  - Complications of osteomyelitis include contiguous joint arthritis, draining sinus formation, and subcutaneous abscess formation in adjacent soft tissue.
- Other organ involvement
  - *Coccidioides* infection can involve virtually any organ system. Lymph node involvement can be prominent; occasionally, such cases lead to a mistaken diagnosis of lymphatic malignancy. Lymphadenopathy may be generalized, and associated drainage from contiguous lesions is not unusual.
  - In a minority of patients, splenic enlargement is clinically apparent. Hepatic involvement with prominently elevated alkaline phosphatase levels is common in the context of widespread disease. In rare cases, intestinal and peritoneal involvement, with ascites, is a manifestation of widespread disease. Peritoneal mass lesions may be noted.
  - Bone marrow involvement may yield various hematologic disturbances with a myelophthisic pattern.
  - Myocardial involvement is uncommon and is most usually discovered at autopsy. About 20 reported cases of pericardial involvement have been described.[21]

- Urinary tract involvement is rare (with the exception of asymptomatic coccidiuria) and is usually found in the setting of widely disseminated disease. The prostate may serve as a nidus of infection and has been implicated as a source of urinary cultures that are positive for the *Coccidioides* organism. Involvement of the ovaries and testicles is very uncommon.
- Ocular involvement is probably underappreciated and usually occurs in the context of disseminated disease. Anterior uveitis and posterior uveitis (choroiditis and chorioretinitis) are uncommon, and endophthalmitis is rare.
- Congenital infection is rarely reported, although the placenta is frequently involved. The literature on pediatric infection is not nearly as extensive as that on adult disease. Dissemination is more common in neonates and infants than in adults. The mortality rate in children appears higher than that in adults. In neonates who do not have a fully developed immune system, the serologic response to infections may be impaired.

- Cutaneous hypersensitivity
  - Cutaneous hypersensitivity reactions must be distinguished from direct cutaneous involvement by identifying the organism. Hypersensitivity reactions are immunologic phenomena and are linked to improved outcomes.
  - Erythema nodosum, or tender and discolored nodules (generally on the lower extremities), is the most common hypersensitivity reaction and affects 25-30% of patients. Erythema multiforme (the characteristic finding being target lesions) can coexist with erythema nodosum but is less common. A diffuse erythematous rash (<1%) is the least common cutaneous hypersensitivity manifestation. Ocular hypersensitivity reactions, such as phlyctenular conjunctivitis, episcleritis, scleritis, and keratoconjunctivitis, frequently accompany erythema nodosum.

Miscellaneous

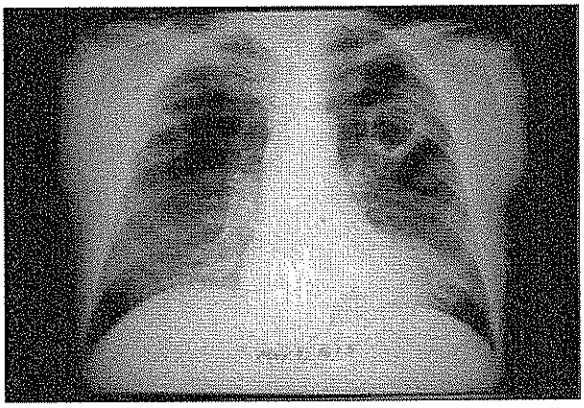
Medicolegal Pitfalls

- The most common medicolegal pitfall is mistaking viral meningitis for coccidioidal meningitis in patients with meningitis and lymphocytic pleocytosis.
  - The patient's travel history and area of residence have a major role in leading the clinician to the correct diagnosis.
  - Findings of eosinophils in the CSF or hypoglycorrhachia are important.
  - The progressive nature of the disease is inconsistent with a viral etiology.
- The differential diagnoses of erythema nodosum are extensive.
  - Coccidioidomycosis is perhaps one of the most significant associated conditions, and, once again, the patient's travel history and area of residence are important.
  - Patients with erythema nodosum generally have a benign course.
- Pregnancy can pose a clinical challenge.
  - Some of the older literature recommended that abortion be considered in pregnant women with coccidioidomycosis because of the virulent nature of the disease in these patients.
  - One group examined a series of pregnant women with coccidioidomycosis.[22] Although the disease can complicate pregnancy, appropriate management led to satisfactory outcomes for the mother and child, suggesting that abortion need not be recommended.

Special Concerns

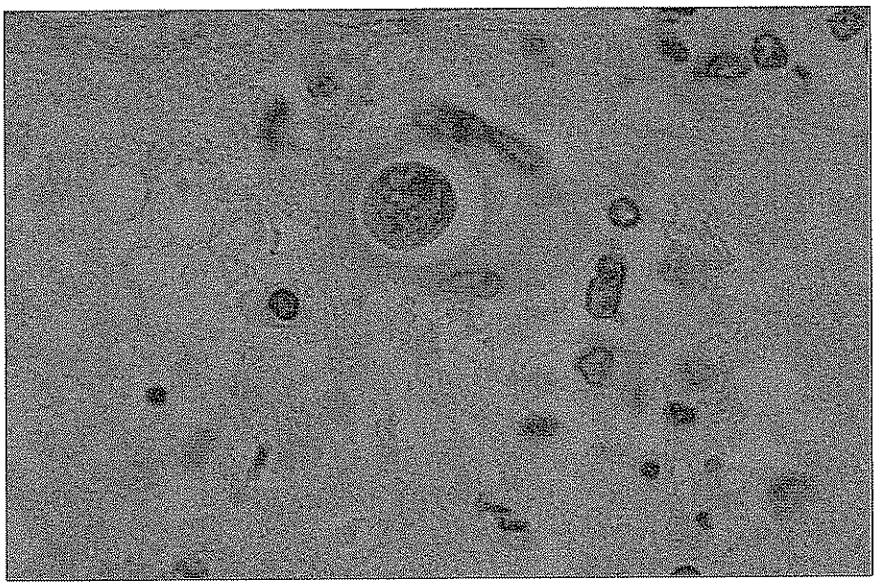
- Infection in immunocompromised individuals and specific groups of immunocompetent individuals follows a more aggressive course than in other groups.
    - Patients receiving immunosuppressive agents for cancer chemotherapy, organ transplant, and/or autoimmune diseases or patients taking corticosteroids that impair cell-mediated immunity are at an increased risk of dissemination. For example, organ transplant recipients are at a significant risk for dissemination, with the possibility of 25% developing disseminated disease. Previously resolved infections in organ transplant recipients reactivate at a rate of approximately 10% per year.
    - These rates mirror those observed in patients who are HIV positive and in the later stages of the illness, when opportunistic infection is likely.
    - In immunocompromised individuals, progressive pulmonary disease is common, occurring in 40%.
    - Although skin reactivity to coccidioidal antigens may be impaired, serologic response in all patients, except those with the most profound immunocompromise, remains intact.
    - Older patients are at an increased risk for disseminated disease and diffuse progressive pulmonary disease. The mortality rate in patients older than 65 years is elevated, with one report describing a mortality rate of 15%.
    - Patients with diabetes are also at an increased risk for diffuse progressive pulmonary disease and mortality.
- Historically, pregnancy has been considered an extremely perilous time for *Coccidioides* infection.
    - Before the most recent epidemic, dissemination was believed to be 40-100 times more common in pregnant women than in the general population, and it was believed that 1 in 8 women who became infection during pregnancy would succumb to it. However, a study of a numerous individuals treated during the California epidemic showed that most pregnancies were carried to full term. Furthermore, pregnant women who develop infection and present with erythema nodosum are extremely unlikely to have a negative outcome.
    - Dissemination and mortality rates are increased late in pregnancy, particularly in the third trimester, and true concern exists regarding maternal and fetal outcomes. Early recognition and treatment, when necessary, are important.
    - Patients who have a history of resolved infection prior to pregnancy do not have a significant rate of recrudescence.
    - See Medical/Legal Pitfalls.

Multimedia



Media file 1: Chest radiograph with a thin-walled cavity in the left upper lobe consistent with coccidioidomycosis.

Media file 2: Soft tissue abscess due to cocci.



Media file 3: Pulmonary cocci spherule (Hematoxylin-eosin stain).

Media file 4: Pulmonary cocci spherule, periodic acid-Schiff stain.

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Keywords

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Further Reading

EXHIBIT 8

EXHIBIT 499 - I

STATE OF CALIFORNIA
California Energy Commission

In the Matter of: The Application for Certification for the IMPERIAL VALLEY SOLAR PROJECT	Docket No. 08-AFC-5

ADDITIONAL REBUTTAL TESTIMONY OF DR. CHRISTOPHER BOWLES and CHRISTOPHER CAMPBELL ON BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY ON SOIL AND WATER RESOURCES FOR THE IMPERIAL VALLEY SOLAR PROJECT

July 21, 2010

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INTRODUCTION

The following additional rebuttal testimony is in response to the Supplemental Staff Assessment (SSA) prepared by CEC Staff (July 7, 2010) and Additional Opening Testimony prepared by the Applicant (July 13, 2010). In addition to reviewing these documents and their attachments, the independent groundwater model review (Todd, 2007a) and water supply assessment (Todd, 2007b) developed for the US Gypsum Draft EIR/EIS were also reviewed since they were referenced in the SSA.

RESPONSE TO CEC'S SUPPLEMENTAL STAFF ASSESSMENT

Modifications to the Staff Assessment (SA) via the SSA regarding soil and water resources are predominately focused on the Dan Boyer groundwater supply for the project. The SSA fails to address a majority of our Opening and Rebuttal testimony pertaining to the Soil and Water issues we raised. As such, our comments on the SSA are focused on aspects of the groundwater supply.

WATER DEMAND VERSUS WATER SUPPLY

COCs Soil&Water-2 and Soil&Water-9 specifies that extractions from the Dan Boyer well for project purposes will be limited to 34 AFY, leaving the remaining 6 AFY of the permitted 40 AFY for residential users. There are three main unaddressed signfiicant impacts associated with the water demand exceeding water supply, as discussed below.

First, the SSA states that the construction phase requires 51.1 AFY on average (or 166 AF total) based on 45,000 gpd for dust control and 90,000 gpd for 15 peak construction days during a 39 month construction window. Clearly, there is an average deficiency of 17.1 AFY of water supply if only 34 AFY is allowed. However, the SSA only suggests that to meet the demand that additional water come from another source, the Dan Boyer permit limit be modified, or the construction schedule be modified. There is no evidence in the record that any of these alternative scenarios are feasible. Neither Staff nor the Applicant has proffered a new source of groundwater. The Dan Boyer permit is governed by the County and the County's comments on the SA "strongly recommended the CEC take into account the on-site water needs for the Westwind's parcel and historical residential users in its permitting of the IVSP to use this off-site water source."[1] More importantly, it is unclear where the construction phase water use values in the SA/DEIS and SSA of 45,000 gpd and 90,000 gpd originated. We were unable to find these numbers in any of the Soil and Water reference materials submitted by SES. Based on SES (2008) Application for Certification (AFC), dust control requires 11,500 gpd and construction requires 26,000 gpd for average conditions. However, the values of 11,500 gpd and 26,000 gpd grossly underestimate average water use conditions based on independent calculations made from Table 3-6 in the AFC (SES, 2008), which are closer to 77,000 gpd for dust control and 43,500 gpd for construction

[1] Imperial County Planning and Development Services, Jim Minnick to California Energy Commission, Christopher Meyer, May 27, 2010, Response to "Imperial Valley Solar Project (IVSP)".

over the 39 month construction window. Based on these calculations, a total of 439 AF of water is required, which is a 165% greater than the construction demand stated in the SA/DEIS and SSA at 166 AF.

Based on the AFC (SES, 2008) for peak construction conditions, dust control requires 223,000 gpd and construction requires 353,000 gpd, which matches the water balance flow diagram. Based on independent calculations made from Table 3-6 in the AFC (SES, 2008), we were able to confirm these monthly peak demand values (unlike the average daily demand values).

Furthermore, the monthly calculations demonstrate that 52% of the water demand would occur in the first 12 months, 40% would occur in the next 12 months, 8% would occur in the final 15 months. If this is a reasonable approximation for the construction phase water demand, and assuming that the total demand is 166 AF (even though it has been independently calculated to be incorrect), then 86 AF would be needed in the first 12 months, which would equate to a deficiency of 52 AF with the Dan Boyer well extractions limited to 34 AFY. However, the calculated demand in the first 12 months is closer to 228 AF, which would result in a severe deficiency. It is also noted that the water demand in the first 12 months at 228 AF is very close to the maximum diversion rate of 200,000 gpd (or 224 AFY) from the Seeley Wastewater Treatment Facility. It is also essential to note that there are pumping restrictions on Dan Boyer at 41,775 gpd and 250,650 gallons per week (or 6 days pumping and 1 day no pumping), so front loading the pumping to meet a peak demand is not possible. These type of restrictions need to be adequately integrated into the water budget calculations.

Second, operations require 32.7 AFY of water supply based on average annual usage. However, there are uncertainties associated with these calculations. Soil & Water Table 3 and SSA statements indicate an increase in the required water demand above 34 AFY, summarized as follows:

1. **Mirror Washing** – it was confirmed in Table 3 calculations that Staff assumed that there are 8 normal washings (at 14 gals/solar unit) and 1 scrub washing (at 42 gals/solar unit) for a total of 9 washings annually or 14.2 AFY. However, there are several instances in the SA/DEIS, SSA, and the Applicant's Additional Opening Testimony that would suggest that washings occur once per month for a total of 12 washings per year with possibly 8 normal washings and 4 scrub washings. If this is the case, then mirror washing would equate to 25.8 AFY and require an additional 10.3 AFY above the 34 AFY limit. In the event that only 11 normal washings and 1 scrub washing are required, then mirror washing would equate to 18.0 AFY and require an additional 2.6 AFY above the 34 AFY limit. If mirror washing is to occur in practice once per month (or more frequently), then these calculations demonstrate that there will be an operational deficiency in addition to the construction deficiency.
2. **Water Treatment** – it is unclear whether the annual calculations account for some percentage of days requiring the maximum amount of water. If not, then there should be an allowance made and the calculations should be updated.
3. **Potable Water** – the annual calculations were confirmed at 5.4 AFY to include a 20% contingency for 188 workers working 5 days per week or 261 days per year. However, the dust control calculations assume 365 days per year. If the operations schedule includes workers for

more than 5 days per week, this would equate up to 7.6 AFY and require an additional 0.9 AFY above the 34 AFY limit.

4. **Dust Control** – the annual calculations were confirmed at 5.6 AFY for 5000 gpd for 365 days per year. However, the maximum use of water for dust control is double the daily rate on any given number of days whereby the Applicant would need to comply with COC WorkerSafety-8 for enhanced dust control. Reasonably assuming 20% of days require enhanced dust control, this would equate to 6.7 AFY and leave a spare 0.2 AFY below the 34 AFY limit.

Considered in combination, we have calculated, based on information provided in the SSA, that there could be an additional need for 13.6 AFY above the stated 34 AFY limit provided by the SSA. Since the SSA assumes operations will be supplied by the Dan Boyer groundwater well, additional backup calculations should be provided to demonstrate that operational water demands will not exceed the 34 AFY limit or exceed daily and weekly pumping limits. In the event that demand will exceed supply, it has been stated in the SSA that the Applicant will suspend mirror washing. Suspension of mirror washing will not solve water deficiencies that arise from construction water needs. Moreover, it is unclear whether any calculations were performed to assess the percent loss of power generation due to dirty mirrors. Efficiency losses as a result of dirty mirrors should be analyzed by Staff since it appears that operational water shortages could be chronic.

Third, the SSA Air Quality section assumes that power generation will occur during the construction window. Such an "overlapping" condition was omitted from the water use calculations. If power generation (or operational) conditions occur jointly with the construction phase, then water budget calculations should take this into consideration as this will amplify the monthly water demand resulting in an even greater deficiency.

In summary, we concur with the Staff's overall water supply assessment in the SSA that the water supplies are not sufficient to meet the demands of the project:

1. Construction demands will exceed supply. Operational demands may exceed supply. Joint demand, if the schedule permits, will exceed supply.
2. Groundwater extractions exacerbate overdraft, which is a significant impact.
3. No backup or supplemental water supply has been firmly identified to help meet construction and operational demands. The extent of the SWWTF operational upgrades and the magnitude of the increase in recycled water supply is a substantial unknown.
4. The Dan Boyer Water Company has furnished a "will serve" letter stating that it will temporarily provide well water up to 11 months. As such, the reliability of the Dan Boyer groundwater supply is questionable beyond the first year of construction.

WELL INTERFERENCE FROM THE DAN BOYER WELL

Staff came to the conclusion in the SSA, when using typical or average well installation water supply characteristics, that groundwater extractions from the Dan Boyer well over the 40-year operational life of the solar farm would be less than significant on the groundwater level drawdown (and hence yield) in neighboring wells. There are two unmitigated significant direct and cumulative impacts that the SSA did not identify that are outlined below:

1. Staff used average well water supply characteristics, simplifying their well interference analysis, which assumed 15 feet of water above the well screens. However, 2 out of the 10 neighboring wells only have 5 feet of water above the well screens. If the groundwater level drops at an average rate of 0.21 feet/year or 8.4 feet in 40 years, then groundwater extractions from the Dan Boyer well could exacerbate yield conditions at those 2 wells as water levels drop below the top of the well screens, depending on location of the pumps relative to top of the well screens. In Staff's calculations, it was assumed that the pumps were near the top of the well screens. It is therefore recommended that such calculations rely upon measured data when available. Moreover, there is an unmitigated significant impact to nearby well users.
2. Staff did not consider the cumulative impact of scenarios when US Gypsum and other industrial / commercial wells are extracting water at the same time as the Dan Boyer well. Impacts to the neighboring wells (and the Dan Boyer well) could be a significant unmitigated impact and should be investigated using measured well water supply characteristics. Staff also did not consider water use from the proposed Wind Zero project as reasonably foreseeable and did not include this Project in the Staff's cumulative groundwater impact analysis. However, the Wind Zero project is being considered by the County now for permitting.

GROUNDWATER UPFLUX FROM THE DAN BOYER WELL

Staff came to the conclusion in the SSA that the estimated upflux volume is only 0.4% of the volume of the minimum affected aquifer volume (as determined from the well interference analysis using WinFlow), and as such, was insignificant. There are two (2) potential issues with this analysis:

1. Staff only considered the relative quantity or volume of water introduced into the upper alluvial aquifer from the underlying Palm Springs / Imperial aquifer and not the quality of the water and its potential impact on the alluvial aquifer. Staff estimated the upflux volume over the construction and operational life of the solar farm to be 145 AF as derived from relationships in Todd (2007a). The average percent change in quality or Total Dissolved Solids (TDS) concentration in the minimum affected aquifer volume is close to 4.5% (based on the weighted average of 38355 AF at 300 mg/L plus 145 AF at 4000 mg/L vs. 38500 AF at 300 mg/L), and thus the SSA failed to analyze a potentially significant impact to water quality in the aquifer.
2. Staff did not consider the cumulative upflux impacts if US Gypsum and other industrial / commercial wells are extracting water at the same time as the Dan Boyer well in the same

general vicinity. The percent increase in TDS concentration will be greater within the same minimum affected area, and higher TDS upflux concentrations will be realized at the bottom of the alluvial aquifer in the vicinity of the well bottoms. This cumulative impact is significant and unmitigated.

SEELEY WASTEWATER TREATMENT FACILITY UPGRADES

It has been stated in the SSA that the Applicant is now proposing to fund the improvements to the Seeley Wastewater Treatment Facility (SWWTF). However, the SWWTF upgrade is uncertain, the MND that was prepared was not adopted by the Seeley County Water District, and as such, the upgrade still needs to go through more detailed environmental review to assess potential impacts to wetland and riparian habitats and water quality in the New River and Salton Sea. In the event that diversions from an upgraded SWWTF cannot be provided to the project due to the severity of impacts, and in consideration of potential water supply deficiencies noted above with the Dan Boyer groundwater well, there is no reliable construction and operations primary or back-up water supply for the Project.

GROUNDWATER RECOMMENDATIONS

Todd (2007a) has provided an independent review of the Bookman-Edmonston (2004) conceptual hydrogeologic numerical model developed for the Draft EIR/EIS for the US Gypsum Expansion / Modernization Project using MODFLOW. Despite the review highlighting uncertainties with the model due to uncertainties associated with subsurface characterization in a large aquifer with limited data outside the cluster of wells in and around Ocotillo, the review indicates that the model does have value in assessing the relative impacts of proposed project (and cumulative project) pumping on groundwater levels and neighboring wells within the Ocotillo / Coyote Wells Groundwater Basin. As such, it is recommended that the MODFLOW model be used (rather than WinFlow3.1) to assess well interference using measured well water supply characteristics (not averages) and that solute transport capabilities be added to the model to assess upflux from the high TDS Palm Springs / Imperial aquifer into the overlying low TDS alluvial aquifer. We concur with recommendations by Todd (2007a) to further refine the conceptual hydrogeologic model through sensitivity testing and additional calibration. Failure to use the best available information and science can lead to a simplification in project understanding and misrepresentation of potential project impacts, which can be significant and detrimental to the environment and beneficial uses.

SEDIMENT BASINS

On page C.7-29 of the SSA, the proposed project description still includes sediments basins. Per the Applicant's revised POD, the Applicant proposed to remove the sediment basins from the project. It is not clear whether the SSA would require that the sediment basins remain. If the sediment basins remain, there would be significant impacts as discussed in our prior testimony.

RESPONSE TO APPLICANT'S ADDITIONAL OPENING TESTIMONY

Our comments on the Applicant's additional opening testimony come specifically in response to this statement in Section 4.2.2 of the 404(b)(1) Alternatives Analysis (AA) by Ecosphere (2010):

> *Chang's sediment modeling study (2010a) and subsequent testimony submitted to the CEC showed that the project will not change hydrology, sediment flow or delivery towards areas downstream from the project site, or change stream morphology on or off site.*

as well as this statement in Section 4.2.3 of the AA:

> *Chang's sediment modeling study (2010a) showed that with the sediment basins removed from the site plan, that the project will not change sediment flow or delivery towards areas downstream from the project site. Further, as the project will not change flow or sediment flow to offsite areas, there should be no impacts to offsite fluvial morphology.*

HYDROLOGY

It has not been demonstrated by the Applicant that the project will not increase local runoff. Chang's expert review of the Stantec and RMT hydrologic studies nor subsequent revisions to those studies have not demonstrated that the project will not result in hydrologic impacts. Again, the Applicant has simply assumed that there will be no project-induced hydrologic impacts. However, this assumption has not been quantified by any calculations demonstrating or proving that this is the case. Soil and vegetation disturbance followed by subsequent soil compaction and application of soil binders (or tackifiers) can reduce the surface storage and infiltration capacity of the disturbed soils, resulting in increases in local surface runoff. These increases in local runoff have both onsite and offsite impacts, which have been highlighted in our previous testimony.

SOIL EROSION

It has not been demonstrated by the Applicant that the project will not increase sediment delivery to the washes from the disturbed solar array fields. Again, the Applicant has assumed that there will be no project-induced soil erosion by water impacts for the solar array fields because the DESCP and SWPPP would address such concerns. However, this assumption has not been quantified by accurate calculations. We have previously demonstrated that the soil loss calculations were severely flawed and that without additional analysis and mitigation the project will pose significant unmitigated impacts to onsite and offsite waters of the US. Consequently, project-induced soil erosion by water impacts could result through increased sediment delivery to the washes via rill and gully erosion followed by onsite

impacts to the washes, as well as offsite WQ impacts, all of which has been highlighted in our previous testimony.

While operational soil erosion impacts may have been reduced in Alternative #3 (at the expense of increased temporary construction impacts) through the proposed construction of narrower maintenance roads and removal of spur roads to individual SunCatchers, the impacts of the project on soil erosion have not been fully addressed. For example, it is proposed that tackifier be applied to the roads to maintain the integrity of the roads. While it is mentioned that the roads will be driven on at least 13 times per year (i.e., 12 for mirror washing, 1 for annual maintenance, plus likely back tracking), the tackifier application specifications (e.g., basic surface treatment vs. heavy duty road treatment), reapplication rates, environmental degradation/accumulation rates, and infiltration impedance (and subsequent rill and gully erosion impacts) have not been quantified or qualified. More so, the severely flawed soil loss calculations have not been updated to reflect a more accurate understanding of the project setting and potential project impacts. Again, it is assumed by the Applicant that all soil erosion concerns will be adequately addressed in the DESCP and SWPPP. This assumption is unwarranted and, without additional mitigation and analysis, this is a significant unmitigated impact.

SEDIMENT TRANSPORT

It has not been demonstrated by the Applicant that the project will not impact wash morphology and subsequent export of sediments offsite. The Applicant has identified Alternative #3 in the amended 404(b)(1) Alternatives Analysis (AA), submitted to the USACE and EPA on June 3, 2010, to be the preferred LEDPA. While Drainage Avoidance #1 in the SA/DEIS (or Alternative #5 in the AA) has a similar level of impacts to the Waters of the US (WUS) compared to Alternative #3, despite placing no SunCatchers in the washes, it was determined by the Applicant that Drainage Avoidance #1 was not practicable from a cost analysis due to the reduction of too many SunCatchers. However, we are of the opinion that Alternative #3 in the AA has not been fully analyzed regarding the impacts of placing SunCatchers in select washes on sediment transport, wash morphology, and water quality, both onsite and offsite per our previous testimony.

Chang's supplemental local scour analysis (2010) was developed to highlight inaccuracies in calculations by Staff in the SA/DEIS with respect to placing SunCatchers in the washes. The results of the local scour analysis by Chang at each pedestal in Wash D were combined in aggregate to infer that the cumulative local scour area relative to total wash area is insignificant. Chang's analysis did not include general scour effects in the calculations, and more importantly did not effectively account for the deposition and transport of the displaced sediment from around each pedestal. Apart from partial refilling of the scour around each pedestal on the receding limb of the flood hydrograph, it is not clear whether the displaced sediments only redeposit in the washes and/or whether they are transported downstream and offsite as an outcome of placing SunCatchers in the washes.

As such, these oversimplifications and unanswered questions in the analysis have reinforced our concerns and recommendations that more detailed calculations are needed to assess the onsite and offsite morphological and sedimentation (or water quality) impacts of the SunCatchers in the washes.

SUMMARY RESPONSE

In addition to the concerns raised above regarding the Staff's supplemental assessment and the Applicant's analyses, the substantial issues raised by our prior testimony remain, since prior issues, concerns, and recommendations have not been adequately addressed in part or in whole.

REFERENCES

CEC. 2010. Imperial Valley Solar Project (08-AFC-5) Supplemental Staff Assessment.

Chang. 2010b. Computation of Local Scour on Streambed Induced by SunCatchers. Prepared for Ecosphere Environmental Services.

Ecosphere Environmental Services. 2010. 404B-1 Alternatives Analysis for the Imperial Valley Solar Project. Prepared for USACE Los Angeles District.

SES. 2008. Application for Certification for the Stirling Energy Systems (SES) Solar Two Project, Volumes 1 and 2. Prepared for the California Energy Commission.

Todd Engineers. 2007a. Review of Groundwater Issues, Draft EIR/EIS for US Gypsum Expansion / Modernization Project. Prepared for Lilburn Corporation.

Todd Engineers. 2007b. Water Supply Assessment for US Gypsum Expansion / Modernization Project. Prepared for County of Imperial.

EXHIBIT 9

IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES
PLANNING / BUILDING INSPECTION / ECONOMIC DEVELOPMENT / PLANNING COMMISSION / A.L.U.C.

JURG HEUBERGER, AICP,CEP,CBO
PLANNING & DEVELOPMENT SERVICES DIRECTOR

November 13, 2008

Dan Boyer
856 W. Holt Avenue
El Centro, CA 92243

Subject: **Westwind Water Company**
APN 033-564-002-000

Dear Mr. Boyer,

On February 23, 2005, the Imperial County Planning Commission reviewed and approved the water well registration for the Westwind Water Company located at APN 033-564-002-000, subject to the attached terms listed as "Specific Terms for Ground Water Registration". These terms are indicated as T-1 thru T-14 on the attachment.

As owner of this property, you are required to make these improvements as indicated on the "Specific Terms for Groundwater Registration" before any water is extracted from this site.

If you should have any questions regarding this matter, please feel free to call David Black, Planner IV at (760) 482-4239 or e-mail me at davidblack@co.imperial.ca.us .

Sincerely,

David Black
Planner IV

CC: Jurg Heuberger, AICP, Planning & Development Services Director
Darrell Gardner, Assistant Planning & Development Services, Director
Jim Minnick, Planning Division Manager
Files: 10.105, APN 033-564-002-001

DB/aa/S:\APN FILES\033\564\02\November 10 2008 notice.doc

SPECIFIC TERMS FOR GROUND WATER WELL REGISTATION

APN: 033-564-02-01, State well # 16S/9E-36G4, on 1108 Imperial Highway, Ocotillo, CA.

T-1 Any new or existing well that is not under an Imperial County CUP shall be registered with (Planning Dept) and the State pursuant to California Water Code Section 13750. **(Pursuant to Title 9, Division 21: Registration of Well Section 92103.00)**

T-2 40 acre feet (AC FT) of groundwater per year is the maximum amount of groundwater extraction & exportation registration for the well. (41,775 gallons per day/250,654 per week; Based on 6 days per week/ 52 weeks per year calculation), exportation is limited to tanker trucks from the premises in Ocotillo.

T-3 A flow meter shall be installed and sealed by a California State Licensed Water Well Drilling Contractor. Registered user shall submit an annual report to the Planning/Building Department indicating the yearly amount of water extracted from the well. A photograph (dated and signed) of the flow meter readings shall be included in the annual report. The report shall be received within thirty (30) days following the anniversary date of the issuance of this registration. In the event of a flow meter failure, the registered user shall be required to cease the water well operation and notify the Planning/Building Department. The registered user may be allowed to temporarily substitute the flow meter for an alternative measuring device, at the approval of the Planning/Building Department. In this case two (2) separate reports shall be submitted as stipulated herein. **(Pursuant to Title 9, Division 22: Groundwater Ordinance 92202.04 Extraction Facility Water Flow Measurements**

T-4 Where a facility requires large vehicles (semi- truck/trailer) deliveries, designated loading and unloading provisions shall be made and reviewed and approved by the Planning/Building Department. Off-street parking areas required to be provided by this Chapter shall be designed and developed in accordance with the following standards: **(Pursuant to Title 9, Division 4: 90402.10 & 90402.13 Off-Street Loading Space; Parking Area and Development Standards ;)**

A. All off-street parking areas, as well as, ingress and egress areas shall be surfaced with

1. Two- inch (2") of asphaltic concrete
2. Three and one-half inch (3 ½") Portland cement concrete.

T-5 Should the water well be "abandoned" at any time for more than 360 consecutive days, registered well owner shall seal/cap the well according to

standards set by the State and in a manner acceptable to the County Building Official. (Abandonment shall mean as follows :)

ABANDONMENT: A well is deemed "abandoned" when it has not been used for one (1) year. An owner may have the well deemed "inactive" by filling a written notice with the Department stating his/her intentions to use the well under specific conditions and/or time frames. As evidence of his/her intentions, the conditions contained in **Bulletin 74-81 (Sec. 21)** shall be met. Any well that is open or whose services/operating equipment (e.g. pumps/motors/pipes, etc.) has been removed shall be deemed abandoned.

T-6 Registered user shall properly destroy any well on the property if abandoned. The well shall be destroyed according to State standards and in a manner acceptable to the County Building Official. A copy of the well driller's report by a California State Licensed Water Well Drilling Contractor shall be sent to the Department of Public Works and the Planning/Building Department within thirty days following the destruction of the water well.

T-7 Prior to utilizing the water well for domestic purposes, registered user shall provide written evidence to the Planning/Building Department that the water meets California Safe Drinking Water Standards. This evidence must be provided by Environmental Health Services, Health Department, to the Planning/Building Department after all appropriate testing has been done by the registered user.

T-8 An encroachment permit shall be secured from the Department of Public Works for any and all new, altered, or unauthorized existing driveways to access the lot.

T-9 Prior to approval of Groundwater well registration by Planning/Building Department, all previous and existing Land-Use violations on the property of water well # 16S/9E-36G4 must be abated.

T-10 The County reserves the right to enter the premises to make the appropriate inspections and to determine if the terms of this registration are complied with. Access to authorize enforcement agency personal shall not be denied.

T-11 Registered owner of well # 16S/9E-36G4, APN 033-564-02-01, shall defend, indemnify and hold harmless County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental documents which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including any claim for private attorney general fees claimed by or awarded to any party from the County.

T-12 In the event of a dispute the meaning(s) or the intent of any word(s), phrase(s) and/or conditions or sections herein shall be determined by the Planning of the County of Imperial. Their determination shall be final unless an appeal is made to the Board of Supervisors within ten (10) days from the date of the Commission's decision.

T-13 Should any condition(s) of this registration be determined by a Court or other agency with property jurisdiction to be invalid for any reason, such determination shall not invalidate the remaining provision(s) of this permit.

T-14 Registered applicant of ground water well can request an amendment for increased usage by showing competent proof that the commercial ground water well located at 033-564-02-01, further identified as State Well # 16S/9E-36G4 had a historic use greater than 40 acre feet of ground water within a period of 30 years prior to the adoption of Imperial County's Water Ordinance.

JH/DG/JM/DB/S: / APN/033/564/02/GENERAL CONDITIONSFORGROUNDWATERWELLREGISTRTION

EXHIBIT 10

Edie Harmon
P.O. Box 444
Ocotillo CCA 92259

STATE OF CALIFORNIA
Energy Resources Conservation and Development Commission

In the matter of:	)	
	)	
APPLICATION FOR CERTIFICATION FOR	)	DOCKET NO. 08-AFC-5
THE IMPERIAL VALLEY SOLAR PROJECT	)	
(FORMERLY SES SOLAR TWO))	)	
_____	_)	

TESTIMONY ON ALTERNATIVE WATER SUPPLY
OF WITNESS EDIE HARMON
FOR INTERVENOR TOM BUDLONG

EXHIBIT 591

July 21, 2010

1. This testimony is a continuation of previous testimony and incorporates by reference previous submissions and previous references..

Major issues related to groundwater Use and the Supplemental or Final Staff Analysis

A. **FSA states that Impacts to groundwater resources of Ocotillo-Coyote Wells Sole Source Aquifer would be significant and unmitigable, and remain so even after mitigation measures if groundwater us used for project as proposed in March 2010 after distribution of the SA/DEIS**

B. No assured reliable water supply to meet needs over life of project

C. FSA fails to consider alternative water supply from IID's WestSide Main Canal or treated waste water from Centinela State Prison to the north of proposed project site

D. Inconsistent presentation of duration of groundwater usage in Executive Summary and text related to Soil & Water Resources of the FSA.

E Inconsistent portrayal of location of proposed project site in relation to source of groundwater from within EPA's Ocotillo-Coyote Wells Sole Source Aquifer boundaries Project site is east of Elsinore-Laguna Salada Fault zone and there fore is east of the Ocotillo-Coyote Wells Sole Source Aquifer and does not overlie Sole Source Aquifer

F. FSA assumptions about depth of wells and depth to groundwater is incorrect with respect to downgradient domestic water wells in Nomirage where depth to water is shallow and where phreatophytic vegetation exists

G. Failure to consider cumulative impacts of proposed 40 year life of project use of groundwater together with the existing and proposed groundwater use from the Sole Source Aquifer including the Planning Director's 200? Registration for export use of 767 AF/Y from the nearby 3 US Gypsum wells in excess of documentable prior use per USG BE reports.

H. FSA inconsistent referrals to projects which have initiated CEQA and/or NEPA review and which intend to use groundwater from Ocotillo-Coyote Wells Sole Source Aquifer

I Reliance on Todd 2007 is misplaced because model cannot accurately predict ongoing USGS groundwater monitoring data as pointed out in Sierra Club's 2008 comments for the Final EIR/EIS on the US Gypsum project

A. FSA states that Impacts to groundwater resources of Ocotillo-Coyote Wells Sole Source Aquifer would be significant and unmitigable, and remain so even after mitigation measures if groundwater us used for project as proposed in March 2010 after distribution of the SA/DEIS

2. "The Energy Commission staff identified **significant unmitigable impacts** to Biological Resources, Land Use, Soil & **Water Resources**, and Visual Resources. Impacts to Cultural Resources are being analyzed and will be addressed in a document filed subsequently to this document. Because many of the unmitigable impacts identified by staff could be significantly reduced through implementation of Drainage Alternative #1, the Energy Commission staff recommends that it, rather than the proposed project, be approved by the Energy Commission." (Emphasis added. ES-2 FSA IV Solar)

3. SSA IV Solar ES at p 17 identifies the impacts to soil and hydrology as significant and unmitigable after mitigation for "CEQA .level of significance after mitigation".

4. "As a result of the delays necessary for the SCWD to prepare the EIR, groundwater for

construction and possibly operation of the IVS Project would be supplied by the Dan Boyer Water Company's well (State Well No. 16S/9E-36G4). Groundwater from the Dan Boyer Water Company well would be treated at an on-site facility adjacent to the on-site substation to produce demineralized water for mirror washing. However, the Ocotillo/Coyote Wells aquifer is a sole source aquifer, meaning it is an aquifer that supplies 50% or more of the drinking water for an area. [In fact, probably 90=95% of domestic water or more comes from the aquifer. Personal observations.]

5. Potable water would be delivered to the site by truck and stored in a 5,000 gal tank in the water treatment area. This tank would be able to provide a two to three day supply of potable water for the operating facility." (FSA IV Solar, ES p. 5,6)

6. See also text at FSA C.7-1, 7-44, 7-59, 7-73, and 7-87.

B. No assured reliable water supply or backup water supply to meet needs over life of project

7. Boyer will serve letter has a duration of six to eleven months (FSA C.7-52)

8. Boyer well could be reliable "if permitted to pump at the required rate" than allowed in existing permit . (FSA C.7-53)

9. Groundwater "not sufficient to satisfy water demands" ((FSA C.7-53)

10. No back-up water supply has been identified (FSA C.7-54)

11. Seeley WasteWater Plant "not a firm existing supply" (FSA C.7-52) "If recycled water becomes available..." (FSA C.7-85)

12. The FSA ES contains no discussion of the alternative groundwater water supply intended by applicant prior to availability of any water from the Seeley Wastewater Treatment Facility. (FSA IV Solar, ES 23-24) Why?

C. **FSA fails to consider alternative water supply from IID's WestSide Main Canal or treated waste water from Centinela State Prison to the north of proposed project site**

13. Centinela State Prison with its inmate population in excess of 5,000, which is nearer than Seeley might be a possible source of treated wastewater for construction and mirror washing. Was this source of wastewater considered? If not why not?

14. Yes, Colorado River water from the WestSide Main canal would require an act of Congress to change the boundaries of the IID, but such was done in 1981 so that the Plaster City factory would have a water source to enable the factory to eliminate or reduce groundwater export from the Ocotillo-Coyote Wells SSA. IID has approvals to supply up to 1,000 AF/Y for the Plaster City factory from the Westside Main Canal, and awaits only a Record of Decision by BLM once the FWS Biological Opinion is complete. The FEIR/S for said project was completed in spring 2008. If it could happen for a larger quantity of water, why not have considered such a request for a smaller quantity?

D. **Inconsistent presentation of duration of groundwater usage in Executive Summary and text related to Soil & Water Resources of the FSA.**

15. **Exhibit 526,** Van Paten's 3/11/2010 testimony refers to the Boyer well as "our preferred back-up/ temporary source of water"...

16. **Exhibit 528**, Moore's 3/15/2010 testimony also identifies "a temporary /back-up source of water" being negotiated

17. Although the FSA notes that an EIR is being prepared for the possible use of water from the Seeley Wastewater Treatment Facility, (FSA IV Solar, ES p. 5) it fails to include a recommendation for the need additional environmental review of the potential for impacts if the Boyer well is to supply water for the life of the project as the applicant earlier proposed, late in the project review, especially in light of the cumulative impacts of the proposed off-basin export in addition to all the other existing and proposed uses from the same Ocotillo-Coyote Wells Sole Source Aquifer.

18. Such environmental analysis for the proposed water source is imperative as a review of the FSA leads one to conclude that groundwater is the likely source of water for the life of the project, rather than just a temporary or back-up source. Specifically, the FSA noted when it stated that "groundwater for construction and possibly operation of the IVS Project" would come from the Boyer well. (FSA B.1-16)

E **Inconsistent/incorrect portrayal of location of proposed project site in relation to source of groundwater from within EPA's Ocotillo-Coyote Wells Sole Source Aquifer boundaries Project site is east of Elsinore-Laguna Salada Fault zone and there fore is east of the Ocotillo-Coyote Wells Sole Source Aquifer and does not overlie Sole Source Aquifer**

19. **FSA is incorrect when it states that the "project site lies primarily over the Ocotillo-Coyote Wells aquifer**". (FSA at C.7-11)

20. The EPA designated Ocotillo-Coyote Wells Sole Source Aquifer (SSA) is west of the Elsinore fault zone, but the project site is east of the Elsinore Fault. See **Exhibits 515, 579, 581, and 582** for boundaries of the EPA designated Sole Source Aquifer. See also **Exhibit 562** for locations of wells, private lands and faults. Please note that the IV Solar Project is located north of I-8 and east of the location where the highway crosses the railroad.

21. The Ocotillo-Coyote Wells Aquifer was designated as a Sole Source Aquifer by US EPA on September 10, 1996. 61 Fed. Reg. 47752-53. The EPA determined that the aquifer "serves as the 'sole source' of drinking water for the residents of Ocotillo, Coyote Wells, Yuha Estates and Nomirage." *Id.* at 47753. Further, the EPA determined that the aquifer should be protected because "[t]here is no economically feasible alternative drinking water source near the designated area." *Id* at 47753. EPA noted the boundary of the sole source aquifer area at the Elsinore Fault which "was chosen as a boundary because it separates the sole source aquifer area, which contains high quality, potable water, from high saline, non-potable water to the east of the fault." *Id*. At 47753. (See Exhibit 515 for EPA SSA designation in 1996.)

22. The following Exhibits are maps from the 2006 US Gypsum Draft EIR/EIS which indicate that the proposed solar project does not overlie the SSA. **Exhibit 581** is USG 2006 DEIR/S Fig. 3.3-1 US EPA Ocotillo-Coyote Wells SSA boundary, and **Exhibit 582** is USG 2006 DEIR/S Fig. 3.3-4 Location of Wells in Ocotillo Coyote. Wells groundwater basin.

23. The FSA improperly defines the boundaries of the Ocotillo-Coyote Wells Groundwater basin as something very different from the US EPA definition of the Sole Source Aquifer as depicted by maps published by EPA in 1996, with subsequent maps and included earlier as **Exhibit 515**. An EPA SSA map from 2008 in included as **Exhibit 579**.) This map also depicts the SSA as having an eastern terminus just to the west of the IV Solar project site contrary to the assertion of the IV Solar SSA that 96% of the project site overlies the SSA. 96% of the project does NOT overlie the Ocotillo-Coyote Wells Sole Source Aquifer as mapped by US EPA in either 1996 or 2008.

24. Thus, the following FSA statement at ES-36 is incorrect if it is intended to reflect potential relationship to the Sole Source Aquifer!

25. "11. Approximately 4-percent of the Imperial Valley Solar project overlies the Imperial Valley Groundwater Basin, and the remaining 96-percent overlies the Ocotillo/Coyote Wells Groundwater Basin. This means approximately 4-percent of the water purchased from Dan Boyer Water Company (water that originates in the Ocotillo/Coyote Wells Groundwater Basin) would have to be exported to the Imperial Valley Groundwater Basin, which is prohibited without a permit under Imperial County Land Use Ordinance 9. Condition of Certification **SOIL&WATER-11** prohibits use of Dan Boyer Water Company water within the Imperial Valley Groundwater Basin without a permit from Imperial County." (FSA IV Solar, ES p. 36)

26. FSA at C.7-11 description of the project area being over the Ocotillo-Coyote Wells Groundwater Basin is inconsistent the map of the SSA prepared by EPA. The Ocotillo-Coyote Wells Sole Source Aquifer as described by US EPA is a hydrological definition that incorporates the potable groundwater basin as an entity separate from the more confusing larger DWR groundwater basin which includes several basins without any hydrologic connection for purposes of understanding the impacts of the proposed groundwater use on overlying domestic users within the SSA or downgradient with highly saline groundwater east of the Elsinore/Laguna Salada Fault system. If one wants to further muddle the groundwater impacts one could include groundwater in the West Mesa which by virtue of being downgradient and north of the IV Solar Project is also irrelevant for purposes of impacts. The FSA should include Figures or maps to clarify the confusing text related to groundwater. The Ocotillo - Coyote Wells Groundwater Basin/Sole Source Aquifer is not the Sane as the DWR Ocotillo-Coyote Wells Valley Groundwater Basin (FSA C.7-12) for which the FSA provided no map.

27. FSA C.7-12 should have used actual USGS groundwater quality monitoring from 1977 and subsequent rather than cite outdated 1973 DWR data. USGS data reveal that water quality is more related to location in relation to underlying geology than depth because some deeper wells and electrical resistivity studies reveal saline water at depth. There have been numerous studies on the groundwater basin, and monitoring and electrical resistivity studies reveal that the basin is far more complex and does not respond as computer models have predicted. This was explained in my earlier comments and testimony. See **Exhibit 580** which was submitted as comments on the SA/DEIS for IV Solar.

28. FSA discussion of groundwater basins is extremely confusing and uses a multitude of different names to describe groundwater basins, all with apparently very different boundaries. The only groundwater basin of real concern is the Ocotillo-Coyote Wells Groundwater Basin with the hydrologic boundaries described by the EPA Sole Source Aquifer designation and maps. Confusion reigns in FSA C.7-3 #11, ES-36, C.7-31, 86, and 89. And Ap D-8 response 6. See **Exhibits 515 and 581.** Why has the CEC chosen to use groundwater basin descriptions that go do far beyond the Sole Source Aquifer with its largely potable groundwater when considering the impacts of using the Boyer well for industrial off-hydrologic basin use? I felt very sad and discouraged as I read text by staff unfamiliar with the groundwater basin, its topography, and the groundwater constraints imposed by the pumping restricted to the small amount of private land overlying the SSA. See **Exhibit 562** Map depicting location of private land and water wells in relation to local geology prepared by EH in 1991 from technical information available at the time.

29. Certainly, if one includes a large enough area that could never possibly be impacted by the project (Soil and Water Figure 11 et sec) it is easy to conclude that impacts are insignificant. However, the concern is cumulative local conditions of overdraft and how that impacts downgradient domestic users and future domestic users. Or is it intended that the entire Sole Source Aquifer is just to be considered one more "Sacrifice Area" to meet some perceived need elsewhere or profits elsewhere?

30. What is the source of the groundwater basin boundaries and why does CEC not use the EPA Sole Source Aquifer boundaries as provided by EPA and used in other CEQA/NEPA documents related to the groundwater basin?

F. **FSA assumptions a bout depth of wells and depth to groundwater are incorrect with respect to downgradient domestic water wells in Nomirage where depth to water is shallow and where phreatophytic vegetation exists in the groundwater basin E and SE of the Boyer well**

31. The FSA at ES-36 makes the following statement about the Ocotillo Coyote Wells Groundwater Basin that is erroneous and based on a lack of understanding about the topographic effects. Indeed, the downgradient water levels range from about 85 ft below land surface for the nearby US Gypsum well 16S/9E-36H1 to 20-30 to 50 feet below surface for some of the domestic wells in the Nomirage area where surface elevation is lower than at the Boyer well. (personal communications with well owners in Nomirage and Google Earth).

32. Erroneous assertions about depths of wells in general in the basin are incorrect and found at C.7-3, Resp Ap D-6, C.7-43, and C.7-54. FSA states that: "Assuming an average well depth of 300 feet, depth to water of 125 feet below land surface ...." (FSA C.7-54) This is an incorrect assumption both for domestic wells in the Nomirage area and further downgradient in the Yuha Estates area. Based on USGS data on water levels and well information from resident groundwater users/well owners and Google elevation data from Google earth.

33. For example, Google Earth indicated that the land surface elevation at the Hall/Steele well in Nomirage is 296 ft, or about 100 feet lower in elevation than the upgradient Boyer well. Hall stated that depth to groundwater is about 45 feet, (or about 251 ft. AMSL) rather than the much deeper depth to water of 125 ft. at the Boyer well where static water level fluctuated from 260 Ft AMSL in 1986 to 244 in 1995 according to FSA Soil and Water Table 7 (C.7-43), but with no current information. What this really shows, however, is just how much the static water levels in the basin are declining both within individual wells and within the downgradient portions of the basin and the influence of upgradient pumping/use. Thus, the urgent need for additional data because assumptions are only that, assumptions.

34. See **Exhibit 516** for the Table of USGS monitoring water well and static water level information for the Ocotillo-Coyote Wells Groundwater Basin.

35. As noted earlier, residents of Nomirage report depths to water of 30-45 feet in their domestic wells, with water levels declining during the past decade. (Sadly, these residential wells are not part of the ongoing USGS/Imperial County groundwater monitoring program, so there are no official water level measurements.) But monitoring program needs to be expanded

36. The place name Coyote Wells comes from the fact that in the past coyotes were able to scratch the surface and groundwater would pool for drinking.

37. By contrast, because they are not familiar with the local topographic features and locations of domestic wells and native vegetation, the FSA assumed the following:

38. "8. The expected water level decline from project groundwater consumption is too small to significantly affect existing well yields; there are no reported springs in the area and the present-day water table is too deep to support phreatophytic vegetation. Well interference and the effects of water level declines on other basin users are therefore considered less than significant." (FSA IV Solar, ES p. 36)

39. There is phreatophytic vegetation which has roots that reach the groundwater. Overlying the Ocotillo-Coyote Wells Groundwater Basin/Sole source Aquifer to the west of the Elsinore-Laguna Salada Faults phreatophytic vegetation includes mesquites and tamarisk along the downgradient Coyote Wash as there are a series of mesquites and tamarisk that obviously have roots reaching the watertable, because otherwise they could not grow to the sizes they do on public lands where they receive no

supplemental water from human activities. There are also mesquite hummocks, a BLM unusual plant assemblage. This vegetation is clearly visible from private residences and by those traveling along Interstate 8. See **Exhibit 589** for Google photo showing mesquite hummocks ESE of Nomirage by Hwy 98. There is no doubt about the vegetation as I pass it every time I travel on Hwy 98 W and I-8 east.

40. .FSA Soil and Water Table 8 (FSA C.7-46,47) fails to provide any meaningful well identification numbers so that one can obtain data for individual wells directly from the USGS website. The table provides no source information and attributes the table to no preparer. Table 9A and 9B suffer from the same lack of information. (FSA C.7-49).

41. Soil and Water Fig 11 (FSA after p. 875 of 1410 on pdf) fails to provide any explanation for the apparent rise in groundwater levels in the bottom right of the map for the Yuha Estates area. This is easily explained when one knows that the well 17S/10E-11G1 ceased export operations of 100-140 AF/Y by September 1982 and has not pumped for export since, and that all wells in the subdivision exhibited well interference related to the large drawdown at 11G1 during the almost 5 years that it pumped groundwater for export. See Exhibit 516 for details about individual wells in the groundwater basin.

42. Any well in Fig 11exhibiting an increase in static water level is related to reductions in pumpage of a volume for greater than individual domestic purposes on the overlying land nearby. Specifically, the increase in static water level for the well in the bottom left of the Figure 11 is the 16S/9E-36H1 one of the 3 US Gypsum wells that exports groundwater. Because the public does not know how much water is pumped from each of the three wells, it is not possible to draw firm conclusions other than to say economic downturn has resulted in lower production at Plaster City factory (personal communication with IC Planning staff) and therefore less total groundwater usage.

43. Accordingly, it is essential to know not only the location of an individual well, but the owner and use to which the water is put, in addition to the proximity to the nearest large volume pumping. Figures 12 and 13 fail to include locations of downgradient domestic wells in Nomirage and fail to include standard USGS well identifiers. Based on all I have learned in 33 years, I could expect the impacts to be more related to cumulative impacts downgradient to the E and SE rather upgradient to the N or NW as suggested by these figures. These figures are most useful in pointing out the inadequacies of the current County/USGS groundwater monitoring program because it has too few downgradient monitoring wells in Nomirage area.

Additional downgradient wells in or near Nomirage should be added to the USGS/County Groundwater monitoring program as a mitigation measure

44. As any mitigation measure, there should be additional well/s downgradient added to the USGS groundwater monitoring program for both water level and water quality.

G. **Failure to consider cumulative impacts of proposed 40 year life of project use of groundwater together with the existing and proposed groundwater use from the Sole Source Aquifer including the Planning Director's 200? Registration for export use of 767 AF/Y from the nearby 3 US Gypsum wells** means that FSA underestimates cumulative impacts to SSA groundwater basin

45. **Exhibit 588** Table 6 from SC comments on the US Gypsum expansion project includes a list all known existing groundwater users and hypothetical quantities known as of 2008. Since that time we are aware of what is believed to be approximately 125 to 150 AF/Y from sand and gravel operations along the south side of the Coyote Mountains, and the additional renewable energy proposed groundwater uses in addition to the Wind Zero proposal.

46. The FSA identifies Ocotillo Express Wind and Wind Zero in cumulative impacts elsewhere in the FSA, so why not include these two proposed groundwater using projects under cumulative impacts related to Hydrology?

47. Refer to **Exhibit 516** EH Table 10 with USGS monitoring data for individual wells in the Ocotillo-Coyote Wells Groundwater Basin in 2008 and updated.

48. Mitigation measures inadequate to protect downgradient domestic users in Nomirage and Yuha Estates as can be seen from historic continuing groundwater declines and apparent failure to drill additional monitoring wells required as mitigation measure for the US Gypsum expansion approved by Country in 2008.

49. Need for water level and water quality monitoring in addition to volume of pumping if one is to understand the long term cumulative impacts to downgradient SSA water users where depth to groundwater is much closer to surface than at Boyer well.

50. Require placement of downgradient monitoring well to be constructed in manner to allow dating of last significant recharge. (As for other CA desert groundwater basins, one would expect tens of thousands of years ago since last significant recharge per John Izbicki, PhD, USGS).

H. **The FSA Analysis of Cumulative Impacts on groundwater resources of the Ocotillo-Coyote Wells Sole Source Aquifer Is Inadequate, in part, because FSA includes inconsistent referrals to projects which have initiated CEQA and/or NEPA review and which intend to use groundwater from Ocotillo-Coyote Wells Sole Source Aquifer**

51. FSA states that: "Water studies showed that the aquifer is significantly overdrafted and that new well permits are not being granted." (FSA B.1-14)

52. The FSA then goes on to indicate that nevertheless groundwater would be used

53. "As a result of the delays necessary for the SCWD to prepare the EIR, groundwater for construction and possibly operation of the IVS Project would be supplied by the Dan Boyer Water Company's well (State Well No. 16S/9E-36G4). Groundwater from the Dan Boyer Water Company well would be treated at an on-site facility adjacent to the on-site substation to produce demineralized water for mirror washing. However, the Ocotillo/Coyote Wells aquifer is a sole source aquifer, meaning it is an aquifer that supplies 50% or more of the drinking water for an area." (FSA B.1-16) (emphasis added.)

54. In fact, the groundwater basin provided almost all the drinking water for the residents overlying the basin. There may be individuals who purchase water from stores in El Centro, but all residents I know use well water without treatment unless it has high TDS or high fluoride levels.

55. Wind Zero site and groundwater use is inconsistently portrayed in the FSA and its discussion of cumulative impacts.

56. The Wind Zero site as an alternative site the FSA states that the WZ "Alternative site was eliminated as infeasible because of the pre-existing proposed use as a private military training facility. Currently undergoing environmental review." (FSA B.2-5)

57. FSA "B.2.8.1 APPLICANT'S SITE ALTERNATIVES" at FSA B.2-97 includes the Wind Zero (Ocotillo) site as one not carried forward. Then it specifically provides the following information:

58. "**Wind Zero Site (Ocotillo)**

"The Wind Zero Site near Ocotillo was suggested as an alternative site during the scoping period. The Wind Zero Project is proposed to be located on private land. It would include a military training

facility and motorsport race resort proposed for 944 acres. While this acreage would not be sufficient for a contiguous 750 MW Solar facility; it could be a component of a larger, multiple site solar facility. However, the Wind Zero Site is currently under environmental review for the military training facility. A Notice of Preparation of a Draft Environmental Impact Report was filed with the State Clearinghouse on January 23, 2009 for the proposed Coyote Wells Specific Plan (CEQANET, 2009). The scoping period for that EIR closed on February 23, 2009. Because this alternative site has a proposed use and is currently undergoing environmental review for that proposed Specific Plan, this alternative site was eliminated as unfeasible and is not evaluated further in this SSA." (FSA B.2-102)

59. In fact the Final EIR for the Wind Zero Project was made publically available on the County's website on July 19, 2010 at Imperial County website http://www.icpds.com/?pid=2308. And the Notice of Public hearings was mailed to residents and is included as **Exhibit 587**, ReNotice Wind Zero-Coyote Wells Specific Plan Notice of Public Hearings before Planning Commission on August 11, 2010 and Board of Supervisors September 14, 2010.

60. The FSA includes the following table and text related to cumulative impacts and identifies the Wind Zero project and another groundwater using proposed project as follows:

Cumulative Impacts Table 3

Future Foreseeable Projects in the Plaster City Area

"Wind Zero proposes to build a 400-acre training facility for law enforcement, government, college and public near Ocotillo (south of Interstate 8 and north of SR 98) on land that it purchased in 2007. Wind Zero proposes to use the additional 600-acre site to build a 6.1-mile road coarse and racetrack country club." (FSA B.3-8) and cites "Wind Zero, 2009 – http://www.wind-zero.com. Accessed January 7, 2009." in the references section at FSA B.3-12)

61. Ocotillo Express Wind "Construct an approximately 550 MW wind facility immediately east of the proposed project on approximately 15,000 acres." (FSA B.3-9) Location is actually west and south of project site. (**Exhibit 529**)

62. In the FSA discussion of biological resources cumulative impacts at C-2-110, the text states**:**

Effects of Reasonably Foreseeable Future Projects

63. "Biological resources are expected to be affected by reasonably foreseeable future projects. These projects, which are located within FTHL habitat, include all the future foreseeable projects in the Plaster City area listed in **Cumulative Analysis Table 3** and the following proposed projects (from **Cumulative Analysis Table 1B)**" (FSA C.2-110)

64. Ocotillo Express Wind Facility is a proposed 561 MW wind energy project located on approximately 14,980 acres planned for north and west of Ocotillo and west and south of Nomirage. B(FSA C.2-110)

65. Wind Zero Group, Inc., is a proposed 963-acre law enforcement training facility located in the Ocotillo-Nomirage area between Interstate 8 State Route 98 which includes a racetrack which would be partially developed in the South Fork Coyote Wash. (FSA C-2-110-111)

66. For Geo, soils and paleo resources the FSA identifies the following for cumulative impacts: "Wind Zero Training Facility (400 to 1,000 acres), Mount Signal Solar Power Station (estimated 350 to 400 acres), Ocotillo Express Wind Facility (15,000 acres) (FSA c.4-23)

67. So why did the CEC staff ignore the water requirements of this project (Wind Zero) and the Ocotillo Wind Express when considering impacts on groundwater resources?

68. See Response 37 at Ap D-14 which states that: "Staff accounted for cumulative effects of water usage due to projected population growth, US Gypsum pumping increase projections, and the IVS project. Higher water usage estimates cited for the CWSP project were not considered, as that project's future is still uncertain." Why consider the cumulative impacts related to biological resources but not hydrology? This is a serious omission under CEQA.

69. Nevertheless, I refer CEC to he specific text of the CWSP FEIR which refers to a 65 AF/Y use of groundwater for the project (**Exhibit 586 a** Wind Zero-Coyote Wells Specific Plan FEIR text re Hydrology and use of 65 AF/Y groundwater from Ocotillo-Coyote Wells Sole Source Aquifer.)

I Reliance on Todd 2007 is misplaced because model cannot accurately predict ongoing USGS groundwater monitoring data as pointed out in Sierra Club's 2008 comments for the Final EIR/EIS on the US Gypsum project

70. For discussion of concerns about reliance on Todd studies, please see portions of Sierra Club comments on US Gypsum FEIR/EIS following and beginning on page 17 of 36 and after Exhibits for the CEC testimony numbered in the 500s.

71. **Declaration of Edie Harmon**

Re: Testimony on groundwater issues related to the proposed Alternative Water Supply for the Imperial Valley Solar Project/Solar 2 DOCKET NO. 08-AFC-5

I, Edie Harmon, declare as follows:

I prepared the testimony submitted herein. These comments have also incorporated and/or included comments and analysis I have prepared and previously submitted as comments on Draft and Final EIR/EIS documents for the US Gypsum Expansion and Modernization Project in 2006 and 2008, and comments and analysis related to groundwater issues for the 2010 DEIR for the proposed Wind Zero/Coyote Wells Specific Plan Project. The Wind Zero project overlies the Ocotillo Coyote Wells Groundwater Basin with proposed wells just a few miles downgradient to the east of the Applicant's well and west of the Imperial Valley Solar Project. The tables that are submitted as exhibits were prepared by me either as exhibits for the Sierra Club 2008 comments on the USG FEIR/S or for the Imperial Valley Solar Project..

My relevant experience and qualifications are set forth in the Resume which was submitted earlier. I believe that this testimony is true and correct. I am personally familiar with the facts and conclusions included in the attached testimony. If called as a witness, I could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge.

Dated: July 21, 2010 ____s/ EdieHarmon_____

At: Ocotillo, California Edie Harmon

72. EH re CEC/BLM responses to Applicants Alternative Water Supply from well 16S/9E-36G4 and FSA for Imperial Valley Solar Project (formerly Solar 2) Docket No. 08-AFC-5

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Bookman-Edmonston 1996. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company

Bookman-Edmonston 2004. "Ocotillo/Coyote Wells Basin Hydrology and Groundwater Modeling Study" prepared for US Gypsum Company included as technical Appendin in US Gypsum DEIR/EIS in 2006.

BLM 1980 Draft EIS for California Desert Conservation Area Plan

BLM 1999. 1980 Draft EIS for California Desert Conservation Area Plan as Ammended

Coyote Wells Specific Plan Project by Wind Zero Group, Inc. 2010 DEIR & Appendices SCH 2009011063 Coyote Wells Specific Plan Draft EIR SCH No. 2009011063 January 2010, released 1-27-2010 available online at http://www.icpds.com/?pid=2308 .

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NAFTA Tribunal Decision in the case between Glamis Gold, Ltd. (Claimant) and United States of America (Respondent) filed June 8, 2009.

Ocotillo Express Wind Facility 2009 Draft Plan of Development from BLM El Centro office.

Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

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Sierra Club comments on 2006 US Gypsum DEIR/EIS and 2008 US Gypsum FEIR/EIS

Sierra Club comments on 2010 Coyote Wells Specific Plan DEIR SCH 2009011063

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial.

Sierra Club v. County of Imperial, US Gypsum, Real Parties in Interest, Case No. 97911 Superior Court, County of Imperial. Reporter's Appeal Transcript 5-17-99 at p. 28.)

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Skrivan, James. USGS 1977 "Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California"

US EPA 3/20/95 document "Technical support document for the review of the Ocotillo-Coyote Wells Sole Source Aquifer Petition". (Court of Appeal Case No. D034281 Clerk's Transcript on Appeal, vol 2 p. 252.)

US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a "Sole Source Aquifer" 61 FR 47752, Sept 10, 1996)

USGS 1977. Computer printout of well ownership and drilling dates and depths.

USGS groundwater monitoring information data for the Ocotillo-Coyote Wells Groundwater Basin at the following source http://nwis.waterdata.usgs.gov/ca/nwis/gw for individual well sites in the USGS Imperial County groundwater monitoring program. The water level data is available from USGS both as a graph of monitored or as a Table of data for each individual monitored well. Water quality data for the individual wells monitored can be obtained at http://nwis.waterdata.usgs.gov/ca/nwis/qwdata

USGS well location maps & data for Imperial County, links to individual wells monitored for water levels http://groundwaterwatch.usgs.gocountymaps/CA_025.html

US Gypsum Expansion and Modernization 2006 DEIR/EIS & Appendices SCH 200121133

US Gypsum Expansion and Modernization 2008 FEIR/EIS & Appendices SCH 200121133

Zipp ,R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

Exhibits for Solar 2 groundwater issues

515 US EPA 1996 designated Ocotillo-Coyote Wells Groundwater Basin as a "Sole Source Aquifer" 61 FR 47752, Sept 10, 1996)

516 "EH Table 10 Water well information, water quality, and groundwater elevations Ocotillo/Coyote Wells Groundwater Basin, a Sole Source Aquifer, Imperial County CA" Updated March 2010 from Sierra Club comments on USG FEIR/EIS 2008 and included in CWSP Scoping comments found at 28appa-nop-initial-study-a at pp 7-17 (USG EIR/EIS Appendix B-1 USGS Hydrologic Data, USGS NWIS water level and quality data & Bookman-Edmonston 3/96 (BE96), BE 1/2004 (BE04). 11pages.

517 Ocotillo/Nomirage Community Area Plan (ONCAP) a part of the Land Use Element of the Imperial County General Plan 1994 with groundwater basin map

518 US EPA 2010-04-11 letter re Final EIS for US Gypsum project

519 USGS 2008-12-24 letter to Cong. Filner re Final EIS for US Gypsum Project

520 US EPA 2009-02-25 comments re NOI for Coyote Wells Specific Plan Area

521 USG FEIR/S 4.0 Collective Responses Table 4.0-1 Water quality info from USGS

522 USG FEIR/S 4.0 Collective Responses Fig. 4 Wells with Water Quality Data

523 USG FEIR/S 4.0 Collective Responses Fig 7. Wells with Recent Water Level data

524 BE 2004 Table 4-2 Historic Groundwater Pumping in 2006 USG DEIR/S

525 Ocotillo Express Wind Draft Plan of Development 2009

526 SES Applicant's Submittal of Opening Testimony re Van Patten re well 16S/9E-36G4

527 Terms for Well 16S/9E-436G4

528 Moore in SES Applicant's submittal of Opening Testimony re well 16S/9E-36G4

529 Ocotillo Express Wind Facility 4 pgs

530 USG FEIR/S Mitigation & Monitoring re Hydrology ES 9-11 submitted as an exhibit for the CWSP DEIR comments 20210

531 USG DEIR/S Mitigation & Monitoring re Hydrology See Applicant's Appendix C for hydrology and

USG DEIR/S Impacts and Mitigation in Summary Table at pp S-7 through S-11

532 Powers, Bill. 2007 San Diego Smart Energy 2020 158 pgs, PP 69-74 includes conclusions and recommendations http://www.etechinternational.org/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf

533 Berkeley Law. 2009." In Our Backyard: How to increase renewable energy production on buildings and other local spaces"

534 URS/BLM color brochure "Imperial Valley Solar Project Frequently asked Questions May 2010"

535 Tessera Solar, SES "Imperial Valley Project Fact Sheet (Formerly SES Solar Two)" undated color brochure.

536 "Impacts of Avoidance or partial avoidance of Drainage Areas I, K, C, E, and G" identified as "Preliminary Layout" by RMT in BLM documents provided at workshop on May 4, 2010, possibly dated 4/12/2010.

537 Skrivan, James. USGS 1977 "Digital - Model Evaluation of the Ground-Water Resources in the Ocotillo-Coyote Wells Basin, Imperial County, California"

538 Sierra Club v. County of Imperial, United States Gypsum Company, Real Party in Interest, Court of Appeal Case D034281 Decision 10/26/00, Court of Appeal file recalled from storage and reviewed in January 2008

539 US EPS re 2006 USG DEIS

540 USGS re 2006 USG DEIS

541 Powers 2010-05-13 email 4 pgs "best comparative solar costs info I have" & FW other docs

542 San Diego solar panels cost less with 1 BOG

543 16-apr-10 Renewable Energy World US Solar sees 38% growth in PV capacity in 2009

544 7-apr-10 RETI Phase 2B Draft Report pp 4-6 to 4-8 Thin film PV lower cost than solar thermal

545 Mar 2010 SNL "SoCalEd orders 200 MW of solar panels, plans solicitation for 250 MW more"

546 Powers 2010-05-13 email 1Q 2010 CSI capital cost numbers

547 01-may-10 CPUC SunCentric Study in pictures through March 2010 costs trends (52 pages)

548 Huntley, D. 1993. Letter re changes in chloride concentration in water quality from a well in Ocotillo-Coyote Wells basin

549 Huntley, David 1979. Magnitude and potential effects of declining water elevations in the Ocotillo-Coyote Wells groundwater basin.

550 RMT 2010 Impacts of avoidance of drainages Fig. From BLM handout for May 4, 2010 workshop.

551 Harmon 2010 values for static water level in feet above mean sea level including most recent USGS data (compiled from Exhibit 516 EH Table 10, a compilation of USGS monitoring data.

552 Tisdale 2006 comments on the USG DEIR includes information on the IID source of supply for industrial use at Plaster City/USG factory

553 USGS 1977 computer printout of well ownership and drilling dates for Ocotillo-Coyote Wells Groundwater Basin

554 Zipp R. 1980. Ocotillo-Coyote Wells Groundwater quality-quality study, Imperial County

555 Table Westwind Water Sales History & water levels well 16S/9E-36G4 vs USG 16S/9E-36H1

556 Hamilton 16S/9E-34B1 well location and water level graph from USGS website

557 Hamilton 16S/9E-34B1 well water level table '98-09 from USGS website

558 Discrepancies in groundwater pumping (AF/Y) by USG wells in Ocotillo-Nomirage area as submitted by Bookman-Edmonston's Richard Rhone in January and September 2003 (Table 16-17 of Sierra Club comments on 2008 USG FEIR/S)

559 USG Annual Pumping and water levels in 3 USG wells in Ocotillo area (Table 14 of Sierra Club comments on 2008 USG FEIR/S) source of orriginal information is in Exhibits 560 and 561.

560 USG Annual Reports 1993-2002 (originally Sierra Club Exhibit 242 for 2008 USG FEIR/S)

561 Rhone 2003 email re USG Annual pumpage for three wells combined (originally Sierra Club Exhibit 236 for 2008 USG FEIR/S)

562 Map depicting location of private land and water wells in relation to local geology

563 Bookman-Edmonston 2004 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas

564 Bookman-Edmonston 1996 text and tables related to Westwind Water Company water use from well 16S/9E-26G4 at Painted Gorge and West Texas . Figures depicting cones of depression centered at wells pumping more than 10 AF/Y

565 ICPDS Minnick 2004-09-07 response letter to Brammer re property and Well 16S/9E-36G4.

566 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.

567 Harmon Testimony dated May 10, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.

568 Rush is on for desert solar project. San Diego Union Tribune May 26, 2010. Account of CEC Evidentiary Hearing and public comments.

569 Supervisor Fuentes to BOS re EPA ltr and air quality in Imperial County 2010-05-26

570 US EPA to Nichols 2010-05-24 re Imperial County air regs

571 Olmedo 2009 Air Quality issue

New Exhibits

572 EH comments to the US ACE re IV Solar Project, including discussion of need.

573 EH comments re SA/DEIS Docket 08-AFC-5 Final

574 Solar 2 near Wind Zero proposal to SW 2008 map

575 map SW Imperial County shows NAF and bombing ranges

576 map Imperial County region, NAF and bombing ranges AAA

577 Imperial County SW & militrary lands BLM map

578 NAF & N of Seeley Google Earth aerial photo

579 US EPA 2008 map of Ocotillo-Coyote Wells Sole Source Aquifer shows Elsinore Fault as eastern boundary

580 EH comments on SA/DEIS for Imperial Valley Solar Project Docket 08-AFC 5

581 USG 2006 DEIR/S Fig. 3.3-1 US EPA Ocotillo-Coyote Wells SSA boundary

582 USG 2006 DEIR/S Fig. 3.3-4 Location of Wells in Ocotillo Coyote Wells groundwater basin

583 USG 2006 Draft EIR/EIS Table S-1 including mitigation measures for hydrology

584 USG 2006 Draft EIR/EIS Fig. 3.3-1 Groundwater basin location

585 USG 2006 Draft EIR/EIS Fig. 3.3-4 Location of wells

586 a Wind Zero-Coyote Wells Specific Plan FEIR text re Hydrology and use of 65 AF/Y groundwater from Ocotillo-Coyote Wells Sole Source Aquifer see also: Coyote Wells Specific Plan-Wind Zero Final EIR available July 19, 2010 from Imperial County website http://www.icpds.com/?pid=2308

587 ReNotice Wind Zero-Coyote Wells Specific Plan Notice of Public Hearings before Planning Commission on August 11, 2010 and Board of Supervisors September 14, 2010

588 Table 6 Hypothetical Water Budgets for Build-out of Ocotillo-Nomirage Community Area consistent with the acreages, land use designations , density and water use permitted by the Ocotillo-Nomirage Community Area Plan adopted by the Board of Supervisors 4/26/96 as part of the Land Use Element of the Imperial County General Plan. (Prepared in 2008 as exhibit for Comments on USG FEIR/EIS by EH)

589 Phreatophytic vegetation/mesquite hummocks downgradient from Boyer well in Ocotillo-Coyote Wells Groundwater Basin E SE of Nomirage by Hwy 98 Google aerial photo jpg

590 Sierra Club March 2008 Final comments on US Gypsum Final EIR/EIS (majority of comments are related to hydrology and the issues related to the Ocotillo-Coyote Wells Sole Source Aquifer

591 Harmon Testimony dated July 21, 2010 for Intervenor Budlong re Alternative Water Supply from well 16S/9E-36G4. Overlying the Ocotillo-Coyote Wells Sole Source Aquifer.

73. **Concerns about Computer models and Todd reports From Sierra Club comments on US Gypsum FEIR/EIS March 2008** *(Text is verbatim with notes in italics and parentheses)*

USG FEIR/EIR comments from Sierra Club San Diego Chapter & Desert Protective Council 3/08 *(The following is part of a 101 page comment letter*)

A **FEIR/EIS cannot correctly locate USG project water wells** .

1. FEIR/EIS fails as an informational document, in part, because it cannot correctly locate USG project water wells even though a substantial portion of the documents relate to groundwater issues in two separate groundwater basins**.** For these and other reasons cited in these comments, the FEIR/EIS should not be certified as being properly prepared consistent with the requirements of CEQA and NEPA.

2. Notice for 2/13/08 Public Hearing before County Planning Commission included incorrect location of USG water wells. Notice for 2/13/08 Public Hearing before County Board of Supervisors included *no* location of any USG water wells, either existing or proposed.

3. USG DEIR/EIS and FEIR/EIS and consultant's analyses in Appendices are notable for their seriously flawed map making with examples of the "migrating" USGS monitoring water wells, missing quarry well #3, and USG's wandering industrial export water wells.

4. Locations of wells differ from map to map or figure to figure and explain why the public can place little credibility in the "consultants'" analyses in the draft EIR/EIS. Maps in the EIR are incorrect and cannot consistently or correctly locate the USG wells whose proposed uses are one of the subjects of the EIR, nor can they consistently correctly locate USGS monitored wells.

Incorrect locations of USG water supply wells

5. DEIR Fig. 1.0-1 (at p. 1.0-3) shows USG wells south of Nomirage in or near wilderness; the very next map, DEIR Fig. 2.0-1 (p. 2.0-3) shows the USG water tank and wells in the Myers Wash about one mile to the west of Ocotillo. However, USG wells are located with one just east of Ocotillo Unit 2, the other two along the frontage road just south of I-8 between Ocotillo and Nomirage as residents and USGS can verify. The correct location of USG wells, their identification similar to other wells, the amount of pumping of each USG well, and the quality of water in each USG well must be correctly disclosed if potential impacts of existing USG and increased pumping by USG wells is to be correctly interpreted.

(Beginning on page 7 -16 of 101 from the comments is information relevant to the CEC analysis related to the Boyer Well and the Ocotillo-Coyote Wells Groundwater Basin Sole Source Aquifer and computer models. My apologies for the strange numbering, original formatting was lost on copying.)

USG FEIR relies on "projections" not actual information from Drillers Reports

6. .FEIR 4.0-29 and FEIR Appendix C-1, Todd's 7/30/07 Fig. 3B "Cross Section near Yuha Estates" (copied from USG's BE03 Fig. 3-1D) includes a very curious notation in very tiny print. Under the Heading "NOTES" it states that: *"All wells except 11B1 are projected.*" From the Notes, it appears that for the 8 wells shown in the figure, only one used real information. Why? If geologic information presumed to be from the drilling cores brought up at the time the wells were drilled and included on well driller's logs submitted to the State are included for one well, why weren't they used for the geology of all wells? The owner of well 11H3 was present during the drilling of the well and observed the meticulous notes on the well driller's log that were made by the well driller, Rex Anderson, the same well driller who drilled well 11B1. Even if the well drillers did not describe specific geologic formations in the driller's logs, the information on the logs seems more appropriate rather than projecting subsurface geology. If there is some reason for using projected rather than reported information, that explanation should have been included in the FEIR/EIS.

7. If one is trying to understand the underlying geology of the groundwater basin, it seems more appropriate to use real recorded well drillers' observations rather than use "projections". Or is it that the real geologic cores did not support the conclusions the report was intended to reach? Perhaps if the figures had used real information instead of "projections" the report might not have reached some of the erroneous conclusions about water quality and therefore underlying geologic formations for the Yuha Estates area. It makes a difference to know information about specific wells that have been part of the monitoring program and seen well driller's logs being prepared for one of the wells in question.

7. Similarly, FEIR 4.0-28 Fig. 3A "Cross Section near Ocotillo" (Todd 7/07 copied USG's BE03 Fig.3-1E) includes a similar very curious notation in very tiny print. This figure in

even smaller print states that *"All wells except wells 29L1 and* (what looks like) *14N1 are projected*." Again, why not use information from well driller's logs. If only two wells are not projections, that means the information for 9 of the 11 wells is projected. Is that because only the data from two wells fit the report's desired conclusions? If not, why not use data from well drillers' logs?

Drillers Reports indicate highly variable geology variable and complex geology within the alluvium of the Ocotillo area

8. The text from a 3/21/03 e-mail correspondence from EIR consultant, A. Kopania, to B-E's Rhone and three hydrogeologists at USGS, Subject "Ocotillo Modeling" (Exhibit 243 at p. 3) expresses concerns about the "highly variable geology variable geology within the alluvium of the Ocotillo area" based on information in well "Drillers Reports" which apparently were available for use by consultants for this EIR/EIS review. Kopania's email discussion of variability of materials reported in Drillers Reports includes the statement that: "These observations indicate that the thickness of the alluvium can vary by over 200 ft in relatively short distances within and west of Ocotillo, probably due to the fault blocks discussed above..." Kopania also noted that based on information in Drillers Reports that the depth at which Tertiary Palm Springs Formation west of Nomirage and south of Ocotillo are found "is highly variable over relatively short distances." (Exhibit 243 at p. 3.)

9. There is also considerable discussion and concerns about interpreting information in Drillers Logs in the 3/25/03 memorandum from Ron Schnabel of B-E to Dick Rhone of B-E, but not to Kopania. Subject: U.S. Gypsum - Comments from Andrew Kopania via email on 3/21/03. (Exhibit 245) B-E is Bookman-Edmonston the company that prepared the original computer models of the Ocotillo-Coyote Wells Groundwater Basin for US Gypsum Company. This memorandum also points to the complexity of the local geology in at least that portion of the groundwater basin where community and individual domestic wells have been drilled.

10. These communications from County files are part of on-going discussions about the basin by USG's consulting groundwater modelers at Bookman-Edmonston. Exhibit 244, Ron Schnabel of B-E. 3/13/03. memorandum to Dick Rhone of B-E. Subject: Geologic interpretation of the Ocotillo-Coyote Wells Basin, imperial County, California, with recommendations for changes to the proposed groundwater model. Once again, this document discussed far more complexities of the basin and concerns about interpretations of those differences and complexities than are revealed in the Draft or Final EIR/EIS.

11. When even those doing analysis related to the computer model identify varied interpretations of the information in Drillers Logs and the difficulties that information presents for understanding the basin and the difficulties that those complexities and differences in nearby wells present, it is not surprising that the public places little confidence in the supposed assurances of the model when it still cannot predict USGS monitored water levels. The 5/15/03 email response of Kopania to B-E's memoranda (Exhibit 246) confirms our earlier and continuing concerns about the model:

> "Also, without going in to the technical details too much, it looks like this model will show they are screwed BIG TIME. In the simplest of terms, look at figure 4 of the attachment. In their prior model (and even in my previous assessment) it assumed that 2,100 to 2,400 AF of water per year went into Layer 1 - the zone where the USG wells are screened. They now

have only 1081 AF per year going into this zone! What else could the results show but significant drawdown from the increasing pumping?"

"Maybe this is B-E's way to "come clean" with USG? They can say that RDT & USGS constrained them to these conditions (not true, but convenient enough) so they have to live with the results. We'll see where it all goes soon enough." (Emphasis in original. Kopania 5/13/03 e-mail to Dave Brown of Resource Design, Subject: Fwd re: Ocotillo GW flow model - steady state simulation.) (Exhibit 246.)

USG EIR/S hydrology Consultants point out problems with groundwater model

12. Exhibit 247 makes it even clearer that there are major problems with the model and provides additional reasons why the model is not reassuring. (See: Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum to Heuberger. Subject: Status of Hydrology Evaluation U.S. Gypsum Project" (4 pages with Attachment of 4 pages of 8/21/02 comments from Malcolm Weiss to Brown and Heuberger.) Appended as Exhibit 247) Portions of that Memorandum of special concern follow:

13. "Subsequent test runs of the model indicate that the drawdown trends in the Ocotillo/Coyote Wells area fit the actual data better than they did in previous models. In other areas of the basin, however, the model is not capable of accurately simulating the trends in the actual data, and the magnitude of the drawdowns. This is especially true in a Yuha Estates area, despite the changes made to the model, as described above. Based on these initial results, the USGS has stated that "Considering our level of understanding of the real ground-water system, the uncertainty in model predictions will be large with any flow model for this area, and will be even larger with us all you'd-transport model. Reasonable predictions of worse-case scenarios are all that I expect from the modeling." (June 16, 2003 each-mail from Greg Lines of USGS)" (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p2.)

14. ".... The new model however, is still not capable of accurately simulating changes in water levels in the basin. The most notable example of the limitations of the model remains the model level behavior in Yuha Estates. The actual drawdowns during the pumping by the McDougall Water Company were on the order of 70 feet, and it has taken decades for the water levels to recover. The current model predicts only 10 feet of drawdown and shows that recovery should occur almost instantaneously. It should be emphasized, however, that you have Estates is not the only area where the model predictions may be of concern. " (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3.)

15. "B-E previously stated that the conditions in Yuha Estates are different than those in Ocotillo and that it be efficient stay in the model in a Yuha Estates area should not be used as the basis to dismiss the model predictions in the Ocotillo area. This argument is no longer persuasive for three reasons. First, in the revised model, the unique geologic conditions of a Yuha Estates area were included, so the model should provide a more accurate simulation. Second, an error of this magnitude is a valid basis to be concerned about the ability of the model to predict behavior in other areas of the basin under increasing pumping stresses. McDougall increased pumping in the Yuha Estates area by approximately 200 AF/y. Third, if the model is not reliable in areas outside of Ocotillo, then the model does not provide the ability to evaluate alternative pumping locations and can not support the CEQA alternatives analysis."" (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 3,4.)

16. ".... Unfortunately the revised model still has many of the same limitations as the prior

model did. The inability to adequately simulate the effects of pumping in the Yuha Estates area is especially limiting. *The USGS has probably provided the best summary of what the revised model is capable of stating in that the uncertainty is large and that reasonable predictions of worst-case scenarios are all that can be expected.*" " (Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum , Exhibit 247, p. 4.) (emphasis added)

17. Another Memorandum from Kopania on 6/26/03 to Heuberger, and RDT, BE, USG and USGS, Subject Model Calibration Results, Ocotillo/Coyote Wells Groundwater Basin" (Exhibit 248) contains additional troubling conclusions about any potential reliance on the computer model and any conclusions to be drawn from that model. Specifically, Kopania states that:

a. "I am concerned that the model may be showing too rapid of a recovery of water levels in as pumping rates are decreased, suggesting that the recharge and/or transmissivity values are too high." (Kopania 6/26/03 at p. 1)

b. "From a CEQA perspective, we are not as concerned about what impacts the proposed project may cause to USG's only pumping Wells in Ocotillo. We are more concerned about what will happen to the neighboring Wells." (Kopania 6/26/03 at p. 2)

c. The actual data for well 25K2 in Ocotillo shows periods with a 40-50 ft of drawdown that are not expressed by the model. The 25KK2 well was used by McDougal for export to Mexico and this pumping is included in the model, based on information previously provided to Weizu. Since the model does not predict any drawdown from pumping and 25K2, the model does not appear to be capable of predicting the effects of increased pumping in this area of Ocotillo. This deficiency raises both the technical and CEQA-related issues. The technical issue is the same as at Yuha Estates - McDougall pumped and there were significant drawdowns observed, but the model does not accurately reproduce those drawdowns. From the CEQA perspective, there has been pumping in Ocotillo, not just in Yuha Estates, that has resulted in drawdowns of several tens of feet that are not reproduced by the model. Unfortunately, this limits the use of the model is an evaluation tool for the EIR." (Kopania 6/26/03 at p. 2)

d. ".... In general terms, the concern is that the central parts of the basin (such as Ocotillo and Yuha Estates) may be subject to certain thresholds of productivity due to the limited recharge in the basin, the distance from the pumping areas to the recharge areas, in a very slow rate of groundwater movement." (Kopania 6/26/03 at p. 3)

e. " .... If local pumping rates exceed a certain limit, or thresholds, beyond which the assumption of linearity is no longer valid, the rate of drawdown may increase more rapidly. Furthermore, if local recharge is essentially non-existent, and it takes decades for groundwater to migrate laterally from the recharge areas to the area of pumping, a time frame for recovery will be very long." (Kopania 6/26/03 at p. 3)

f. ".... It should also be noted that, during the five-year pumping., water levels in the Yuha Estates area declined continuously and did not stabilize. The current model shows a rapid stabilization of drawdown, not a continuous decline. The pumping by McDougal lasted for five years, but after nearly 20 years the water levels in the Yuha Estates area had not fully recovered. This behavior indicates that the pumping rate exceeded some threshold of stability that resulted in much greater impacts at the pumping well and at the neighboring Wells. The very slow recovery of water levels at Yuha Estates also indicates that, once this

threshold is crossed, it may take generations to restore, given the limited recharge and the slow rate of groundwater migration from the recharge areas." (Kopania 6/26/03 at p. 3,4)

g. "The pumping by McDougal at well 25K2 in the Ocotillo area also resulted in drawdowns of several tens of feet. Thus the potential to reach a threshold at certain pumping rates also may exist in the Ocotillo area. The recovery of water levels at well 25K2 after the McDougall pumping ceased was fairly rapid, indicating the threshold was not crossed in Ocotillo by the McDougall pumping. Unfortunately, the current model does not predict any appreciable drawdowns at well numeral 25K 2 from the McDougal pumping." (Kopania 6/26/03 at p. 4)

h. The proposed project involves increasing the extraction rate at the three existing extraction wells from 333 acre-feet per year (1998 baseline quantity) to a maximum of … 767 acre-feet per year for 50 to 100 years. The change represents more than a doubling of the sustained pumping rate in the Ocotillo area. The magnitude of this increase is greater than the magnitude of the pumping that occurred at well 25 June 2. Thus, there is the potential that a threshold may be crossed." (Kopania 6/26/03 at p. 4)

i. "....In addition, the issues described above limit the nature of assessments that can be made with the model. Most importantly, the model is useful for understanding basin-wide trends in the water levels in what may occur with smaller changes in pumping rates, but the modeling conducted to date has not adequately reproduced effects of the larger (> 100 AF/y) increases in pumping rates." (Kopania 6/26/03, Exhibit 248 at p. 4)

2008 USG FEIR model information still cannot predict 2007 USGS water level monitoring data so EIR should be recirculated for USGS review

18. Information in the Planning Dept files reveals the concerns of consultants and USGS identified by documents in the County USG EIR/EIS files and the apparent failure of distribution of the Todd Appendix C-1 to consultants and USGS for review prior to what appears to be reliance on the Todd Appendices for the FEIR. Therefore, our concerns about the FEIR hydrology discussion, interpretation of the County Groundwater Management Ordinance, and mitigation measures in the FEIR only increases and seems well founded.

19. FEIR section 4.3-6, based on the Todd study, includes an analysis without disclosing the data itself and in the process distorts USGS monitoring data and well locations and information about other wells. The water level data is available from USGS both as a graph of monitored water levels or as a table of data for each individual monitored well. Concerns about what appears to be misuse or distortions of USGS monitoring data and well locations have been discussed with USGS's Dr. John Izbicki and Peter Martin of the San Diego Water Resources Field Office even before there was an opportunity to review Planning Department EIR files and organize communications related to hydrology and the utility and/or deficiencies and/or limitations of the computer model.

20. Therefore, it is the inclusion of two groundwater studies July 30, 2007 and November 2007 (FEIR/EIS Appendices C-1 and C-2) by Todd Engineers for the first time in the Final EIS that requires a recirculation of the EIR/EIS or been included as a Supplemental or Subsequent EIR/EIS, so that all members of the public and organizations, state and federal agency staff from USGS and US EPA that had expressed concerns about impacts of the USG project proposal and preferred alternatives impacts on groundwater resources would have an

opportunity and adequate time to review and consider whether or not the conclusions and use of government monitoring data and maps could be used to support the conclusions in the USG EIR/EIS.

21. The County Planning Department as Lead Agency appears to have committed a serious violation of CEQA when it failed to make these Todd Studies from July 2007 and November 2007 available for public an and agency review by all that had previously submitted written concerns relevant to issues prior to inclusion of the information for the first time in the Final EIR as Appendices C-1 and C-2. To schedule and conduct a Planning Commission Public Hearing on the USG project before the Final EIR/EIS is even distributed to federal agencies that commented and before the Final EIR/EIS is even noticed as available in the Federal Register is not only a violation of CEQA and NEPA, but it shows tremendous disrespect of the co-Lead Agency BLM's federal agency NEPA procedural requirements.

22. After taking almost seven years from the date of the Superior Court's 3/29/01 Judgement and Orders to prepare an EIR, there are now serious questions about the County's sudden rush to proceed to a Planning Commission hearing without first being sure that all federal agencies that commented on the 4/06 DEIR had been provided with copies of the FEIR and afforded the CEQA and County Rules required time for review of the Final EIR/EIS. The County's rush to hearing without recirculating new information and without affording federal agencies that commented on the DEIR/EIS an opportunity to review the Final EIR/EIS prior to the County Planning Commission Public Hearing does not appear to be a good faith effort to comply with the Judgment and Orders of the Court which mandated preparation of the USG EIR/EIS.

USG FEIR & Appendix C-1 provide no water quality data in table and misinterpret water quality of wells

23. These are serious problems with the FEIR Appendix C-1 of 7/30/07. The USG FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 Review of Groundwater Issues is notable for the misinformation (source unknown) and for its inclusion of Table 1 misleadingly entitled "Water Quality Information from USGS National Water Information System". Todd's Table 1 indicates the State Well Numbers and locations of wells monitored, dates for beginning and ending of monitoring and number of times each well was tested for water quality, BUT absolutely NO information about the water quality in terms of total dissolved solids, specific conductance, chloride or sodium ion concentration, fluoride levels or any other information for the listed monitored wells is included. Appendix C-1, Todd's 7/30/07 document appears to form the basis of FEIR Section 4.3.6 Hydrology and Groundwater. See our Table 10 for water level and water quality data which is available from USGS NWIS websites with links to USGS data sites. Our Table 10 is appended.

24. FEIR/EIS Appendix C-1 Todd Engineers 7/30/07 "Review of Groundwater Issues" requires the public to ferret out the information that one must assume was intentionally withheld from public review. Todd's Table 2 (FEIR/EIS Table 4.0-2 at p. 4.0-34) provided selected information about only 6 of the wells for which water quality data is available at the USGS website. Todd did not even identify the USGS website in either text, table or references. The FEIR simply states that the data is "readily available" from the NWIS, but neither the FEIR vol. I, nor FEIR Appendix C-1 includes the information necessary for the public to search to

ferret out the missing monitoring data. The USGS website with monitoring data used for making tables of water quality data monitoring is: http://waterdata.usgs.gov/ca/nwis/qwdata. Again, please see our Table 10 for water quality information about monitored wells throughout the groundwater basin.

Misunderstanding of water quality and well locations points out limitations of groundwater model

25. FEIR/EIS 4.0-43 Appendix C-1 Todd's 7/30/07 Figures 11 move wells in Yuha Estates 1 mile to the east onto a BLM ACEC to match erroneous conclusions that these wells should have poor quality water because Todd assumes that these wells must be in a different groundwater layer because there were serious adverse impacts or "significant drawdown" from export pumping (FEIR at 4.0-30) which lasted for 5 years and ceased more than 25 years ago. Apparently, Todd and the FEIR at 4.0-30 erroneously assume that the significant drawdown must mean that these wells are completed in the Palm Springs or Imperial Formation without ever checking the USGS NWIS water quality data. In fact, wells at Yuha Estates have water quality comparable to or better than the mutual water companies serving Ocotillo. (USGS data will verify both of our corrections.) We could find no communications in the Planning Dept files that support conclusions about poor quality groundwater in Yuha Estates.

26. In discussions about "Pumping", FEIR 4.0-51 once again erroneously assumes that wells with excellent quality groundwater at Yuha Estates are completed in Layer 2 Palm Springs or Imperial Formations as are the wells of West Texas which have non-potable water. In phone conversations with Edie Harmon, USGS's Dr. John Izbicki and Peter Martin have both responded that wells with water of the quality USGS has monitored in Yuha Estates mean that the wells are not completed in the Palm Springs or Imperial Formations. Therefore, we continue to believe that the computer model and the assumptions or conclusions related to that model cannot be relied upon for decision-making because at least a portion of the information contained in the FEIR based on that model is simply incorrect.

27. The 7/30/07 Todd report (in FEIR Vol. II Appendix C-1) forms the basis of much of the FEIR Section 4.3.6 Hydrology and Groundwater beginning at FEIR p. 4.0-23, and the errors and misrepresentations of USGS data that occur in the Todd 7/30/07 study are incorporated without attribution, except on Figures, into the FEIR text. (There is uncertainty about which consultant assisted in preparation of the FEIR. Was it Resource Design Technology, Inc, whose name appears on the inside cover of the FEIR Vol. 1, or was it Steve Lilburn who was introduced as the consultant at the Planning Commission hearing?)

28. FEIR Fig 11 "Calibration Targets" (at p. 4.0-43) is identical to the same figure in FEIR Appendix C-1 and repeats the mapping errors of the Appendix. This means that the Consultant who put together the USG FEIR included what appear to be mapping errors just as did the DEIR. Wells in the southern part of the basin migrate 1 mile to the east from FEIR Fig 7 at P 4.0-38 to Fig. 11 FEIR p. 4.0-43. Alternatively, if computer model calibrations must relocate wells to fit the model, then the model must not be very accurate or reliable. Any computer model that cannot predict reality based on the true location of monitoring wells and the true monitored data is of very questionable value for long term predictions and decision-making. The model discussion and maps are simply not very convincing to the public. Indeed, our concerns about the reliability and utility of the model

are also noted in communications from Kopania in exhibits, including Exhibits 247 and 248.

Bias favoring USG interests is seen in Planning Director approval of asserted historic use ignoring EIR discussion of lack of supporting evidence

29. The County's overwhelming bias favoring USG interests at all costs has been apparent since the 12/98 Neg Dec and the Planning Director's March 06 grant of USG's requested historic use of an unverified pumping level of 767 AF/Y (FEIR 5.0-209) in spite of the language of the Court of Appeal Decision at p. 15, and in spite of the Draft EIR/EIS discussion of the "US Gypsum Variance" at DEIR p. 3.3-29 (Exhibit 211), DEIR Table 3.3-4 (Exhibit 210). This action by the County Lead Agency's Planning Director makes any private consultant's analysis of the USG EIR hydrology suspect when flaws are readily apparent. The bias toward USG's requests will also be discussed later in these comments in sections on mitigation measures and the significance of making changes requested by USG. (Notable in the USG groundwater well registration is Specific Term T-8, (FEIR 5.0-211), the iteration of the extent of USG's indemnification of the County from any claims or actions against the County related to registration and its presumed entitlement and the accompanying pipeline, the uses of both of which are the subject of the Court ordered EIR.) See Exhibit 227, which is FEIR pages 5.0-209 through 5.0-211.

"U.S. Gypsum Variance"

30. The "US Gypsum variance" refers to the difference between water used at the plant based on production versus the inflated amount reported by US Gypsum to USGS in 1975. Specifically:

> "For the period from 1925 through 1975, USG reported water use to the USGS for use in the USGS groundwater modeling study (USGS, 1977). The basis for the pumping rates reported over this time period are uncertain. For the period from 1970 through 1980, USG also provided Bookman-Edmonston estimates of water use based on wallboard production rates (Bookman-Edmonston, 1996, page 6-2). Bookman-Edmonston reports "Estimates of water use provided to USGS are 70 percent greater than estimates of water use based upon production records during 1970 to 1975 (the only years where these records overlap). The difference could not be reconciled." Table 3.3-4 shows the water use reported to the USGS and the values based on production rates for the period from 1970 to 1975. The rates reported to USGS range from 575 AF/yr to 767 AF/yr. The rates based on production range from 338 AF/yr to 451 AF/yr. The difference between these two sets of data is referred to as the "U.S. Gypsum Variance" on Figure 3.3-8, Annual Water Production." (USG DEIR p. 3.3-29.) (See Exhibit 211.)

31. The FEIR/EIS at 4.0-54 also mentions the difference between the amount of pumping reported by USG and the amount ascribed by USGS without apparently recognizing that it was USG that supplied the information to USGS. The FEIR states:

> "USG has estimated pumping for 1970 through 1980 based on wallboard production at about 400 AF/Yr or two thirds the USGS estimate. USG and its consultants could not reconcile the difference between USGS and USG estimates. This may be due to the changing water use in wallboard production; the amount of water needed in production has

changed over the years as USG improves it water use efficiency." (FEIR 4.0-54.) (Exhibit 220)

32. A number of documents in the Planning files document USG's continued insistence that is or was entitled to use 767 AF/Y even before the Planning Director's letter of 3/06. Examples of such include Exhibit 255, a 6 page letter Weiss, M. 6/20/03 to Heuberger re "U.S. Gypsum EIR Status at p. 2 which states that: "USG remains satisfied with the 767 AF/Y historical use rate."

Consultant states B-E noted USG records reveal production may have been 200-250 AF/Y not 600-700AF/Y as reported to USGS

33. The above FEIR text is very interesting discussion made even more interesting by the following text from a 5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, "Subject USG Data Needs", included as Exhibit 235. After quoting from a Bookman- Edmonston study this e-mail continues:

> "I have the US Gypsum records provided to the USGS. This is the data set that shows a brief period of water use up to 600 to 700 AF/yr (this occurred only from 1972-1974). According to B-E, other records that they were provided by US Gypsum indicate production may have been only 200 to 250 A AF/yr during this same time. !!!! These records are not provided in the B-E report, only referenced in the text. Although this is going to be extremely uncomfortable, US Gypsum needs to provide us with those records BECAUSE THEY ARE DISCUSSED IN THEIR OWN CONSULTANTS REPORT. I do not see how I can complete my analysis without these records, unless I just used the 70% number reported by B-E. Note that this observation by B-E, US gypsum's own consultant, undermine the credibility of the claim that they once pumped up to 700 AF/yr and are now planning to stay within their historic usage." (5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, "Subject USG Data Needs". Emphasis in original.) (Exhibit 235.)

Correct Well Locations Are Critical to Assess Accurately Impacts on Ground water

34. The 7/30/07 "Review of Groundwater Issues" by Todd Engineers (FEIR Appendix C-1) does no better than the DEIR at locating domestic monitoring wells consistently when to have them migrate about a mile or more to the east onto public lands better fits the conclusions of the report. Todd Fig. 4 and FEIR Fig. 4(at 4.0-32) "Wells with Water Quality Data" and Todd and FEIR Fig. 7 "Wells with Recent Water Level Data" (FEIR at 4.0-38) correctly locate some of the wells at Yuha Estates, but some migrate from one part of the subdivision to another from map to map. Fact: Wells 11G1 and 11G2 are on the McDougal and Gallagher properties, but 11G1 is to the south of 11G2 on the west side of Hwy 98, well 11H1 is on the west side of Hwy 98 and 11H3 is on the east side of Hwy 98 (not really accurate on Fig. 4). By Fig. 7 well 11H3 has been moved to the west of Hwy 98 to the north of other wells (it is on the east side of Hwy 98) and 11G4 has been incorrectly located to the east of 11G1, (in fact it is several hundred feet to the west, but it is the second McDougal well, unfinished and unused). Why is well location important? Because the extent to which domestic wells were affected by McDougal's export pumping of well 11G1 was related to the distance from 11G1 and whether the well was located upgradient or down gradient from the export well, even though all wells were located within the 160 acre subdivision. Kopania's concern about large volume pumping on nearby wells is noted in Exhibit 248 at p.2.

Kopania's concern about using the data from 11G1, the former export well in Yuha Estates for model calibration is also noted in Exhibit 248.

35. However, because Todd (7/30/07 Appendix C-1 at p. 7) and FEIR want readers to assume that these wells are "characterized by relatively poor quality water" these wells in Todd's Fig. 11 have suddenly migrated more than a mile to the east and are now mysteriously located in the BLM Yuha Desert Area of Critical Environmental Concern (ACEC), in a place where there are no roads and no private property! Since when is a TDS of about 300 as in USGS water quality monitoring well 11H3 (TDS of 280 in 2001) considered "relatively poor quality" water? It does not appear to be poor quality in FEIR Fig, 5 at 4.0-33. Just four months later in Todd's November 2007 "Water Supply Assessment",(Appendix C-2, Fig. 7) (identical to FEIR Fig. 7 at FEIR p. 4.0-38) the wells had once again migrated back 1 mile to their still not yet correct locations with respect to Hwy 98. The Todd Report's Placement of wells in the wrong locations in Yuha Estates in the SE portion of the basin is important, because this is the area of the basin where surrounding domestic and unused wells showed the greatest effects from export from a centrally located well 11G1.

36. These comments were prepared with the input of the owner of well 11H3 who has lived in the Yuha Estates subdivision for more than 30 years and is familiar with both the locations of all wells and the historic and continuing good quality water, water quality that is in fact of comparable or better quality than that of the two mutual water companies serving subdivisions in Ocotillo, based on numerous reviews of USGS monitoring data over the past 30 years. (See our Table 10 for water quality and water level information, both historic and current.)

37. Well location and use of data from different USGS monitoring wells within the groundwater basin should have been checked with USGS or with well locations on USGS NWIS website before releasing the USG EIR/EIS for public review. So much of the information in the draft FEIR relating to ground-water hydrology and quality is simply wrong. USGS staff also have field monitoring logs. With that information, the FEIR might have been able to place monitoring wells on Figures with the correct relationship to each other and to help explain what is really happening in different parts of the groundwater basin. (In FEIR Fig. 4, 5 well locations are incorrect, as is Figure 11.)

USG FEIR includes information about non-existent wells and/or wells not monitored by USGS

38. FEIR 4.0-30 states that "the other well [monitored for water quality] is located near Yuha Estates." Yuha Estates is a rather grand sounding name for a not affluent looking 160 acre subdivision with just 16 lots (majority vacant) surrounded by the Jacumba Mountains Wilderness and the Yuha Desert Area of Critical Environmental Concern, both managed by BLM. FEIR 4.0-45 describes well 11G4 as near Yuha Estates rather than in Yuha Estates, and, just three pages earlier, FEIR 4.0-42 identified well 11G4 as being the well in Yuha Estates that exported water to Mexico. In fact well 11G4 is an unused well located on same lot as well 11G1 which exported water. The only wells monitored in T17S R10E Sec. 11 are all in the residential subdivision with excellent quality groundwater, not somewhere on public lands. (See FEIR Fig. 5 at p. 4.0-33 for confirmation of water quality.) (See our Table 5, list of discrepancies and internal inconsistencies, for information on these and other wells mischaracterized. It is significant because locations of monitored wells tell much about aquifer response to pumping if the locations and data are correctly interpreted.)

39. Local residents in different parts of the groundwater basin have found so much misinformation that there is little credibility placed in the conclusions of the FEIR, the technical Appendices, or the computer modeling. We remind the County and BLM that DEIR Fig. 1.0-1 and 2.0-1, the figures depicting USG project components could not correctly locate the US Gypsum wells that are the subject of the EIR/EIS review! The Notice mailed by the County to residents for the 2/13/08 USG Planning Commission hearing also depicted an incorrect location for the US Gypsum wells. See Table 5 for a list of some of the important misinformation about locations and uses of wells, and a list of the non-existent wells discussed by both Todd and the FEIR. The apparent inability of the County to determine what map correctly depicted the location of USG existing and proposed wells for the USG expansion project became even clearer when the map included on the bask of the County Notice for the 3/18/08 appeal of the Planning Commission approval to the Board of Supervisors did not locate any water source for the operation of the Plaster City factory nor the location of the proposed well for quarry dust suppression, or the location of the community of Ocotillo, whose residents received copies of the hearing notice. See Exhibit 256, Notice of Public Hearing & Scheduled Hearing Date(s) for Appeal #08-0001 of the US Gypsum Final EIR/EIS before the Board of Supervisors 3/18/08, postmarked 3/5/08.

40. FEIR includes water quality data for well 29D1 in both a Table and in a graph; however, data for well 29D1 is not in USGS NWIS when we obtained data from that website. FEIR Fig. 6 "Water Quality Trend Differences by Area" includes bar graphs for a well identified as 29D1. FEIR Table 4.0- 2 "Comparison of Water Quality by Well Location"(FEIR at 4.0-34) also includes water quality data for well 29D1. However, none of the Figures depicting locations of wells for any kind of USGS data, either water levels or water quality identifies a well 29D1. Similarly, our review of water quality data at the USGS NWIS water quality website contains no water quality for any well identified as 29D1 and neither does FEIR Table 4.0-1 "Water Quality Information Available from the USGS National Water Information System (NWIS)" at FEIR 4.0-31. From what source did the information in the table and the graph for well 29D1 come or what is the correct well identifier and location for this well? This is an example of the inaccuracy of analyses in the Todd study and FEIR. Both the FEIR Table 4.0-2 and Fig. 6 are identical to those in Appendix C-1.

(Conclusions to comments on USG Expansion are modified to be applicable to the CEC:)

41. From a recent book review comes wisdom and advice for the future and for decision-makers as noted in these concerns related to the proposed USG reliance on increased amounts of potable groundwater for export for non-overlying industrial uses from an already overdrafted groundwater basin:

> "We're not good at planning for our great-grandchildren yet this is what is required of our generation and those who follow," he writes. "Drought and water are probably the overwhelmingly important issues for this and future centuries, times when we will have to become accustomed to making altruistic decisions that will benefit not necessarily ourselves but generations yet unborn. This requires political and social thinking of a kind that barely exists today." (Wilkinson, T. 3/4/08. "Climate change's most deadly threat. Anthropologist Brian Fagan uses Earth's distant past to predict the crisis that may lie in its future." Christian Science Monitor at http://www.csmonitor.com/2008/0304/p.13s02-bogn.html)

42. It is recommended that Imperial County *(here the CEC)* now make a decision that will benefit future

generations of overlying residential users of potable groundwater in the Ocotillo-Coyote Wells Groundwater Basin/Sole Source Aquifer by requiring USG's industrial use of water for the manufacture of wallboard to come from the Colorado River from IID's Westside Main Canal as approved by the IID decision of April 2006.

References cited in comments on the USG Expansion/Modernization Project & Final EIR

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USGS topographic map entitled "Location of wells – Ocotillo-Coyote Wells area" provided by USGS to E Harmon in 1979.

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116 Jly gypsum summary 1. Undated, probably 4/2001. "Background - U.S. Gypsum". Found in Planning Dept. USG files during Public Records Act search in 2001. Includes discussion about USG threat to sue for failure to deliver on the economic incentive program in 1999, County having 60 days to revoke all permits covering the new expansion to comply with court orders, preparation of EIR,

and the standard requirement for demolition of all work done to date for any project built without permit.

200 Public Citizen 1/30/06. "USG Corp. Bankruptcy agreement shows how Asbestos Trust Fund will hurt victims, allow companies to reap huge windfalls. *Agreement calls for company to create its own fund for victims, but if federal fund now before Congress is OK'd, USG will pay billions less*." http://publiccitizen.org/pressroom/print_release.cfm?ID=2123.

201 Imperial Irrigation District Application for Right of Way for Power Line and Water Line over Public Lands of the United States, August 12, 1980. (ROW = Right-of-Way)

202 BLM Right-of-Way Grant to IID April 21, 1981 (CACA8683).

203 BLM ROW Case Recordation CACA 8683 showing annual lease payments are current

204 Aerial photo showing the BLM CACA8683 ROW up to the Plaster City property line also shows location of Centinela State Prison in SE corner of T15S R11E.

205 USGS Topo map "BLM Right-of-Way CACA 8683 granted to IID April 1981 to USG property" line

206 US Gypsum Company Plaster City Plant Historical County Water Use Records, See also Case file in Court of Appeal for Case No. D034281 at pp. 457

207 1/5/76 letter from USG to USGS re water use, See also Case file in Court of Appeal for Case No. D034281 at pp. 459.

208 USG's "Plant and Village Yearly Water Usage". See also Case file in Court of Appeal for Case No. D034281 at pp. 460 as reported by USG to USGS in 1976.

209 USG estimated water use reported to USGS in 2/17/76 See also Case file in Court of Appeal for Case No. D034281 at pp. 462.

210 "Current and historic groundwater use, Ocotillo/Coyote Wells Groundwater Basin," DEIR at p. 3.3-28

211 "U.S. Gypsum Variance" discusses difference between water used and what was reported to USGS. USG DEIR/EIS p. 3.3-29

212 DEIR Fig. 1.0-1 Regional Location incorrectly places USG water Supply wells south of Nomirage and south of State Highway 98

213 DEIR Fig. 2.0-1 Location of Project Components incorrectly places Plaster City Water Tank and Well Site in the Myer Wash more than 1 mile to the west of the southern most subdivision in Ocotillo

214 FEIR Fig. 7 and FEIR 11 depicting USGS monitoring wells in Yuha Estates in different locations

215 New York Times 12/30/07 "Infection hits a California prison hard"

216 Wikipedia "Centinela State Prison" article downloaded 1/1/08.

217 Figure depicting water level decline from Ocotillo to Yuha Estates in feet Above Mean Sea Level which eliminates topographic variations in land surface elevations.

218 Minute Orders of Imperial County Board of Supervisors 4/26/94 set a limit of 1.5 AF/Y per dwelling unit in ONCAP and for all residential development standards requires a site-specific geohydrology study if a major subdivisions to be served with groundwater and if commercial development requests to use more than 5 AF/Y of groundwater.

219 Univ Arizona projections for temperature and rainfall, University of Arizona climate change maps are available at: http://www.geo.arizona.edu/dgesl/Assets/research_maps/climate_change/.

220 FEIR 4.0-54 discussion of differences between what USG wallboard production water use indicates and the higher USGS estimate (provided by USG according to Court records and DEIR 3.3-29)

221 Map depicting location of private land in the Ocotillo-Coyote Wells Groundwater Basin and within the Ocotillo/Nomirage Community Area Plan. ONCAP Fig. 1 Ocotillo/Nomirage Community Area. 1994.

222 FEIR 5.0-205 USG rejects both the Partial IID Water Supply Alternative as being "infeasible because its implementation is remote and speculative" and Full IID Water Supply Alternative because it would "require additional speculative permitting and the costs would be prohibitive".

223 Fig. C-9 from 1/2008 DEIR/EIS for the Sunrise Powerlink Project, SCH # 2006091071 shows location of Centinela State Prison S of Naval Air Facility.

224 USG News and Events 1.29/08. "USG Corporation Reports Fourth "Quarter 2007 Net Sales of $1.2 Billion and a Net Loss of $28 million" (4 pages) from www.usg.com. (Lists net sales for 2007 at $5.2 billion. on p.1.)

225 FEIR p. 4.0-22 discussion of Lead Agency interpretation of effects of Planning Director 3/8/06 "approval" of USG asserted historic use, and the Groundwater Management Ordinance on future use of groundwater by overlying property owners in the groundwater basin

226 FEIR discussion of overdraft in the groundwater basin from which USG is currently exporting water for non-overlying industrial use more than 8 miles from its wells FEIR 4.0-55

227 Planning Director 3/8/06 approval of USG asserted "historic use" of 767 AF/Y groundwater from 3 wells and the pipeline, and Term T-8 USG indemnification of County from any challenges of this approval. FEIR 5.0-209 to 5.0-211.

228 Aerial photo showing USG wells with vegetation growing to east of each well where water spills onto ground.

229 Harriet Allen 7/6/02 Scoping letter to BLM re NOI for EIS related to USG expansion, with attached exhibits.

230 Dorothy Hebler 6/5/02 Scoping letter to BLM

231 BLM's Linda Self 5/26/06 memo to RDT's Dave re BLM Scoping transcript and Scoping letters submitted to BLM and missing from draft EIR/EIS.

232 "Catalog of Documents for U.S. Gypsum" to be used for preparation of the EIR in a heading after "Water Quality" and before "Biological"were the documents from "Edie Harmon/Sierra Club Comments. 8. Scoping Comments and Exhibits (3 volumes) re US Gypsum proposed expansion". Pages 4 and 5 of that Catalog includes a list "New exhibits submitted in 2002 (through 116)" giving the page numbers of the Sierra Club submissions all typed by the same computer that made the rest of the "Catalog". The last exhibit identified by number is Exhibit 116. (Catalog list includes 7 pages, "096-03 Catalog of Documents. Version 6.doc")

233 4/30/02 email from Planning Director Heuberger to RDT's David Brown at pp. 2, 3.

234 3/4/02 email from Bruce Steubing to Dave Brown: "If current pipeline can't handle full volume needed how could it have handled its historical level of 760 acre feet?"

235 5/31/02 email communication from Andy Kopania to Dave Brown at Resource Design, "Subject USG Data Needs".

236 9/15/2003 email from Dick Rhone of B-E to Andrew Kopania, includes a list of the amount of water pumped as reported by USG to the County. For 1998, the baseline year, the rate was 333 AF/Y, however, by 2001 it was 433 AF/Y and by 2002 the quantity had increased to 533 AF/Y.

237 3/4/02 email from Bruce Steubing to Dave Brown re USG EIR Response to 8 at p.3 re pipeline.

238 Fig. 2.0-1 "Location of Project Components" Lilburn Corp for a Revised Draft 9/26/2003 version of the USG Project Description correctly locates a Plaster City water tank and well and which also depicts the location of Quarry Well #3. This Figure was not the one included in the 4/06 DEIR for public review.

239 BLM's Self had sent an email memo to Yasha Saber and Dave Brown at Resource Design on April 29, 2005 with concerns about 2002 Scoping comments received by BLM including three from environmental organizations.

240 Notice of Public Hearing of tnhe USG EIR/EIS for a Hearing Date of December 12, 2007, before the Imperial County Planning Commission, Agenda Item #5. Imperial Valley Press, Dec. 2, 2007.

241 Notice of Public Hearing and Scheduled Hearing Date for the US Gypsum project for 2/13/08 includes map with incorrect and incomplete project water wells.

242 USG "Annual Groundwater Reports" for the years 1993 through 2001, included annual pumpage for 3 wells combined and residual chloride values on a monthly basis. (9 pages.)

243 A. Kopania. 3/21/03 e-mail correspondence from EIR consultant, to B-E's Rhone and three hydrogeologists at USGS, Subject "Ocotillo Modeling" refers to Drillers Reports and complexities of basin over very short distances.

244 Ron Schnabel of B-E. 3/13/03. memorandum to Dick Rhone of B-E. Subject : Geologic interpretation of the Ocotillo-Coyote Wells Basin, imperial County, California with recommendations for changes to the proposed groundwater model.

245 Ron Schnabel of B-E. 3/25/03 memorandum to Dick Rhone and others of B-E, but not to Kopania. Subject: U.S. Gypsum - Comments from Andrew Kopania via email on 3/21/03 re complexities of

basin and information from Drillers Reports.

246 Kopania 5/13/03 e-mail to Dave Brown of Resource Design, Subject: Fwd re: Ocotillo GW flow model - steady state simulation.

247 Kopania, A, and D. Brown, RDT. 6/23/03 Memorandum to Heuberger. Subject: Status of Hydrology Evaluation U.S. Gypsum Project" (4 pages with Attachment of 4 pages of 8/21/02 comments from Malcolm Weiss to Brown and Heuberger.)

248 A. Kopania Memorandum on 6/26/03 to Heuberger, and RDT, BE, USG and USGS, Subject Model Calibration Results, Ocotillo/Coyote Wells Groundwater Basin" re thresholds of productivity due to limited recharge and that model could not produce monitored conditions in 2003. (Monitored data is further from the model in 2007 than 2003.)

249 Planning Director Heuberger. 9/1/03 communication from to USG's Malcolm Weiss, RDT's Brown, Subject USG project includes discussion of "potential alternatives" for water supply, and concerns about the "waste pile" at the Plaster City site.

250 Brown's 9/4/03 reply to Heuberger and Kopania "USG memo on Alternatives"

251 USG's 8/23/03 "Plaster City, California Potential Alternative Water Sources. (Exhibit 251, 4 pages with map provided 1/21/04, 2 additional pages.)

252 Heuberger's 1/25/02 memo to "All Planning Department Staff" re USG Permit

253 Kopania, A. 8/15/05, memorandum to RDT's Brown re "Final Hydrology Issues US Gypsum EIR/EIS", 4 pgs.

254 Kopania & Brown 9/26/05, to Heuberger re "Comments on issues in September 1, 2005 Letter from Malcolm Weiss US Gypsum EIR/EIS", 6 pgs.

255 Weiss, M. 6/20/03 letter to Heuberger re "U.S. Gypsum EIR Status. 6 pgs.

256 Notice of Public Hearing & Scheduled Hearing Date(s) for Appeal #08-0001 of the US Gypsum Final EIR/EIS before the Board of Supervisors 3/18/08, postmarked 3/5/08.

257 Garfin, G. , & M. Lenart Jan/Feb 2007. Climate Change: Effects oin the Southwest Water Resources. Southwest Hydrology: 16, 17, 34.

258 Wilkinson, T. 3/4/08. "Climate change's most deadly threat: drought. Anthropologist Brian Fagan uses Earth's distant past to predict crises that may lie in its future." The Christian Science Monitor Online.

259 Mitchell, Planning Director, 2/27/81 to USG RE Water Usage in the Ocotillo-Coyote Wells Ground Water Basin. Court of Appeal Case No. D034281 Clerk's Transcript on Appeal, vol 2 p. 315, 316 and 306.)

260 FEIR Fig. 3A Cross Section near Ocotillo depicts the largest portion of groundwater basin to be poorer water quality formations of Layer 2

261 FEIR Fig. 3B Cross Section near Yuha Estates depicts the largest portion of groundwater basin to be poorer water quality formations of Layer 2

262 FEIR 4.0-55 from FEIR Sec. 4.3.7 Water Balance Summary

263 Cabanilla, R. 5/5/06 re: "Review of USG Draft EIR/EIS for Expansion of Plant" 2 pages.

264 Aerial photo depicting location of Plaster City and Centinela State Prison and showing white dust to east of Plaster City facilities from Google Earth printed on 3/12/08.

265 Aerial photo depicting location of Plaster City operations from Google Earth printed on 3/12/08.

266 Aerial photo depicting location of USG wells in relation to communities of Ocotillo and Nomirage

267 Aerial photo of Plaster City plant dated 6/1996, DEIR Fig. 2.0-4

268 Brown, D. 8/29/03. Subject "FW: memo to Jurg" re IMSA waste/stockpiles at Plaster City

269 Aerial photo of Plaster City plant from BLM Geocommunicator website on 3/14/08

EXHIBIT 11

EXHIBIT 499 – K

STATE OF CALIFORNIA
California Energy Commission

In the Matter of: The Application for Certification for the **IMPERIAL VALLEY SOLAR PROJECT**	Docket No. 08-AFC-5

ADDITIONAL REBUTTAL TESTIMONY OF SCOTT CASHEN ON BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY ON BIOLOGICAL RESOURCES AND ALTERNATIVES FOR THE IMPERIAL VALLEY SOLAR PROJECT

July 21, 2010

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Qualifications

Education

I have a Master's of Science Degree in Wildlife and Fisheries Science from the Pennsylvania State University, University Park. The degree program included coursework in Landscape Ecology, Biometrics, Statistics, Conservation Biology, and Wetland Ecology. For my thesis, I conducted seven seasons of independent research on avian use of restored wetlands. The U.S. Fish and Wildlife Service subsequently used my technical report as a model for other habitat restoration monitoring projects in Pennsylvania.

Work Experience

My employment experience has included work in the fields of wildlife biology, forestry, and natural resource consulting. Much of my work over the past two and a half years has involved review of environmental documents associated with development of large-scale solar energy facilities. To date, I have served as an expert on 12 different solar projects, 9 of which are being sited in the Mojave Desert. I am currently entering the second year of a two-year contract I hold with the State of California to conduct surveys for the Peninsular bighorn sheep near Anza-Borrego Desert State Park. I serve as a member of the scientific review team responsible for assessing the effectiveness of the US Forest Service's implementation of the Herger-Feinstein Quincy Library Group Act.

For the past two and a half years I have operated my own consulting business. I previously served as a Senior Biologist for TSS Consultants and ECORP Consulting. Other positions I have held have included conducting wildlife research for the National Park Service, the Point Reyes Bird Observatory, and the University of California. While in graduate school I served as an instructor of Wildlife Management and as a teaching assistant for a course on ornithology.

STATEMENT

I. INTRODUCTION

The testimony contained herein is based on my review of the Supplemental Staff Assessment issued on July 7, 2010 and other environmental documents prepared for the Imperial Valley Solar Project ("Project"). This additional rebuttal testimony is intended to add to my previous opening and rebuttal testimony regarding the biological impacts posed by this Project and to provide additional analysis of Project alternatives proposed by the Applicant in the Applicant's additional Opening Testimony.

II. AVIAN PREDATORS AND RAVEN PLAN

The proposed project is likely to lead to an increased abundance of flat-tailed horned lizard (FTHL) predators. These include loggerhead shrikes, roadrunners, raptors, round-tailed squirrels, common ravens, coyotes, and kit foxes.[1] Researchers have theorized that increased predator density is responsible for the absence of FTHL along anthropogenic boundaries such as those that would be created by the Project.[2]

The applicant has prepared a draft Raven Management Plan, which staff has incorporated into proposed Condition of Certification "BIO-12." Staff has concluded that if the condition is implemented, BIO-12 would minimize the effects of increased predation on the FTHL population to less than significant levels under CEQA.[3]

The Applicant's Proposed Raven Management Plan is not Adequate

TIMELINE NOT SUFFICIENT

The Applicant proposes to monitor the effectiveness of the Raven Management Plan through the Project construction phases, and report on the implementation of the plan for two years following completion of the Project.[4] The Applicant's proposed timeline is insufficient, as demonstrated by statements made in the Applicant's draft Raven Management Plan. These include:

A. "It will be difficult to determine if the project is contributing to a decline in the local flat-tailed horned lizard population due to the difficulty in monitoring flat-tailed horned lizard densities and raven predation."

B. "Much of the plan's success lies in the effectiveness in discouraging human practices that would attract ravens to the area."

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[1] SSA, p. C.2-40.
[2] Young KV and AT Young. 2005. Indirect effects of development on the flat-tailed horned lizard. Final Report submitted to Arizona Game and Fish Department, Yuma. 11 pp.
[3] SSA, p. C.2-81.
[4] SES 2009 (tn 50613) – Draft Raven Monitoring, and Control Plan, dated 03/20/09. Submitted to Energy Commission/Docket Unit on 03/19/09.

C. "Because ravens are highly adaptive, the need for adaptive management would be necessary."[5]

None of these issues can be resolved in the short timeframe proposed by the Applicant. Because "human practices that would attract ravens" and the raven's ability to implement adaptive strategies will occur for the life of the Project, the Applicant's Raven Management Plan must similarly occur for the life of the Project if raven populations are to be adequately controlled. As currently written, Staff's proposed Condition of Certification does not ensure that Project impacts to ravens are mitigated.

MONITORING TECHNIQUES ARE NOT FEASIBLE

The Applicant's proposed Raven Management Plan consists of driving surveys that will target the Project site, the nearby transmission line corridors, and the surrounding areas.[6] The Applicant states these surveys will be used to document raven activity within two kilometers of the "site."

It's not apparent that there are existing roads within the "surrounding areas" to use driving surveys as a means of documenting raven activity in the various locations indicated by the Applicant. Furthermore, vehicles are a direct and indirect threat to FTHLs (e.g., crushing of lizards, habitat degradation, introduction of invasive plants), and thus use of vehicles to survey for ravens would counter the goal of preventing FTHL mortality. Unless Staff and the resource agencies require walking surveys or other raven monitoring techniques (perhaps a suite of different techniques), the monitoring plans are infeasible and pose significant unmitigated impacts to FTHL.

SUCCESS CRITERION IS NOT FEASIBLE

According to the Applicant's proposed Raven Management Plan, "[i]f after two years of reporting the agencies determine that the raven management program is effective, and ravens are not adversely affecting the local flat-tailed horned lizard population due to Solar Two [Imperial Valley Solar] site operation, then the raven surveys and reporting schedule will be phased out."[7] This is not a feasible success criterion because there is no identified means of determining whether ravens are affecting the local FTHL population as a result of the Project development.

Staff's Proposed Condition of Certification Lacks Control Measures for Other FTHL Predators

The proposed Project is likely to lead to an increased abundance of several other predators of FTHL. Research has demonstrated these predators can have a significant effect on FTHL populations.[8] The SSA concludes the Raven Management Plan (BIO-12)

[5] *Id.*
[6] *Id.*
[7] *Id.*
[8] 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.

and Weed Management Plan (BIO-18) would reduce impacts from FTHL predators to less than significant levels.[9] This conclusion is unsupported because neither condition addresses how the Applicant will monitor and control the abundance of the numerous other FTHL predators besides ravens.

III. WEED MANAGEMENT PLAN IS NOT ADEQUATE

Staff's proposed mitigation for weed management is insufficient. First, neither the SSA nor the Applicant's draft Weed Management Plan specify the success criteria for weed management, or the triggers that will be used to determine when adaptive management measures are necessary.

Second, the SSA does not specify the duration of the Applicant's weed management efforts. The Applicant's draft Weed Management Plan suggests the Applicant will submit reports during the "monitoring period," but it never specifies the duration of that monitoring period. Activities that will promote the colonization and spread of weeds (e.g., ground disturbance, water use, vehicular traffic) will occur for the life of the Project. Therefore, Staff needs to ensure that the Applicant's weed management efforts occur for the life of the Project.

Third, the Applicant has yet to provide information on how the Project site will be revegetated after closure. The Applicant's draft Weed Management Plan states: "[s]hould the Solar Two project site ever be closed a site reclamation and revegetation plan should be drafted with the goal of reducing the extent of weeds that persist on the site following closure."[10] Until the Applicant provides an adequate plan that ensures proper reclamation and revegetation for Project closure, the Project poses a significant unmitigated impact from long term weed invasion.

IV. THE SSA IMPROPERLY CHARACTERIZES PROJECT VEGETATION AND DISTURBANCE LEVEL

The SSA states the vegetation communities within the proposed Project site consist of 5,024.4 acres of Sonoran creosote bush scrub habitat and 1,038.7 acres of disturbed habitat.[11] This does not appear to be an accurate characterization of the Project site. The AFC indicates the Project site contains only 30.3 acres of disturbed habitat, and that the majority of the Project Site is relatively undisturbed.[12]

The SSA states no sensitive natural vegetation communities occur in the survey area or within one mile of the project boundary.[13] This statement is incorrect. The desert iodine scrub community referenced in the SSA is a sensitive natural community.[14] Additional

[9] SSA, p. C.2-81,82.
[10] Applicant's Draft Noxious Weed Management Plan, p. 6-5.
[11] SSA, p. C.2-2.
[12] AFC, p. 5.6-8.
[13] SSA, p. C.2-21.
[14] SSA, p. C.2-20.

sensitive natural communities are present on the Project site, but have yet to be addressed by the Applicant or Staff. I provided information on this issue in my opening testimony and rebuttal testimony.

V. GOLDEN EAGLE

Staff has concluded the Project site contains suitable foraging habitat for golden eagles, and the loss of foraging habitat is considered a significant impact.[15] Staff has concluded the acquisition of FTHL habitat compensation lands would mitigate impacts to golden eagles.[16] Staff's conclusion lacks scientific support.

First, acquisition of compensatory mitigation for FTHL does not necessarily mitigate Project impacts to golden eagles. This is especially true because the recommended selection criteria for compensation lands do not require the lands to be within the foraging territory of any actual golden eagle nest sites.

Second, research indicates golden eagles selectively use available habitat, and that they concentrate their foraging activities in select "core" areas.[17] In a study on spatial use and habitat selection of golden eagles in Idaho, Marzluff et al. (1997) concluded that there was substantial variation in home range size and habitat use among eagles, and that if such variation was ignored (by focusing on population averages), conservation strategies and biological descriptions will be inaccurate and rarely effective.[18] During the breeding season, eagles in Marzluff's study had home ranges as small as 480 acres, with 95% of the activity concentrated in core areas as small as 74 acres.[19] Home range size and behavior were a function of the types and configuration of prey habitat in the vicinity of the nest, and perhaps individual eagles.[20]

The results of this research have two important implications on the Project. First, in the absence of more appropriate empirical data, one should conclude Marzluff's results apply to the Project site, and thus the Project could eliminate a substantial amount of core habitat (perhaps all) used by at least one pair of breeding eagles. Second, whereas acquisition of compensation land may help conserve foraging habitat for *some* eagle(s), it may be of little consequence to *the* eagle(s) whose core habitat has been eliminated by the Project. This is important because not all eagles contribute equally to maintenance of the population.[21] For example, if all the suitable nest locations are fully-occupied, impacts leading to abandonment of a territory (either through destruction of the nest

[15] SSA, p. C.2-68.
[16] SSA, p. C.2-97.
[17] 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.
[18] 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.
[19] *Id.*
[20] *Id.*
[21] US Fish and Wildlife Service, Division of Migratory Bird Management. 2009. Final Environmental Assessment, Proposal to Permit Take. Provided Under the Bald and Golden Eagle Protection Act. Washington: Dept. of Interior.

substrate or through not being re-occupied by either the original nesting pair or a new pair from the floater population) may have a significant negative impact to the area population.[22] Available prey base or intra-species competition may be additional relevant factors in the ability of compensation lands to maintain eagle populations.[23]

Third, the USFWS has indicated that implementation of its Interim Golden Eagle Inventory and Monitoring Protocol is required to "establish the baseline circumstances for evaluation of permit applications and foundation for permit conditions, as well as assist planners so they may conduct informed impact analyses and mitigation during the National Environmental Policy Act (NEPA) process."[24] Yet, the SSA lacks any reference to the USFWS's golden eagle protocol. To conserve the golden eagle population and ensure Project compliance with the Eagle Act, mitigation imposed through Project approval should require the Applicant to implement the USFWS' golden eagle protocol.

Finally, the SSA discusses the USFWS's recommendation to the BLM that it evaluate whether take is likely to occur from loss of foraging habitat and if the loss will impact the ability to meet the preservation standard of the Eagle Act. According to the SSA, San Diego Gas & Electric (SDG&E) is currently collecting data, and once SDG&E's data are available, the BLM can incorporate them into their analysis.[25] This strongly suggests additional data are required to assess whether the Project would comply with the Eagle Act. If my presumption is correct, Staff does not have the information necessary to conclude compliance with the Eagle Act or that Project impacts to golden eagles would be mitigated to less than significant levels through acquisition of FTHL compensation lands.

VI. MITIGATION FOR AMERICAN BADGER AND DESERT KIT FOX

Staff has concluded the proposed Conditions of Certification BIO-15 (Badger and Kit Fox Avoidance and Minimization Measures) and BIO-10 (Flat-Tailed Horned Lizard Habitat Compensatory Mitigation) "would mitigate impacts to American badger and desert kit fox to less than significant levels under CEQA by avoiding take of these species and by *likely offsetting* habitat loss, provided the species occurs on the potential relocation site. The compensation lands acquired under BIO-10 are *assumed to be suitable* as compensation for American badger and desert kit fox."[26] Staff cannot rely on these assumptions to conclude impacts would be mitigated to less than significant levels.

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[22] US Fish and Wildlife Service, Division of Migratory Bird Management. 2009. Final Environmental Assessment, Proposal to Permit Take. Provided Under the Bald and Golden Eagle Protection Act. Washington: Dept. of Interior.

[23] US Fish and Wildlife Service, Division of Migratory Bird Management. 2009. Final Environmental Assessment, Proposal to Permit Take. Provided Under the Bald and Golden Eagle Protection Act. Washington: Dept. of Interior.

[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] SSA, p. C.2-97.

[26] SSA, p. C.2-71.

Consequently, BIO-10 needs to specify that American badgers and desert kit foxes occur on the compensation lands. Without the modification to this condition, there is a potentially significant unmitigated impact to American badgers and desert kit foxes.

VII. NOISE

The SSA concludes Project noise that carries offsite would be less than significant because it would be in the estimated range of background noise.[27] This conclusion is not supported. In the Noise and Vibration chapter of the SSA, Staff provides data that demonstrate a considerable increase in cumulative noise levels during the Project construction phase.[28] Noise levels at each of the three sensitive receptors used to collect data would exceed the noise level known to adversely affect bird species.[29] As a result, the data indicate construction noise is likely to have an adverse effect on bird species within at least two miles of the Project site.[30] This is a potentially significant impact for which mitigation is required (e.g., limiting construction noise to the non-breeding season).

According to the SSA, noise from Project operations would not contribute to a significant increase in cumulative noise levels.[31] However, this conclusion was based on data collected at three sensitive receptors located 4,300 to 10,500 feet away from the Project boundary; it ignores the effects of Project noise in the zone between the Project boundary and the sensitive receptors. The noise generated by the SunCatcher engines will be too loud for most birds to tolerate. Therefore, the significant impacts of noise on wildlife as a result of Project operations needs to be analyzed and mitigated.

VIII. WILDLIFE MOVEMENT

Corridors serve important functions in maintaining population viability. Of particular concern is the maintenance of connectivity between the Yuha Desert Management Area and the West Mesa Management Area, two of the five reserves designated for FTHL. I concur with Staff's conclusion that the loss of FTHL movement corridors and connectivity between the management areas would be a significant adverse impact, which is unmitigable as the project is currently proposed.[32]

In discussing movement corridors, the SSA indicates Coyote Wash serves as a possible movement corridor.[33] However, the SSA subsequently indicates "Wind Zero" is a reasonably foreseeable project that includes development in the South Fork Coyote

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[27] SSA, p. C.2-212.
[28] SSA, Noise Table 5, p. C.9-9.
[29] SSA, p. C.2-60. The SSA suggests a threshold of effect at 60 dBA; however, research has shown a threshold as low as 36 dBA.
[30] Staff predicted a cumulative noise level of 61 dBA at ML5, which is 10,500 feet northeast of the Project site. *See* SSA, p. C.9-7 and C.9-9.
[31] SSA, Noise Table 8, p. C.9-12.
[32] See Figures 1 and 2 attached.
[33] SSA, p. C.2-42.

Wash.[34] Consequently, Coyote Wash cannot be considered a potentially viable corridor that would allow wildlife movement between the two management areas.

Climate Change

The SSA provides a good summary on the effects of climate change. In particular, it states:

A. "preservation of connected blocks of habitat ***will be vital*** to allow movement of species to portions of their range that provide more suitable habitat or to allow movement to new areas that may support suitable habitat in the future."[35]

B. "it is important to site renewable energy projects so as to maintain the greatest degree of connectivity as possible to protected blocks of habitat or to acquire compensation lands that protect connectivity."[36]

The SSA then jumps to the conclusion that the impacts of climate change would be less than significant with appropriate levels of compensatory mitigation.[37] This conclusion is unfounded and unlikely. Condition of Certification BIO-10 requires the Applicant to purchase compensatory habitat within or "near" FTHL Management Areas in the Colorado Desert.[38] However, the specific location of the compensation lands must be identified before Staff can analyze the mitigation value for species' movement in response to climate change. Private lands within the Management Areas (i.e., lands potentially available for acquisition) are isolated blocks within a larger matrix of public lands.[39] As such, their acquisition may preserve connectivity *within* a Management Area, but they would do nothing to mitigate the Project's elimination of connectivity *between* Management Areas.

IX. BURROWING OWL

Impact Assessment and Avoidance

To avoid potential impacts to burrowing owls that might be nesting within the impact area, the SSA requires surveys using methods recommended by the California Burrowing Owl Consortium prior to decommissioning/plant closure activities.[40] I agree that surveys conducted according to the recommended protocol are the proper means of minimizing impacts to burrowing owls. However, protocol surveys for burrowing owls must also be conducted before the Project is constructed. To date, the Applicant has not conducted protocol surveys for burrowing owls on the Project site, and the SSA simply requires a "pre-construction" survey before initial ground disturbance. A pre-construction survey of unspecified level of effort is not the appropriate or recommended method for identifying

[34] SSA, p. C.2-111.
[35] SSA, p. C.2-112. [emphasis added]
[36] SSA, p. C.2-112.
[37] SSA, p. C.2-113.
[38] SSA, p. C.2-169.
[39] *See* SSA, Cumulative Impacts Figure 2 and 3.
[40] SSA, p. C.2-93.

and avoiding impacts to burrowing owls. Prior to Project construction, the Applicant should be required to conduct protocol surveys for burrowing owls so Project impacts to the species can be accurately assessed and appropriate mitigation can be developed.

Mitigation Measures

Staff's proposed mitigation requires the Applicant to prepare a Burrowing Owl Relocation Area Management Plan if burrowing owls are detected in the Project disturbance area. The SSA states the Burrowing Owl Relocation Area Management Plan ("Plan") should include monitoring and maintenance requirements, details on methods for measuring compliance goals, and remedial actions to be taken if management goals are not met.[41] However, the SSA itself does not provide any specific minimum, measurable performance standards, contingency plans if the performance standards are not met, or a timeline for implementation of the Plan. These items need to be established before a decision on the Project is made.

Owl burrows were detected on the Project site and live owls were detected both offsite and along the transmission line corridor.[42] Therefore, it is reasonable to expect burrowing owls will be detected during pre-construction surveys, especially on a large project site in Imperial County (which contains the majority of California's burrowing owl population). As a result, preparation of a Burrowing Owl Relocation Area Management Plan should not be deferred to a later date when its outcome would be uncertain.

X. CONSERVATION MEASURES FOR SPECIAL-STATUS PLANTS

Avoidance and Minimization

The SSA discusses the need to establish buffers around environmentally sensitive areas (ESAs). ESAs would be established for protected plant species occurrences, and they would be a minimum of 20 feet from the uphill side of the occurrence and 10 feet from the downhill side.[43] The SSA does not establish success criteria or triggers for remediation to ensure the ESAs are effective in offsetting Project impacts.

Moreover, scientific knowledge further dictates the proposed protection measures would be ineffective. Protection measures (including buffer size) need to be based on a plant's ecological requirements (e.g., sunlight; moisture; shade tolerance; edaphic, physical, and chemical characteristics) and the threats to its viability (including adjacent land use). Staff on the Calico Solar project concluded a 250-foot buffer would be needed for on-site plant protection.[44] There is no basis to conclude a buffer roughly 1/12th the size of that recommended for the Calico Solar Project would provide sufficient protection at the Project site, especially considering both projects would use the same technology.

[41] SSA, p. C.2-184.
[42] AFC, Bio Tech Report, Figure 2.
[43] SSA, p. C.2-194.
[44] Calico Solar Project SA/DEIS, p. C.2-175.

The ecological requirements of most plant species are poorly understood. However, scientific knowledge supports the inference that a project of this size (i.e., approximately 6,156 acres) will disrupt the ecological processes (e.g., seed dispersal, pollination, and gene flow) that may be necessary to maintain viable populations. The SSA lists several indirect impacts from the Project that Staff anticipates will affect special-status plants.[45] I cannot envision a scenario in which a buffer of 10 feet would be likely to protect a plant from these Project impacts. The Energy Commission Staff that evaluated the Ivanpah Solar Electric Project derived a similar verdict. Specifically, Staff concluded mitigation that relied on maintaining islands of protected plants within a disturbance matrix was "infeasible to protect the special-status plants from significant indirect impacts (i.e., from introduction and spread of non-native plants, alterations of the local hydrology, higher than normal dust levels, etc.)."[46] Although there is value in conserving special-status species within the Project site, any attempts to do so should have a reasonable possibility of success, and they should be backed by remedial mitigation measures if conservation goals are not met.

MONITORING AND REPORTING REQUIREMENTS

Condition of Certification BIO-19-A.2.g directs the Applicant to conduct monitoring of the ESAs and submit monitoring reports.[47] However, the condition does not specify the variables the Applicant needs to monitor (e.g., abundance, vigor, reproductive output), or more importantly, the success criteria associated with the monitoring efforts. Without appropriate success criteria, the monitoring effort would be ineffective.

Mitigation Measures

AVOIDANCE

Staff's proposed mitigation establishes certain scenarios in which the Applicant would be required to avoid on-site impacts to a minimum of 75 percent of the total population of a particular plant species.[48] For perennial plants, the SSA indicates the percent avoidance shall be based on the percentage of the total individuals affected.[49] For annual plants, the SSA indicates the percent avoidance shall be based on the total area occupied by the occurrence plus any additional habitat deemed essential for maintaining healthy, reproductive populations.[50] These guidelines need to be strengthened to ensure the Applicant satisfies the intent of the condition.

For perennial plants, higher weights should be applied to mature plants. Most mature plants would have a higher likelihood of surviving the Project's indirect impacts, and

[45] SSA, p. C.2-63.
[46] Energy Commission Staff's Rebuttal Testimony, Ivanpah Solar Electric Generating System. p. 28.
[47] SSA, p. C.2-195.
[48] SSA, p. C.2-201.
[49] *Id.*
[50] *Id.*

they provide a higher conservation value due to their ability to reproduce. For example, suppose the Project site contains 25 mature plants and 75 seedlings of a perennial plant species requiring on-site avoidance. As currently written, the condition of certification would enable the Applicant to kill the 25 mature plants (so as to avoid shading of SunCatchers) as long as the 75 seedlings were avoided. This would not be ecologically viable strategy.

For annual plants, I agree with the need to consider additional habitat that may be essential for maintaining healthy, reproductive populations. However, the condition of certification should establish more stringent guidelines on how this additional habitat may be used in calculating avoidance requirements. For example, suppose the Project site contains 25 acres of the target species and 75 acres deemed essential for maintaining healthy, reproductive populations. As currently written, it appears the condition of certification would enable the Applicant to eliminate the 25 acres occupied by the plants as long as the remaining 75 acres were avoided. Clearly this would not satisfy the intent of Staff's proposed mitigation.

Project Impacts to Wiggin's Croton

Wiggin's croton is a BLM Sensitive plant and it is listed as Rare under the California Endangered Species Act. The Applicant detected two mature individuals and five young Wiggin's croton plants along the proposed water pipeline route. According to the SSA, impacts to Wiggins' croton would be avoided so Project impacts are considered less than significant and no mitigation is expected. However, the SSA indicates specific avoidance measures to reduce potential impacts to special-status plant species were not proposed by the Applicant, and the SSA lacks any specific information to substantiate its statement that Project impacts to Wiggin's croton plants will be avoided.

Impacts to Special-Status Species from Seeley Wastewater Facility Upgrade

The SSA discusses the ongoing efforts to evaluate sensitive avian resources that may be impacted by upgrades to the Seeley Wastewater Treatment Facility. However, it does not provide any information on the sensitive botanical resources that might be affected by upgrade activities. Protocol rare plant surveys are needed to evaluate the impacts of the facility upgrade. The Applicant's 2010 botanical survey report suggests protocol surveys of the wastewater facility have not been conducted, and there is no indication that they are planned. Without protocol rare plant surveys, there are potential significant unmitigated impacts to rare plants associated with the Facility upgrade.

COMPENSATION LANDS

Staff's proposed mitigation allows the Applicant to acquire unoccupied habitat to compensate for Project impacts to special-status plant species.[51] Acquisition of unoccupied habitat would likely result in an unmitigated, significant impact to sensitive botanical resources.

[51] SSA, p. C.2-202.

First, even if the acquisition lands are adjacent to occupied habitat, they would be incapable of addressing direct threats to the target species. These include numerous threats that the Applicant would have no control over (e.g., grazing, mowing, herbicide use, trampling, vehicle activity, and several others). Second, Staff's allowance for acquisition of unoccupied compensation lands that are not adjacent to occupied habitat lacks scientific foundation, and does not meet CEQA mitigation standards for certainty, performance, and feasibility. Arguably, the practice of acquiring unoccupied habitat adjacent to more unoccupied habitat would counter that stated criteria that acquisition lands contain "habitat that is critical to the maintenance or sustainability of the affected species" and that they contain "linkages for species dispersal."[52]

Verification Measures

Verification measures for Condition of Certification BIO-19 include the requirement that the Applicant submit a draft Special-Status Plant Mitigation Plan no less than 30 days prior to ground-disturbing activities. According to the SSA, the plan should contain a "conceptual proposal for compensatory mitigation."[53] To ensure mitigation goals are met, Staff's verification measures need to include a process for revisions to the plan, its approval, and transformation of a concept into an actual plan before impacts to botanical resources occur.

XI. FTHL MITIGATION

Avoidance Measures

The SSA indicates a translocation plan for flat-tailed horned lizards (FTHL) will no longer be required.[54] However, the SSA also indicates FTHLs encountered during construction must be moved out of harm's way.[55] The SSA does not provide any information on the methods that should be implemented to capture any FTHL that are encountered; the process for safely handling and transporting lizards; or the locations of acceptable release sites (including their habitat suitability). These issues need to be addressed and subjected to professional review before the Applicant moves any FTHL.

To reduce impacts to FTHL, the SSA indicates clearance surveys for FTHL would occur prior to each phase of decommissioning/plant closure activity.[56] FTHL would then be relocated to suitable habitat outside of the development impact area.[57] The SSA provides no explanation for why clearance surveys should be implemented before decommissioning, but not before Project construction.

[52] SSA, p. C.2-202,203.
[53] SSA, p. C.2-205.
[54] SSA, p. C.2-74.
[55] *Id.*
[56] SSA, p. C.2-94.
[57] *Id.*

Compensation Measures

SELECTION CRITERIA

Staff has established selection criteria for FTHL compensation lands. However, some of the selection criteria are infeasible and lack certainty.

Selection criterion #1a is that the compensation lands be within or near FTHL Management Areas (MAs) in the Colorado Desert, with potential to contribute to FTHL habitat connectivity and build linkages between FTHL MAs, known populations of FTHLs, and/or other preserve lands.[58] Compensation lands within a FTHL MA would not contribute to connectivity *between* MAs, although they might promote connectivity *within* an individual MA.

Selection criterion #1b specifies that compensation lands should provide moderate to high quality habitat for FTHL. However, the SSA has not defined what is considered moderate or high quality habitat, nor a scientifically defensible process for evaluating habitat quality at proposed compensation sites.

Selection criterion #1c requires compensation lands to be near larger blocks of lands that are either already protected or planned for protection, or which could "feasibly be protected."[59] Even if a property can feasibly be protected, there is no assurance that it *will be* protected.

Selection criterion #1d specifies that compensation lands should be connected to lands occupied by FTHLs, or where FTHLs can be reasonably expected to occur, based on habitat or historic occurrences .[60] To the best of my knowledge, no one has developed a habitat model for FTHL. Therefore, the SSA requires an explanation for how habitat can be used to predict FTHL occurrence, and it should specify the habitat variables that would be measured to support a prediction. Additionally, the criterion states the adjacent lands should "ideally" have FTHL populations that are stable, recovering, or likely to recover.[61] This suggests it would be permissible for the Applicant to acquire lands adjacent to areas where FTHL populations are crashing. Such lands may not support the intent of Staff's condition. Unless the compensation lands are connected to lands where FTHL occupation has been confirmed, there is no basis to conclude the compensation lands will contribute to connectivity (i.e., criterion #1a).

[58] SSA, p. C.2-169.
[59] SSA, p. C.2-170.
[60] *Id.*
[61] *Id.*

Selection criterion #1e specifies that compensation lands should "ideally" contain soils that are stable and not suffering erosional damage.[62] This suggests it would be permissible for the Applicant to acquire lands with unstable soils that are suffering erosion damage. Such lands may contain soils that are incapable of remediation or supporting FTHL.

Selection criterion #1f specifies that compensation lands should not be characterized by high densities of invasive species.[63] Because the SSA has not defined what is considered a "high" density, the criterion lacks a measurable and enforceable standard.

IN-LIEU FEE

Condition of certification BIO-10 allows the Applicant to satisfy its mitigation requirements with an in-lieu fee instead of acquiring compensation lands.[64] However, the SSA has not established how the in-lieu fee would be calculated, nor has it demonstrated that it would be commensurate with the actual cost of acquiring, enhancing, and managing land within a MA.

VERIFICATION MEASURES

Staff's proposed verification measures allow the Applicant 18 months to acquire the compensation lands, and then an additional 180 days to prepare a management plan. However, Staff's proposed mitigation (primarily 1:1) does not account for the lag time between impacts and implementation of offsetting mitigation.

XII. CUMULATIVE IMPACTS

The SSA concludes "[t]he proposed IVS project would be expected to contribute only a small amount to the possible short term cumulative impacts related to biological resources because the proposed conditions of certification described below would minimize and offset the contributions of the proposed IVS project to the cumulative loss of habitat for native plant communities and wildlife, including special status species."[65] This conclusion is misleading and unjustified. First, the Project would not contribute a "small amount to the possible short term cumulative impacts" to biological resources. The Project would be a relatively large contributor to the loss of connectivity and overall ecosystem degradation in the region. These impacts would have a severe, long-term effect on biological resources, and they would not be mitigated by the proposed conditions of certification. Second, there is no scientifically defensible basis to conclude the Project's cumulative contribution to habitat loss will be mitigated until the compensation lands have been identified.

[62] *Id.*
[63] *Id.*
[64] SSA, p. C.2-176.
[65] SSA, p. C.2-111.

XIII. ALTERNATIVES AND LEDPA ANALYSIS

The SSA provides an assessment of reduced acreage alternatives. The Applicant has also provided information on Project alternatives, which was submitted as testimony to support 404B-1 alternatives analysis. Through this analysis, the Applicant concluded "Alternative #3" (the 709MW alternative) was the least environmentally damaging practicable alternative (LEDPA).

The following biological resources have the potential to be adversely affected by the Project: (1) flat-tailed horned lizard; (2) special-status botanical resources; (3) burrowing owl; (4) golden eagle; (5) migratory and other special-status birds; (6) American badger; (7) desert kit fox; (8) wildlife movement corridors; (9) ecosystem processes; (10) Peninsular bighorn sheep; and (11) aquatic resources. In the subsequent testimony I address each of these resources in relation to the Applicant's proposed LEDPA, and then in relation to Staff's proposed alternatives.

Applicant's Proposed LEDPA

FLAT-TAILED HORNED LIZARD

The Applicant's testimony states the Applicant's proposed LEDPA would provide corridors for flat-tailed horned lizards (FTHL) to traverse the proposed project site because Washes C, I, and K would only have perpendicular road crossings and no SunCatchers.[66] In addition, the Applicant has stated the proposed LEDPA would minimize FTHL mortality and provide relatively undisturbed washes for movement because "the roads within the washes throughout the site would be used minimally (Table 16) during operation of the project."[67] The Applicant's conclusion is not supported by the data, which indicate vehicles would make approximately 6,602 wash crossings per month.[68] The Applicant's proposed LEDPA would result in nearly the same amount of land disturbance as the proposed Project. Therefore, the Applicant's proposed LEDPA does not address habitat loss, which is considered the primary reason for the overall population decline of FTHL.[69]

Maintaining connectivity among habitats is important for the long-term conservation of the FTHL. However, the critical distinction between the *presence* of a corridor and its *function* was not addressed in the Applicant's analysis. That is, just because a corridor is present does not mean it will be used, or that it will function as intended.

Research has shown FTHL are absent along human-induced edges, likely due to the increased abundance of predators.[70] Research has also shown that prolonged noise can

[66] Applicant's 404B-1 Alternatives Analysis, p. 50,51.
[67] Applicant's 404B-1 Alternatives Analysis, p. 51.
[68] Applicant's 404B-1 Alternatives Analysis, Table 16.
[69] Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 80 pp. plus appendices.
[70] E.g., Young KV and AT Young. 2005. Indirect effects of development on the flat-tailed horned lizard. Final Report submitted to Arizona Game and Fish Department, Yuma. 11 pp.

adversely affect some lizards (e.g., desert iguana, Mojave fringe-toed lizard). The FTHL Rangewide Management Strategy indicates noise effects on FTHL are more likely where prolonged, loud noise occurs. This would be the situation on the Project site due to the noise generated by the SunCatcher engines. FTHL prey almost entirely on native ants.[71] Ant population dynamics are complex, but it's likely that removal of vegetation from the Project site would reduce native ant populations, which are dependent on seed as a food source. Each of these factors suggests the washes referenced in the Applicant's LEDPA would not function as viable corridors through the Project site.

SPECIAL-STATUS BOTANICAL RESOURCES

The Applicant's LEDPA analysis did not provide any information on the proposed LEDPA's ability to reduce impacts to special-status botanical resources.

BURROWING OWL

The Applicant's LEDPA analysis did not provide any information on the proposed LEDPA's ability to reduce impacts to burrowing owls. However, the Applicant's proposed LEDPA would cause considerable habitat loss for burrowing owls. In addition, any burrowing owls that remain on-site would be subject to collisions with vehicles, which have been cited as a significant source of mortality by several researchers.[72]

GOLDEN EAGLE

The Applicant's LEDPA analysis did not provide any information on the proposed LEDPA's ability to reduce impacts to golden eagles. However, the Applicant's proposed LEDPA would not leave an undisturbed minimum patch that would be required to support foraging eagles, thus it would not reduce impacts to the species.

MIGRATORY AND OTHER SPECIAL-STATUS BIRDS

The Applicant's LEDPA analysis did not provide any information on the impacts to migratory and other special-status birds. However, most bird species are sensitive to noise disturbance, which would not be reduced by the Applicant's proposed LEDPA.

AMERICAN BADGER, KIT FOX, AND WILDLIFE MOVEMENT CORRIDORS

The Applicant's LEDPA analysis did not directly address the impacts to American badger and desert kit fox. However, the Applicant concluded its proposal to omit SunCatchers from Washes C, I, and K would "provide habitat for the numerous animal species that utilize the denser wash vegetation and provide corridors of movement

[71] Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 80 pp. plus appendices. p. 8.
[72] Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing Owl (*Speotyto cunicularia*). *In* A. Poole and F. Gill, editors. The birds of North America, No. 61. The Academy of Natural Sciences, Philadelphia, Pennsylvania; The American Ornithologists' Union, Washington, DC.

through the project area."[73] This is not a reliable conclusion. American badgers and kit fox will be cleared from the site prior to construction, and the perimeter fence will then prevent movement of most terrestrial wildlife through the Project area.

ECOSYSTEM PROCESSES

Research in U.S. deserts has shown that (a) complex dynamics of species populations reflect interactions with other organisms and fluctuating climate; and (b) some environmental perturbations can cause wholesale reorganization of ecosystems because they exceed the ecological tolerances of dominant or keystone species.[74] The Applicant's proposed LEDPA would not alleviate the disruption of ecosystem processes that are likely to result from Project impacts.

PENINSULAR BIGHORN SHEEP

The proposed Project would result in loss of foraging habitat and movement corridors for bighorn sheep. These elements on the Project site are critical to the long-term viability of bighorn sheep populations. Due to the perimeter fence, the Applicant's proposed LEDPA would not alleviate Project impacts to bighorn sheep.

AQUATIC RESOURCES

Construction of the Project would include soil excavation, clearing, grading, installation of solar disks, construction of the Main Services Complex, roads, utilities, water pipeline, substation, and other ancillary features.[75] During these activities, there would be both permanent and temporary impacts to the physical substrate of Waters of the U.S. from dredge and fill activities and construction of permanent facilities.[76] Other potential impacts to the surface substrate of Waters of the U.S. would result from periodic vehicle crossings.[77]

The Applicant's testimony states that the proposed LEDPA would reduce permanent impacts to Waters of the U.S. from 177 acres to 39.1 acres, a reduction of 78 percent.[78] The maps provided in the Applicant's analysis are difficult to interpret, but they do not suggest a reduction of this magnitude.[79]

The Applicant's proposed LEDPA would cause extensive disturbance to the site's soils and vegetation. Once this occurs, soils will be extremely susceptible to wind and water erosion. The Applicant submitted testimony that concluded the Project would not change hydrology or sediment flow. To the contrary, Dr. Chris Bowles and Chris Campbell

[73] Applicant's 404B-1 Alternatives Analysis, p. 53.
[74] Brown J.H., Whitham T.G., Ernest S.K.M. & Gehring C.A. 2001. Complex species interactions and the dynamics of ecological systems: long-term experiments. Science 293: 643-650
[75] Applicant's 404B-1 Alternatives Analysis, p. 48.
[76] *Id.*
[77] *Id.*
[78] Applicant's 404B-1 Alternatives Analysis, p. 1.
[79] Applicant's 404B-1 Alternatives Analysis, Map 2 and Map 4.

submitted testimony in which they concluded the proposed Project would result in significant impacts, both onsite and offsite, due to changes in hydrologic processes, increases in soil erosion by water, adverse changes to the morphology of the washes, and potential hazards to the solar dishes placed in the washes. Based on my review of the literature and my experience with development projects, it is impractical to expect even the best BMPs would prevent sediment transfer out of the Project site following mass disturbance.

Most of the sediment that is displaced from the Project site will eventually be deposited into the New River and Salton Sea. The New River is impaired by sediment and siltation.[80] The Project would further contribute to this impairment. It would also jeopardize recovery of the Salton Sea. The Salton Sea provides important food resources for numerous resident and migratory bird species. Although many fish populations in the Salton Sea have crashed, tilapia populations have been recovering and they continue to support a recreational fishery. Mass disturbance of the Project site would contribute suspended silt to the Salton Sea, which would then be potentially toxic to tilapia and other fish species.[81]

River mouths, particularly in the southern part of the Salton Sea, provide areas of reduced salinity and higher dissolved oxygen. These estuarine areas are relatively small, yet very productive, and they routinely support higher concentrations of birds than surrounding areas. The size of the estuarine areas is influenced primarily by the amount of inflow. The New and Alamo rivers, which constitute nearly 80 percent of the inflow to the Salton Sea, support the largest estuarine areas. The Project's contribution of additional sediment to the New River would lower dissolved oxygen levels, and may alter the geomorphology of the estuaries. Both of these issues would cause potentially significant impacts on fish and wildlife resources.

Staff's Proposed Alternatives

The SSA analyzed a 300 MW Project alternative that would reduce impacts to habitat for FTHL, burrowing owls, golden eagles, bighorn sheep, American badgers, kit foxes, and other special-status species by 57 percent.[82] Due to the reduced footprint, less of the landscape would be fenced (from 6,063.1 acres to 2,577 acres).[83] This would allow viable dispersal corridors for terrestrial wildlife. With additional analyses, the 300 MW Alternative could be designed to promote FTHL movement between the Management Areas and reduce impacts to desert washes. These considerations—in conjunction with the attached advice letter from San Diego Gas and Electric— demonstrate that the 300 MW Alternative cannot be dismissed for failing to significantly reduce biological impacts.[84] Similarly the 300 MW Alternative should not be dismissed as economically

[80] California Department of Water Resources and California Department of Fish and Game. 2006. Salton Sea Ecosystem Restoration Program Draft Programmatic Environmental Impact Report. p. 6-2.
[81] Buermann Y, HH Du Preez, GJ Steyn, L Smit. 1997. Tolerance levels of redbreast tilapia, Tilapia rendalli (Boulenger, 1896) to natural suspended silt. Hydrobiologia 344:11-18.
[82] SSA, p. C.2-99.
[83] SSA, p. C.2-100.
[84] See Exhibit 499-M.

infeasible, since the Applicant has a power purchase agreement for a 300 MW project and no more. I recommend Staff and the resource agencies work with the Applicant to develop and further refine the LEDPA because Project impacts to the FTHL, desert washes, and other sensitive biological resources can be further minimized.

FIGURE 1

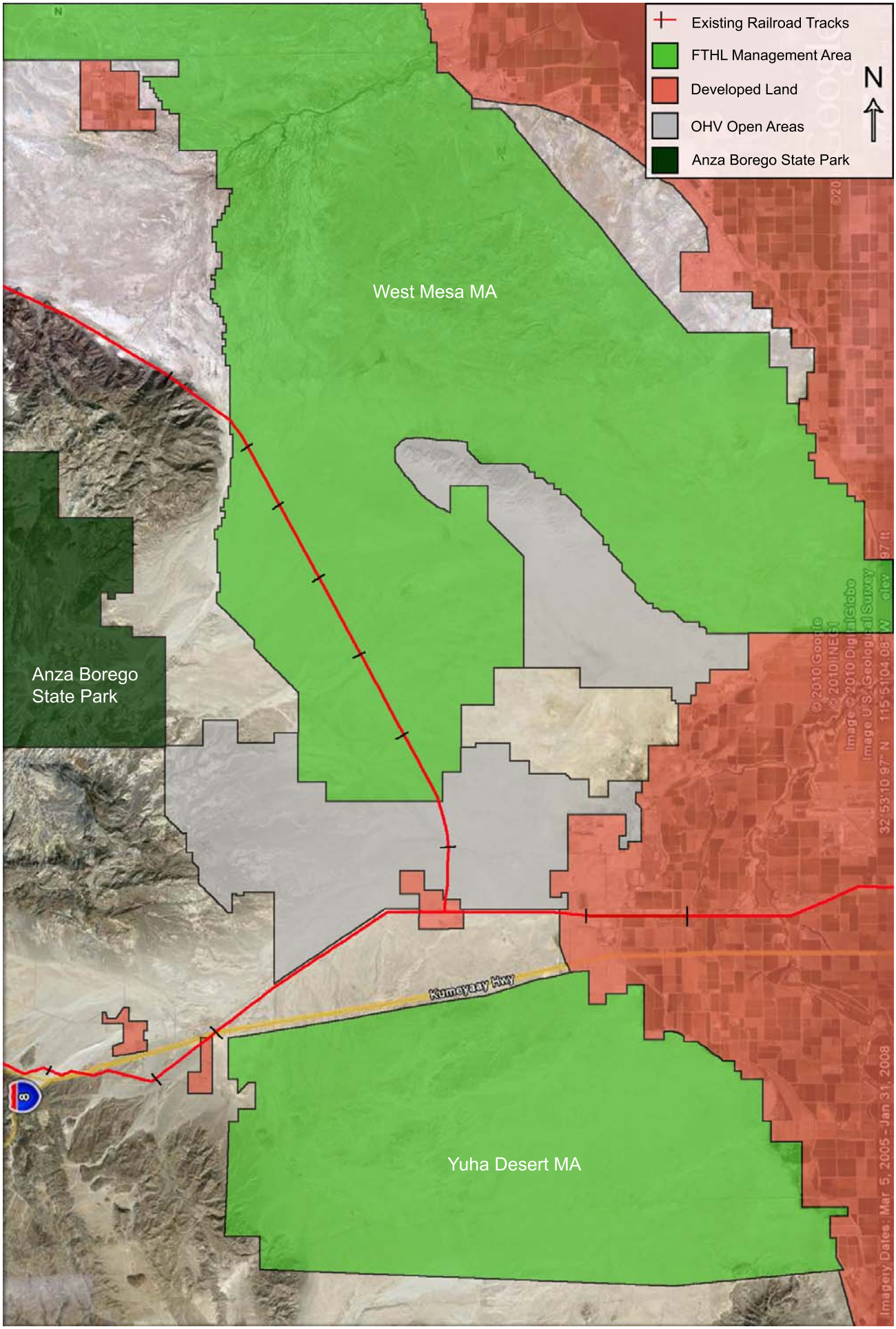
Existing Railroad Tracks
FTHL Management Area
Developed Land
OHV Open Areas
Anza Borego State Park
N
West Mesa MA
Anza Borego
State Park
Kumeyaay Hwy
8
Yuha Desert MA

FIGURE 2

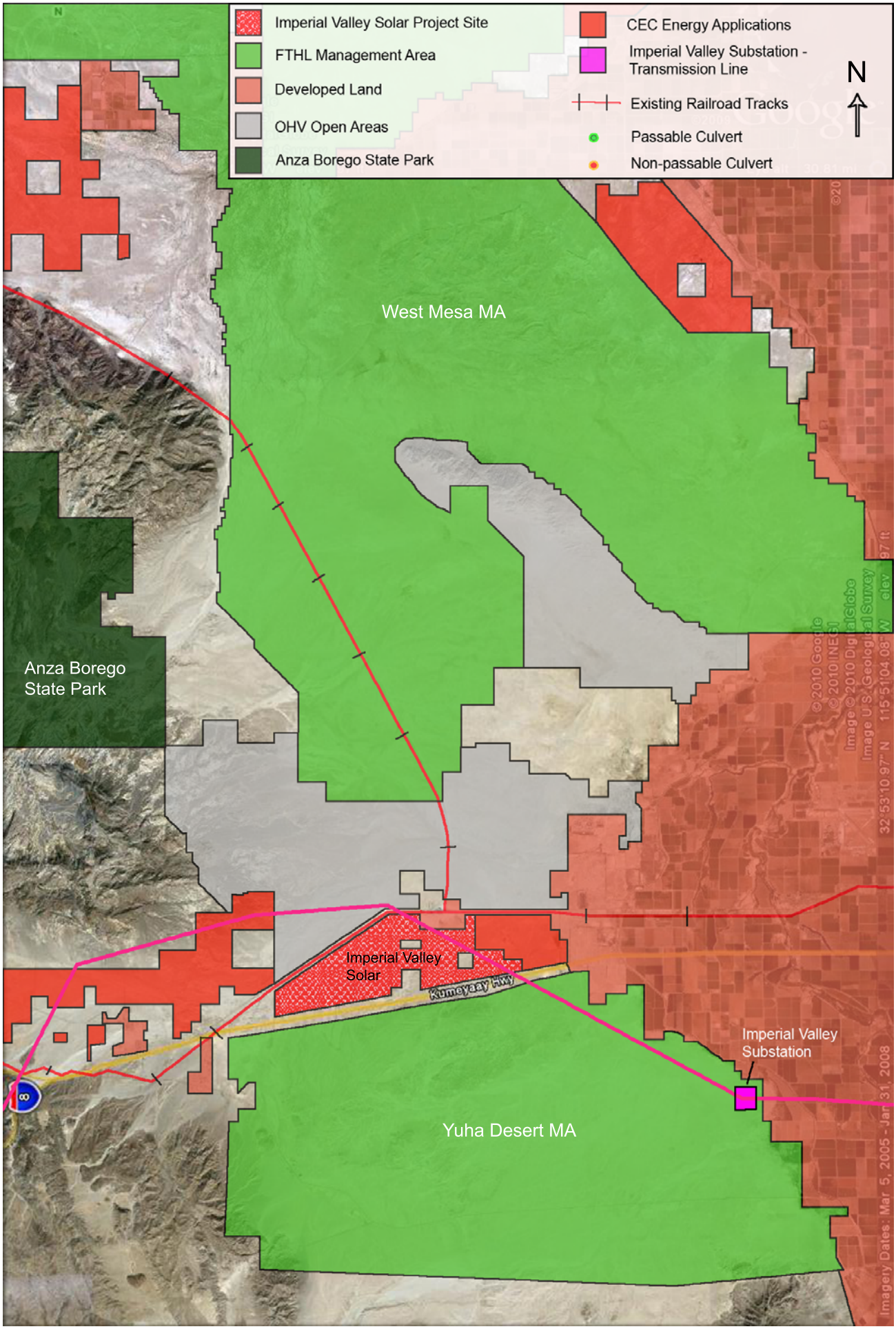
Imperial Valley Solar Project Site
FTHL Management Area
Developed Land
OHV Open Areas
Anza Borego State Park
CEC Energy Applications
Imperial Valley Substation - Transmission Line
Existing Railroad Tracks
Passable Culvert
Non-passable Culvert
N
West Mesa MA
Anza Borego State Park
Imperial Valley Solar
Kumeyaay Hwy
Imperial Valley Substation
Yuha Desert MA
8
Imagery Dates: Mar 5, 2005 - Jan 31, 2008

EXHIBIT 12

Greenspace

ENVIRONMENTAL NEWS FROM CALIFORNIA AND BEYOND

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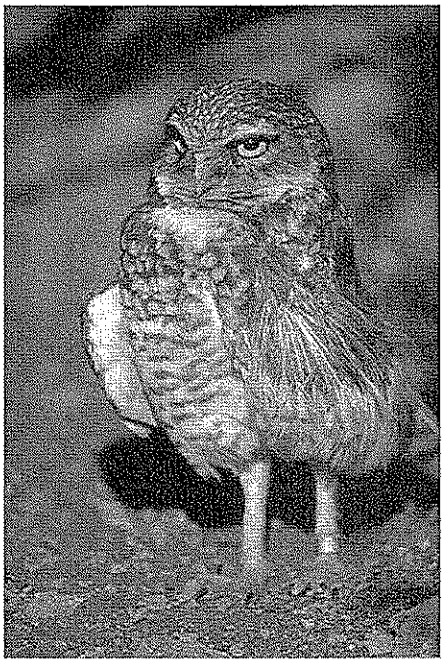
Number of burrowing owls in Imperial Valley falls sharply

September 22, 2010 | 1:17 pm



An alarming decline in the number of burrowing owls in the Imperial Valley -- a Southern California agricultural area that had been considered a stronghold for the species -- has prompted calls for an immediate inquiry by state wildlife authorities.

Surveys conducted by the Imperial Irrigation District show the burrowing owl population has dropped from about 5,600 pairs in the early 1990s to 4,879 pairs in 2007, and 3,557 pairs in 2008.

"We've seen a 27% drop in one year alone," said Jeff Miller, a conservation advocate for the Center for Biological Diversity. "If there is a similar drop next year, this bird could disappear in California."

Statewide, the burrowing owl has been decreasing because of habitat loss by urban development, elimination of rodents it feeds on, pesticides, predation by domestic animals, vehicle strikes, collisions with wind turbines and shooting.

Burrowing owls stand between 9 and 11 inches tall and make their nests in holes and tunnels once inhabited by ground squirrels.

Most of California's remaining breeding pairs of burrowing owls are concentrated in Imperial Valley, an area that makes up roughly 2.5% of the state's land, Miller said. "We still don't know exactly what is causing the declines in the Imperial Valley," he said, "but loss of suitable foraging areas from fallowing of agricultural fields due to water transfers and ground squirrel eradication programs may play a role."

The Center for Biological Diversity and other environmental groups including Defenders of Wildlife and the San Bernardino Valley Audubon Society in 2003 filed a petition under the Endangered Species Act to protect the burrowing owl.

The California Fish and Game Commission rejected that petition, in part, because it believed the bird continued to thrive in the Imperial Valley and along the lower Colorado River.

"That argument was flawed to begin with," Miller said. "It's time to revisit the issue of state threatened protections for the burrowing owl."

-- Louis Sahagun

Photo: Burrowing owl. Credit: Robin Silver Photography / Center for Biological Diversity

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