

STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:

APPLICATION FOR CERTIFICATION
FOR THE IVANPAH SOLAR
ELECTRIC
GENERATING SYSTEM

DOCKET NO. 07-AFC-5

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***FINAL PREHEARING CONFERENCE STATEMENT OF INTERVENOR
CENTER FOR BIOLOGICAL DIVERSITY***

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Pursuant to the November 23, 2009 Revised Notice of Prehearing Conferences and Evidentiary Hearing, Intervenor Center for Biological Diversity (the “Center”) provides this Final Prehearing Conference Statement.

We echo the statement of Intervenor Sierra Club regarding the fact that key issues continue to evolve and change as staff and the applicant revise, add and delete project conditions. Revisions were still ongoing at the December 15 and 22, 2009 staff workshops. The Center does not object to the applicant and staff working to narrow disputed issues; however, such a process does make it difficult for the remaining parties to evaluate the issues or understand how they are currently formulated. As a result, the Center reserves the right to respond to revisions to the alternatives analysis, license conditions and/or mitigation/avoidance measures once negotiations are complete. In addition, because the deadline for Rebuttal Testimony is not until January 4, 2010, the Center reserves the right to provide additional prehearing testimony and documentary evidence for written rebuttal up to and including January 4, 2010.

1. The topic areas that are complete and ready to proceed to evidentiary hearing:

The Center is prepared to proceed to hearing on the following topics: Project Description, Purpose and Need, Air Quality, Biological Resources, Land Use, Cumulative Impacts and Growth Inducing Impacts, Alternatives Analysis, Soil and Water

Resources. However, the Center does not view these topics as complete and ready for final hearing given the lack of adequate identification and analysis of the impacts of the proposed project provided in the FSA/DEIS. The Center is particularly concerned with the inaccuracies and inadequacies in the description of the environmental setting and project description, inadequacies in the identification and analysis of impacts to biological resources, lack of identification of specific, enforceable mitigation measures, and the lack of robust alternatives analysis.

2. The topic areas that are not complete and not yet ready to proceed to evidentiary hearing, and the reasons therefore:

The Center believes that there remain fundamental unresolved issues in many areas including Project Description, Purpose and Need, Air Quality, Biological Resources, Land Use, Cumulative Impacts and Growth Inducing Impacts, Alternatives Analysis, Soil and Water Resources. As noted above, the Center does not view these topics as complete and ready for final hearing given the lack of adequate identification and analysis of the impacts of the proposed project provided in the FSA/DEIS and ongoing changes put forward by the Applicant in its testimony and during the workshops. The Center is particularly concerned with the inaccuracies and inadequacies in the description of the environmental setting and project description, inadequacies in the identification and analysis of impacts to biological resources, lack of identification of specific, enforceable mitigation measures and plans, and the lack of robust alternatives analysis.

In addition to the inadequacies in the FSA/DEIS, the record being reviewed by the Center is incomplete because staff and the applicant continue to revise, add and/or remove license conditions in many topic areas. In addition, Staff has not yet provided documents requested related to the water issues by the Center on December 8, 2009. Staff has suggested that the parties could make additional document requests and that they would then later provide documents. There has been some discussion regarding a set time for exchange of additional documents relied on in the FSA however no such time

was provided in the schedule. The Center intends to request copies of additional documents relied on in the FSA before the evidentiary hearings. However, if documents on which the staff relied in the FSA are not provided until after the evidentiary hearings, it may prejudice the Center's ability to respond during the evidentiary hearings or in briefing. Given these moving targets, it is impossible to evaluate at this time whether the project will fully comply with relevant federal and state laws.

The failure to adequately identify impacts, analyze those impacts and provide documentary evidence or any other adequate basis for the staff's conclusions undermines public participation in this process is a violation of both CEQA and NEPA. The Commission must make all relevant documents relied on in the FSA available to the public and the parties. Where relevant information is incomplete or inadequate the agency must explain that circumstance and why the agency could not obtain the needed information.

Moreover, while the Commission proceeds under a certified regulatory program that is intended to be the CEQA equivalent and provides some flexibility to the Commission (*see* § 21080.5; CEQA Guidelines § 15251(j).), that program does not allow the Commission to shift the Commission's duty to provide for adequate CEQA review, including identification and analysis of environmental impacts and alternatives, onto other parties or members of the public. It is the Commission's duty to comply with CEQA's substantive and procedural mandates. Cal. Pub. Res. Code §§ 21000, 21002; *Sierra Club v. Bd. of Forestry* (1994) 7 Cal.4th 1215, 1236; *Joy Road Area Forest and Watershed Association v. Cal. Dept. of Forestry and Fire Protection* (2006) 142 Cal.App.4th 656, 667-68.

3. The topic areas that remain disputed and require adjudication, and the precise nature of the dispute for each topic:

Again, the Center stresses that the FSA/DEIS is incomplete and appears to have been prepared in a rush rather than to be the result of adequate analysis and research

regarding impacts to the environment and other topics. Moreover, many critical issues have not been fully identified and analyzed in the FSA/DEIS. For example, the impacts of and efficacy of many of the proposed mitigation measures has not been fully explored and mitigation plans have largely been unlawfully deferred for later development without sufficient, specific, and enforceable performance standards. *See Gray v. County of Madera*, (2008) 167 Cal. App.4th 1099, 1119-20.

Many of the disputed issues identified below involve both legal and factual disputes while others are predominantly legal issues. The Center therefore respectfully reserves the right to address each disputed issue, and any other disputed issues identified at the final prehearing conference at later stages of this process including in briefing following the evidentiary hearing.

The nature of the dispute in each topic area are discussed below:

Project Description: The project description is too narrow and segments environmental review of this project from other connected projects that are necessary for the project to proceed including the Eldorado-Ivanpah substation, transmission line and communications line projects which should have been included in project description and for which coordinated environmental review should have been provided.

Purpose and Need/CEQA Objectives: The purpose and need and CEQA Objectives statements in the FSA/DEIS fail to address the true nature of the project which, as the applicant admits, is partially as an experiment--“to demonstrate the technical and economic viability of Bright Source’s Technology in a commercial-scale project.” FSA at 2-5. The State Objectives which include to “economically construct and operate” renewable power that is capable of providing “competitively priced renewable energy” appear to ignore the fact that as the applicant admits this technology has never been constructed at this scale.¹ The further State Objective to complete the impact analysis by the first quarter of 2010 in order to authorize construction in 2010 simply makes no sense as an objective for the State and appears to favor a pre-determined outcome of this proceeding. The State must be concerned with the adequate CEQA review and while it may have an objective of timely approval of projects the State cannot properly have as an

¹ The result of having CEQA Objectives (and Purpose and Need statements) that are too narrow or inadequate reverberates throughout the document. For example, the FSA fails to consider any alternative that would phase the approval and construction of the project in order to determine the viability of this technology at a “commercial-scale” and thereby avoid habitat destruction that may be wholly unnecessary and a waste if the technology runs into unforeseen roadblocks or problems at commercial-scale.

“objective” of the project a rushed inadequate impact review which is the result of this objective.

The Center will reserve comments on the BLM Purpose and Need and DOE Purpose and Need for the Federal NEPA and Plan amendment Process.

Moreover, as discussed in our Preliminary Prehearing Statement, in its discussion of the need for renewable energy production the FSA/DEIS fails to address risks associated with global climate change in context including both the need for climate change mitigation strategies (e.g., reducing greenhouse gas emissions) and the need for climate change adaptation strategies (e.g., conserving intact wild lands and the corridors that connect them). Renewable energy projects, including the proposed ISEGS project, are elements of a national climate change mitigation strategy to reduce greenhouse gas emissions. Several California state, national, and international climate change reports describing climate change adaptation strategies underline the importance of protecting intact wild lands and associated wildlife corridors as a priority adaptation strategy measure.

As the FSA/DEIS admits building the proposed ISEGS project at the proposed location “would have major impacts to the biological resources of the Ivanpah Valley, substantially affecting many sensitive plant and wildlife species and eliminating a broad expanse of relatively undisturbed Mojave Desert habitat.” (FSA/DEIS p. 1-17), including, “Permanent loss of 4,073+ acres of Mojave creosote scrub and other native plant communities, including approximately 6,400 barrel cacti; permanent loss of cover, foraging, breeding habitat for wildlife; habitat fragmentation and loss of connectivity for terrestrial wildlife; disturbance/dust to nearby vegetation and wildlife; increased predation due to increased raven/predator presence; spread of non-native invasive weeds; and direct, indirect, cumulative impacts to special status plant species.” (FSA/DEIS p. 6.2-72)

The habitat fragmentation, loss of connectivity for terrestrial wildlife, and introduction of predator and invasive weed species associated with the proposed ISEGS project in the proposed location are contrary to an effective climate change adaptation strategy. Siting the proposed ISEGS project in the proposed location in Ivanpah Valley confounds our climate change adaptation strategy with a poorly executed climate change mitigation strategy. The Center believes that the solution to this problem is to build and operate the proposed ISEGS project (to implement the mitigation strategy) in an alternative site away from intact wild lands (to implement the climate change adaptation strategy). The way to maintain healthy, vibrant ecosystems is not to fragment them and reduce their biodiversity. The FSA/DEIS improperly assumes, to the contrary, that the proposed ISEGS plant must be built at this location and as a result the limited purpose and need statement undermines a fair and full review of alternatives that would avoid significant impacts of the proposed project.

Air Quality 6.1: The FSA/DEIS fails to adequately address several air quality issues including but not limited to PM 10. Of particular concern is that plans to minimize air

quality impacts from construction, operations, and decommissioning are all deferred to later development with no clear standards. Moreover, The FSA/DEIS discussion of greenhouse gas emissions from the project operations, workers traveling long distances to the site, manufacture and transportation of the project components, and construction is wholly inadequate and should have also included the net loss of greenhouse gas sequestration from onsite soils and plants. The Center reserves the right to raise these issues as well during the evidentiary hearings.

Biological Resources 6.2: The identification and analysis of impacts to all biological resources is inadequate and little to no attempt is made to avoid impacts to these resources or minimize the impacts as required under CEQA (as well as NEPA). Moreover, there is insufficient identification and analysis of impacts to show that the proffered mitigation measures will provide adequate mitigation. Overall, the mitigation measures that are discussed are far too vague and uncertain (unlawfully) leaving development of critical mitigation plans to a later time.

a. Bighorn: The FSA/DEIS fails to fully identify and analyze likely impacts to bighorn, provide alternatives to avoid impacts, or provide measures to minimize impacts. The Center has provided testimony on this topic which details the issue. *See* Testimony of Mark C. Jorgensen.

b. Desert tortoise: We incorporate herein by reference the Testimony of Michael Conner submitted by Intervenor Western Watersheds Project and the letter regarding the desert tortoise submitted by the Desert Tortoise Council on December 18, 2009.

The FSA/DEIS discussion of desert tortoise impacts and the proposed mitigation is wholly inadequate. The Center intends to provide detailed information on the disputed factual issues regarding impacts to the desert tortoise and its habitat going forward. As an initial matter, the FSA/DEIS fails to adequately address the following issues and the proposed mitigation is inadequate in the following ways:

- The tortoises present in the North Ivanpah Valley are part of the Northeastern Mojave desert tortoise population which are an Evolutionary Significant Unit and a distinct population segment of the species.
- Northeastern Mojave desert tortoises are the most genetically distinct population of California's desert tortoises.
- Northeastern Mojave desert tortoises have a limited range in California. The North Ivanpah Valley contains a significant portion of this range in California.
- The proposed project will directly, indirectly and cumulatively impact the Northeastern Mojave population. The impacts include destruction and loss of habitat, take of Northeastern desert tortoises, population fragmentation, and compromised viability.

- The Northeastern Mojave tortoise population is declining, and recent studies show that decline in the Northeastern Mojave area including the Ivanpah Valley is lower than other areas including the Eastern Mojave. *See* 2007 Rangewide Monitoring Report at 39 (decline of 9% from 2005). Tortoise densities within the Northeastern Mojave Recovery Unit are the lowest of the six Recovery Units recognized in the Recovery Plan however the survivorship is better. Therefore the loss of the desert tortoise population in the part of the Ivanpah Valley where the project is proposed will likely deal a heavy blow to the desert tortoise Recovery Unit that is historically low, but has relatively good survivorship compared to other Recovery Units. The FSA/DEIS fails to adequately consider the importance of maintenance of this distinct population segment of tortoises to the species as a whole.
- The FSA/DEIS proposes mitigating impacts by acquiring habitat and implementing recovery actions in the Eastern Mojave Desert Tortoise Recovery Unit, an area occupied by a different Evolutionary Significant Unit of desert tortoise.
- The mitigations proposed for the project do not meet CESA’s fully mitigated standard.
- The mitigations are not adequate to protect any translocated tortoises. For example, the FSA notes that FWS stated that fencing along I-15 is critical before any tortoise translocations are under taken (FSA/DEIS at 6.2-50) however Bio-9 for tortoise does not require that the fencing be in place.

The Center has been informed that BLM had completed the Biological Assessment (“BA”) for the Proposed Project and that the BLM would submit the document and attachments to the CEC for posting. However, as of this date, the Center has not yet been able to review the BA or the attachments. Because the BA may provide additional relevant information regarding impacts to the desert tortoise and its habitat, and proposed mitigation measures including the tortoise translocation plan, the Center reserves the right to respond to any new information in that document.

c. Other Wildlife: The FSA/DEIS fails to fully analyze impacts to gila monsters, burrowing owl, other bird species, bats, invertebrates, and other wildlife or to provide alternatives to avoid impacts, or provide measures to minimize impacts. In addition to information provided by Ileene Anderson in the Opening Testimony, the Center will also be providing more information on rebuttal on the identification and analysis of impacts to wildlife.

d. Habitat Loss and Compensatory Mitigation: This is an area in which the staff and the applicant have been discussing changes to the requirements. Because it is a “moving target” the Center is unable at this time to provide information on the “precise nature” of the remaining disputes in this area.

As a general matter, the compensatory mitigation plan relies on so-called “nesting” to provide compensatory mitigation for loss of habitat and individuals for multiple several plants and animal species as well as the mitigation for impacts to waters of the state. We are concerned that the plan described in the FSA/DEIS only addresses acquisition of compensatory mitigation lands for the desert tortoise habitat, it may in fact be inadequate to provide for the mitigation needs of the many other species (and impacts to the waters of the state) that will be impacted by the project. The Center believes that the staff has failed to adequately explain how the so-called “nesting” of mitigation actually provides for compensatory mitigation for each species of rare or sensitive plant and animal, including listed species as well as Gila monster, burrowing owl, nesting bird species, badger, and Nelson bighorn sheep or for the waters of the State. The FSA/DEIS fails to identify or analyze the importance of this alluvial fan habitat to multiple species and the effect of the structural loss of habitat on this alluvial fan/bajada on the remaining habitat in the North Ivanpah Valley. During one of the staff workshops the applicant also has questioned the need to compensate for the loss of waters of the state in order to secure a streambed alteration permit. The current status of this and other issues need to be provided to all of the parties.

e. Rare Plants and Special Status Plant Communities:

The Center incorporates herein the testimony submitted by the California Native Plant Society regarding rare plants and special status plant communities. Overall, the FSA/DEIS provides too little analysis of impacts, inadequate discussion of alternatives that could avoid impacts, and inadequate information about the proposed mitigation strategy. The FSA/DEIS concludes that the proposed ISEGS project will result in “impacts to Mojave milkweed and Rusby’s desert-mallow” that “would remain significant in a CEQA context even after implementation of the special-status plant impact avoidance and minimization measures described in Energy Commission staff’s proposed conditions of certification.” (FSA/DEIS at 1-18) The CEC staff was unable to identify private lands with existing occurrences of impacted rare plants that would serve as suitable rare plant mitigation lands. Furthermore, for implementing many of the suggested protection measures on public lands there would need to be additional NEPA analysis, which is deemed too lengthy a process to perform for this project. The best way to avoid CEQA-significant impacts to rare plants occurring at this site is to relocate the project to another, lower resource value site which was not adequately considered in the FSA/DEIS. Again, the lack of a robust alternatives analysis has undermined reasonable measures here.

The FSA/DEIS also fails to adequately consider CNPS List 2 plants (rare in California but more common elsewhere) meet the definition of "rare" under CEQA (CEQA Guidelines Section 15380). CNPS List 2 plants represent important peripheral populations of rare plant taxa (Leppig and White, 2006) restricted to narrow growth conditions.

In addition, the FSA/DEIS fails to identify and analyze the loss of carbon sequestration that will occur under the proposed project.² Desert vegetation types are able to sequester atmospheric carbon dioxide (greenhouse gases) 24 hours/day, unlike other vegetation communities which are able to sequester CO₂ only during daylight hours. ISEGS and all desert utility-scale projects to follow will decrease the carbon sequestration benefits from desert vegetation. (Wohlfahrt et al. 2008) This impact should have been identified and analyzed in the FSA/DEIS.

Special-Status Plants Impact Avoidance and Minimization. The measures provided in the FSA/DEIS are also inadequate for the following reasons

- the mitigation requirements to address rare plant impacts do not represent mitigation when full implementation of all measures still result in significant impacts under CEQA.
- Transplantation is not a successful mitigation practice for rare plants since current knowledge of conditions favorable to plant survival are incomplete.
- The lack of fall surveys under-represents the full suite of rare plant taxa occurring on site - these need to be done on this site and all desert project sites.
- No detail is provided on how the applicant will reconfigure the project features within the northern portions of the proposed ISEGS project site to avoid areas that support the highest density and diversity of rare plant species.
- The FSA/DEIS fails to explain how the acquisition of lands for desert tortoise habitat represent appropriate lands for desert rare plants. As presented in the FSA/DEIS, the proposed 3:1 "nesting" approach to mitigation land acquisition could completely fail to provide any actual mitigation for the rare plants affected by the proposed project.
- No mitigation measures are provided for the loss of carbon sequestration from desert vegetation types which are able to sequester atmospheric carbon dioxide (greenhouse gas) 24 hours/day, unlike other vegetation communities which are able to sequester CO₂ only during daylight hours.

f. Limiting the Spread of Invasive Non-Native Plants/Weeds: The relative absence of weeds in this area makes indicates a robustly functioning ecosystem and it is even more important to protect this intact habitat for the desert tortoise and other species. While the FSA/DEIS notes that the project will increase the ability of invasive non-native plants/weeds to proliferate both on and off site as part of the proposed action,

² As noted above, the FSA/DEIS discussion of greenhouse gas emissions from the project operations, workers traveling long distances to the site, manufacture and transportation of the project components, and construction is wholly inadequate and should also include the net loss of greenhouse gas sequestration from soils and plants.

it fails to provide a final weed management plan for these impacts—again deferring the final plan to a later date. The draft weed management plan is not included as apart of the FSA/DEIS, but relegated to an Appendix that is not publicly available. Moreover, the Center now understands that the applicant intends to use herbicides on the site for treatment of weeds but the impacts of such use on site to off site plant, animal, and water resources has not been fully disclosed or addressed.

g. Impacts to National Park Service Lands and Resources: The FSA/DEIS fails to adequately address the impacts to National Park Service Lands and resources including potential impacts to water resources (springs and seeps); impacts to dark night skies due to night lighting at the project site; impacts to bighorn that live in the Clark Mountains area; and others. *See* below re cumulative impacts as well. Inadequate measures are provided to avoid or minimize and mitigate these impacts.

h. On and Off-site Impacts From Fire: The FSA/DEIS fails to address the impacts from fire not only on the on-site resources, but how to prevent fire from escaping into the surrounding desert lands. Desert ecosystems are not adapted to fire, and fire can cause catastrophic changes in the resources including increases in non-native weeds and in some instances type conversion of the landscape. This important issue simply is not addressed in the FSA/DEIS despite the project’s reliance on superheated liquids and other potential ignition sources.

Cultural Resources and Native American Values 6.3: The Center is informed and believes and based thereon alleges that several Native American tribes with interests in this area have not been properly notified of the proposed project concerning the impacts to cultural resources and Native American values. While this could be seen as a “procedural” issue, it is also a substantive factual issue because without input from the tribes with interests in this area it is impossible to know if all of the cultural and Native American Values issues have been adequately addressed.

Land Use 6.5: Under both local and federal plans this area is inappropriate for the proposed *exclusive* industrial use of public lands to the exclusion of all other uses. In addition the placement of the proposed project in the middle of a large valley rather than along existing disturbed areas such as the I-15 is completely inappropriate because it does not minimize the impacts or allow for other multiple uses of these public lands. The FSA/DEIS fails to adequately address this question from either a factual or legal perspective. In addition, the proposed project when seen in the context of other connected projects (including multiple solar projects, two substations and additional transmission lines) will create a *de facto* “solar zone” in this area undermining the PEIS planning process currently undertaken by the BLM. This critical issue regarding planning on public lands is not adequately addressed in the FSA/DEIS.

Soil and Water Resources 6.9:

Water Resources: The FSA/DEIS fails to adequately address the hydrology of the groundwater basins that are proposed to be pumped by the applicant and the likely impacts to other area waters including surface waters. The estimate for groundwater

recharge is not sufficiently supported in the FSA/DEIS and fails to take into account persistent drought as well as the likely effects of climate change in this area.

The FSA/DEIS simply assumes there will be no impacts to springs utilized by wildlife in the surrounding mountains and wilderness areas, no information regarding the basis of this conclusion is provided. The FSA/DEIS identifies impacts to surface drainages on the bajada/alluvial fan that would be destroyed by the project but fails to adequately address avoidance and minimization of these impacts. The FSA/DEIS also fails to provide any specific discussion of mitigation for these impacts—again deferring the plan to a later date. The Center is particularly concerned that impacts to the Waters of the State be fully mitigated and that any streambed alteration permit be fully consistent with applicable laws and policies as applied to other projects.

Soils: Damage to intact desert soils and the resulting increased siltation during flooding and dust are not adequately analyzed in the FSA/DEIS. For example, off-site impacts from silt washed down through the site during flood events and the impacts of those events on habitat for desert tortoise and rare plants are not fully examined, avoided, minimized, and mitigated.

Cumulative Impacts and Growth Inducing Impacts: The Cumulative Scenario omits similar regional projects that may have a cumulative impact on resources of the California desert as a whole. In addition the FSA/DEIS fails to adequately analyze the scope of the cumulative impacts in this area including impacts to the Mojave National Preserve. The FSA/DEIS fails to adequately consider that the California population of the Northeastern Mojave Desert Tortoise Recovery Unit in the northern Ivanpah Valley is unique in California and is at risk from the cumulative effects of this project, the Optisolar (now First Solar) power project adjacent to ISEGS, the proposed DesertXpress High Speed Passenger Train, and the upgrade of the Eldorado-Ivanpah transmission line in California alone.

The FSA/DEIS fails to adequately identify and analyze both the cumulative impacts and the growth inducing impacts which in this instance are closely tied together. While review of the Optisolar application has yet to begin, the high cost of the Eldorado-Ivanpah transmission upgrade provides a compelling economic incentive for approval of the Optisolar project, virtually ensuring yet another solar power project on prime desert tortoise habitat in the northern Ivanpah Valley. Arguably, neither project alone could amortize the cost of the proposed Eldorado-Ivanpah upgrade, which involves the construction of 35 miles of high voltage lines from California into Nevada and separate telecommunications pathways. The cumulative impacts from these two projects on the northern Ivanpah Valley are not adequately assessed and the growth inducing impacts from the approval of one project on the entire area is not adequately assessed or analyzed.

Moreover, in addition to proposed ISEGS project and the proposed Optisolar (First Solar) project on the northeastern slopes of the Clark Mountains, two solar energy generation facilities are proposed by NextLight Renewable Power on 7,840 acres of public lands on the eastern side of the Ivanpah Valley. These lands are also high quality

desert tortoise habitat with intact and robust populations of desert tortoise. The FSA/DEIS fails to adequately assess the cumulative impacts to tortoise in this Recovery Unit from these projects and several other solar projects on the Nevada side of the border. In combination, the cumulative impacts of these developments severely threaten the Northeastern Desert Tortoise Recovery Unit in the entire Ivanpah basin.

Cumulative impacts to special status plants are recognized (Executive Summary, FSA/DEIS, p. 1-15) but the FSA/DEIS has failed to adequately analyze these cumulative impacts across the range of these species and ways to avoid and minimize these impacts. In addition, as noted above, the provisions for “nesting” mitigation do not ensure that the loss of the individual plants and the cumulative impacts from those losses will in fact be adequately compensated.

Cumulative impacts will convert the Northern Ivanpah Valley into a *de facto* solar zone and industrial zone. The cumulative impacts to species across the zone and across the state line into the eastern Ivanpah Valley are not adequately addressed as well as the conversion of a largely natural area – the Ivanpah Valley and dry lake area as a whole—into a largely industrialized area with more than 6 large scale solar plants, the accompanying substations and power lines, glare and heat islands that will be created across the “zone.” This will undermine the larger planning efforts in California and the BLM planning in western states.

National Park lands resources will also be cumulatively impacted. The Clark Mountains, part of the Mojave National Preserve, rise to almost 8,000 feet from the Ivanpah Valley and are home to bighorn sheep and other species that may be directly, indirectly, and cumulatively impacted by the proposed project and other proposed projects in the area. As another example, migratory birds that frequent the Preserve, including raptors, may similarly be impacted by the project as well as other proposed projects in the area.

As became clear at the first day of evidentiary hearings, the project heliostats and particularly the towers will be visible for very long distances and will completely change the visual character of the North Ivanpah Valley from open space to industrial—including in views from the Mojave National Preserve, wilderness areas, and for travelers on the I-15 and the Nipton Road.

Alternatives Analysis: The FSA/DEIS fails to provide any feasible alternatives that would avoid significant impacts of the project particularly the significant impacts to biological resources. The FSA/DEIS examines several project alternatives that staff had already determined would not meet the purpose and need of the project in what appears to be an elevation of form over substance. Because the alternatives analysis is the “heart” of any environmental review, the failure to provide meaningful alternatives is fatal to this FSA/DEIS. Indeed, even the CDFG noted that a “full analysis” of alternate sites was still lacking in the FSA/DEIS. CDFG Comments dated October 27, 2009 at 3. Unfortunately, rather than looking for meaningful alternatives that avoid significant impacts to the desert tortoise and other biological resources, the Staff appears to simply accept the applicant’s

proposal and choice to build the proposed project in “excellent tortoise habitat, with a low level of disturbance and high plant species diversity,” even where “lower quality habitat is clearly within range to potentially reduce the overall Project impacts to endangered and sensitive species.” *Id.*

The Center will sponsor testimony from Bill Powers on the treatment of the distributed energy alternative in particular which shows that the staff’s discussion of this alternative was inaccurate and inadequate.

The FSA/DEIS also fails to look at an alternative that would approve the project in phases in order to minimize impacts if unforeseen events occur or if the project fails to perform as hoped at this formerly untested “commercial-scale”—that is if the first phase demonstrates that this technology for some reason is not technically or economically viable in a commercial-scale project. *See* FSA/DEIS at 2-5 (Applicant’s Objectives)

The question of how alternatives were identified for analysis and how the analysis was pursued is a significant factual issue that the Center intends to pursue through the evidentiary hearing process.

4. The identity of each witness sponsored by each party (note: expert witnesses must have professional expertise in the scope of their testimony); the topic area(s) which each witness will present; a brief summary of the testimony to be offered by each witness; qualifications of each witness; and the time required to present direct testimony by each witness:

The Center intends to present or rely on expert witnesses on the following topics and is coordinating with several other Intervenors regarding expert witnesses to the extent possible. All experts listed below have already submitted testimony and qualifications. The Center reserves the right to submit additional testimony on rebuttal. Below the Center provides a summary of the topic areas and time estimates for the witnesses already identified.

- **Curtis Bradley:** Mountain Shadows at the Ivanpah site Regarding the Project Description/Environmental Setting/Alternatives. Mr. Bradley provided modeling which indicates that there are shadows on the proposed project site from the surrounding mountains at the beginning and end of the days. The Center provides this information as an example of an issue that is not identified or analyzed in the FSA/DEIS but which directly bears on the project description, the environmental setting, and the alternatives analysis which is intended to compare the suitability of

Mr. Bradley will not be available on Tuesday January 12, or Thursday January 14. If at all possible, the Center would like to have Mr. Bradley testify on Monday January 11, or Wednesday January 13, 2010.

- **Mark Jorgensen:** bighorn sheep impacts and mitigation. Mr. Jorgensen's direct testimony is estimated to take no more than 20 minutes.
- **Bill Powers: Alternatives:** Mr. Powers' direct testimony is estimated to take no more than 30 minutes. Mr. Powers will not be available on Thursday January 14.
- **Ileene Anderson:** Wildlife; fire; revegetation; Ms. Anderson's direct testimony is estimated to take no more than 30 minutes.

In addition, the Center intends to rely on testimony sponsored by other Intervenors regarding alternatives, rare plants, and the desert tortoise.

5. Topic areas upon which a party desires to cross-examine witnesses, a summary of the scope of such cross-examination, and the time desired for such cross-examination:

The Center requests the opportunity to cross-examine Staff and Applicant witnesses on all topic areas in dispute and to cross-examine witnesses presented by other Intervenors. The Center anticipates that cross-examination will require no more than 30 minutes per witness and in most cases far less.

As an initial matter, the Center anticipates that the scope of cross-examination will include at least the following:

Biological Resources: CEC Staff, CDFG staff, FWS staff, BLM staff, Applicant witnesses, and witnesses presented by other Intervenors regarding assessment of impacts to biological resources and appropriate avoidance, minimization, and mitigation strategies.

Water Resources, Soils, Air Quality: CEC Staff, BLM Staff, Applicant witnesses regarding the basis for Staff's conclusions on the impacts to water resources

and soils and air quality; the appropriate avoidance, minimization, and mitigation strategies; and the efficacy and enforceability of mitigation measures suggested.

Project Description: CEC Staff, BLM Staff, Applicant witnesses regarding the basis for the Project Description in FSA/DEIS.

Purpose and Need/CEQA Objectives: CEC Staff, BLM Staff, DOE Staff, regarding the basis for the Purpose and Need and CEQA Objectives statements in FSA/DEIS. Applicant's witnesses regarding the Applicant's Objectives as stated in the FSA/DEIS

Environmental Setting: CEC Staff, BLM Staff, Applicant witnesses regarding the basis for Staff's description of the Environmental Setting.

Alternatives: CEC Staff, BLM Staff, Applicant witnesses, and witnesses presented by other Intervenors regarding identification and selection of alternatives for review; the analysis of those alternatives; and the analysis of the feasibility of alternative sites.

Cumulative Impacts and Growth Inducing Impacts: CEC Staff and BLM Staff, regarding the basis for the Cumulative Impacts analysis and Growth Inducing impacts analysis in FSA/DEIS.

Land Use: CEC Staff, BLM Staff, DOE Staff, regarding the Land Use component of the FSA/DEIS.

6. A list identifying exhibits and declarations that each party intends to offer into evidence and the technical topics to which they apply:

The Center reserves the right to provide additional exhibits and declarations as part of the rebuttal testimony due January 4, 2010, and if necessary after that time.

A complete list of exhibits submitted to date is as follows:

EXHIBIT LIST

- Doc. No. Author and title
- 900 Dodd, C.K. and R.A. Siegel 1991. Relocation, repatriation and translocation of amphibians and reptiles: are they conservation strategies that work? *Herpetologica* 47(3): 336-350.
- 901 Epps, C.W., P.J. Palsboll, J.D. Wehausen, G.K. Roderick, R.R. Ramey II, and D.R. McCullough 2005. Highways block gene flow and cause a rapid decline in genetic diversity of desert bighorn sheep. *Ecology Letter* 8: 1029-1038.
- 902 Epps, C.W., D. R. McCullough, J.D. Wehausen, V. C. Bleich and J.L. Reche 2004. Effects of Climate Change on Population Persistence of Desert-Dwelling Mountain Sheep in California. *Conservation Biology* 18 (1): 102-113.
- 903 Field, K.J., C. R. Tracy, P.A. Medica, R.W. Marlow, and P.S. Corn 2007. Return to the wild: Translocation as a tool in conservation of the desert tortoise (*Gopherus agassizii*). *Biological Conservation* 136: 232-245.
- 904 Frid, A. and L. Dill 2002. Human-caused disturbance stimuli as a form of predation risk. *Conservation Ecology* 6(1): 11. "
- 905 Hiatt, H.D., T.E. Olson, J.C. Fisher. 1995. Reseeding four sensitive plant species in California and Nevada. in *Proceedings: Wildland Shrub and Arid Land Restoration Symposium*. General Technical Report INT-GTR-315. Pgs. 94-99."
- 906 Karl, A. E. 2007. Hyundai Motor America Mojave Proving Grounds, Desert Tortoise Translocation Study – 2006 Annual Summary. March 2007. Pgs. 20.
- 907 Lovich, J.E. and R. Daniels 2000. Environmental characteristics of desert tortoise (*Gopherus agassizii*) burrow locations in an altered industrial landscape. *Chelonian Conservation and Biology* 3(4): 714-721.
- 908 Luckenbach, R. A. 1985. Ecology and management of the desert tortoise (*Gopherus agassizii*) in California. In R. B. Bury ed., *Ecology and conservation of North American tortoises*. U.S. Fish and Wildlife Service Research Report 12. Pgs 1-37.
- 909 Murphy, R.W., K.H. Berry, T. Edwards, A.M. McLuckie. (2007) A Genetic Assessment of the Recovery Units for the Mojave Population of the desert tortoise (*Gopherus agassizii*). *Chelonian Conservation and Biology* 6(2): 229-251.
- 910 Palmer, K.S., D.C. Rostal, J.S. Grumbles, M. Mulvey. 1998. Long-term sperm storage in the desert tortoise (*Gopherus agassizii*). *Copeia* 3:702-705.
- 911 Deacon, James E., Williams, A.E., Williams, C.D., and Williams, J.E.; September 2007, Fueling Population Growth in Las Vegas: How Large-scale Groundwater Withdrawal Could Burn Regional Biodiversity, *BioScience* Vol. 57 No. 8 688-698
- 912 McCrary et al., Avian Mortality at a Solar Energy Power Plant, *J. Field Ornithol.*, 57(2): 135-141. 1986. Solar One 4 km east of Daggett, San Bernardino County, California.

- 913 CBD letter to CEC RE: Comments on Preliminary Staff Assessment December 2008 (07-AFC-5) CEC-700-2008-013-PSA – Ivanpah Solar Electric Generating System and the Draft Desert Tortoise Translocation/Relocation Plan dated May 26, 2009.
- 914 Lovich, J. E., and D. Bainbridge. 1999. Anthropogenic Degradation of the Southern California Desert Ecosystem and Prospects for Natural Recovery and Restoration. *Environmental Management* Vol. 24, No. 3, pp 309-326
- 915 Brown, D.E. and R. A. Minnich. 1986. Fire and changes in creosote bush scrub of the western Sonoran Desert, California. *American Midland Naturalist* Vol. 116: 411-422
- 916 Walker, L.R., D.B. Thompson, and F.H. Landau 2001. Experimental manipulations of fertile islands and nurse plant effects in the Mojave desert, USA. *Western North American Naturalist* 61(1): 25–35.
- 917 Brooks, M.L. 2000. Competition Between Alien Annual Grasses and Native Annual Plants in the Mojave Desert. *Am. Midl. Nat.* 144:92–108"
- 918 Brooks, M. L. and J. V. Draper. 2006. Fire effects on seed banks and vegetation in the Eastern Mojave Desert: implications for post-fire management, extended abstract, U.S. Geological Survey, Western Ecological Research Center, Henderson, Nevada, 3 p.
- 919 Brooks, M.L. and R.A. Minnich. In Press. Fire in the Southeastern Deserts Bioregion. Chp 16 in: Sugihara, N.G., J.W. van Wagtendonk, J. Fites-Kaufman, K.E. Shaffer and A.E. Thode (eds.). *Fire in California Ecosystems*. University of California Press, Berkeley.
- 920 Dutcher, K. E. 2009. The effects of wildfire on reptile populations in the Mojave National Preserve, California. Final Report to the National Park Service, California State University, Long Beach, 28 p.
- 921 Beck, D.D. 1990. Ecology and Behavior of the Gila Monster in Southwestern Utah. *Journal of Herpetology*, Vol. 24, No. 1 (Mar., 1990), pp. 54-68
- 922 Sullivan, B.K., M.A. Kwiatkowski and G.W. Schuett. 2004. Translocation of urban Gila monsters: a problematic conservation tool. *Biological Conservation* 117: 235-242
- 923 B. Murphy – Fulcrum Technologies, Inc., The Power and Potential of CdTe (thin-film) PV, presented at 2nd Thin-Film Summit, San Francisco, December 1-2, 2009.
- 924 Schreiber, D. - EuPD Research, PV Thin-film Markets, Manufacturers, Margins, presentation at 1st Thin-Film Summit, San Francisco, December 1-2, 2008.
- 925 CPUC Rulemaking R.06-02-012, Develop Additional Methods to Implement California RPS Program, Pre-Workshop Comments of GreenVolts, Cleantech America, and Community Environmental Council on the 2008 Market Price Referent, March 6, 2008,

- 926 E-mail communication between Don Kondoleon, manager - CEC Transmission Evaluation Program, and Bill Powers of Powers Engineering, January 30, 2008
- 927 SCE Application A.08-03-015, Solar Photovoltaic (PV) Program Supplemental Rebuttal Testimony, October 14, 2008
- 928 Camp et al. 1997, Viewsheds: a complimentary management approach to buffer zones, Wildlife Society Bulletin 1997, 25(3):612-615
- 929 Goodrich and Buskirk 1998. SPACING AND ECOLOGY OF NORTH AMERICAN BADGERS (TAXIDEA TAXUS) IN A PRAIRIE-DOG (CYNOMYS LEUCURUS) COMPLEX, Journal of Mammalogy, 79(1):171-179, 1998"
- 930 Klem 1989 Bird window collisions, Wilson Bull., 101(4), 1989, pp. 606-620
- 931 Long 1973. Taxidea taxus, Mammalian Species, No. 26, Taxidea taxus (Jun. 13, 1973)
- 932 Longcore 1997 On the Perils of Ecological Restoration: Lessons from the El Segundo Blue Butterfly; In press, 2nd Interface Between Ecology and Land Development in California J.E. Keeley, Coordinator. Occidental College, April 18-19, 1997.
- 933 Richardson and Miller 1997. Recommendations for protecting raptors from human disturbance: a review, Wildlife Society Bulletin 1997, 25(3):634-638

Declarations submitted to date the Center intends to offer into evidence:

1. Declaration of Curtis Bradley dated December 18, 2009 for Revised Testimony of Curtis Bradley Re: Project Description/Environmental Setting/Alternatives for the Proposed Ivanpah Solar Electric Generating System
2. Declaration of Mark C. Jorgensen dated December 14, 2009 for Testimony of Mark C. Jorgensen Re: Impacts to Bighorn Sheep from the Proposed Ivanpah Solar Electric Generating System
3. Declaration of Bill Powers dated December 16, 2009 for Testimony of Bill Powers, P.E. Ivanpah Solar Electric Generating System Docket 07-AFC-5 (Regarding Distributed PV Alternative)

4. Declaration of Ileene Anderson date December 17, 2009 for
Testimony of Ileene Anderson Re: Impacts to Sensitive Wildlife
from the Proposed Ivanpah Solar Electric Generating System (also
includes discussion of Habitat Loss and Compensatory Mitigation,
Closure, Revegetation and Rehabilitation Plan and Fire Threats)

7. Proposals for briefing deadlines, vacation schedules, and other scheduling matters:

Given the extent of the factual issues remaining at this time and that the Center anticipates will be part of the evidentiary hearings, the Center requests that the opening briefs following the evidentiary hearings should be due no earlier than 3 weeks after the close of the evidentiary hearings. Given the current schedule for evidentiary hearings and intervening holidays, the Center proposes that opening briefs be due no earlier than February 10, 2010. The Center respectfully reserves the right to modify this request. In addition, Reply Briefs should be due no earlier than 2 weeks after the opening briefs are filed; no earlier than February 25, 2010.

8. For all topics, the parties shall review the Proposed Conditions of Certification listed in the Final Staff Assessment (FSA) for enforceability, comprehension, and consistency with the evidence, and submit any proposed modifications.

The Center has reviewed the Proposed Conditions of Certification in the FSA for enforceability, comprehension, and consistency. However, during the staff workshops changes to the conditions have been discussed and new language has been drafted but the suggested revisions have not been circulated for review by all parties.

The Center is concerned that Conditions for all biological resources are inadequate and that in particular compensation for impacts to the desert tortoise and its habitat does not meet the fully mitigated standard under the CESA.


The failure to adequately identify and analyze impacts and then engage with the alternatives analysis is fatal to this proposal. The alternatives analysis should have

provided additional information on ways to avoid and minimize impacts as a first step. The failure to adequately engage those initial steps has resulted in a proposed project that unlawfully includes significant but avoidable impacts. Given this circumstance, the Center asserts that approving the project as proposed is unlawful. If the Commission nonetheless intends to approve the project as proposed it must at minimum ensure full mitigation of all impacts under the CESA, ESA, and other laws. While the staff has provided some good conditions in the FSA/DEIS because most of the mitigation measures are not fully developed and do not have enforceable standards they fail to provide the required specificity needed.

Overall, many of the proposed conditions appear to be unlawfully vague and do not meet the CEQA requirements that mitigation measures be specific, feasible, and enforceable. In addition, the environmental impacts that may be caused by the proposed mitigation measures is not addressed. The Center reserves the right to provide proposed modifications for each of the conditions and additional proposed conditions after each of the proposed revisions are presented.

Dated: December 29, 2009

Respectfully submitted,



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**California Energy Resources Conservation
and Development Commission**

In the Matter of:

APPLICATION FOR CERTIFICATION
FOR THE IVANPAH SOLAR
ELECTRIC
GENERATING SYSTEM

DOCKET NO. 07-AFC-5

DECLARATION OF SERVICE

I, Lisa T. Belenky, declare that on December 29, 2009, I served and filed copies of the attached **FINAL PREHEARING CONFERENCE STATEMENT OF INTERVENOR CENTER FOR BIOLOGICAL DIVERSITY** dated December 29, 2009. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/ivanpah]. The document has been sent to 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:

sent electronically to all email addresses on the Proof of Service list as listed below;
 by personal delivery or by depositing in the United States mail at with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

sending two paper copies 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. 07 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.



Lisa T. Belenky

Sent via email to: sdeyoung@brightsourceenergy.com; tstewart@brightsourceenergy.com; jcarrier@ch2m.com; jdh@eslawfirm.com; e-recipient@caiso.com; tom_hurshman@blm.gov; Raymond_Lee@ca.blm.gov; dfgpalm@adelphia.net; tgulesserian@adamsbroadwell.com; mjconnor@westernwatersheds.org; gloria.smith@sierraclub.org; devorah.ancel@sierraclub.org; joanne.spalding@sierraclub.org; gssilliman@csupomona.edu; jbasofin@defenders.org; atomicoadranch@netzero.net; gsuba@cnps.org; thansen@cnps.org; granites@telis.org; bbrizze@cc.sbcounty.gov; jbyron@energy.state.ca.us; jboyd@energy.state.ca.us; pkramer@energy.state.ca.us; jkessler@energy.state.ca.us; dratliff@energy.state.ca.us; publicadviser@energy.state.ca.us; docket@energy.state.ca.us

Two paper copies of all documents and an electronic copy of all exhibits on a disk were sent via U.S. Mail to:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512