

Summary of Agency and Public Preliminary Staff Assessment (PSA) Comments

The following are comments received from agencies, interest groups and members of the public to the Preliminary Staff Assessment that was published on December 9, 2008. Please refer to the appropriate technical section of this document for responses to the comments.

Society for the Conservation of Big Horn Sheep – letter dated January 14, 2009	
# / Topic(s)	Comment
SCBHS 1 Bio	The first item that needs to be considered and factored in would be the need for a baseline to be established as to what we have prior to construction, intensive monitoring during construction? and follow-up on an ongoing basis to assure that there are no undesirable affects that cannot be adjusted for. This should include, but in no way be limited to air and ground surveys of the desert sheep in the surrounding mountain ranges with perhaps some discussions regarding the bordering sheep with Nevada. We do 'share a population in some areas, and there maybe an influence that needs to be Understood. Capture work, collaring and monitoring the movement of a sampling of the local bighorns before, during and after is crucial information that the Department of Fish & Game most assuredly will be in need of in order for proper .management. The baseline is to be established by the Department of Fish & Game professionals.
SCBHS 2 Bio	Another item that is absolutely mandatory is the consideration for a one to one and a half mile buffer zone from the toe of the sloping mountain areas that migrate towards I-15. This will help with the connectivity of the local population and maintain the metapopulation dynamic at work with this sheep population (population shared by Nevada, their sheep visit ours, our sheep visit theirs). This wildlife corridor is absolutely essential for a healthy and viable population and for a healthy gene pool exchange. This safe zone or buffer zone establishes a guideline or benchmark for any future development and additional loss of habitat.
SCBHS 3 Bio & Water	With regard to potential aquifer depletion with the additional use of water for construction and/or maintenance, we are not convinced that this .will not have an adverse effect on the surrounding springs and seeps that are so precious to the resident wildlife population, and the importance of water management and conservation that must be applied. The use of soil additives to curtail dust should and must be explored. We will re-emphasize the need for habitat improvement through additional water sources to safeguard any potential depletion and/or lack thereof.
SCBHS 4 Bio & Water	The importance of an agreement or a memorandum of understanding from all government agencies, (Department of Fish & Game, Bureau of Land Management, National Park Service, etc.) to assure that habitat improvements can and will take place in and around surrounding areas controlled by these authorities. Habitat work such as water hole improvements, replacement water, new wildlife drinkers, existing spring improvements, or spring development will help offset the negative impact on this and/or other future projects. This is a very important issue, something that we feel strongly about and an issue that must be addressed from the beginning.
SCBHS 5	To have the affected areas be decommissioned or reverted back to natural habitat upon the sunset of the original

Bio & Compliance	agreement/viability of current and/or future technology, and that reclamation be full and complete, not unlike mining companies are obliged to do after production and/or usefulness has been achieved; This will offset speculators and future developments that may radiate from this site, as well as others, and that if everybody has an understanding that this will revert back to the critters, all concerned will become better stewards of this or surrounding areas in order to assure the successful transition.
SCBHS 6 Bio	One other item that has not much to do with the sheep population, but an area that we are concerned about is the disruption and use of the affected habitat, i.e. plant life, etc. It is our desire to see the full use of this material utilized in conjunction with not only the healing process of the peripheral impacted area, but be inventoried and warehoused for future reclamation needs.
SCBHS 7 Bio	Another item that needs to be explored, but by no means needs to have the financial burden place totally upon Bright Source Corporation, would be a land bridge over state highway I-15 that would assure the connectivity that has been tragically compromised by the highway systems, namely I-40 and I-15. The health and well-being of the large vertebrate population in our desert regions has been clearly influenced (negatively) by being so fragmented, and with a little vision and cooperation with all the alternative energy resources, windmill, solar, etc, it may help offset the future effects of this fragmentation. We are in the process of fragmenting the fragments, which could be the death nil of particular species, and there is a simple fix that could be shared by a multitude of land use principle. The energy commission should explore this in depth and factor this into any and all mitigation.
County of San Bernardino – Public Works letter dated January 5, 2009 – No Comment	
Craig Deutsche letter dated January 14, 2009	
# / Topic(s)	Comment
CD 1 Bio	Of course it is difficult to obtain all the data that one would wish, but the suggestion that a project could be approved without knowing what the consequences might be seems unsupportable. Every effort must be made to resolve these uncertainties.
CD 2 Bio	I am particularly concerned about impacts which the ISEGS would have upon habitat, plans, and wildlife. The site of the project is outstanding desert tortoise habitat, and as these are a threatened species they need special consideration. The plan suggests that a number of tortoise would be removed. The experience which the US Army has had in the translocation of tortoise to accommodate expansion of the Fort Irwin military complex has been disastrous. There must be assurances that there will be no similar result if the Ivanpah project were to go ahead.
CD 3 Bio	If ultimately it is determined that impacts to the biological resources at the site cannot be suitably mitigated, and if permits for the project are nevertheless granted, then the applicant, Bright Source, must be required to provide substantial compensation for the negative impacts that result.

Sierra Club – San Gorgonio Chapter letter dated January 22, 2009

# / Topic(s)	Comment
<p>SC 1 Bio</p>	<p>We urge that (1) the Applicant’s proposed habitat acquisition ratio of 1:1 be rejected, (2) the Applicant be required to provide substantial compensation for the direct, indirect, and cumulative impacts to the biological resources of the Ivanpah Basin, (3) a thorough plan for the required compensation be completed prior to any California Energy Commission (CEC) decision on the merits of the application, and (4) the Private Land Alternative be given full consideration by the CEC.</p>
<p>SC 2 Bio</p>	<p>We are concerned that over 4,000 acres of occupied desert tortoise habitat would be permanently lost and that the project would fragment and degrade adjacent habitat (PSA 2008, 5.2-1). We are concerned that special-status wildlife would lose breeding and foraging habitat and that ten special-status plant species would be impacted by construction of Ivanpah SEGS (use a single footnote for this section). We are concerned that Ivanpah SEGS may disrupt the forage areas and the movement corridors of mule deer and desert bighorn sheep as they travel from the Clark Mountains (PSA 2008, 5.2-15).</p>
<p>SC 3 Visual</p>	<p>We share Staff’s conclusion that the impacts of Ivanpah SEGS to the visual resources of the Ivanpah Basin are unmitigable, and we are very concerned. With power towers rising 459 feet above the ground and heliostats spread over nearly 6.4 square miles, Ivanpah SEGS will unquestionably obstruct what are now sweeping and inspiring views from several points within the Mojave National Preserve. It would be most unfortunate if the CEC were to override the Staff finding that the impact on visual resources is unmitigable.</p>
<p>SC 4 Bio</p>	<p>In that over 4,000 acres of quality desert tortoise habitat would be permanently lost through the construction of Ivanpah ISEGS, we find the Applicant’s proposed compensation through habitat acquisition (or an assessed financial contribution) at a 1:1 ratio to be unacceptable.</p> <p>The Applicant’s argument for a habitat acquisition ratio of 1:1 that the Ivanpah SEGS site is not “critical habitat” ignores the long-term and continued destruction of Mojave desert tortoise habitat.</p>
<p>SC 5 Bio</p>	<p>Ten plant species listed by the California Native Plant Society would be directly impacted by construction of Ivanpah SEGS. Of even greater concern is the fact that the project would eliminate a substantial portion of the known occurrences within California of Rusby’s desert-mallow, cave evening-primrose, Mojave milkweed, and desert pincushion.</p>
<p>SC 6 Bio</p>	<p>We contend that the Applicant must be required to provide substantial compensation for the direct, indirect, and cumulative impacts to the biological resources of the Ivanpah Basin. Habitat acquisition at a ratio of 5:1 and habitat enhancement to ensure that those lands are managed and maintained for wildlife and plants in perpetuity must be the central features of this compensation. We readily agree with Staff’s conclusion that the “applicant’s proposed mitigation, acquisition, and enhancement of approximately 4,065 acres would be insufficient to avoid significant direct, indirect, and cumulative impacts to the biological resources of the Ivanpah Valley...” (PSA 2008, 1-10). But we cannot endorse the “compensatory mitigation approach” that Staff proposes. That approach is too nebulous given the level of compensation required of the Applicant. Simplicity is a virtue here -- acquisition of habitat at a ratio of 5:1 and</p>

	enhancement of that habitat should be the foundation of the required compensation.
SC 7 Alternatives	Finally, we urge that the Private Land Alternative be given full consideration by the CEC. Conservationists in Southern California in 2008 explored the option of placing solar facilities on private, disturbed lands rather than on pristine public lands and concluded that using disturbed lands is a viable option for siting power facilities utilizing preferred energy sources. Consistent with that finding, Alternatives Figure 5 in the PSA shows an area of private land surrounding Daggett with appropriate slope and solar requirements that is a better location from an environmental perspective for the proposed SEGS.

Jenny Wilder letter dated January 14, 2009

# / Topic(s)	Comment
JW 1 Bio	There will be significant negative impact of the ISEGS to the natural habitat and wildlife in the area.
JW 2 Visual	A significant visual impact (including dark skies) in the Ivanpah Basin.
JW 3 Soil & Water	I am concerned about the use of the ground water for the ISEGS. The area is desert, where rain water is typically measured in inches, not feet. Global warming models indicate that rainfall will decrease significantly in the Western United States, making the groundwater ever more precious. How much ground water is available and how long is it expected to last without recharging? What will be the impact on the natural resources with a reduction in the ground table? Will the wells be metered?
JW 4 Power Plant Efficiency TSE	Where is the demand/need for the power to be produced by this project? How much electrical power is 400 megawatts? How many homes would that serve and where are those homes/businesses located? How much energy is lost in the transmission of that power? Can that amount of electric power (which requires water and natural gas), be produced more efficiently and without destroying habitat in some other way such as at the place of demand (houses or businesses)?

National Parks Conservation Association letter dated January 21, 2009

# / Topic(s)	Comment
NPCA 1 Bio	NPCA recommends that all recommendations brought forth by the Biological Opinion of the USFWS be utilized if tortoises are to be relocated to ensure compliance with section 9 of the Endangered Species Act.
NPCA 2 Bio	NPCA urges that equitable mitigation ratio (5:1) be required for mitigation of any destruction of desert tortoise habitat. According to the California Department of Fish and Game (CDFG) a ratio of 5: 1 is offered for quality tortoise habitat. NPCA recommends that analysis based On the parameters set forth by CDFG be made and a just ratio be offered

	based on this assessment.
NPCA 3 Bio	NPCA urges the Joint-Lead Association (JLA) utilize the Mojave Desert Land Trust to ensure that available mitigation properties that exist as in holdings within Mojave National Preserve be given first priority for acquisition. Mojave National Preserve is one of the few remaining refugia for healthy, high density population of the desert tortoise, based on its level of protection and high quality habitat. The purchase of in-holdings within Mojave National Preserve would bolster the acreage and protection of habitat available for this thriving population of desert tortoises.
Lynn Davis – email dated January 21, 2009	
# / Topic(s)	Comment
LD 1 Bio	<p>The development of the ISEGS project by Bright Source Energy, on over one million acres in our southwestern deserts will endanger or destroy many special status plant species, degrade desert tortoise habitat to near extinction, accelerate water loss in a state desperately in need of a sustainable, long range water conservation strategy, eliminate thousands of acres of forage for Big Horn Sheep, mule deer, the endangered Golden Eagle and many other bird, animal and plant species. Immediate and cumulative affects will be catastrophic.</p> <p>I strongly urge, as a citizen of California, that Bright Source Energy be required to provide a FULL compensatory mitigation package. Mitigation must include like for like, acre for acre. It must meet the California Department of Fish and Game's FULL MITIGATION STANDARD.</p>
Clark County Department of Aviation letter dated January 21, 2009	
# / Topic(s)	Comment
CCDA 1 Transportation	As the PSA reports, the ISEGS could adversely affect aviation operations at SNSA due to glare from the solar thermal arrays. The potential for adverse impacts from glare could also affect operations at the existing Jean Airport. CCDOA strongly urges the Commission to study this issue in more detail with respect to both airports. The glare could be a significant hazard to air navigation, particularly for SNSA because of the proximity of flight tracks to the ISEGS location. The close proximity between the ISEGS and the flight paths mean it is likely that at some point the aircraft will be in line with reflective mirrors pointed at the receiver tower. Any spillage of the beam would then be focused directly on the aircraft. This glare could potentially blind a pilot during this critical phase of flight. The towers themselves would also be a source of glare that could create significant hazards. These serious effects should be analyzed in the FSA.
CCDA 2 Transportation	The thermal plumes from the ISEGS could also create hazards to air navigation. The concentrated heat from the project may produce enough rising hot air to cause turbulence to overflying aircraft. The PSA makes no mention of thermal effects to air navigation. This issue must be examined fully in order to understand the potential impacts to air navigation.

CCDA 3 Transportation	There are several military training routes in the vicinity. The ISEGS will clearly have an impact to these routes and any development must therefore be coordinated with the military.
CCDA 4 Transportation	Traffic and Transportation table 1 omits mention of a critical federal law that contains several relevant obligations. Specifically in dealing with the Ivanpah Valley Airport Public Lands Transfer Act. The Commission should examine the degree to which the proposed ISEGS facility conflicts (or does not conflict) with the Airspace Feasibility Study, and with the FAA's statutory obligations to ensure VFR access to the Las Vegas Basin at a level that is equal to or better than existing access and to minimize impacts to the Mojave.
Defenders of Wildlife letter dated January 23, 2009	
# / Topic(s)	Comment
DW 1 Bio	Given the importance of this habitat, the high number of tortoise on this land, and the severe impacts to tortoise from the project, we strongly recommend that the project proponent do all it can to avoid impacts to tortoises first, then minimize those impacts that cannot be avoided, and finally, if all else fails, adequately mitigate for those impacts. To that end, we strongly urge that the project follow the recommendations found the current Desert Tortoise Recovery Plan for avoidance and minimization measures.
DW 2 Bio	In addition, the project proposes a mitigation ratio of 1:1 for desert tortoise habitat. We strongly oppose such a mitigation ratio. The recommended ratio for good quality tortoise habitat is 5:1. DFG determines mitigation ratios for desert tortoise based on: (1) presence of the species; (2) habitat quality; (3) disturbance level of habitat; (4) adjacent land uses; (5) connectivity; and (6) projected growth. Defenders of Wildlife would like to see an analysis of mitigation ratios addressing the above 6 parameters.
DW 3 Bio	Staff should also consider the risks posed by the translocation program in structuring the compensatory mitigation program. The U.S. Army suspended its Desert Tortoise translocation program when at least 15% of the translocated tortoises died, mostly due to predation (see http://www.pe.com/localnews/inland/stories/PE_News_Local_S_tortoises10.450e731.html). The tremendous risks involved with translocation militate towards a higher compensatory mitigation ratio.
DW 4 Bio	Other impacts to tortoise must be fully analyzed and addressed, such as new water sources that attract predators, impacts to tortoise water sources from proposed groundwater pumping, impacts from roads, and impacts from vegetation management. For example, if additional water sources will be placed on site, it could increase raven populations within the surrounding area. A raven monitoring plan would need to be included, as ravens can have a very detrimental impact on tortoises. In addition, while the project will obviously involve roads and a great deal of traffic (particularly during construction), the project application fails to consider the use of fencing to avoid impacts to the tortoise.
DW 5 Bio	The project mentions the use of translocation of desert tortoises as a part of the mitigation strategy. At this time Defenders is reviewing the new USFWS Guidelines for Clearance and Translocation of Desert Tortoises from the ISEGS project. We do not believe that translocation, in and of itself, provides adequate mitigation. Instead, any

	translocation must be in conjunction with the preservation of habitat. Further, the Translocation Plan will need to comply with the recommendations of the FWS 1994 Desert Tortoise Recovery Plan
DW 6 Bio	Defenders urges that the Banded Gila Monster be included on the list of species to be analyzed and addressed. Recent scientific research has found that Gila monsters appear to use two overwintering sites (rocky hills and surrounding bajadas). D.F. DeNardo, et al., 2007 Desert Tortoise Council Symposium Abstract). Thus, this project could be important habitat for the Gila monster.
DW 7 Bio	Defenders also urges that the EIS/FSA assess the impacts to bighorn sheep. While the California Natural Diversity Database (“CNDDDB”) reports the last occurrence of bighorn sheep in this area to be in 1986, we understand that the Society for Bighorn Sheep possesses updated information showing that this project area is a wildlife corridor for bighorn sheep. Therefore, we strongly urge that this project analyze and address impact to bighorn sheep and their ability to move across the Ivanpah Valley. Furthermore, given the proposed pumping of groundwater, we strongly urge that the impacts of this pumping be analyzed and addressed with respect to potential impacts on the desert seeps and springs used by bighorn sheep.
DW 8 Bio	The project fails to acknowledge and address any impacts to the burrowing owl. In addition to being a Species of Special Concern, the burrowing owl is also protected under Fish and Game Code Section 3503.5 and the Migratory Bird Treaty Act. Impacts to burrowing owls must be assessed in the EIS/FSA. If impacts are found to exist, then the measures found in the DFG’s Burrowing Owl Survey Protocol and Mitigation Guidelines should be adhered to.
DW 9 Bio	The project application details impacts to some plant species, particularly the barrel cactus and Mojave yucca. However, since the original plant surveys were admittedly conducted during a dry year, we strongly urge that additional surveying be conducted this spring in order to better assess impacts to a number of special status plants and to prescribe adequate mitigation. We do not support deferring this analysis to pre-construction surveys. Indeed, given the biodiversity found on the project site during a dry year survey, we believe that this site contains a large number and extent of rare plants. With respect to mitigation as currently proposed in the application, we also strongly urge that the environmental documents do a much more thorough job of describing adequate mitigation should a rare plant show up on the project. Right now, the project application sets forth a list of potential mitigation strategies, but commits to none and analyzes none.
DW 10 Bio	We are very concerned about the extent of the impact of the proposed project on the Creosote Bush-White Bursage Barrel Cactus Community Type. With 10,000 acres of this plant community existing in 20 to 30 locations, the project appears to impact more than 1/3 of the community type. Such an impact appears to be very significant and must be fully analyzed and addressed in the EIS/FSA.
DW 11 Bio	The proposed project will reroute and fill in a number of existing ephemeral washes that flow into the Ivanpah Dry Lake. The EIS/FSA must analyze and address impacts to the Dry Lake and fairy shrimp.
DW 12 Bio	The EIS/FSA must analyze and address the impacts of the groundwater pumping on desert species and habitat.

Soil & Water	
DW 13 Bio	The EIS/FSA must analyze and address impacts to migratory birds from this project, including any potential impacts from the evaporation ponds.
DW 14 Bio Socio Cumulative	The EIS/FSA Must Adequately Analyze Cumulative Impacts. The EIS/FSA must analyze the other proposed renewable energy projects in this region, any foreseeable growth in this area, including in Primm, the foreseeable impacts of climate change, and any other reasonably foreseeable future projects. The impacts should include a discussion of the growth due to the workers associated with this project.
DW 15 Alternatives	The EIS/FSA Must Include An Adequate Range of Alternatives and Provide Meaningful Analysis of These Alternatives. We strongly advise that the project proponents take care not to unreasonably constrain their range of alternatives in the EIS/FSA by formulating a limited purpose and scope of the project. For example, we would oppose a purpose and need statement that simply describes the project as the goal instead of reflecting the larger goal of generating renewable solar energy. With an adequately designed purpose and need statement, the project's range of alternatives should involve, at a minimum, an environmentally preferred alternative, a no action alternative, and an alternative that provides for power generation closer to the power consumption.
Bureau of Land Management letter dated January 23, 2009	
# / Topic(s)	Comment
BLM 1 Bio	We are concerned by the potential habitat loss and significant impacts to biological resources, specifically to desert tortoise and other rare wildlife and plant species, from the ISEGS project. Based on the area's important natural and biological values and the potential for damage from the construction, use and maintenance of solar facilities, we urge the agencies to utilize the upcoming federal/state environmental review – Environmental Impact Statement/Environmental Impact Report – as the basis for determining whether the impacts from this development can be mitigated sufficiently and whether it is consistent with all applicable LORS. We also strongly support the staff proposal for a compensatory mitigation approach and urge the applicant to provide all information requested in the PSA related to biological resources as soon as possible. As part of this effort, it will be necessary for the agencies to determine the appropriate habitat mitigation ratio to ensure the long-term health and viability of the desert tortoise. Further, we note that, although translocation is a tool to enhance the conservation of the desert tortoise, it should not be substituted for preserving desert tortoise habitat (Field et al 2007).
BLM 2 Air Soil & Water	To protect the soil resources of the ISEGS project area, we support the staff's recommendation for the inclusion of conditions of certifications to ensure BMPs are in place to mitigate soil erosion by wind and water.

BLM 3 Soil & Water	Additional information is needed regarding the source of potable water and the impacts from potable water use and groundwater pumping. To ensure the long term sustainability of the area's water quality and quantity, the agencies should perform an in-depth impacts analysis and develop a comprehensive impacts minimization and mitigation plan.
BLM 4 Cultural	The agencies should carefully evaluate the final results of field research to determine whether cultural resources exist in the project area. If cultural resources exist, the agencies should thoroughly analyze the impacts of the ISEGS project to those resources and develop a comprehensive impacts minimization and mitigation plan
BLM 5 Executive Summary Cumulative Scenario Visual	<p>In the case of the ISEGS project, the agencies should consider whether the benefits which the ISEGS renewable energy project will outweigh the costs of the visual and other impacts from this development. The agencies should also follow the staff recommendation that all of staff's proposed conditions of certification be adopted in order to minimize visual impacts to the greatest feasible extent. We further recommend that the agencies consider inclusion of any appropriate additional conditions of certification which could reduce visual impacts.</p> <p>In addition, given the number of projects proposed for the California Desert, we urge the agencies to recognize the likely cumulative visual and other impacts from renewable energy and transmission development in the Desert and to begin right now to develop comprehensive mitigation strategies to address these impacts in connection with future projects. Only by developing such strategies can the need for renewable energy development be balanced with protection of visual and other resources on public lands.</p>
BLM 6 Air	The agencies should require implementation of the proposed specific mitigation measures during construction and operation of the facility to reduce the short and long-term impacts of ozone precursors, CO and CO2, and PM 10 to less than significant. The agencies should also require additional analysis of criteria emissions from the delivery of materials and any other activities which may have air quality impacts. If the analysis indicates potential impacts, the agencies should develop a comprehensive impacts minimization and mitigation plan.
BLM 7 Air	The agencies should comprehensively analyze the ISEGS project's impacts to GhG emissions, including GhG emissions during manufacture, construction, operation, decommissioning, and reclamation of the project site. The analysis should consider both the potential for the project to reduce GhG emissions as well as potential for the project to increase GhG emissions, for example, by disturbing undisturbed land currently useful for carbon sequestration.
Tasha La Doux letter dated January 30, 2009	
# / Topic(s)	Comment
TLD 1 Visual	The impacts discussed in this proposal fail to address the impacts of light pollution to the surrounding desert, much of which is Federal Wilderness and/or National Park Service (NPS) land with specific mandates to protect and conserve their resources, including the "night sky".
TLD 2 Bio	As discussed in the PSA, the negative impacts to desert tortoise are significant. If the project is approved the mitigation ratio should be based on the BLM/USFWS standard mitigation requirement of 5:1. The suggestion that desert tortoise can be moved as a mitigation measure is not taking into account the high death rate (>20%) experienced by Ft. Irwin when employing a similar method. Moving tortoises has proven to be a failed mitigation

	measure. In addition, the long-term and cumulative negative impacts to the desert tortoise population were not addressed.
TLD 3 Bio	The PSA fails to address the significant loss of <i>Asclepias nyctaginifolia</i> ; if approved, the ISEGS footprint will eliminate >75% of its known population in the State.
TLD 4 Bio	The PSA fails to address the significant negative impacts of this project to the movement of Desert Bighorn Sheep and Mule Deer between mountain ranges. The PSA states that these animals are “likely” to use the Ivanpah Valley as migration corridors, when the fact is these animals undoubtedly use each and every desert valley in the process of migrating from one mountain range to the next. The long-term and cumulative negative impacts to the native ungulate populations were not addressed in the PSA.
TLD 5 Socio Recreation	The PSA fails to address the cumulative and long-term impacts to the tourism industry for the desert region. The deserts of North America are unique bioregions on the planet and bring a significant number of tourists to the area. The negative impacts to the visual, biological, air quality, soils and water resources will destroy the unique desert habitat that brings people from all over the world to experience.
Basin and Range Watch letter dated January 31, 2009	
# / Topic(s)	Comment
BRW 1 Facility Design Efficiency	POWER GENERATION: For the natural gas-fired start-up boiler- What percentage of the megawatts would be from natural gas?
BRW 2 Air	AIR QUALITY: For dust control during operation and construction, where will water come from? How much will be used? This should be explained and estimated numbers of gallons should be listed.
BRW 3 Air Bio	Current research has proven that deserts serve as carbon sinks. Curiously, their findings indicate that certain desert ecosystems may exceed temperate forests and grasslands in their rapid absorption of CO ₂ , and may exceed those systems due to the desert’s possible “processing” of CO ₂ . It also appears that it is the soil itself acting as the carbon sink. Desert plants such as cacti also use Crassulacean Acid Metabolism (CAM) metabolic pathways, which allows for CO ₂ uptake and storage and conversion into plant body. (<i>Science 13 June 2008: Vol. 320. no. 5882, pp. 1409 – 1410 DOI: 10.1126/science.320.5882.1409</i>) This should be included in the EIS. Will the non-carbon burning energy generated by this plant equal the amount of carbon released by destroying carbon-using and -storing desert plants, soil microfauna and flora?
BRW 4 Bio	For most of the mitigation measures in Biological Resources Table 4 the mitigation measure is to “protect and enhance offsite populations or some other form of compensatory mitigation (BIO-17); implement weed management plan (BIO-13); implement Best Management Practices (BIO-11).” It seems obvious that there are few if any mitigation

	practices available to compensate for such a great loss of biological diversity. What are these mitigation practices? Will these plants be propagated from seed? If so where would they be planted? What will happen to succulents, yuccas and Joshua trees that are displaced? Will they be moved, sold for landscaping or destroyed? What habitats would be suitable for transplanting? What locations?
BRW 5 Bio Soil & Water	Noxious Weeds: What mitigation would be taken to prevent the spread of noxious weeds? Would herbicides be used? If so, which ones? What risks would this have on native species and groundwater?
BRW 6 Bio	Banded Gila Monster Will the site be surveyed for this species? If so, what methods will be used?
BRW 7 Bio	Desert Tortoise: "The 2007/2008 protocol desert tortoise surveys found 25 live desert tortoises, 97 desert tortoise carcasses, 214 burrows, and 50 other tortoise sign." The finding of 97 desert tortoise carcasses may indicate a problem with respiratory disease or possible some other impact. How can a project that destroys so much habitat for this species be considered when such a die off is noted? A line distance sampling survey should be conducted during activity seasons for the next couple of years before approval of this project is considered.
BRW 8 Bio	Will total clearance be done where all tortoises be found and removed, including digging out burrows? Please specify this. Where will mitigation land be bought? Will all tortoises be placed on the same mitigation land? What will be the location? Will follow-up studies be carried out to determine the success of translocation and survival? How will coyote and other predation be prevented on translocated tortoises? "....develop a Desert Tortoise Translocation Plan" - this should be finished before the Ivanpah project is approved.
BRW 9 Bio	What kind of reduction measures would be taken to minimize raven predation on tortoises? If native predators are to be exterminated, the EIS needs to explain how this will take place. Will the same measures apply to coyotes on the translocation site? The EIS should be able to describe and admit the unattractive details that will need to be implemented for predator reduction.
BRW 10 Bio	Birds - Conduct pre-construction nesting surveys, implement avoidance measures.- Will construction take place during spring nesting? If so, will protection be given to nesting birds on the construction site, such as taping off the nesting area until nesting is complete for Brewer's sparrow, Le Conte's thrasher?
BRW 11 Bio	Where would burrowing owls be relocated to?
BRW 12 Bio	"The applicant acknowledges that Nelson's big horn sheep could occur in the project area (CH2M Hill 2008a). However, the AFC (BSG 2007a) does not provide sufficient project-specific information on use of the site by Nelson's big-horn sheep to identify areas that might provide foraging habitat and movement corridors, to assess potential impacts, or to develop appropriate mitigation measures. It may be possible to offset potential project impacts to

	<p>Nelson's bighorn sheep with implementation of Condition of Certification BIO-17, the compensatory mitigation plan, if the plan included enhancement measures that would benefit bighorn."</p> <p>The PSA seems to recognize this problem of foraging habitat, but provides no solution to the problem. The project should be delayed until more attention is given to this issue.</p>
<p>BRW 13 Worker Safety</p>	<p>The EIS should discuss the potential exposure of workers to hazardous materials. If these are people hired locally, this could have an impact on local communities and the medical services.</p>
<p>BRW 14 Bio</p>	<p>Why do herbicides need to be used? How will this effect native plants?</p>
<p>BRW 15 Haz Mat</p>	<p>Transporting dangerous chemicals poses a threat to native plants and wildlife as well as people in local areas and nearby communities. This proposes an unneeded public health risk. Please make a list of potential impacts hazardous material may have on specific flora and fauna including desert tortoise, bighorn sheep, rare plants and other wildlife.</p>
<p>BRW 16 Land Use</p>	<p>Land Use Table 3 states that it is unknown if the project is consistent with the CDCA plan and the NEMO plan . We feel it is not. The PSA should be delayed until this can be determined.</p>
<p>BRW 17 Air</p>	<p>The PSA states the project will create 90 jobs and people will have to commute one hour each way. Will these people be required to drive electric cars? This does not really help reduce green house gases.</p>
<p>BRW 18 Soil & Water Visual</p>	<p>Wastewater: PSA- "For onsite processing of domestic wastewater, each phase would include a small package sewage system, including a larger system located at the Administration/warehouse building. Sewage sludge would be removed from the site by a sanitary service. Recycled water from the sewage treatment plants would be used for landscaping." Where will this landscaping be on site? Will recycled wastewater seep into groundwater and pollute nearby tortoise habitat?</p>
<p>BRW 19 Haz Mat Waste</p>	<p>What protocols would be used if such heavy-metal-containing wastes are spilled during construction or operation? How will environmental contamination be prevented?</p>
<p>BRW 20 Bio</p>	<p>Will tortoise monitoring and exclusion fences be placed along all new pipelines constructed in both California and Nevada?</p>
<p>BRW 21 Bio Soil & Water</p>	<p>The administration and warehouse building, a substation, a sewage package treatment plant, and detention ponds would be located in between Ivanpah No. 1 and Ivanpah No. 2." Are any toxins or pollutants present in these detention ponds that would harm birds or wildlife that drink from them? What liners will be used to prevent groundwater contamination?</p>
<p>BRW 22</p>	<p>Will tortoise exclusion fences and biological monitors be present during all phases of upgrading and construction of</p>

Bio	transmission lines? Will new lines be insulated to prevent bird electrocution?
BRW 23 Bio	Will tortoise exclusion fences and biological monitors be present during grading of new roads in desert habitat? Will tortoises encountered in burrows be removed and placed away from construction? How will any Gila monsters encountered underground be dealt with to protect them? Will cacti and yuccas be moved or discarded in new roads? Will mitigation habitat equal to the amount of desert habitat destroyed for new roads be purchased by the applicant?
BRW 24 Soil & Water	Water quality: PSA- "The applicant has not adequately modeled potential impacts to water quality due to pumping induced migration of low quality playa groundwater towards higher quality groundwater. Therefore, staff cannot reach a conclusion regarding the potential project-related water quality impacts." Please provide this.
BRW 25 Soil & Water	Altering, filling, or rerouting the existing ephemeral streams could change the flow and character of the runoff water reaching the Ivanpah playa. However, staff has not received a Sedimentation Report or revised grading plans, DESCP, or SWPPPs, and therefore, cannot evaluate the potential project-related impacts to the Ivanpah playa." Please provide this.
BRW 26 Bio	Would detention basin maintenance affect tortoises, and how will this be mitigated? Will tortoise exclusion fences be maintained? Will tortoises be allowed to access the detention basins?
BRW 27 Soil & Water	If a very large flood occurs, which has happened more frequently in our experience in the Mojave desert, what will happen to the plant? Will hazardous waste be strewn across tortoise habitat? What measures are going to be taken to divert large floods?
BRW 28 Soil & Water	"... the project's total groundwater use of 5,000 AF (50 years x 100 AFY)..." Will this amount of water use combined with other projects in Ivanpah Valley such as the Primm Golf Course negatively impact groundwater resources used by desert plants, succulents, animals, nearby springs? Future solar projects are planned for Ivanpah Valley, so more groundwater will be pumped. How does the this project project competition from future renewable projects that will also pump groundwater?
BRW 29 Soil & Water	"Over the next 50 years, the use of the IVGB groundwater is expected to increase and, along with that increased use, the overdraft in the sub-basin is expected to become greater. The project's pumping of groundwater alone would contribute to this overdraft, but currently amounts to only 2.1 percent of the existing cumulative pumping volume in the IVGB. This increase is nominal and not cumulatively considerable. Therefore, staff believes there would not be an adverse impact to the groundwater resources in the basin. Ivnaph Valley is already overdrafted from groundwater pumping. How does this justify pumping even more water in an arid region?
BRW 30 Bio Haz Mat	An herbicide would be used to eradicate noxious weeds and nonnative species." How will herbicide spraying be controlled so that toxins do not blow into adjacent deserts or accumulate in dust that blows into desert habitats nearby during windstorms?
BRW 31	The EIS admits in no uncertain terms that the project will have negative, degrading impacts to the visual quality of Ivanpah Valley, Clark Mountain, adjacent wilderness areas and the night sky in the area. It fails to address how the

Visual	visual impacts will adversely effect the tourism in the area. Slapping class designations on the views is arbitrary and will have little significance to those of us who love the area. We can not think of a worse way to maintain the visual quality of public lands.
BRW 32 Executive Summary	Due to the environmental devastation that this project will cause as well as the admitted unresolved issues, we would like to request that this PSA be modified and released for another 3 month public comment period.
Basin and Range Watch letter dated July 11, 2009	
# / Topic(s)	Comment
BRW 1 Bio	We are concerned that the schedule Solar Partners LLC et al. (Bright Source) is attempting to follow is too rapid to insure that the translocation plan can be successful.. The number of only 25 individual desert tortoises (<i>Gopherus agassizii</i>) that need to be translocated is based on presence/absence surveys and could be inaccurate. We request that at least four more surveys of the entire area including the translocation sites be conducted during both the spring and fall months in both 2010 and 2011. These surveys should include line distance surveys. Given the quality of the habitat, we do not feel that Bright Source has adequately determined an accurate population number.
BRW 2 Bio	We do not believe that the translocation area is an acceptable location to move the tortoises to. The relocation site is located at a lower elevation which will receive less rainfall and be subjected to higher summer temperatures. Former research has indicated that the project area supports 50 to 100 individuals per square mile and the lower lying habitat near Interstate 15 only supports only 20 to 50 per square mile (Berry 1984). The translocation sites are also a poor choice due to the close proximity to Highway 15 and the golf course. The highway attracts subsidized predators looking for food and the golf course has an abundance of water and perches that increases the local populations of both ravens (<i>Corvus corax</i>), and coyotes (<i>Canis latrans</i>). The failures of the recent attempts to translocate desert tortoises from the Ft Irwin National Training Center are well known and have resulted in the loss of many tortoises. The extreme predator control measures of numerous coyotes and ravens have not helped the situation. Translocating the tortoises to the sites near the highway could result in the loss of both adult and juvenile tortoises.
BRW 3 Bio	Basin and Range Watch is curious as to how the sites by the highway were selected and would like to suggest that a different translocation site be selected. Suitable areas in the Mojave National Preserve have been identified.

BRW 4 Bio	Recent genetic studies by Murphy et al.,2007 have concluded that tortoise populations from different recovery units including the Northeastern Mojave Recovery Unit are unique. It makes little sense from a recovery perspective to even disturb this site. The Ivanpah Solar Generating System Preliminary Staff Assessment has also stated that over 90 carcasses were found during the surveys. It would be good to know the cause of the deaths of these animals. Because the proposed project site is located within the Northeastern Mojave Recovery Unit, this kind of die off could indicate a significant problem with this population. A large energy facility destroying close to 5,000 acres of tortoise habitat is probably the worst kind of development that could be considered in regards to preserving this population. We would like to know how many, if any of the live tortoises found on the site were tested for upper respiratory tract disease (URTD).
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