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John S. Kessler, Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Ivanpah Solar Electric Generation System Preliminary Staff Assessment

Dear Mr. Kessler:

The California Native Plant Society (CNPS) is a statewide, non-profit organization of concerned citizens and professionals dedicated to the conservation and protection of native plants in their natural habitat. These comments represent those of the Mojave Chapter of CNPS.

CNPS supports the development of alternative, green energy sources, as long as those programs do not unnecessarily degrade healthy, diverse ecosystems. We have several concerns regarding the proposed Ivanpah Solar project which appears likely to contribute to the ongoing problem of increasing carbon dioxide through the loss of primary productivity on the landscape while also using non-renewable petroleum. *This is not a green energy project* as a result of its destruction of unique rare plant habitat. The proposed project does not adequately meet the stated objectives and the application should be denied.

These comments have been generated through an analysis of the California Energy Commission's (CEC) Preliminary Staff Assessment (PSA) for the Ivanpah Solar Electric Generating System (ISEGS) [Application for Certification (07-AFC-5) San Bernardino County] dated December 2008. And a technical report, dated September 2008, 'Botanical Resources of the Ivanpah Solar Electric Generating System' sponsored by the project proponents [Solar Partners I, Solar Partners II, Solar Partners VII, and Solar Partners IV] and prepared for the consulting firm CH2M Hill by Garcia and Associates, presents information on botanical issues in the Ivanpah Valley, San Bernardino County, California.

Major points

1. CNPS supports green, alternative energy development, *only while avoiding unnecessary habitat destruction*
2. There are significant sensitive plant populations on site
3. There are no known feasible mitigation techniques for rare desert plant species
4. There is high cactus diversity and density *providing a unique CO2 sink*
5. Summer surveys were not conducted in a known summer rainfall region

6. The site is not degraded
7. If implemented, invasion of weedy species will occur
8. Suitable alternative degraded sites are more appropriate, regardless of ownership
9. The site was chosen prior to an environmental suitability analysis
10. This project is not needed immediately to achieve government time lines for alternative energy production
11. There are superior project designs known that would have a much smaller carbon footprint
12. The cumulative impacts to sensitive desert habitats and rare plants were not adequately evaluated.
13. There are several inappropriately analyzed conclusions in the PSA

These issues are followed by a few other observations/comments regarding the failure of the document to provide realistic public agency review for impacts to public resources.

1. CNPS is very concerned with the need to find and promote alternative energy sources, however as currently designated the location would destroy over six square miles of high quality habitat occupied with many regionally rare plants and at least one endangered animal species that utilizes native vegetation to maintain healthy populations. Project implementation at the proposed location would result in significant, permanent, avoidable, adverse effects to the environment. The solar facility is considered transient technology as described in the PSA. This loss of pristine, diverse habitat occupied by the federally and state listed desert tortoise, is contrary to one of the stated project objectives - "to avoid highly pristine or biologically sensitive areas."

2. At least 10 CNPS-listed species are known to occur on the project site. These are noted in the CEC document and are considered CEQA significant as rare. This data was generated only because partial site surveys were conducted on site (see #5). The use of existing data base information prior to the field work would have been misleading as to the diversity and productivity of the site. The very reason field surveys are required is to discover what is on a proposed project location. It is the intent of public law to provide for the avoidance of effects to discovered sensitive resources. These are publicly owned resources on public lands.

3. The proposed project would eliminate several square miles of occupied rare plant habitat. There are no known techniques to mitigate for the loss of rare plants and their habitat in desert environments. Avoidance is the only mitigation that is appropriate for this site. There is no known method to compensate for the loss of this rare plant habitat. Simple habitat acquisition for the desert tortoise cannot provide adequate compensation for the loss of this high quality rare plant habitat. To be able to find comparable compensation habitat for the rare plants will require an enormous amount of fieldwork to survey private lands that might be occupied. Simple translocation of the adult plants does not perpetuate population structures for long term productivity and is an unproven mitigation for habitat destruction. The scale of destruction of subsurface ecosystem components and seed banks is impossible to mitigate.

We concur with the CEC staff comments that the proposed mitigation for rare plants and habitats [and animals] is inadequate as presented and that the project will have major significant adverse, permanent effects to biological resources if this project is approved at this location. Only proven, successful mitigation actions can be adopted. Currently, there are no know mitigation actions that are successful for desert plants and habitats. The only legitimate option is, no approval at this location. If approved for this location, a land compensation ratio should be at least 5:1, especially in light of the massive push for energy development in the desert and the projected cumulative effect generated from similar projects. A compensation ration of 1:1 is absolutely inadequate because the proposed action would permanently destroy irreplaceable high quality rare plant habitat. If a compensation plan is approved it must account for a fluctuating real estate market. The value of land at this time cannot be used if it takes ten years to acquire all necessary land. The acreage must be guaranteed as compensation, not just the current value. As proposed this is not a 'green' project. Cumulative effects analysis needs to cover the huge scale of impacts to the California desert region not just Ivanpah Valley.

4. The cactus diversity and density in the Ivanpah location is unique to all alternatives analyzed in the PSA. Not only will the project, as located, adversely affect a number of rare and listed species it will also adversely impact the diverse photosynthetic productivity of the region. The rich species composition of the site is unique in that all known photosynthetic pathways are represented. The photosynthetic activities of cool weather C3 plants, the warm weather C4 plants, and the nocturnal CAM (crassulacean acid metabolism) plants are significant. The loss of the density and diversity of cactus species would contribute to the carbon dioxide imbalance that green energy is purported to fix. CAM photosynthesis is found in cactus and succulent plants and is the most efficient photosynthetic process for fixing carbon dioxide of the three represented pathways present on site. This issue demands that a location that has already been disturbed should be the primary choice for energy development. Since this is the one of many energy projects anticipated it needs to set a rational precedence and needs to be adequately analyzed in the cumulative effects section of the environmental document.

5. The statement in the Supplemental Data Response Set 1D [Botanical Survey Report] that when taken together the surveys of 2007 and 2008 fully satisfy the recommendations and guidelines is factually incorrect. Protocol development for botanical surveys neglected to include critical seasonal coverage in a region well know for its bimodal precipitation [read, summer rainfall] and known to the consultants for the project proponents. There is only a short mention of one individual cataloging a single element from the site during the late summer. This is a critical failure for the complete analysis of effects to the environment from the proposed action. The region is poorly known botanically and therefore the failure to conduct summer/fall surveys prevents the ability to conduct a valid and complete analysis of effects of the proposed action. The revelation of the number of sensitive plants on site is an example of the poor understanding of the distribution of the flora for that region. *Oenothera cavernae* [not on the pre-survey list] was only recently discovered to occur in eastern California and there are most

likely several other species yet to be documented. The presumption that a complete species account can be accomplished from previous years 'skeletal' remains fails to comprehend the ecological properties of native annual plants. The vast majority of native annual plant species disarticulate from the growing location after seed set and blow away and thus would be undetectable using the survey method used with this project. All of the surveys for annual plants were conducted in April 2008 subsequent to summer 2007 precipitation. [spring 2007 survey dates were not easily detected in the technical document]

6. The species lists and site evaluation clearly highlights the proposed project location as pristine and ecologically rich. The number of rare plant species and abundances as well as several rare animal species identifies this site as warranting protection not destruction. This site is not degraded.

7. The technical report documents very few non-native troublesome weeds at low densities from the location. The vast size of the disturbance from the proposed project will undoubtedly cause a serious invasion problem for the area. If the project is approved there must be a guaranteed bond of a sufficient amount to pay for the ongoing [life of the project and beyond] weed management the project will create.

8. Degraded habitats should be selected and developed for alternative energy facilities as a priority evaluation for project location.

> "*Achieving site control for a large solar facility in an area of private land in an economically feasible manner would be challenging. It would likely take substantial additional time to acquire the land. The land acquisition challenges are considered to be substantial, so a private land alternative was eliminated from further consideration.*" from the PSA.

The rationale for discounting a project location on private lands with high disturbance is not justifiable or valid. The argument that it would be challenging does not mean that it cannot or should not be seriously evaluated. This is a fatal flaw in reasoning and cannot be so easily dismissed. You need to provide realistic, reviewable review and analysis for this alternative. Also, there is ample time to negotiate the use of those lands since alternative energy production levels have already been accounted for without the online production from this project. There simply is not an emergency to approve this project to meet energy needs.

> *PG&E is required by the state to get 20 percent of its power from renewable sources (not including conventional hydroelectric power) by 2010. The utility actually already has enough, to hit that mark, but it is also signing contracts for the decade beyond the 2010 deadline.* (http://news.cnet.com/8301-11128_3-9907089-54.html)

Additionally, private land acquisition will be required for desert tortoise mitigation and compensation for habitat loss of rare plants, therefore the argument is invalid and a serious evaluation of the use of existing disturbed landscape must occur. Viewed from a cumulative impact aspect to the undisturbed landscape in the California desert the placement of alternative energy facilities on previously disturbed lands will be a necessity to achieve a truly 'Green' projects.

9. CNPS objects to the industrial externality of ignoring public process. A deal was cut by the energy industry to deliver a product prior to knowing if the project location was the most environmentally appropriate. In this case the proposed project site occurs in a diverse, species rich desert habitat and would be more appropriately located in other suitable degraded locations.

From a March 31, 2008 news line on the internet it is apparent that there has been a business commitment prior to required review and analysis of effects of their action on public lands.

> "*BrightSource Energy will build 500 megawatts' worth of solar thermal power plants for Pacific Gas & Electric in California, and the contract contains an option for PG&E to order another 400 megawatts on top of that.*
>
> *Under the deal, BrightSource, based in Oakland, will build a 100-megawatt solar plant in Ivanpah, Calif. (near Barstow and close to the Nevada state line), that will start operating in 2011. The company will then build a 200-megawatt solar plant the year after that, and another one a year after that, said BrightSource CEO John Woolard. While the first two plants will go up in Ivanpah, the remaining power plants will be built in nearby Broadwell, Calif*." (http://news.cnet.com/8301-11128_3-9907089-54.html)

A news article in the Victorville Daily Press of October 27, 2008 regarding the Ivanpah development contains quotes from the project proponents that is full of inappropriate scare tactic language. BrightSource has apparently created an emergency and is attempting to use scare tactics to expedite the permitting process. Quotes indicate that delays in issuing permits would send a "chilling signal" to the emerging green power industry. If the facility is constructed in high quality habitat and could have been located in already degraded habitat it cannot call itself 'green'. We are sick and tired of being lied to and threatened with unknown repercussions to allow industry to remove themselves from providing responsible development. The industry is being subsidized by the public through a ridiculously low price for the existing public land.

The above reference includes an intent to develop a facility at one of the alternates considered for this proposed project.

10. Discussed under # 8

11. These project designs are adequately described in the PSA and many are appropriate to consider for energy generation in light of the cumulative loss of public lands within the foreseeable future. It would be appropriate for the CEC to require these alternative by approving the no action alternative and allowing the project proponent to propose siting the project in another, more appropriate, location.

12. There are close to 100 applications for a variety of energy developments in the California deserts. There is not an adequate evaluation on the cumulative effects of these proposed actions to the natural resources on public and private lands. There is ample time to provide for careful reasoned judgement /evaluation for the least destructive placement of these needed projects and provide the greatest long term protection for public resources. The vast majority of energy projects are proposed to occur with large footprints that will permanently destroy fragile desert habitats. These projects are expected to be temporary (illustrated by the requirement to analyze decommissioning activities) and leave a landscape similar to failed agricultural projects in the desert.

13. Several conclusions reached in the PSA are incorrect and misleading. To provide accurate information for a decision maker these issues need to be corrected and assumptions regarding the effects and benefits of the proposed action need to be reevaluated.

The Broadwell alternative is under application for energy development by the project proponent and is appropriate to consider as a viable alternative contrary to the determination presented in the PSA. Since the project proponent has an application to put an energy facility at the Broadwell site your arguments for the inability to approve the location as a viable alternative would indicate that you will not be able to approve a project at that location in the future. It also invalidates the strained discourse indicating the project proponent would have to apply and evaluate the effect of a project beyond the Ivanpah area.

The PSA dismisses any meaningful evaluation of the biological impacts for the Siberia and Broadwell alternatives as similar to the proposed Ivanpah action. The areas are grossly different in rainfall patterns and temperature and the habitat diversity is very different. This analysis displays the unfamiliarity of the resources by the report preparers. This gross negligence must be corrected and a legitimate and equal analysis of effects to biological resources must be presented. Then a comparison of superior alternatives regarding biological resources can technically be met. There are apparent intentions that the energy industry will or has applied to develop these areas and therefore there must be a detailed analysis available or in preparation to be able to evaluate those effect in the reasonable future and so must be included. If there is an intent for these areas to be developed for energy projects in the future then they must be included in the cumulative effects analysis for a project of similar intent such as this proposed project.

One of the primary benefits claimed for this project is the compliance with California's Renewable Portfolio Standard Program (Senate Bill 1078), which establishes that the state's renewable energy must contribute 20 percent of the supply for meeting total state energy demands by 2010. The providers of electricity for California (PG&E) have claimed that this goal has been met without this project. Therefore, there is ample time to be able to secure private lands that are already disturbed and provide for a truly green project by the year 2020.

There has been no analysis of the loss of primary productivity from the implementation of this proposed action. The loss of the carbon dioxide scrubbing function from a habitat that can remove CO2 in hot and cold weather and day and night has not been evaluated. Taken cumulatively, these types of large scale habitat destroying projects must be placed in areas of low diversity and high disturbance.

One of the noteworthy public benefits claimed in the PSA is the short term construction and long term operation employment opportunities. The logical population source is not in California and the benefit will go to the Nevada populations. Honestly, rewrite this section.

A private land alternative dismissal cannot be justified just because the acquisition would be challenging. As cited above there is ample time to achieve energy production to meet public law mandate by the year 2020, since the utilities have stated that the 2010 dead lines will be realized without this proposed project. Therefore, the entire analysis must be revisited to conform to public law requirements to evaluate reasonable, achievable alternatives. The permanent destruction of high diversity habitat cannot be considered green. Additionally, if the project is approved, compensation lands will have to be acquired. One would assume that this task will be just as challenging; does the CEC argument equate to the inability to secure compensation from the acquisition of private lands?

The no project alternative should not be dismissed using the justification presented by the CEC staff. This location is inappropriate for a development at the scale proposed. The fact that there are around 100 applications for energy development in the desert effectively nulls the argument presented by CEC staff that without the project we won't have clean energy production. The no project alternative is a valid choice for CEC to make because there will be many other projects approved - hopefully in appropriate locations that minimize and avoid impacts to biologically diverse habitats. These projects will also be closer to the energy consumption regions. The

destruction of habitat is permanent, not renewable, and certainly not green. It must be well known to the regulators that successful alternative energy development has been achieved in other states and countries with out negligent habitat loss. These techniques must be thoroughly evaluated prior to a decision for this project.

You cannot improve the health of the environment by destroying it. This is not a crisis situation. It is not the fault of the public that the industry made a commitment to deliver a product prior to securing an analysis of effects to evaluate the feasibility of using public lands for private profit. These natural resources and habitats belong to the citizens of the United States of America. We want all energy development to be American owned, especially if public land is used. We cannot achieve energy independence if the energy companies are foreign owned.

The development in the Ivanpah valley is taking place largely in Nevada. The placement of an energy facility in California and regulated by California should generate energy for California. If this is the case, energy production should be located closer to the region in which it will be consumed, and therefore the no project alternative is appropriate for this location. There will be other generation facilities to meet this demand.

The proposed location is covered with a diverse vegetation structure, not a dry lakebed as indicated in the cartoon depicted on the cover of the PSA. This appears to be a total disregard for the environmental location selected. There are suitable locations that would meet the artist rendition and those are the ones that should be included for review. It appears to be a deliberate attempt to trivialize the value of the habitat by misleading reviewers to see a dry lakebed as the backdrop and characterize the deserts as a wasteland. CNPS feels that this creates a poor foundation to make an unbiased decision to place a development in the Ivanpah Valley.

The following statement taken from the PSA indicates that the only apparent viable alternative is the no action alternative. If the level of adverse effects is too great to mitigate or avoid, and since the time line to bring ‘new’ energy online only needs to be accomplished by the year 2020, there is ample time to have the applicant apply for another appropriate location. The public needs to see review of a detailed analysis explaining why CEC has to approve this action, otherwise it seems apparent that there is an avoidance of compliance with public laws, regulations and ethics a public agency is mandated to uphold. If there are political deals they should be presented as part of your argument to allow for full disclosure.

"*The California Energy Commission (Energy Commission) does not have the authority to approve an alternative or require BrightSource Energy, Inc. to move the proposed project to another location, even if it identifies an alternative site that meets the project objectives and avoids or substantially lessens one or more of the significant effects of the project. Implementation of an alternative site would require that the applicant submit a new Application for Certification (AFC), including revised engineering and environmental analysis. This more rigorous AFC-level analysis of any of the alternative sites could reveal environmental impacts; nonconformity with laws, ordinances, regulations, and standards; or potential mitigation requirements that were not identified during the more general alternatives analysis presented herein. Preparation and review of a new AFC would require substantial additional time*." Pg 7-3 [pdf pg 631]

Thank you for the opportunity to participate in the decision-making process affecting public resources.

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California Native Plant Society

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