

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512**DOCKET****11-AFC-2**DATE APR 05 2012RECD. APR 05 2012

April 5, 2012

Clay Jensen, Senior Director
BrightSource Energy, Inc.
1999 Harrison Street, Ste. 2150
Oakland, CA 94612**RE: HIDDEN HILLS SOLAR ELECTRIC GENERATING SYSTEM (11-AFC-2), DATA REQUESTS, SET 2E (#'s 177-188)**

Mr. Jensen:

Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, and 3) assess whether the project will result in significant environmental impacts. These attached data requests are issued for “good cause” as the information requested is important to the sufficiency of Staff’s CEQA analysis.

This set of data requests (Set 2E, #'s 177-188) is being made in the area of Biological Resources (#177), Land Use (#'s 178-184), Public Health (#185), Traffic and Transportation (#'s 186-187) and Visual Resources (#188). Written responses to the enclosed data requests are due to the Energy Commission staff on or before May 4, 2012.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both the Committee and me within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, Sec.1716 (f)). If you have any questions, please call me at (916) 654-4894 or email me at mike.monasmith@energy.state.ca.us.

Sincerely,

Mike Monasmith
Project Managercc: Docket (11-AFC-2)
Proof of Service ListPROOF OF SERVICE (REVISED 3/22/12) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 4/5/12
EKS

Potential Project Impacts to Burrowing Owl (*Athene cunicularia*)

BACKGROUND

Staff reviewed applicant's Data Response Set 1B-4 (Hidden Hills SEGS Winter 2012 Burrowing Owl Survey), docketed on March 5, 2012. Applicant provided a response to staff's data request #59, stating that no burrowing owl(s) were observed onsite during either spring or winter surveys. However, this statement requires clarification. The Application for Certification (AFC) section 5.2.6.7.2 states that burrowing owls were observed in the area of the proposed project site boundary, in the northwestern quarter of section 16, and immediately west of the site, but does not quantify the exact number of owls observed. The AFC Table 5.2-7 Biological Resources confirms burrowing owls were observed in 2010 and spring of 2011. Staff needs to know how many owls may be impacted by the project and where they occur within the proposed project site.

DATA REQUEST

177. Submit a revised burrowing owl phase III survey report. Clarify and explain previous burrowing owl survey results. The revised report must be prepared in accordance with the CDFG 2012 Staff Report and include the following:
 - a. a discussion of the number of burrowing owls that may be impacted by the project, defined as those onsite plus those within 150 meters of the project boundary;
 - b. copies of supporting information, GPS coordinates for observations of burrowing owl and their sign, and dens where sign or burrowing owls were observed, surveyor's field sheets, or other corroborating evidence as well as 2010 burrowing owl survey data, surveyor's resumes, method of survey used; and
 - c. a proposed burrowing owl mitigation plan, which at a minimum must present applicant's preferred avoidance and minimization measures, a burrowing owl exclusion plan, compensatory mitigation strategy, mitigation monitoring and reporting strategy, and vegetation management goals for land acquired as compensatory mitigation.

REFERENCES CITED

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. Natural Resources Agency, Sacramento, California.

Technical Area: Land Use**Author:** Christina Snow**BACKGROUND**

The applicant's responses to Land Use Data Request 1B (#74 and #75) and 1C (#93 and #94), stated that the applicant would continue discussions with Inyo County and that a general plan amendment would not be necessary prior to the Energy Commission decision on the proposed project. At the recent Inyo Board of Supervisors' meeting on March 13, 2012, the applicant stated that they would apply for a general plan amendment and zoning amendment. To date, Inyo County staff has indicated that these land use applications have not been filed.

Staff has reviewed Inyo County's Law Ordinances Regulations and Standards (LORS) and has requested input from the county for staff's analysis. As part of this exchange, staff has additional questions regarding the project's compliance with development standards that the county would normally require of projects within their purview. The development standards are related to building heights and colors, parking, setbacks, fencing, and signage.

The site plans shown in AFC Figures 1.2-3 and 2.1-3 show an administration building, gas meter, switchyard and parking lot. The administration building is not listed in the AFC Table 5.13-4 (Visual Resources) and no information is given as to the height, color or material of the building. In addition, several project structures do not have identified colors in the aforementioned table.

Inyo County's requirements for parking in the General Industrial and Extractive zone (M-1), which would likely be the applicable development standards according to the county, is one parking space for each full-time employee, plus guest parking and loading space as deemed appropriate.

The Socioeconomics section of the AFC states that the HHSEGS project will have 120 employees during the operation of the plant, with 40 working during the day and 80 working at night. The proposed parking is adequate for the day shift. However, the total number of employees working at night would need 80 spaces and the proposed parking appears to be 73 spaces (eight at each solar plant and 57 at the administration building).

A recent letter from Inyo County (March 20, 2012, Docket Log #: 64221) recommends setbacks of 50 feet for the proposed project due to the adjacent properties and the location along Old Spanish Trail (also known as "Tecopa Road"). The proposed setback for the project as shown on the conceptual landscaping figure (Supplement Response to Data Adequacy Review, Figure 1a – 1c, September 2011) is 20 feet.

In order to address land use related development standards and to provide adequate information to Inyo County for input, staff would like to obtain information on the proposed perimeter fencing or walls. Staff has reviewed the Land Use and Visual

Resources sections of the AFC and has not been able to find information about the height of such project features.

Inyo County has development standards for signage in both the M-1 and OS-40 zone districts. Inyo County staff has requested information on what will be proposed for the project in order to determine if the signage meets their local Law Ordinances Regulations and Standards (LORS) requirements. For staff to complete the land use analysis section, additional information is needed as follows.

DATA REQUESTS

178. Please provide information on the height, color and material for the administration building and any other development standards that may apply to the common area structures and buildings.
179. Please provide information as to the color of the project features listed in the AFC Table 5.13-4 that were not identified.
180. Please provide information related to the proposed parking (number of parking spaces and location) and whether or not there are additional parking spaces located onsite that staff is not aware of.
181. Please provide information as to whether the applicant intends to implement the Inyo County recommended setback of 50 feet.
182. Please provide information related to the height, color and material for the anticipated type of fencing or walls and any security features that may be included.
183. Please provide information as to what signs, if any, will be proposed for the project and what development standards will be used with regard to Inyo County LORS.

BACKGROUND

As indicated in the letter from Inyo County, dated November 29, 2011, the project would be subject to the County Renewable Energy Ordinance (Title 21). Title 21 contains a process for development of renewable energy projects that include land use development standards, health, safety and welfare considerations, and environmental review requirements. As part of the energy impact determination, renewable energy permit or development agreement process there is a provision that requires a reclamation/revegetation plan and financial assurances to ensure that reclamation will proceed in accordance with the reclamation plan.

On April 2, 2012, Inyo County Chief Administrative Officer Kevin Carunchio wrote Energy Commission Staff in regard to an important issue related to conditions the County would place on the applicant but for the exclusive jurisdiction of the Energy Commission. The letter specifically states, "As Energy Commission staff is aware, Title 21 of the Inyo County Code requires a socio economic analysis of the project in order to assure that the County's direct and indirect economic impacts are borne solely by the project applicant and not the citizens of Inyo County. In addition, Title 21 requires that a project applicant restore the project site to pre-project condition and provide financial security to assure that the County and its residents are not required to pay for that restoration should the applicant fail to do so." The County's April 2, 2012 letter asks for specifics from the Applicant related to both the Hidden Hills SEGS' Power Purchase Agreement, as well as the specifics of the 3,277 acre lease agreement between Hidden Hills SEGS and Mary Jane McMonigle, Steven Scow; Nick & Areta Tsiamis, the Mary Willey Trust and Section 20 LLC.

DATA REQUEST

184. Please indicate how the Applicant intends to comply with requirements in the County's Title 21 concerning financial security and decommissioning surety for site rehabilitation for the 3, 277 acres of land on which the Hidden Hills SEGS will be constructed and operated.

Technical Area: Public Health
Author: Huei-An Chu (Ann)

Health Risk Assessment

BACKGROUND

The Application for Certification (AFC) and attached Ambient Air Quality Modeling and Screening Health Risk Assessment File (August, 2011) provided some information on how the applicant conducted the health risk assessment. The potential impacts associated with emissions of toxic pollutants to the air from the proposed power plant were addressed in a health risk assessment (Section 5.9 Public Health and Appendix 5.1E). This health risk assessment was prepared using guidelines developed by Office of Environmental Health Hazards Assessment (OEHHA) and California Air Resources Board (CARB), as implemented in the latest version of the HARP (Hotspots Analysis and Reporting Program) model (Version 1.4d). Some files of health risk assessment support data were not included in the Ambient Air Quality Modeling and Screening Health Risk Assessment File, such as receptors, census and map. Staff will need these modeling input data to review and confirm the adequacy of the health risk assessment.

DATA REQUEST

185. Please provide all other related files of input data for HARP which were not included in the August, 2011 Ambient Air Quality Modeling and Screening Health Risk Assessment File (for example, there was no information of receptors, census and map in the provided HARP input files; therefore, staff was not able to locate some of the sensitive receptors).

Technical Area: Traffic and Transportation

Author: Gregg Irvin, Ph.D.

BACKGROUND

In the applicant's Data Response Set 2C (to Data Request 148), additional data was provided with respect to the Maximum Permitted Exposure (MPE) for retinal damage. Although informative, Data Request 148 was not intended to address the potential for retinal damage from reflected Solar Receiver Steam Generator (SRSG) solar radiation. Rather, the intent was to determine the luminance of the SRSG during operations which can provide the basis for realistic estimations of apparent brightness, glare and visual disruption. The applicant's response states:

"Flux (W/m^2) is the appropriate measure to use. Luminance measurements calculate light radiant energy that differs from the natural spectrum (limited to the energy in the visual spectrum), while the human eye is affected by the full spectrum".

This statement is true for the consideration of physiologic damage. However, luminance is absolutely necessary for any determination of perceived brightness. The human photopic luminous efficiency function for the Standard Observer, V_λ , defines the envelope of human visual sensitivity as a function of visible wavelengths. This is shown in **Figure 1** (below) together with a representative solar spectrum (Wehrli) and the visual response/sensitivity profile to the Wehrli spectrum. It is the integrated visual response which defines luminance and contributes to perceived brightness. Staff recognizes that the relationship between luminance and brightness is not straightforward and depends on additional factors such as the observer's state of adaptation, the spatial extent of the SRSG source, and the context/background luminance. Although, as the applicant states in their response, the retinal irradiance (E_r) of the SRSG is significantly less than that of the sun, it is still on the order of approximately 30-40 times greater than that of the sky background. Staff considers this potentially significant and desires an understanding of the luminance of the SRSG during operations and its relationship to the luminance of the sky background.

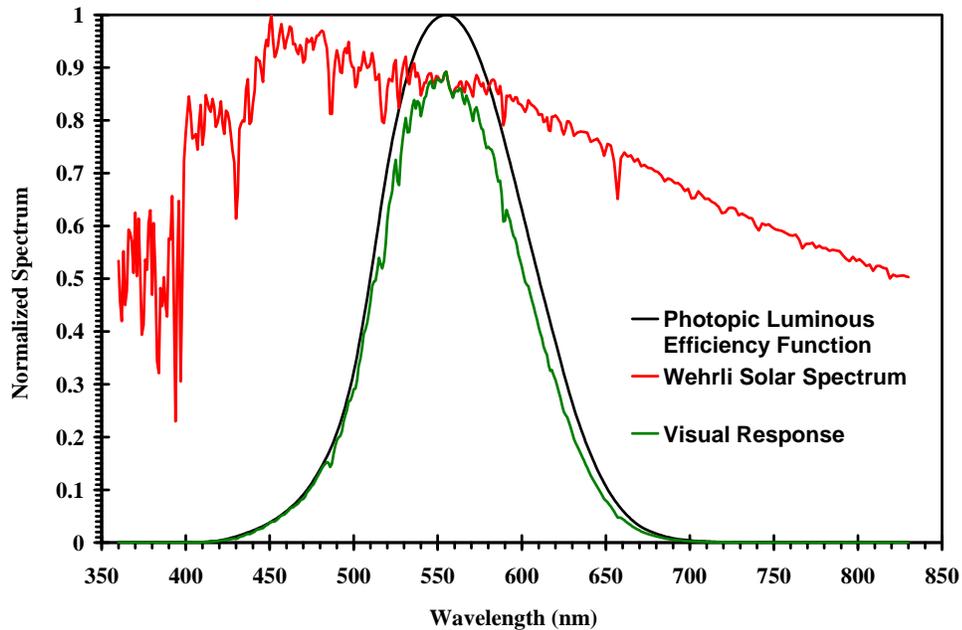


Figure 1 above represents the spectrum of the photopic luminous efficiency function, V_{λ} (black), and a representative solar spectrum (Wehrli, red). The visual response (green) represents the visual systems sensitivity to the solar spectrum.

DATA REQUEST

186. Please provide estimates of the luminance of the SRSG during operations and the luminance of representative sky background. Please address the impact of these values and their relationship on apparent brightness, glare and visual disruption at nominal viewing distances for workers, the public and motorists.

BACKGROUND

In the applicant's Data Response Set 2C, Data Request 151, additional data is provided with respect to heliostat positioning algorithms, the orientations for sleep, safe, tracking and standby positioning, and safe path transitioning. Further, the applicant states that within the control volume of the site (according to FAA regulations the volume that encompasses the perimeter of the site and a height to 200 feet above the towers) that, *"In this volume the heliostats are programmed to concentrate flux in certain positions that will cause the flux leaving the imaginary control volume to scatter to a level that will cause no impact on aviation safety"*.

Staff recognizes that standby positioning algorithms are planned, such as an annulus of focal points around the tower, to distribute and minimize multiple heliostat focal points above the site control volume.

Staff however, is concerned that direct solar reflections from the heliostats, especially in the standby position, can potentially impact aviation safety. An aircraft in the vicinity of the solar field could certainly experience direct reflections from individual heliostats in standby positions. Further, dependent on the flight path, many successive multiple exposures could occur for a rather extended duration.

DATA REQUEST

187. Please provide the analysis which leads to the applicant's quoted conclusion above. Please provide an assessment of the impact of Glint and Glare, and visual disruption to pilots when directly exposed to a heliostat solar reflection (as in a standby position) and during a succession of such exposures when flying through the field of rays produced by the population of heliostats in standby positions.

Visual Resources

Author: Gregg Irvin, Ph.D.

BACKGROUND

In the applicant's Data Response Set 2C, Data Request 154, the phenomenology and conditions for the production of the so called 'tee pee' effect are discussed. However, the impacts of the prominent visual signature on visual resources are not discussed.

The tower and the illuminated Solar Receiver Steam Generator (SRSG) during operations produce a salient visual signature. When combined with the additional visual signature of the 'tee pee' effect produced during conditions of high humidity or elevated levels of suspended airborne particulate, the overall visual signature and its prominence are substantially increased. Staff is concerned that the extent, brightness and prominence of the overall visual signature of the tower area during these conditions will result in significant visual impacts.

DATA REQUEST

188. Please address the potential direct and cumulative impacts on visual resources due to the prominent visual signature of the tower areas during periods of relatively high atmospheric scattering conditions.



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
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**APPLICATION FOR CERTIFICATION
FOR THE *HIDDEN HILLS SOLAR ELECTRIC
GENERATING SYSTEM***

DOCKET NO. 11-AFC-2
PROOF OF SERVICE
(Revised 3/22/2012)

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DECLARATION OF SERVICE

I, Elizabeth Stewart, declare that on April 5, 2012, I served and filed copies of the attached **Hidden Hills Solar Electric Generating System (11-AFC-2), Data Requests, Set 2E (# 177-188)**, dated April 5, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: www.energy.ca.gov/sitingcases/hiddenhills/index.html.

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 or Chief Counsel, as appropriate, in the following manner:

(Check all that Apply)

For service to all other parties:

- Served electronically to all e-mail addresses on the Proof of Service list;
- Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

- by sending an electronic copy to the e-mail address below (preferred method); **OR**
- by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 11-AFC-2
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

- Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
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mlevy@energy.state.ca.us

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

Originally signed by
Elizabeth Stewart
Project Assistant