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April 16, 2012

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Subject: Center for Biological Diversity, Data Response Set 1B
Hidden Hills Solar Electric Generating System (11-AFC-2)

Dear Mr. Monasmith:

On behalf of Hidden Hills Solar I, LLC; and Hidden Hills Solar II, LLC, please find attached electronic copies of Center for Biological Diversity Data Response, Set 1B.

This data response set is being filed electronically and will be followed up with hard copies. Please call me if you have any questions.

Sincerely,

CH2M HILL

A handwritten signature in blue ink, reading "John L. Carrier".

John L. Carrier, J.D.
Program Manager

Encl.

c: POS List
Project file

DOCKET
11-AFC-2

DATE APR 16 2012

RECD. APR 16 2012

Center for Biological Diversity, Data Response Set 1B

Hidden Hills

Solar Electric Generating System

(11-AFC-2)



Application for Certification
Hidden Hills Solar I, LLC; and Hidden Hills Solar II, LLC

April 16, 2012

With Technical Assistance from



Hidden Hills Solar Electric Generating System (HHSEGS)

(11-AFC-2)

**CBD Data Response, Set 1B
(Response to Data Request CBD-2)**

Submitted to the
California Energy Commission

Submitted by
**Hidden Hills Solar I, LLC; and
Hidden Hills Solar II, LLC**

April 16, 2012

With Assistance from
CH2MHILL
2485 Natomas Park Drive
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Introduction

Attached are Hidden Hills Solar I, LLC, and Hidden Hills Solar II, LLC (collectively, the “Applicant”) response to the Center for Biodiversity (CBD) data request number CBD-2 for the Hidden Hills Solar Electric Generating System (HHSEGS) Project (11-AFC-2). CBD served this data request on March 15, 2012, and requested a response sooner than required by the Commission’s siting regulations. However, as noted in CBD Data Response Set 1, the Applicant was unable to respond to this data request in the short timeframe provided for by the CBD.

Biological Resources (CBD-2)

BACKGROUND: MIGRATORY BIRDS

The project proponent's response to CEC's data request 2011-12-05_Applicants_Data_Response_Set_1B_TN-63056, notes that the proposed project is near four Important Bird Areas (IBAs) in California and Nevada – the East Mojave Peaks IBA (Kingston Peak specifically), the Shoshone-Tecopa Area IBA, the East Mojave Springs IBA (Horsethief Springs specifically) and Ash Meadows National Wildlife Refuge. It also notes that nearby Pahrump Playa is also a stopover area when inundated. Because migratory birds are protected under the Migratory Bird Treaty Act, analysis of potential impacts to these species must be evaluated from the proposed project. McCrary et al. (1986) documented significant mortality to avian species from a similar “power tower” technology, primarily from collision with heliostats, but also from singeing from the focused beams. The data response failed to address the primary cause mortality to birds from heliostat collision. It also failed to address the “standby point” issue which also caused bird mortality.

DATA REQUEST

CBD-2 Please provide published and/or peer-reviewed studies on avian mortality from the proposed power tower technology.

Response: As CBD states in the background to CBD-2, there is a published and peer-reviewed study on avian mortality from a power tower technology (Solar One) that is similar to the proposed technology for HHSEGS. This study is McCrary et al. (1986) (“McCrary study”). It is important to note that this study did not document “significant” mortality, as CBD alleges. Instead, the study concluded “The impacts of this mortality on the local bird population is considered minimal.” (McCrary study, p. 140.)

Further study of avian mortality from power tower technologies is not necessary for the Commission to find that the impacts of HHSEGS will be less than significant. As noted, the McCrary study determined that avian impacts of a power tower technology similar to the project were minimal. Indeed, the impacts of HHSEGS are expected to be even less than those found in the McCrary study, for all of the following reasons:

First, HHSEGS is located in an area with very different surrounding habitat and different bird species than the Solar One project considered in McCrary study. The Solar One site was within 5 miles of more than 2,700 acres of irrigated agricultural fields, which were an abundant source of food and water resources for avian species. Furthermore, the Solar One site itself contained 131 acres of un-netted evaporation ponds adjacent to the heliostat field. The irrigated agricultural fields and un-netted evaporation ponds provided an attractive environment for birds. In contrast, no agricultural lands or water bodies occur within 10 miles of the HHSEGS site.

The importance of the differences in surrounding habitat between Solar One and HHSEGS is reflected in the species composition of the respective sites. At Solar One, 107 birds species were recorded, of which 15 were residents. At HHSEGS, the spring point count survey recorded 29 species and the winter survey recorded 26 species, of which 18 appeared to be resident species. Creosote bush communities, such as those in the HHSEGS project area, are

considered among the most austere for bird populations. Avian communities in similar habitats usually number fewer than 20 species (Tomoff, 1974).

The HHSEGS site, without the water features and agricultural lands, has a much lower avian presence than the Solar One facility. The location of the HHSEGS site is low-priority avian habitat area in the landscape. As reported in Data Response 54, the Point Reyes Bird Observatory conducted a landscape prioritization analysis within the Desert Renewable Energy Conservation Plan (DRECP) planning area to identify areas of high and low value to a suite of 66 breeding birds. This review included “sensitive” species (i.e., threatened, endangered, or Bird Species of Special Concern) and more common species that collectively represent a range of ecological attributes. Using various ranking scenarios, the Calvada Springs area of the Pahrump Valley near the HHSEGS site was consistently ranked in lowest priority group (lowest 2 percent to 10 percent of the area). The study concluded that these low priority areas should be considered first for siting solar and other renewable energy installations to minimize impacts on breeding birds. (Howell and Veloz, 2011).

A second reason to expect substantially lower levels of impacts at HHSEGS as compared to the minimal effects that occurred at Solar One is the number of standby points (where heliostats are focused in the air when not focused on the tower). The Solar One project used only four standby points. This created areas of concentrated light (flux) where birds could be injured, although the McCrary study noted that mortality from burning was infrequent at Solar One. In contrast, HHSEGS is designed to use a FAA-compliant system that directs reflected light in a diffuse pattern. Because of this new technology, energy concentration at the HHSEGS standby area will be a fraction of that at Solar One, further decreasing the potential impacts to avian species as compared to Solar One.

Third, strikes by nocturnal migrants are expected to be very few. Radar data from the Mojave desert indicate that less than 15 percent of nocturnal migrants fly below 300 meters (984 feet) and the tower will be 229 meters (750 feet) (Felix et al., 2008). The implementation of the appropriate design of FAA lighting systems on the HHSEGS project, using only red lights at night with the longest permissible interval between flashes and the shortest flash duration permissible, will further reduce the potential for nocturnal strikes.

Fourth, the size of the heliostats employed at the HHSEGS project will be significantly smaller than that at the Solar One facility – i.e., the HHSEGS heliostats will be less than half the height (12 feet versus 25 feet) and size (204 square feet versus 500 square feet) of those at Solar One. This difference is significant, given that eighty-one percent (81%) of the mortalities reported in the McCrary study were attributed to collision with Solar One structures, primarily heliostats. (McCrary Study, p. 140.)

Finally, Applicant’s Data Response 54 did not state, as CBD claimed, that the project is “near” four Important Bird Areas. The closest of the four IBAs is 5.5 miles from the project site. The most distant of the four IBAs is 35 miles from the project site. None of these IBA’s is near or proximate to the HHSEGS.

References

Felix, R.K., R.H. Diehl and J.M. Ruth. 2008. Seasonal passerine migratory movements of the arid southwest. *Studies in Avian Biology* No. 37:126-137.

Howell, C.A., and S. D. Veloz. 2011. Priority Areas for Breeding Birds within the Planning Area of the Desert Renewable Energy Conservation Plan. PRBO Technical Report. PRBO contribution #1823. Available at <http://www.prbo.org/cms/574>

McCrary, M. D., R. L. McKernan, R. W. Schreiber, W. D. Wagner, and T. C. Sciarrotta. 1986. Avian Mortality at a Solar Energy Plant. *Journal of Field Ornithology* 57(2): 135-141.

Tomoff, Carl S. 1974. Avian Species Diversity in Desert Scrub. *Ecology* 55:396-403, as cited in McCrary et al. 1986.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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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, John L. Carrier, declare that on April 16, 2012, I served and filed copies of the attached Center for Biological Diversity Data Response, Set 1B, dated April 16, 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:

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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.



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