

DOCKET

09-AFC-7

DATE SEP 13 2010

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September 13, 2010

Alan Solomon
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: **Palen Solar Power Project, Docket No. 09-AFC-7 - Golden Eagle Survey Results**
Resource Area: Biological Resources

Dear Mr. Solomon:

Please find attached the Golden Eagle Survey Results for the Palen Solar Power Project.

If you have any questions regarding this submittal, please feel free to contact me directly.

Sincerely,



Alice Harron
Senior Director, Development

September 13, 2010

Subject: Palen Solar Power Project – Golden Eagle Survey Results

09-AFC-7

This memorandum summarizes golden eagle survey results as completed in 2010 for the Palen Solar Power Project (PSPP).

Methods and Results

Golden eagle (*Aquila chrysaetos* [GOEA]) nest surveys were conducted for the PSPP during spring 2010 by the Wildlife Research Institute, Inc. The surveys were conducted to record and report GOEA occupancy and productivity within a 10-mile buffer surrounding the PSPP in accordance with the USFWS *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (Pagel et al. 2010). At CDFG's request, a bighorn sheep (*Ovis canadensis nelsonii*) biologist was also present during the aerial surveys to observe bighorn sheep within the various mountain ranges surrounding the site and direct the surveyors on avoiding disturbance to lambing areas. Surveys were conducted by helicopter in two phases. Per USFWS guidance (Pagel et al. 2010), the first survey focused on occupancy within the 10-mile buffer of the PSPP. Location and reproductive status of eagle nests, along with other raptors, was recorded. Phase I aerial surveys were completed on March 25-26 and April 2-3, 2010. The second survey focused on reproductive status of eagle nests in the 10-mile buffer for 2010 and also identified successful nesting attempts that were missed during initial surveys as well as reveal fledging success. The Phase II survey was completed on May 14, 2010. Two golden eagle biologists (Jeff Lincer, PhD; Dave Bittner, PhD; Chris Meador; Renee Rivard, PhD; and/or James Newell) conducted each of the surveys. In addition, the helicopter pilots (Mel Cain and Greg Matson) each have at least 20 years of experience flying surveys for bighorn sheep. Mountain ranges in the vicinity that were surveyed include: the Chuckwalla Mountain range; the Palen Mountain range; and the Coxcomb Mountains. The results of these surveys are summarized below.

Two active GOEA nests were found within one active territory located approximately 7 miles southwest of the PSPP site in the Chuckwalla Mountains. These two nests were in good condition and showed evidence of being “decorated” in 2010. However, neither nest had any confirmed sign of reproduction. Additionally, three inactive nests were located approximately 6 miles southwest of the site in the Chuckwalla Mountains. Two of these inactive nests are associated with the same breeding territory as the two active nests discussed above. The third nest is likely associated with a separate territory further south of the PSPP.

One inactive nest was mapped just over the 10-mile buffer southwest of the site in the Chuckwalla Mountains.

Two active GOEA nests within one active territory (no sign of reproduction) were also mapped just over 10 miles northeast of the site in the Palen Mountains.

During the course of surveys, 15 red-tailed hawk (*Buteo jamaicensis*) nests, 6 common ravens (*Corvus corax*) nests, and 1 unidentified stick nest were observed within a 10-mile buffer surrounding PSPP. Additionally, individual observations during aerial surveys included 1 great horned owl (*Bubo virginianus*), 3 prairie falcons (*Falco mexicanus*), 8 turkey vultures (*Cathartes aura*), 1 Swainson's hawk (*Buteo swainsoni*), 3 red-tailed hawks, and 2 common ravens were detected within a 10-mile buffer surrounding the PSPP. The Swainson's hawk is listed as state threatened. Foraging habitat is present throughout the site for Swainson's hawk, and the species could migrate through PSPP using the site as a stopover to forage along the way. Migrants more frequently occur near the western edge of desert such as Borrego and Morongo valleys, as reflected in annual data from the various regional hawk-watch reports. The Swainson's hawk is not expected to breed on site because of the lack of suitable nesting trees and the absence of breeding records in the Colorado Desert, even historically when the species was more common (Grinnell and Miller 1944; Garrett and Dunn 1981). The nearest breeding sites are in the higher Mojave Desert where it nests in Joshua trees and Junipers. These breeding locations are in the Antelope Valley in northeastern Los Angeles County, Lanfair Valley in northern San Bernardino County, and Owens Valley in Inyo County which are all over 150 miles northwest of the PSPP (CDFG 1993; Garrett and Dunn 1981).

Impact Analysis and Conclusions

Human disturbance from 400-800 meters away has been correlated to GOEA nest loss, decreased feeding of chicks, and less time spent at the nest (Steidl et al. 1993). Pagel et al. 2010 notes that anthropogenic activities (e.g., a lone hiker walking 1,000 meters or more from a nest, or extended construction or recreation activities 2,000-5,000 meters from a territory) can cause GOEAs to visibly display behavior that signifies disturbance. A buffer of one mile has been documented as a reasonable distance to minimize potential indirect impacts from construction disturbance for the GOEA (Suter and Jones 1981) and a range has been presented for energy projects of 0.25 to 2 miles (Tesky 1994). Suitable nesting substrates (i.e., cliff ledges, rocky outcrops, or large trees) for GOEA do not occur within one mile of the proposed PSPP.

A powerline with utility poles exists within 1 mile south of the PSPP, south of Interstate-10. These utility poles are currently and have been historically used by red-tailed hawks and common ravens for nesting. No documented historic or current eagle nest attempts occur on these poles. Given that the closest known GOEA nests are approximately 7 miles away and on the south side of Interstate-10, this is sufficient distance to prevent agitation behavior (displacement, avoidance, and defense) at a nest; increased vigilance behavior at the nest; or nest site abandonment. Because there is no suitable nesting habitat within at least three miles, and no existing nests (active or inactive) are present closer than seven miles, no impacts are anticipated to golden eagle nesting as a result of project construction or operation activities. The PSPP may affect GOEA foraging habitat at a regional level. These impacts will be mitigated through implementation of measures to preserve desert tortoise habitat as described in further detail below.

The project will provide compensatory mitigation for loss of vegetated washes and include surrounding uplands for desert tortoise habitat mitigation as required by the Staff Assessment. This habitat will be preserved and managed in perpetuity to benefit other desert species whose ranges overlap with desert tortoise. Because targeted mitigation areas are within 10 miles of potential nesting sites for GOEAs, acquisition of the desert tortoise mitigation lands would also

provide protected GOEA foraging grounds. With implementation of BIO-21 and BIO-12 in the Staff Assessment, preservation of hundreds of acres of vegetated wash habitat, and thousands of acres of other desert habitat, respectively, will occur within the range of GOEA, contributing to the long-term maintenance of populations in the region.

References

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Steidl, R.J., K.D. Kozie, G.J. Dodge, T. Pehovski, and E.R. Hogan. 1993. Effects of human activity on breeding behavior of golden eagles in Wrangell-St.Elias National Park and Preserve; a preliminary assessment. National Park Service, Wrangell-St. Elias National Park and Preserve, Copper Center, Alaska, WRST Research and Resource Report; no. 93-3.

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Tesky, Julie L. 1994. *Aquila chrysaetos*. In: Fire Effects Information System [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: <http://www.fs.fed.us/databases/feis/> [2010, June 9].



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

**APPLICATION FOR CERTIFICATION
FOR THE PALEN SOLAR POWER
PLANT PROJECT**

Docket No. 09-AFC-7

**PROOF OF SERVICE
(Revised 8/27/10)**

APPLICANT

Alice Harron
Senior Director of Project Development
*1111 Broadway, 5th Floor
Oakland, CA 94607
harron@solarmillennium.com

*Michael Cressner, Project
Development & Permitting
Solar Millennium, LLC
1111 Broadway, 5th Floor
Oakland, CA 94709
cressner@solarmillennium.com

Arrie Bachrach
AECOM Project Manager
1220 Avenida Acaso
Camarillo, CA 93012
arrie.bachrach@aecom.com

Ram Ambatipudi
Chevron Energy Solutions
150 E. Colorado Blvd., Ste. 360
Pasadena, CA 91105
rambatipudi@chevron.com

Co-COUNSEL

Scott Galati, Esq.
Marie Mills
Galati/Blek, LLP
455 Capitol Mall, Suite 350
Sacramento, CA 95814
sgalati@gb-llp.com
mmills@gb-llp.com

Co-COUNSEL

Peter Weiner, Matthew Sanders
Paul, Hastings, Janofsky &
Walker LLP
55 2nd Street, Suite 2400-3441
San Francisco, CA 94105
peterweiner@paulhastings.com
matthewsanders@paulhastings.com

INTERVENORS

California Unions for Reliable Energy
(CURE)
c/o Tanya A. Gulesserian,
Marc D. Joseph
Jason W. Holder
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard,
Suite 1000
South San Francisco, CA 94080
tgulesserian@adamsbroadwell.com
jholder@adamsbroadwell.com

Michael E. Boyd, President
Californians for Renewable Energy
(CARE)
5439 Soquel Drive
Soquel, CA 95073-2659
michaelboyd@sbcglobal.net

Alfredo Figueroa
Californians for Renewable Energy
(CARE)
424 North Carlton
Blythe, CA 92225
acunadeaztlan@aol.com

Basin and Range Watch
Kevin Emmerich
Laura Cunningham
P.O. Box 153
Baker, CA 92309
atomicoadranch@netzero.net

Lisa T. Belenky, Senior Attorney
Center for Biological Diversity
351 California St., Suite 600
San Francisco, CA 94104
lbelenky@biologicaldiversity.org

Ileene Anderson
Public Lands Desert Director
Center for Biological Diversity
PMB 447, 8033 Sunset Boulevard
Los Angeles, CA 90046
ianderson@biologicaldiversity.org

INTERESTED AGENCIES

California ISO
e-recipient@caiso.com

Holly L. Roberts, Project Manager
Bureau of Land Management
Palm Springs-South Coast
Field Office
1201 Bird Center Drive
Palm Springs, CA 92262
CAPSSolarBlythe@blm.gov

ENERGY COMMISSION

ROBERT WEISENMILLER
Commissioner and Presiding Member
rweisenm@energy.state.ca.us

KAREN DOUGLAS
Chairman and Associate Member
kldougla@energy.state.ca.us

Raoul Renaud
Hearing Officer.
rrenaud@energy.state.ca.us

Alan Solomon
Siting Project Manager.
asolomon@energy.state.ca.us

Lisa DeCarlo
Staff Counsel
ldecarlo@energy.state.ca.us

Jennifer Jennings
Public Adviser's Office
e-mail service preferred
publicadviser@energy.state.ca.us

DECLARATION OF SERVICE

I, Carl Lindner, declare that on September 13, 2010, I served and filed copies of the attached Golden Eagle Survey Results, dated September 13, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
http://www.energy.ca.gov/sitingcases/solar_millennium_palen

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

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CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-7
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, 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.
