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Memorandum

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To: **Commissioner Karen Douglas**, Palen Amendment Presiding Member
Commissioner David Hochschild, Palen Amendment Associate Member
Kenneth Celli, Hearing Officer

From: **California Energy Commission -** **Christine Stora**, Compliance Project Manager
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Subject: **Palen Solar Electric Generating System Amendment (09-AFC-7C)**
STATUS UPDATE No. 5 (February 2014)

Information Gathering and Anticipated Staff Workshops

Staff is in the process of gathering the information requested by the Committee at the January 7, 2014 Committee Conference. This status report will provide the Committee and parties with an idea of where Staff is at in this information gathering process and will provide a timeline for when Staff believes that it would have enough information to have useful workshops on Cultural Resources and Biological Resources issues.

Cultural Resources

On January 30, 2013, Staff sent letters to 18 interested Native American tribes inviting tribal consultation on the issue of appropriate mitigation/compensation under Condition of Certification CUL-1. Staff has held consultation meetings with three tribes thus far. Staff has received written requests from the Soboba Band of Luiseno Indians and the Agua Caliente Band of Cahuilla Indians to consult, and we understand that additional tribes are planning to meet together in mid-March to discuss our request to consult and could be available to consult with Staff by the end of March. Staff has reviewed the petitioner's proposed revisions to CUL-1 and will ensure that the tribes are aware of the proposal before we have our consultation meetings. Only after this time for consideration and discussion with the tribes would Staff be able to participate in an informed discussion with the parties at a workshop. If these consultation meetings can be scheduled in March, Staff believes that a public workshop to discuss CUL-1 could be held in April.

Biological Resources

Staff is currently compiling information on the impacts to avian species from various solar technologies both inside and outside the Chuckwalla Valley. While much of this information was previously provided in the FSA, Staff is working with wildlife agencies to both supplement and update the existing information with as much information Staff can find.

Staff is also reviewing the compilation of avian mortality report data submitted by the petitioners covering mortalities primarily reported by incidental observation of workers during the construction of the Genesis solar trough project, the Desert Sunlight photovoltaic project, and the Ivanpah power tower project. The US Fish and Wildlife Service have provided guidance on the use of the compiled avian mortality data at solar projects. They recognized that many of the commercial-scale solar projects approved within the last few years are still under construction, and avian mortalities being reported are generally found by construction workers and other staff incidental to their work activities. Consequently, the incidental nature of the data needs to be considered when evaluating the information reported to date. Incidentally collected data do not provide enough information to accurately quantify the scope of actual avian mortalities on a project site. However, these data can provide important information such as the composition of species which may be at risk in the future. In addition, the data provide insights into project features and types of injuries that may be associated with mortalities.

Despite providing some initial insights into avian mortalities, incidental data should not be over-interpreted. Numerical comparisons between individual projects, project technology, or seasons are not possible in the absence of systematic, statistically rigorous mortality monitoring efforts.

Seasonal comparisons of the number of mortalities are not possible during construction because the project areas are increasing over time. In addition, worker activity that may result in incidental reports of mortalities may vary by season or location on the project site (i.e., reduced activity during the extreme heat of summer months), potentially biasing the data.

Though there are important caveats in how these early data can be interpreted, the Service has found these data useful as a general indicator of the potential risks that Commercial-scale solar projects may pose to avian species. The Service plans to utilize these early incidental findings to inform the design of avian mortality monitoring protocols.

Systematic, statistically rigorous avian mortality monitoring will be needed to develop effective best management practices and adaptive management measures to reduce avian mortality at operational renewable energy facilities and for planning future project development.

To date, most of the Ivanpah data were collected during informal carcass surveys during construction which included intermittent operation of the solar towers at variable generation capacities. The compiled data reveal that a wide variety of birds from hummingbirds to pelicans have been injured or killed at renewable energy projects in the desert. Of these, several were rare special-status species; and most of the birds are covered under the Migratory Bird Treaty Act. This emerging impact reinforces the need to better understand the effects of flux on birds and bats. Under the direction of the Energy Commission and responsible agencies, the Ivanpah project initiated an Avian and Bat Monitoring and Management Plan in November 2013, with the goals of understanding the effects of project features and solar flux on birds and bats, and investigating adaptive management solutions. The first season of carcass surveys will conclude in early March 2014, and the first quarterly report of

results is due in June 2014. The plan requires a minimum of two years of monitoring that can be extended if warranted.

On February 6, 2014, the Ivanpah Technical Advisory Committee (TAC) had its first meeting. At this meeting, the TAC reviewed the survey progress and discussed the data collected to date. Additionally, the TAC discussed the US Geological Survey's proposal to conduct two separate 10-day studies at Ivanpah during spring (April/May 2014) and autumn (August/September 2014) to evaluate the effectiveness of different equipment and methods for monitoring bird, bat and insect behavior around the Ivanpah project site and solar towers. This use of radar and video imaging with visible, near-infrared and thermal cameras will help the TAC determine the best means of data collection and evaluation.

The important information generated from the ongoing avian monitoring studies at the Ivanpah Solar Energy Generating System in the coming months should begin to answer some of the questions about the effects of solar flux from this new solar tower technology. While Staff believes that the information generated from these efforts will begin to inform the PSEGS Committee about the actual impacts to avian species as well as the efficacy of avoidance measures, it should be understood that one quarterly report is insufficient to provide scientifically or statistically valid conclusions. Staff believes that a workshop would be most fruitful after this initial information is gathered from ISEGS and analyzed, which would be no sooner than June, 2014.

cc: Docket (09-AFC-7C)
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