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Christopher Meyer Project Manager Siting, Transmission and Environmental Protection Division California Energy Commission 1516 Ninth Street, MS-15 Sacramento, CA 95814

E-mail: cmeyer@energy.state.ca.us

Jim Stobaugh BLM – Nevada State Office P.O. Box 12000 Reno, NV 89520

E-mail: jim stobaugh@blm.gov

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## Gentelmen:

Thank you for hosting the issue resolution workshop in Barstow, CA on September 16<sup>th</sup>. Defenders of Wildlife staff were present for much of the meeting and we obtained new information on biological resources issues from the responses to questions given by agency representatives and the consultant for the applicant.

We appreciate the invitation from Mr. Meyers to submit additional comments on issues discussed at the meeting. We have recently obtained new information on habitat linkages for two species in the project area, the Desert Tortoise and Desert Bighorn, which we would like included in the record of the proceedings in this case. We believe the new information is extremely relevant to addressing the issue of habitat fragmentation and disruption of movement corridors with regard to these two species.

The new information we present below is from a recent study by Hannah et al. (2009) and published by the Donald Bren School of Environmental Science and Management at the University of California, Santa Barbara. The document can be obtained through the internet at the following address:

http://fiesta.bren.ucsb.edu/~westmojave/images/Wemo\_Final.pdf

Their study was based on modeling that used information on renewable energy projects from the Renewable Energy Transmission Initiative (RETI), the amount of renewable energy demand over time, the number of large-scale projects that would be needed in specific areas to meet the energy demand, and various landscape features that affect species movements.

The Pisgah Competitive Renewable Energy Zone (CREZ) identified in the RETI reports was identified in their study as being located in an area that is very important for movements of the Desert Tortoise and Desert Bighorn throughout large portions of the Mojave Desert. They indicate the Pisgah CREZ is comprised of an exclusive solar development zone in the western half (Zone A) and a solar and wind development zone in the eastern half (Zone B).

With regard to the importance of the Pisgah CREZ for the Desert Tortoise, Hannah et al. state "The Pisgah CREZ lies squarely in the center of the eight desert tortoise critical habitats within the study region..." For Desert Bighorn Sheep, they state the Pisgah CREZ is located "...in the center of an important northeast-to-southwest movement pathway between a number of the bighorn sheep populations analyzed." (Hannah et al., p. 94).

Defenders realizes the conclusions of Hannah et al. for the Pisgah CREZ were derived from a study assuming numerous solar and wind energy projects would be built resulting in a cumulative adverse impact to movements of Desert Tortoise and Desert Bighorn throughout larger areas of the Mojave Desert. They indicated that development of either Unit A or Unit B would pose problems. However, we find it significant that the Pisgah CREZ was the only one specifically addressed in their study because they found it to be located in an area critically important to wildlife species movements and habitat connectivity.

With the Hannah et al. study in mind, we again examined the maps contained in the Application for Certification showing the location of Desert Tortoises and their sign in the Solar I project area. It shows that the proposed project area north of the BNSF Railroad contained the highest concentration of live Desert Tortoises and Desert Tortoise sign compared to the entire study area, which also included the adjacent Pisgah ACEC. Based on the field studies conducted to date, it appears the proposed project area contains significantly more Desert Tortoises than the adjacent Pisgah ACEC.

Defenders recommend the agencies perform additional analysis of the data so that the ecological importance of the habitats in the proposed project area for occupancy and movement of Desert Tortoises and Desert Bighorn Sheep can be determined. With regard to the Desert Tortoise, we recommend that the east-west linkage area south of the Cady Mountains be specifically defined, as well as any specific north-south linkage that would connect the populations in the Ord-Rodman Critical Habitat Unit and perhaps others in the Eastern Mojave region. Although the applicant maintains that an east-west movement corridor would be maintained north of the project, we doubt this would be conducive to maintaining Desert Tortoise populations and habitat connectivity due to its narrow width and location at the base of the Cady Mountains. We believe the project as proposed would effectively block east-west movements of the Desert Tortoise.



After reviewing the AFC submitted by the applicant, we noted the number of Desert Tortoises and burrows observed in the study area were the result of sampling specifically for this species ("focused" surveys) and from opportunistic sightings made during other field work in the area. The interesting aspect of these observations is that nearly three times as many individual animals were observed opportunistically during field work compared with those derived from the specific or "focused" surveys. We urge the agencies examine the Desert Tortoise observation data, the field survey protocol and other factors so that the accuracy of the Desert Tortoise population estimate for the project area can be either verified or revised.

We hope our comments stemming from the issue resolution workshop are helpful to you and your agencies as you continue your analysis of the proposed Solar I project. If I can be of further assistance please contact me at your convenience.

Sincerely,

Jeff Aardahl

California Representative

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## Literature Cited:

Hannah, L, L. Bare, T. Bernhardt, T. Chu, M. Gomez, C. Noddings and M. Viljoen. 2009. Cumulative impacts of large-scale renewable energy development in the west Mojave: Effects on habitat quality, physical movement of species, and gene flow. U.C. Santa Barbara, Don Bren School of Environmental Science and Management. May 8, 2009. 134 pp.