

Thank you for your comment, D. BRADFORD HARDENBROOK.

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Solar Energy Development PEIS
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Attachment: NOI-SolarPEIS-NDOW14Sep09.pdf

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Please see attachment



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September 14, 2009

NDOW-SR# 10-014

Solar Energy PEIS
Argonne National Laboratory
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Re: NOI: Programmatic EIS Scoping - Development & Implementation of Agency-Specific Programs for Solar Energy Development; BLM Approach for Processing Existing & Future Solar Applications

Dear PEIS Project Team:

The Nevada Department of Wildlife (NDOW) thanks you for this opportunity to present our preliminary comments during this PEIS scoping phase. We are supportive of the goals to develop renewable energy technologies for lessening the Nation's dependency on fossil fuel resources while also meeting existing and future energy needs. This interest is reflected in the purpose and need for the present PEIS addressing establishment of solar energy facilities on the public lands principally managed by the BLM or receiving funds from the Department of Energy. Nevada's portfolio potential concerning renewable energy generation at utility-scale size is notable. Geothermal, wind, and solar energy presently highlight the majority of this portfolio potential. Several projects are underway state wide to help meet Nevada's requirement that by 2015 renewable energy generation accounts for 20% of Nevada's energy supply.

The majority of proposed solar development is in the State's southerly reaches within Clark, Lincoln, Nye and Esmeralda counties. Not surprising, all Solar Energy Study Areas proposed for Nevada occur in this region. Coincidentally, Nevada's richest biodiversity also occurs here. Wildlife within, adjacent to and near proposed solar developments reflect existing biological diversity, viability, physiognomic character, ecological interconnection, inherent and public values. Of particular interest is the functional degree biological communities are vulnerable to or may be affected, inclusive of the prospects for an individual species' persistence. Mindful of the State's energy goals, we are committed to help the PEIS process achieve solar energy development standards proving environmentally responsible, inclusive of sustainable wildlife conservation. Our experience in working with Nevada's mining industry, utility sectors, and partnerships with federal land and wildlife managers places us in a position for contributing a productive voice in the BLM's and DOE's respective courses of formulating responsible and effective policies and mitigation strategies for otherwise unintentional impacts to wildlife resources.

The intent and planning criteria described in the NOI provide a good foundation on which to begin guiding the PEIS process. However, some questions did arise concerning further need for clarifying

sideboards or implications of some of the criteria in the NOI. Questions and concerns were found to be in common with many previously shared by other agencies, notably by the California Department of Fish & Game, California Energy Commission, and California Department of Parks and Recreation¹. Additional to areas in need of clarification, the PEIS should include comprehensive analyses in consideration of threatened, endangered, and candidate species so listed under the Endangered Species Act of 1973, as amended; birds protected under the Migratory Bird Treaty Act of 1918, as amended; current list of Nevada BLM Sensitive Species; State of Nevada wildlife² classified protected³ and species of conservation priority identified in the 2006 Nevada Wildlife Action Plan⁴. On a case-by-case basis there may be need to also consider other species not previously afforded elevated conservation recognition. These case-by-case considerations may apply across adjoining states.

Seven Solar Energy Study Area's (SESA's) are proposed for Nevada totaling approximately 149,375 acres. The seven areas have varying degrees of shared and unique wildlife resources and habitat characteristics. Maintenance of migration or crucial movement corridors and integrity of ecological/physiognomic dynamics of isolated populations using an adaptive/effectiveness monitoring management approach cannot be over-emphasized. If unavoidable, predicted irretrievable losses or effects should include accurate determination as to whether these impacts are tolerable from a broader regional conservation perspective. This is imperative, especially in consideration of the cumulative spatial and temporal ramifications by other developing land uses also having potential in accelerating landscape changes. Because the maps available on the PEIS web-site are coarse resolution, NDOW is prepared to assist in developing an updated listing of species and related habitats.

Two aspects of solar energy development associated with utility-scale facilities interest NDOW. The sheer size of individual solar developments and the large amount of fresh water required to operate most thermal-solar designs. The large site area needed to support utility-scale energy generation raises concern for direct and indirect effects by individual projects on local wildlife resources. Large-scale grubbing and/or grading a site clear of natural structure, biological and physical, to a relatively flat surface seem commonplace and subsequent treatments for erosion and dust abatement play-in for the life of the project. Even when not all natural features undergo conversion, functionality and quality of remaining fragmented habitat becomes changed, the full effect may not be readily apparent for many years. As you know, projects of this size in the desert southwest would have a near permanent effect and if commitment to retro-fitting solar developments with next-generation technologies is not pursued, efficiencies in local energy generation and natural resource conservation would not be optimized. An additional consideration is the need to address decommissioning of projects when obsolete and the return of the land to a proper functioning ecosystem. The Mohave Desert has been a difficult place to reclaim and any project or action proposed within this environment needs to address this reality.

The second major aspect concerns water supply and quality. As a desert state, Nevada is the driest and acquisition of reliably fresh water supplies capable of supporting thermal-based solar developments may prove regionally very difficult if not project limiting. Many hydrologic basins are over-allocated and the State Water Engineer has ordered prohibitions on large volume appropriations for many, or significantly reduced allocations from amounts on filed applications. Further, the concept of inter-basin transfers is highly controversial, as has been supply allocations within the upper and lower reaches of the greater Colorado River system. Scarce water reserves and the supply needed for thermal solar developments may ramify significant impacts to terrestrial and aquatic wildlife. In such instances where acquisition of a freshwater supply would be logistically problematic and involve significant water extraction and

¹ Online at http://www.energy.ca.gov/siting/solar/peis/notices/scoping_comments/

² Nevada Revised Statute 501.097 online at <http://leg.state.nv.us/NRS/Index.cfm>

³ Chapter 503 of Nevada Administrative Codes; online at <http://leg.state.nv.us/NAC/CHAPTERS.HTML>

⁴ Online at: <http://www.ndow.org/wild/conservation/cwcs/>

treatment for thermal-based, wet solar developments, the PEIS should consider limiting such an area to “dry” solar technology.

It is not uncommon for Nevada’s shallow groundwater aquifers to contain varying levels of heavy metals and/or total dissolved solids. While in certain cases water supply may not be the limiting factor to establishment of a thermal solar facility, process water routed to open ponds in the desert, regardless of water quality, are an invitation for wildlife visitation. In industry where large volumes of water are cycled through a facility’s systems multiple times and then directed to cooling ponds and eventually to open evaporative ponds as waste effluent, solution chemistry will concentrate. NDOW’s experience is that in time solution chemistry often becomes hazardous to wildlife, especially to waterfowl and other migratory water birds because of hyper-saline conditions. While NDOW administers a special permit program for Industrial Artificial Ponds⁵, such evaporation pond scenarios are increasing in numbers as growing regional industries employ evaporative methodologies. The PEIS should emphasize the importance of incorporating proactive, effective wildlife deterrents into solar developments and provide a process where evaluation of a proposed project’s development description demonstrates commitment to minimize artificial pond-related impacts as part of application ranking criteria.

During the course of the NEPA process, NDOW welcomes timely opportunities as a cooperating agency to further contribute its expertise in formulating any additional or modified mitigation measures and filling possible knowledge gaps. When appropriate, adoption of mitigation measures novel to solar energy development as best management practices or standard operating procedures is encouraged.

Thank you again for this opportunity to provide this preliminary input. For additional assistance, please do not hesitate to contact me at NDOW’s Southern Region Office in Las Vegas.

Sincerely,

Brad Hardenbrook

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⁵ Industrial Artificial Pond Permit information online at <http://www.ndow.org/law/licenses/>.