United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Palm Springs Fish and Wildlife Office
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In Reply Refer To:
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Mr. Pierre Martinez, Compliance Project Manager
Siting, Transmission, and Environmental Protection (STEP) Division
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, California 95814

Subject: Request for Agency Participation on the Proposed Rio Mesa Solar Electric Generating Facility, Riverside County, California

Dear Mr. Martinez:

We offer the following comments on the subject project as they relate to potential impacts to U.S. Fish and Wildlife Service (Service) trust resources. We provide these comments under the authorities of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and other authorities of the Department of the Interior. The proposed project is situated on the Palo Verde Mesa, 13 miles southwest of Blythe and 5.6 miles northwest of the Cibola National Wildlife Refuge. The site is located partially on private land and partially on public land administered by the Bureau of Land Management (BLM).

The Rio Mesa Solar Electric Generating Facility (Rio Mesa SEGF) is being proposed for development by Rio Mesa Solar I, LLC, Rio Mesa Solar II, LLC, and Rio Mesa III, LLC, subsidiaries of BrightSource Energy, Inc. The total area required for the proposed project is approximately 5,750 acres, which consists of three 250-megawatt (MW) (nominal) solar concentration thermal power plants. Each of the three plants will utilize a solar power boiler, located on top of a concrete tower (approximately 760 feet tall), surrounded by heliostat (mirror) fields (approximately 85,000 per plant) that focus solar energy on the boiler. Each 250-MW plant requires about 1,850 acres (or 2.9 square miles) of land to operate.

A 119-acre common area located in the eastern portion of the proposed project site would include administration, control, maintenance, and warehouse buildings, a heliostat assembly building, evaporation ponds, groundwater wells, a water treatment plant, construction laydown and parking areas, mobile equipment maintenance facilities, and a natural gas tap and meter station.

The Rio Mesa SEGF would be interconnected to the Southern California Edison (SCE) grid through upgrades to SCE's 220-kilovolt (kV) line passing north of the site known as the Palo

Verde-Devers Line. The upgrades would include construction by SCE of a new 220/500-kV substation adjacent to the Palo Verde-Devers line to be designated as the Colorado River Substation.

The California Energy Commission (CEC) requested agency input relative to the following; our comments are provided below for each topic:

1. A discussion of those aspects of the proposed site and related facilities for which your agency would have jurisdiction but for the exclusive jurisdiction of the Energy Commission to certify sites and related facilities.

The Mojave desert tortoise (*Gopherus agassizii*), a species listed as threatened under the Endangered Species Act of 1973, as amended, occurs on the proposed project site. Because the desert tortoise is a federally listed species, the BLM is required to consult with the Service pursuant to section 7(a)(2) of the Endangered Species Act; BrightSource may also need to apply for an incidental take permit, pursuant to section 10(a)(1)(B) of the Endangered Species Act for the portions of the proposed project on private lands. Consequently, the CEC and other agencies that may impose measures on BrightSource with regard to the desert tortoise should coordinate closely with the Service.

Migratory birds are federally protected under the Migratory Bird Treaty Act and under Executive Order 13186 - Responsibility of Federal Agencies to Protect Migratory Birds. In addition, eagles are protected under the Bald and Golden Eagle Protection Act. Because of our conservation responsibilities and management authorities, the proximity of the proposed project to the Colorado River and National Wildlife Refuge System lands, particularly the Cibola National Wildlife Refuge, and the significance of the Colorado River migratory flyway, we have recommended that additional surveys be performed to provide the data necessary to conduct a robust risk analysis for golden eagles (*Aquila chrysaetos*) and bald eagles (*Haliaeetus leucocephalus*), other raptors, and migratory birds. We are also concerned about potential impacts to the burrowing owl (*Athene cunicularia*), which is likely to occur throughout the proposed project area and is being affected by the loss, degradation, and fragmentation of its range-wide habitat.

2. A determination of the completeness of the list in the Application for Certification (AFC) of the laws, regulations, ordinances, or standards that are applicable to the proposed site and related facilities, and which your agency would administer or enforce but for the Energy Commission's exclusive jurisdiction.

Table 5.2-1 in the AFC identifies all of the applicable Federal and State laws, ordinances, regulations, and standards related to biological resources. This list is complete relative to laws administered by the Service, which include the Endangered Species Act of 1973, as amended; the Migratory Bird Treaty Act; and the Bald and Golden Eagle Protection Act. The Service also provides technical input to the lead Federal and State agencies pursuant to

the National Environmental Policy Act, Clean Water Act, California Environmental Quality Act, and other laws and regulations administered by other agencies.

3. A description of the nature and scope of the requirements that the applicant would need to meet in order to satisfy the substantive requirements of your agency but for the Energy Commission's exclusive jurisdiction, and identification of any analyses that the Energy Commission should perform in order to determine whether these substantive requirements can be met.

As stated above, the BLM is required to consult with the Service pursuant to section 7(a)(2) of the Endangered Species Act and BrightSource may also need to apply for an incidental take permit, pursuant to section 10(a)(1)(B) of the Endangered Species Act for the portions of the proposed project on private lands. Species-specific pre-project survey protocols should be conducted to estimate the number of individuals expected to be affected by the proposed project within the action area. Because desert tortoises occur on the proposed project site, we recommend that the project footprint be reconfigured to avoid occupied desert tortoise habitats. If avoidance is not feasible, a project-specific translocation plan should be developed in accordance with the Service's most recent translocation guidance. Historically, translocation has been used to minimize project impacts on desert tortoises and research into large-scale translocation effects and effectiveness is being undertaken. Drawing from knowledge gained through this and previous research, the Service will continue to update translocation procedures and evaluate the long-term feasibility of this minimization measure. If a plan is necessary, we recommend that BrightSource work closely with the Service and other regulatory and wildlife agencies to develop a robust translocation plan that minimizes the potential take of individuals on and adjacent to the project site and associated transmission infrastructure. The most current Service survey protocols and translocation guidance for Mojave Desert tortoise can be accessed at http://www.fws.gov/ventura/species_information/protocols_guidelines/index.html.

Incidental take of migratory birds is prohibited by the Migratory Bird Treaty Act and a legal mechanism to permit such take generally is not available. Therefore, completion of a robust Bird and Bat Conservation Strategy (formerly Avian and Bat Protection Plan) is recommended. The plan should demonstrate how BrightSource would avoid and minimize incidental take to avian species to the extent possible, as well as mitigation strategies. Development of this plan should be done in close coordination with the Service and other regulatory and wildlife agencies.

Incidental take of bald and golden eagles is prohibited by the Bald and Golden Eagle Protection Act (Eagle Act). Implementing regulations of the Eagle Act allow for the issuance of a take permit if the conservation standards of this Act can be achieved. Application of Advanced Conservation Practices to avoid and minimize the take to a level where remaining take is unavoidable would be required, along with additional measures to ensure no net loss to the eagle population. If a risk analysis determines that take of bald or golden eagles may result from the proposed project, the Service recommends that

BrightSource develop an Eagle Conservation Plan that elucidates the risk of project impacts to eagles and eagle territories, outlines proposed Advanced Conservation Practices, and measures to offset any remaining take. Because this project includes three towers approximately 760 feet tall, many of the mitigation measures to ensure no net loss of golden eagles in the draft National Eagle Conservation Plan Guidance for Land-based Wind Energy will be applicable.

The most current guidance is available at www.fws.gov/windenergy/eagle_guidance.html and www.fws.gov/migratorybirds/baldeagle.htm. The Eagle Conservation Plan would be submitted to the Service as part of an application package for a take permit under the Eagle Act prior to construction of the project. Field work to collect pertinent data, as well as the development of the plan should be done in close and early coordination with the Service and other regulatory and resource agencies.

Potential impacts to golden eagles from the power towers, heliostats, and associated transmission infrastructure should also be carefully evaluated, as we expect that the proposed project will cause a loss of foraging habitat and potential mortality from electrocution and strike impact from the transmission lines and power towers and potentially from energy flux between the heliostats and the power towers. Power line electrocutions are a known cause of mortality in raptors and other migratory birds. Electrocutions can be avoided by making relatively inexpensive design modifications to power lines and poles; therefore, we recommend that the Avian and Power Line Interaction Committee guidelines be implemented to reduce avian risks that result from construction and operation of electric generation and utility facilities. The Avian Protection Plan Guidelines can be accessed at www.aplic.org.

Based on the number of project applications on public and private lands already approved and an unknown number expected to be submitted in the future, the direct, indirect, and cumulative impacts of renewable energy projects across the southwest on listed, sensitive, and other wildlife and plant species and a variety of ecosystems may be substantial. The cumulative effects analysis is therefore a central component to the environmental review of the proposed project. Large-scale, disjunct solar energy projects could have far-reaching impacts on listed species, particularly the Mojave desert tortoise and other widespread species such as desert bighorn sheep (*Ovis canadensis nelsoni*) through habitat loss, population and habitat fragmentation, changes in water flow (both surface and groundwater), introduction of pollutants, mortality by vehicle encounters, and alteration/degradation of adjacent conservation areas (i.e., National Landscape Conservation Lands, Desert Wildlife Management Areas, Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, National Wildlife Refuge System lands, National Park Service lands, and designated critical habitat) through edge effects. To minimize the magnitude and extent of these impacts on natural resources, we strongly recommend that an alternative site analysis be conducted to identify previously disturbed lands in close proximity to existing transmission infrastructure with adequate capacity and load centers that could support solar energy projects and reduce significant

impacts to wildlands and the species they support, in particular the desert tortoise and golden eagle.

Cumulative effects to bald and golden eagles from the loss of foraging habitat, potential abandonment of existing territories, reproductive failure, and incidental take should be evaluated in the regional context given the number of currently approved and pending solar energy development and other land use applications, as well as other activities that may result in mortality. Eagles are known to be highly sensitive to human activities; the size and the disjunct nature of solar energy development in eastern Riverside County may result in constriction of the overall range and habitat use by eagles in this area.

In addition, cumulative effects from the power tower technology to migratory birds in general should be thoroughly assessed. We understand several additional projects using this technology are being proposed in the lower Colorado River valley and collectively could impact considerable numbers of various migratory bird species along this migratory pathway and in this highly productive breeding and wintering region. This and other analyses to be conducted should assess whether environmentally less damaging sites and areas would be better suited for this technology and whether less damaging technologies should be considered for this site, considering the potential for significant impacts to migratory birds that may be difficult to quantify, avoid, minimize, or mitigate. This analysis should entail a focused assessment on the proposed loss of desert dry wash/microphyll woodlands and their relative importance to biological resources in the proposed project area. For example, microphyll woodlands support 85 percent of all bird nests built in the Colorado/Sonoran Desert, despite accounting for only 0.5 percent of the desert land base (McCreedy 2011).

Project-specific analysis should include impacts resulting from vegetation clearance, surface and groundwater pumping for energy generation and maintenance, construction and maintenance of transmission lines, access roads and other facilities, construction and restoration of staging areas, and transport and fate of hazardous materials should be clearly documented and quantified, and measures to avoid, minimize, or mitigate impacts to natural resources should be identified. Best management practices have been developed for solar energy projects and should be incorporated into the proposed project to the extent practicable. The manual can be accessed at the California Energy Commission's website at www.energy.ca.gov/2010publications/REAT-1000-2010-009/REAT-1000-2010-009-F.PDF.

In addition, the loss of over 5,700 acres of intact desert habitat is likely to result in considerable habitat fragmentation and disruption of wildlife habitat use and movement patterns, particularly because the entirety of the proposed project site would be fenced. Therefore, we recommend that this component of project design be carefully analyzed relative to potential impacts to movement of desert tortoise, desert bighorn sheep, burro deer (*Odocoileus hemionus eremicus*), and other plant and wildlife species throughout the project area. To further minimize impacts from habitat loss and fragmentation, additional areas of microphyll woodland should be avoided with setbacks or buffers from the banks. Avoiding impacts to this important ecosystem would also minimize impacts to recreation and other

land uses. The potential loss of hunting opportunities for burro deer (both direct and indirect effects if herds start to fail because of habitat loss and fragmentation) and upland game birds on and near the refuge should be addressed.

4. An analysis of whether there is a reasonable likelihood that the proposed project will be able to comply with your agency's applicable substantive requirements.

As discussed above, the proposed project poses potentially significant levels of incidental take to numerous species of migratory birds and no legal mechanism is available for the incidental take of migratory birds under the Migratory Bird Treaty Act; therefore, close coordination with the Service to develop a robust Bird and Bat Conservation Strategy and Eagle Conservation Plan that avoids and minimizes impacts to these trust resources is imperative.

We appreciate the opportunity to provide input on the proposed Rio Mesa SEGF. We have also expressed our concerns on these issues verbally during previous meetings with the CEC, BLM, California Department of Fish and Game, and BrightSource, and look forward to continuing to work closely with the agencies and other stakeholders involved in this process. If you have any questions regarding these comments, please contact Jody Fraser of my staff at (760) 322-2070 or jody_fraser@fws.gov.

Sincerely,

Kennon A. Corey
Assistant Field Supervisor

cc:
Rick York, California Energy Commission, Sacramento, California
Shankar Sharma, California Department of Fish and Game, Ontario, California
Greg Miller, Bureau of Land Management, Palm Springs, California

Literature Cited

McCreedy, C. 2011. Birds of Sonoran Desert Xeric Thorn Woodlands: Patterns of Bird Species Composition, Richness, Abundance, and Nest Survivorship; 2003-2009. Point Reyes Bird Observatory Contribution No. 1822. Point Reyes Bird Observatory Conservation Science, Petaluma, California.