BrightSource

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11-AFC-4	
DATE	JAN 12 2012
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January 12, 2012

Pierre Martinez, Project Manager for Rio Mesa Solar Project
California Energy Commission
1516 Ninth Street,
Sacramento, CA 95814-5512

Re: Rio Mesa Solar Avian Survey Counterproposal

Dear Mr. Martinez,

We are pleased to provide our proposal for undertaking additional bird and bat survey activities, although we continue to believe that the work that we have already performed is sufficient to meet applicable requirements. As discussed herein, we propose to initiate the Anabat acoustical monitoring, breeding season eagle surveys, and migratory bird surveys as soon as possible.

BrightSource would like to thank the agencies for participating in the Biological Resources Workshop on January 6, 2012. It appears that the December 16, 2011 recommendations by the Renewable Energy Action Team (REAT) did not reflect the work that BrightSource has already accomplished with respect to avian surveys, which was submitted to the agencies on October 14, 2011 as part of the Application for Certification for the Rio Mesa Solar Energy Generating Facility ("Rio Mesa SEGF"), and that some of the REAT members at the workshop were not fully familiar with the work we have already accomplished. We hope that the REAT will consider the full year of survey data already collected, along with the information presented during the January 6, 2012 Workshop (detailed below), in their evaluation of the additional 2012 surveys we are now proposing. We believe the work already accomplished, together with the additional surveys we are proposing, should provide a robust set of data for the analyses of potential impacts to avian and bat species resulting from the project.

We would like to reiterate the key points made by BrightSource during the Workshop:

1. The Rio Mesa Solar (RMS) project is not located within or adjacent to a Globally Important Bird Area (GIBA). The two nearest GIBA's are over 8 miles (Cibola) and over 12 miles (Halls Island) away from the nearest project tower
2. Although there are four National Wildlife Refuges (NWR) in the Lower Colorado River Area, none are very close to the Rio Mesa SEGF, and three are significantly more than ten miles away. A portion of the Cibola NWR currently used for agricultural purposes is 5.6 miles from the project at closest point; wetland portions of Cibola are further still. The remaining NWR are Imperial (18 miles SSE), Bill Williams (65 miles NNW), and Havasu (70 miles NNW), all at significant distances from the RMS site.

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3. The RMS project is located adjacent to a secondary route of the Pacify Flyway that migratory birds use in their movements between breeding and wintering areas. The surveys conducted by URS in the spring and fall of 2011 revealed only one occurrence of waterfowl over the site. This is expected, because the project site supports no suitable habitat, and no permanent or semi-permanent water sources are located on or adjacent to the site that would attract waterfowl.
4. The three towers for the project are to be constructed of solid concrete. This method of construction will present birds with a stationary non-reflective structure, unlike a glass windowed office building. The RMS towers will likely be interpreted more as a tree or rock spire, and therefore the risk of collision should be minimal.
5. The area of elevated solar flux and radiant heat is a relatively small area in the immediate vicinity of the tower itself. Danny Franck, Solar Energy Demonstration Center Manager and physicist, described these areas:
    a. The radiant heat area, in which the air would be heated above ambient temperatures, would extend approximately 4 meters from the skin of the receiver, and when driven by wind, it may extend up to 40 meters in the direction the wind is blowing, using very conservative assumptions.
    b. The elevated solar flux, again using very conservative assumptions, would extend approximately 100 meters from the receiver. The shape of this area of elevated flux is that of an ellipse around the receiver, a few meters in vertical thickness. When compared to the total airspace over the developed area of the project to a height of 750 feet, the volumetric area of concern to avifauna is only 0.0046 percent of the available airspace using very conservative assumptions.
6. BrightSource is commissioning a study with Dr. Yossi Leshem of Tel Aviv University to look specifically into impacts on birds from our technology. This is not a small effort and will add to the current body of data that can be compared and contrasted to the 1986 McCrary Study of the Solar I project.
7. BrightSource discussed in detail the differences between the Solar I project and the current version of power tower technology being deployed. Specifically the deletion of high solar flux standby points in favor of a low flux ring. This was identified in the McCrary Study as the source for the burning and singing of birds at Solar I. BrightSource also described the substantial differences in the immediately surrounding habitats including the large unnetted evaporation ponds, and immediately adjacent active farmland at Solar I contrasted to small (total of 4 acres) netted evaporation ponds proposed for RMS and a 1 mile desert scrub buffer to any active farmland. Also, the Solar I project experienced a wealth of avifauna in the area, with sitings ranging from 148-1040 birds per day with a mean of 314 birds per day. This is a substantial difference from the Rio Mesa SEGF project site, where the average number of birds observed per day during 2011 surveys was only 187 in the spring and 85 in the fall season.

At the end of the CEC Workshop, BrightSource presented an outline of the approach we propose to take with regard to additional surveys and studies. Our proposal is summarized in the following paragraphs and each element is then discussed in greater detail thereafter.

a. Additional migratory bird and raptor surveys will be conducted from February 2012 through April 2012 which covers the main breeding season. The survey protocol to be used is the REAT recommended protocol as modified herein:
    i. Adjacent land surveys will be conducted in the approximately 1 mile wide buffer zone of similar habitat to the project site and located between the project site and the agricultural fields. No surveys will be conducted in the agricultural lands located east of the project, due to the substantial difference in habitat and the inability to obtain access to those lands. (Please see Figure 1 for observation points)
b. Ground surveys of the golden eagle nests detected in the 2011 will be conducted.
c. Surveys for the Gila Woodpecker will be conducted based on the REAT protocols dated 12/16/11[4].
d. Additional 12 months of bat monitoring will be conducted using Anabat acoustical monitoring on the project site.

Please note that no additional surveys are proposed for burrowing or elf owls. This will be addressed later in this proposal.

The organization of the information is to discuss the survey work that was accomplished in 2011, followed by a discussion of the additional survey work BrightSource is proposing to conduct in 2012.

Summary of spring and fall 2011 avian surveys including methodologies and some key findings:

- ***Summary of Golden Eagle Nest Surveys***
  In February 2011 URS submitted a workplan of all surveys to be conducted[1]. Those included eagle surveys. BLM recommended using subcontractor Wildlife Research Institute (WRI) to conduct the surveys. URS subcontracted WRI to perform eagle nest surveys per FWS protocols[2]. WRI, conducted helicopter surveys in mid-March 2011 within 10 miles of the project site, gen-tie line and alternative substation locations to identify golden eagle nests. A second helicopter survey was conducted in early May 2011 to determine occupation of the identified nests by golden eagles. No golden eagle nests (active or inactive) were found on the project site, within the gen-tie corridor, or within the alternative substation locations associated with the project. Four inactive golden eagle nests were found between 5 and 10 miles of the project, the closest of which is 6.25 miles away. One incidental sighting of two golden eagles west of the project site in the Mule Mountains occurred during botanical surveys. Those two eagles were the only incidental sightings of eagles during all surveys conducted in 2011. All participants of the nest

survey have several years of experience conducting eagle nest helicopters surveys and were fully qualified to conduct the survey.

- ***Summary of Migratory and Resident Bird Populations***
  URS followed BLM protocol[3] for avian surveys in both spring and winter 2011. The main points of the protocol are: one point count transect was to be performed per square mile of the project site, for a total of 16 transects (14 on the Project area and two on the potential mitigation lands to the east of the Project). Surveys were conducted on each transect once per week for four weeks in the spring and fall 2011. Transects were concentrated on areas with high potential for bird activity (e.g., washes, higher density vegetated areas). Each transect had eight point count locations, a minimum of 250 meters apart, where two biologists recorded all birds that were observed during a 10 minute duration within a 100 meter radius. All species of passerine, upland, waterfowl, and raptors observed during these surveys were counted.

Additional Survey Work Proposed by BrightSource:

a. ***Migratory Birds and Raptors:*** Spring surveys will be conducted based on the REAT recommendations dated 12/16/11[4] from February through April 2012, modified to two weeks monthly instead of during all weeks. Qualified biologists will be stationed at seven observation points eight hours per day for four consecutive days per week (total survey effort of 168 person days onsite). Observation point locations will be located throughout the project site and in the approximately 1 mile wide buffer zone of similar habitat between the project site and the agricultural fields east of the project site. Three of the seven observation points will be located at the proposed RMS tower locations (Please see Figure 1). All observation points will allow a wide expanse of observation area from a single point, away from public view, and afford a location where topographic and biological features are likely to be used by raptors during migration. Additionally, observation points will be located adjacent to areas with high potential for bird activity (i.e. microphyll woodlands, as shown in Figure 1). Surveys will not be conducted within the agricultural region as this habitat is substantially different from the project site habitat and that while the information may be of interest, it is not relevant to project impacts. All species of passerine, upland, waterfowl, and raptors observed during these surveys will be counted.

   The purpose of these surveys is to compare the conclusions from the spring BLM protocol surveys for migratory birds conducted in 2011 against the data collected in 2012.

   i. If conclusions from Spring 2011 surveys are confirmed including that no listed species, waterfowl, upland birds, or eagles are significantly impacted, no additional surveys are warranted.

ii. If conclusions from Spring 2011 surveys are NOT confirmed, then BrightSource would conduct additional surveys that cover anomalies discovered during the additional Spring surveys according to protocols set forth by REAT and modified as described in (a.) above but over a timeframe to be mutually agreed to with the REAT agencies.

b. ***Golden Eagles:*** Conduct golden eagle nest ground surveys will be conducted to determine occupation of inactive nests detected during the spring 2011 helicopter surveys. Qualified biologists will perform protocol-level ground surveys at the 4 inactive nest sites detected within 10 miles of the project area during the spring 2011 helicopter surveys. Each nest site will be observed for two days, 4 hours each day, in February/March and for two days, 4 hours each day, in April/May. No helicopter surveys will be conducted. (Total survey effort: 16 person days onsite)

Note: Personnel performing surveys on site will note and log all incidental eagle sitings during the period that the Migratory Bird and Gila Woodpecker surveys are ongoing.

c. ***Gila Woodpecker:*** Conduct surveys based on the REAT protocols dated 12/16/11[4].
   i. During the breeding season, focused survey techniques to determine distribution and abundance of Gila woodpecker and other breeding birds in the microphyll woodlands within the project fence line will be conducted. Two surveys providing complete coverage of microphyll woodland habitat, one in late February/early March and one at the end of March/early April, using line-transect techniques will be performed (Survey effort: 24 person days onsite).

d. ***Bat Surveys:*** Conduct one year of acoustic monitoring for bats based on the REAT protocols dated 12/16/11[4]. Three Anabat stations within three different drainages supporting microphyll woodland habitat within the project fence line and within 3 miles of the two bat roost sites will collect continuous data and be adequately spaced to provide maximum coverage of the project area (Please see Figure 1). (Total field effort: 56 person days onsite to download data from Anabat units) Extensive effort will be required to analyze this data. No mist net surveys will be conducted.

Clarification regarding Burrowing Owl Surveys:

No additional surveys are proposed for burrowing owls. URS conducted California Burrowing Owl Consortium Survey Protocol surveys in Spring 2011. These surveys included 100% site coverage pedestrian survey followed by 4 days of burrow observation. A total of 17 burrows with signs of owl use were found. (e.g. whitewash, pellets, feathers) No owls were observed at any of these burrows. Two burrowing owls were incidentally observed during other surveys.

The Applicant believes that this information is sufficient since the entire project area was surveyed using approved protocols and that preclearance surveys will be performed prior to construction activities mitigating the need for additional surveys.

Clarification on Elf Owls:

No surveys are proposed for elf owls. No known breeding sites are within 13 miles of the Rio Mesa project site. The nearest detection is 13 miles from the project site and 2 miles south of the I-10 crossing at the Colorado River (Figure 2). However, this observation was deemed a migrant individual and not a breeding site[5].

Within California in the vicinity of the RMS project, there are no known elf owl breeding sites that are within desert wash habitat that is not closely associated (i.e., within the river flood plain) with the Colorado River (Please see Figure 2). The Rio Mesa project site is too far away from the Colorado River to be considered potential habitat. CDFG has conducted surveys since 1978 and all surveys have been concentrated within the river floodplain. The two most consistently occupied sites in California are 10 miles north of Needles and 22 miles north of Blythe. These areas are described as being dense woodlands composed of sycamores with willow and palo verde understory. The microphyll woodlands on the Rio Mesa project site are sparsely scattered palo verde and ironwood trees with sparse desert scrub understory.

The last major attempt to describe the status and distribution of elf owls in California was in 1987. In 1998 and 1999, CDFG surveyed much of the same area that was surveyed in 1987 including those sites where elf owls were previously located, and found no elf owls[6]. In 2000, CDFG performed a survey of a few selected sites with no detections. A few elf owls have been either heard or identified from 2000-2002 but all observations were north of Needles or far to the south of the project near Imperial National Wildlife Refuge.

Additional Reports & Information to Be Provided:

BrightSource will provide the following information to the REAT in further support of our proposal:

1. Eagle survey report from FWS protocol[2] eagle surveys conducted in March and May of 2011. (Please see appendices to the Biological Technical Report submitted with the AFC document)

2. Cibola research and Blythe 15-mile circle Christmas surveys (Audubon Society).

3. Summary report of the avian spring and fall/winter survey. (Note that fall/winter surveys were delayed from August to November/December due to the typical oppressive ambient temperature condition during August which resulted in limited bird activity.)

4. Information that describes the relative status of the Colorado River path of the Pacific Flyway as a minor route, and the main flyway as over the Salton Sea.

5. Information on BSE proposed evaporation ponds (located in the Project's Common Area, more than a mile from Power Towers). These ponds will be netted, as described in the AFC submitted the CEC and BLM on October 14, 2011.

6. Historic bat survey data from Pat Brown and map bat foraging area as it relates to the bat roosting locations at the two mines (Hodge and Roosevelt) in the Mule Mountains near the project site.

Summary

BrightSource believes that this package of information and the proposed additional surveys are sufficient to achieve the REAT's request for additional information on resident and migratory bird, raptor, and bat populations. The total additional survey effort proposed includes 264 person days onsite quantifying resident and migratory bird, raptor, and bat use of the project area. In addition, BrightSource will submit spring and winter 2011 avian survey results (winter survey just completed in early December 2011) to help confirm AFC conclusions.

The additional surveys (items a, b, c, and d above) should confirm the general conclusions in the AFC which were generated from the BLM protocol Spring 2011 survey results. If it does not, BrightSource would conduct further surveys as may be deemed warranted based on the findings of these proposed surveys.

Should you have any questions regarding this proposal, please do not hesitate to contact me .

Respectfully Submitted,

Todd Stewart
Sr. Director Project Development
Project Manager, Rio Mesa Solar
BrightSource Energy, Inc.

Attachments

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[1] URS 2011. Biological Resources Workplan. February 21, 2011.

[2] USFWS 2010. Surveys and reporting were all done in compliance with the FWS 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) and the subsequent Draft Eagle Conservation Plan Guidance (Gould and Schmidt 2011).

[3] BLM 2009. BLM Solar Facility Point Count Protocol. March 9, 2009.

[4] FWS 2011. Interagency Recommendations: Migratory and Breeding Season Bird and Bat Baseline Data, Rio Mesa Solar Project, Riverside County, California. December 16, 2011.

[5]Halterman, M.D., S.A. Laymon, and M.J. Whitfield. 1989. Status and Distribution of the Elf Owl in California. Western Birds 20: 71-80.

[6]CDFG 2005. The Status of Rare Threatened, and Endangered Plants and Animals of California 2000-2004. http://www.dfg.ca.gove/wildlife/nongame/t_e_spp/new_te_rpt.html

Proposed Bird Observation Points
Proposed Bird Observation Points at Tower Location
Proposed Anabat Location
Mine Location
Microphyll Woodland (Potential Bat Foraging Habitat)
Extent of Habitat Mapping
3-mile Radius from Roost Mines (25,832 Acres)
Draft Fenceline Boundary of Solar Field (approx. 5,526 acres)
Draft Usable Boundary of Common Area (approx. 119 acres)
Project Site (approx. 7,539 ac.; approx. acres: 5,604 MWD, 1,625 BLM, 310 Private)
Proposed Project 230 kV Gen-tie Line Right-of-Way Corridor - approx. 115 ac. (100 ft. corridor, 50ft. from c/l; approx acres: 80 BLM, 35 Private)
Newly Approved Colorado River Substation (77 ac.)
Assumed Tie-in Area for Newly Approved Colorado River Substation (approx. 124 ac.)
County Boundary
City/Town
Bradshaw Trail

10
Hodge Mine
Roosevelt Mine
Bradshaw Trail
Palo Verde

SOURCES: Project Site (VTN, 3-15-2011).
Transmission Line Centerline, Transmission Line Corridor (Power Engineers, 8-2011). CRS Substation, Potential Gen-tie Area (Aspen, 3-11-2011).
Aerial Imagery (Bing Maps, 2011).
County,Bradshaw Trail, Highway (ESRI, 2007).
Bat Habitat, Mines, 3-mile Radius,
Bird Observation Points (URS, 2011).

PROPOSED ANABAT LOCATIONS AND BIRD OBSERVATION POINTS RIO MESA SOLAR ELECTRIC GENERATING FACILITY

URS

0.5 0 0.5 1 Miles
SCALE: 1" = 1 mile (1:63,360)
SCALE CORRECT WHEN PRINTED AT 11X17

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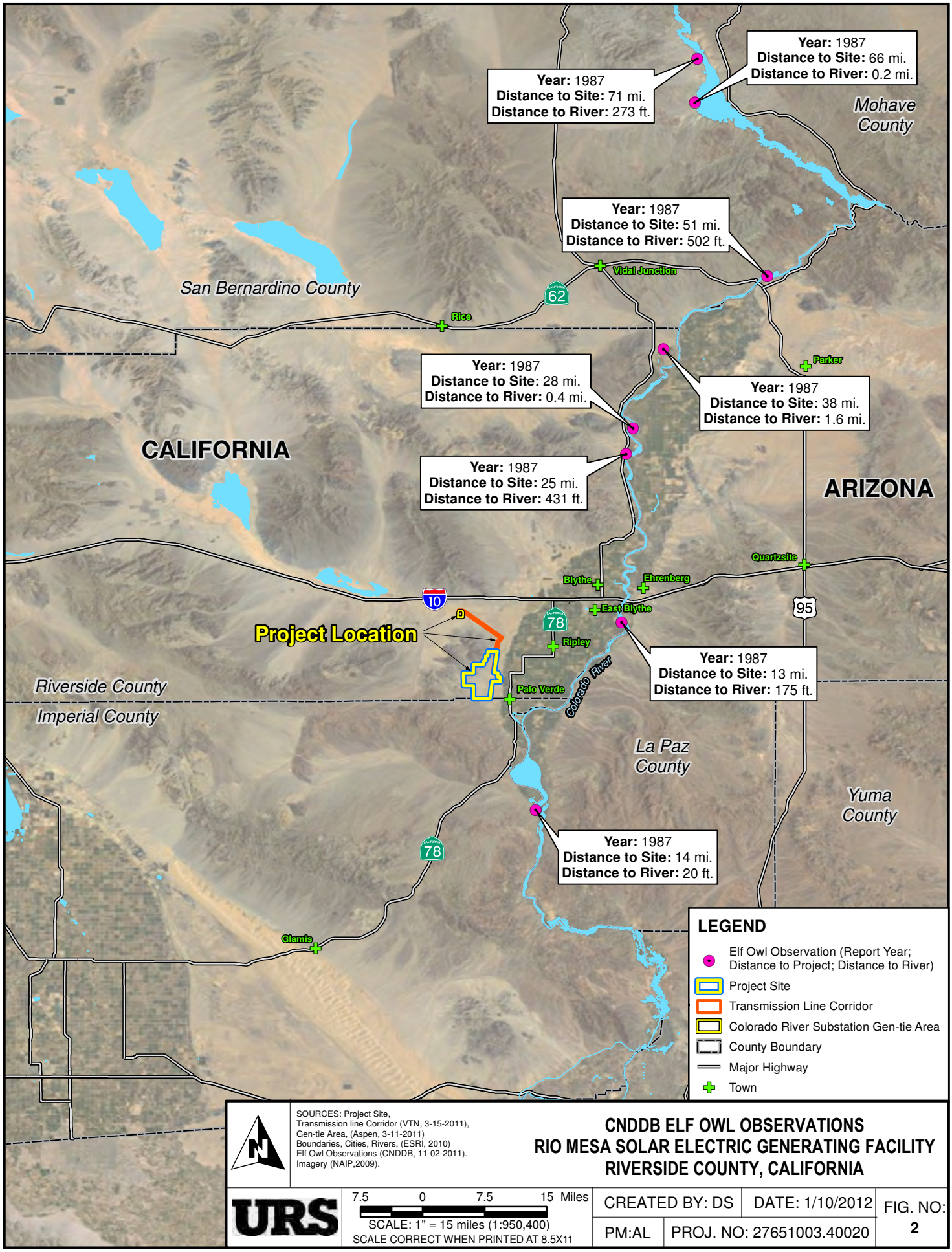

SOURCES: Project Site, Transmission line Corridor (VTN, 3-15-2011), Gen-tie Area, (Aspen, 3-11-2011) Boundaries, Cities, Rivers, (ESRI, 2010) Elf Owl Observations (CNDDB, 11-02-2011). Imagery (NAIP,2009).

CNDDB ELF OWL OBSERVATIONS
RIO MESA SOLAR ELECTRIC GENERATING FACILITY
RIVERSIDE COUNTY, CALIFORNIA

URS

7.5 0 7.5 15 Miles

SCALE: 1" = 15 miles (1:950,400)

SCALE CORRECT WHEN PRINTED AT 8.5X11

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