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June 11, 2010

DOCKET
09-AFC-6
DATE JUN 11 2010
RECD. JUN 11 2010

California Energy Commission
Attn: Docket No. 09AFC6
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Re: 09-AFC-6 Blythe Solar Power Plant Project

Dear Docket Clerk:

Enclosed are an original and one copy of **TESTIMONY OF SCOTT CASHEN ON BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY FOR THE BLYTHE SOLAR POWER PROJECT**. Please process the document and provide us with a conformed copy in the envelope provided.

Thank you.

Sincerely,

/s/

Elizabeth Klebaner

EK:bh
Enclosures

2398-051a

STATE OF CALIFORNIA

California Energy Commission

In the Matter of: The Application for Certification for the Blythe Solar Power Project	Docket No. 09-AFC-6

TESTIMONY OF SCOTT CASHEN ON BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY FOR THE BLYTHE SOLAR POWER PROJECT

June 11, 2010

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Attorneys for CALIFORNIA UNIONS FOR RELIABLE ENERGY

I. INTRODUCTION

I have been working for the California Unions for Reliable Energy ("CURE") as a consultant on the Application for Certification ("AFC") for the Blythe Solar Power Project ("Project" or "BSPP") since the data adequacy phase. I have reviewed numerous documents and have conducted my own investigations and analyses regarding the Project's potential environmental impacts and alternatives.

I have a Master's of Science Degree in Wildlife and Fisheries Science from the Pennsylvania State University, University Park. The degree program included coursework in Landscape Ecology, Biometrics, Statistics, Conservation Biology, and Wetland Ecology. For my thesis, I conducted seven seasons of independent research on avian use of restored wetlands. The U.S. Fish and Wildlife Service subsequently used my technical report as a model for other habitat restoration monitoring projects in Pennsylvania.

My employment experience has included work in the fields of wildlife biology, forestry, and natural resource consulting. Much of my work over the past two and a half years has involved review of environmental documents associated with development of large-scale solar energy facilities. To date, I have served as an expert on 12 different solar projects, 9 of which are being sited in the Mojave or Sonoran Desert. I am currently concluding a two-year contract I hold with the State of California to conduct surveys for the Peninsular bighorn sheep near Anza-Borrego Desert State Park. I serve as a member of the scientific review team responsible for assessing the effectiveness of the US Forest Service's implementation of the Herger-Feinstein Quincy Library Group Act.

For the past two and a half years I have operated my own consulting business. I previously served as a Senior Biologist for TSS Consultants and ECORP Consulting. Other positions I have held have included conducting wildlife research for the National Park Service, the Point Reyes Bird Observatory, and the University of California. While in graduate school I served as an instructor of Wildlife Management and as a teaching assistant for a course on ornithology. A summary of my education and professional experience is attached to this testimony as Attachment 1.

My testimony is based on the activities described above and the knowledge and experience I have acquired during more than 18 years of working in the field of natural resources management.

II. THE PROJECT MAY RESULT IN UNMITIGATED SIGNIFICANT IMPACTS TO GILA WOODPECKERS

The Gila woodpecker (*Melanerpes uropygialis*) is listed as endangered under the California Endangered Species Act. Staff has concluded that this woodpecker is not expected on the Project site because (a) it is outside of the Gila woodpecker range; (b) it does not contain suitable nesting habitat; (c) the Project site is at a distance from known occurrences of the species; and (d) the Applicant contends that this highly conspicuous species likely would have been detected during point count surveys.[1] A review of literature and documentation provided by the Applicant strongly suggests that these reasons are neither entirely accurate, nor sufficient to conclude that the Gila woodpecker does not occur on the Project site.

A. The Revised Staff Assessment Does Not Accurately Report the Range of the Gila Woodpecker

The Revised Staff Assessment states Gila woodpeckers formerly occurred in desert washes up to one mile from the Colorado River, and that they are currently limited to riparian areas along the Colorado River.[2] Staff has not cited the source of this information. However, based on the verbiage, Staff's information appears to have been derived from either the 1987 petition to list the species,[3] or the 2002 NECO Plan.[4] While technically correct at the time the documents were published, the information presented in these sources is now outdated. Since the documents were published researchers have discovered small populations of Gila woodpeckers in Palo Verde–Ironwood woodlands west of the Colorado River.[5, 6] Based on my review of recent scientific literature, Gila woodpeckers are known to occur in mature xeric riparian woodlands, just like those that occur in the Project area. Gila woodpeckers have been documented as occurring at several locations west of the Colorado River. These locations are documented in the California Natural Diversity

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[1] Revised Staff Assessment of Blythe Solar Power Project. Biological Resources. June 2010. P. C.2-46; Attachment A to Appendix A, p. A-13.
[2] Revised Staff Assessment, p. C.2-46.
[3] Larsen CJ. 1987. Petition to the State of California Fish and Game Commission. http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentVersionID=3356.
[4] BLM and CDFG. 2002. Final Environmental Impact Statement. Proposed Northern & Eastern Colorado Desert Coordinated Management Plan. Bureau of Land Management, California Desert, Riverside, CA. p. 2-2.
[5] California Partners in Flight. 2009. Version 1.0. The Desert Bird Conservation Plan: a Strategy for Protecting and Managing Desert Habitats and Associated Birds in California. California Partners in Flight. Available at: http://www.prbo.org/calpif/plans.html.
[6] California Natural Diversity Database. 2009. Rarefind [computer program]. Version 3.1.0. Mar 2, 2010. Sacramento (CA): Wildlife & Habitat Data Analysis Branch. California Department of Fish and Game.

Database ("CNDDB"), [7] illustrated in Figure 1, and attached hereto as Attachment 2, and in the Desert Bird Conservation Plan published by California Partners in Flight and Point Reyes Bird Observatory, [8] illustrated in Figure 2 and attached hereto as Attachment 3.

B. The Revised Staff Assessment Does Not Accurately Report Nesting Habitat for Gila Woodpeckers

The Revised Staff Assessment relies on the Applicant's documents to conclude that the Project area does not contain suitable habitat for the Gila woodpecker. However, there is nothing to indicate that Staff conducted an independent evaluation of the validity of the Applicant's conclusion. Several studies and surveys have documented Gila woodpeckers breeding in dry desert wash woodlands such as those that occur in the Project area. Grinnell and Miller (1944) reported Gila woodpecker habitat as: "[m]ainly riparian cottonwoods and willows, of old growth; but also up *desert washes where ironwood and palo verde reach large size*. Availability of diggable tree-trunks for nesting seems to be primary factor for presence; a favoring one is *presence of berry-bearing mistletoe as parasitic especially on mesquite*."[9] The conditions reported by Grinnell and Miller (1944) appear to be present in the Project area. In its Streambed Alteration Agreement application, the Applicant referred to the Dry Desert Wash Woodland as "mature,"[10] and reported "[w]ithin the survey area the extensive portions of the established washes are occupied by a *relatively large desert dry wash woodland vegetation community*. Blue palo verde, smoke tree, and ironwood are the dominant overstory and indicator plants of the desert dry wash woodland community. Desert dry wash woodland obligate plants composing the understory are desert starvine, desert lavender, big galleta grass, and honey mesquite."[11] Mistletoe, the favoring factor referenced by Grinnell and Miller, is present in the Project area.[12]

Anderson et al. (1982) observed Gila woodpecker nests in honey mesquite trees along the lower Colorado River.[13] McCreedy et al. (2006) surveyed Milpitas Wash in Imperial County and reported every Gila woodpecker nest they detected

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[7] California Natural Diversity Database. 2009. Rarefind [computer program]. Version 3.1.0. Mar 2, 2010. Sacramento (CA): Wildlife & Habitat Data Analysis Branch. California Department of Fish and Game.

[8] CalPIF (California Partners in Flight). 2009. Version 1.0. The Desert Bird Conservation Plan: a Strategy for Protecting and Managing Desert Habitats and Associated Birds in California. California Partners in Flight. http://www.prbo.org/calpif/plans.html.

[9] Grinnell J, AH Miller. 1944. The distribution of the birds of California. Pac. Coast Avifauna No. 27. 608pp. [emphasis added].

[10] Attachment H to Applicant's Streambed Alteration Agreement application, 25 Nov 2009. p. 9.

[11] Applicant's Streambed Alteration Agreement application, 25 Nov 2009. p. 44. [emphasis added].

[12] AFC, Appendix F. (EDAW AECOM. 2009 Aug. Biological Technical Report: Blythe Solar Power Project: Riverside County, CA). Attachment 2: Floral Species Observed. p. 2-4.

[13] Anderson et al. 1982. Evidence for social regulation in some riparian bird populations. American Naturalist. 120:340-352.

occurred in blue palo verdes.[14] The Desert Bird Conservation Plan, a joint effort between California Partners in Flight and Point Reyes Bird Observatory, states that the presence of blue palo verde has been found to positively influence presence and abundance of the Gila woodpecker.[15] Honey mesquite and blue palo verde are relatively abundant within the dry desert wash woodlands in the Project area.

According to the California Natural Diversity Database, 9 of the 34 (26%) documented occurrences of Gila woodpeckers within the State of California are associated with vegetation communities similar to those present on the Project site (Reproduced on the following page in Table 1).[16]

[14] McCreedy, C., C. Howell, and L. Culp. 2006. Xeric Riparian Songbird Project: 2004 progress report. PRBO Conservation Science, 4990 Shoreline Highway, Stinson Beach, CA, 94970. PRBO Contribution No. 1309.

[15] The Desert Bird Conservation Plan: A Strategy for Protecting and Managing Desert Habitats and Associated Birds in the Mojave and Colorado Deserts. 2009. Version 1.0. California Partners in Flight and Point Reyes Bird Observatory Conservation Science. Table 8-2. p.70.

[16] California Natural Diversity Database. 2009. Rarefind [computer program]. Version 3.1.0. Mar 2, 2010. Sacramento (CA): Wildlife & Habitat Data Analysis Branch. California Department of Fish and Game.

Table 1. CNDDB records of Gila woodpecker occurrences in habitat comparable to habitat on the Project site.

Record	Ecological community
24	HABITAT CONSISTS OF SALT CEDAR, MESQUITE, AND PALO VERDE WITH A QUAIL BRUSH UNDERSTORY; GOOD HABITAT EXCEPT FOR THE PRESENCE OF SALT CEDAR.
25	HABITAT CONSISTS OF PALO VERDE, MESQUITE, AND SALT CEDAR; OPEN AREAS ARE CREOSOTE GROUND COVER.
28	HABITAT IS PALO VERDE, SALT CEDAR, AND MESQUITE; MANY TRAILER PARKS AND SOME ORV USE IN THE AREA, OTHERWISE GOOD HABITAT.
30	DESERT WASH WOODLAND WITH PALO VERDE & IRONWOOD SURROUNDED BY DISTURBED CREOSOTE BUSH SCRUB.
31	DESERT WASH SCRUB WITH PALO VERDE AND IRONWOOD
32	DESERT WASH SCRUB WITH PALO VERDE AND IRONWOOD SURROUNDED BY CREOSOTE BUSH SCRUB.
33	DESERT WASH WOODLAND WITH PALO VERDE, IRONWOOD, CREOSOTE BUSH AND MESQUITE.
34	BRAIDED WASH WITH OLNEYA TESOSA, CERCIDIUM MICROPHYLLA, & LARREA TRIDENTATA
35	MICROPHYLL WOODLAND DOMINATED BY PALO VERDE, CREOSOTE AND IRONWOOD. AREA USED FOR OHV RECREATION AND CAMPING.

To date, the Applicant has detected at least five woodpecker nest cavities within the Biological Resources Study Area.[17, 18] According to the Applicant: "[i]t was not confirmed what woodpecker species uses these nest cavities."[19] Additionally, during reconnaissance level surveys for bats, Project biologists observed tree cavities that, after closer inspection, were determined to probably be woodpecker cavities.[20]

Staff suggests that there is a low potential for occurrence of the Gila woodpecker due to the Project's distance from the nearest CNDDB record (which is along the Colorado River).[21] Staff's reasoning is not justifiable and lacks basis for the following reasons. First, the CNDDB is a positive sighting database. As a result, a lack of records in the CNDDB cannot be used to conclude an animal does not occur in a given area. Second, isolated populations of Gila woodpeckers have been reported at distant, disconnected locations, such as Griffith Park in Los Angeles among other locations.[22] This information indicates that Gila woodpeckers will disperse to, and colonize, suitable habitat disjunct from the Colorado River. The Project site, which is only 13 miles from the Colorado River, is well within the dispersal distance of known Gila woodpecker populations. Third, the Gila woodpecker has been documented at several locations south of the I-10, which are as far and further west from the Colorado River than the Project site.[23] Fourth, Staff's conclusion that the Gila woodpecker is absent from the Project area, despite possible evidence to the contrary (i.e., presence of woodpecker cavities), appears to be largely due to an absence of prior survey efforts rather than a lack of habitat. According to the 2009 Desert Bird Conservation Plan, Milpitas Wash (Imperial County) is the only xeric riparian habitat that has been specifically surveyed for Gila woodpeckers. Information associated with the CNDDB occurrence records south of I-10 (e.g., several unique detections made on the same date), and the proximity of Gila woodpecker occurrences to Highway 78, suggest the records were obtained as part of a survey route or other focused effort.

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[17] Streambed Alteration Agreement Application, November 25, 2009, Blythe Solar Power Project Biological Resources Technical Report. p. 68.
[18] AECOM. 2010 May 14. Preliminary Spring 2010 Survey Results: Corrected and Preliminary Impact Calculations for Biological Resources. Letter report to Susan Sanders, California Energy Commission.
[19] Streambed Alteration Agreement Application, November 25, 2009, Blythe Solar Power Project Biological Resources Technical Report. p. 68.
[20] Applicant's Responses to CEC Data Requests Set 1, January 6, 2010, Response to DR-BIO-45-97 and Response to DR-BIO-52.
[21] Revised Staff Assessment, p. C.2-46.
[22] Edwards, Holly H. and Gary D. Schnell. 2000. Gila Woodpecker (Melanerpes uropygialis), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/532 doi:10.2173/bna.532
[23] See Figure 1.

Although the Project site is slightly further north of the core of the species' range, there is nothing to suggest that the same pattern of distribution does not occur north of I-10 as occurs south of I-10.

The Revised Staff Assessment also states Gila woodpeckers are conspicuous, and likely would have been detected during the Applicant's point count surveys.[24] It is unclear whether Staff has adopted this conclusion, or is simply relaying the Applicant's sentiment.[25] Regardless, it is a scientifically indefensible argument. Survey methods, observers, training of observers (or lack of training), species, habitats, and other environmental variables all affect bird detection probability. Even for conspicuous species, it is very common for animals and even entire species to be missed and go undetected.[26] This factor alone undermines the validity of the argument that Gila woodpeckers likely would have been detected. Its validity is further reduced by the fact that bird surveys were not conducted in much of the dry desert wash woodland habitat within the Project area.[27] Equally damaging to Staff's conclusion is the fact that the Applicant conducted no focused surveys for the Gila woodpecker,[28] and has to date been "unable" to identify the particular species associated with any of the several woodpecker cavities that were detected in the Project area.

The Project would result in impacts to at least 269 acres of Desert Wash Woodland that contains plant species associated with occurrence of Gila woodpeckers.[29] Based on this information, as well as information provided by scientific literature and the Applicant's survey reports, it is my professional opinion that the Project site provides habitat for the Gila woodpecker, and that the species has the potential to occur on the Project site. Without appropriate mitigation, the Project would cause a potentially significant, unmitigated impact to the species and its habitat.

[24] Revised Staff Assessment of Blythe Solar Power Project. Biological Resources. June 2010. Attachment A to Appendix A, p. A-13.
[25] A footnote associated with the statement indicates it was taken from the EDAW AECOM Biological Technical Report for the Project Site. See Revised Staff Assessment, p. A-18.
[26] MacKenzie DI, JD Nichols, JA Royle, KH Pollock, LL Bailey, JE Hines. 2006. Occupancy estimation and modeling: inferring patterns and dynamics of species occurrence. Boston (MA): Elsevier.
[27] AFC, Attachment H to Appendix F, Figure 3.
[28] AFC, Biological Resources Technical Report, p. 68.
[29] Revised Staff Assessment, p. C.2-57. According to the Applicant, the Applicant will submit a jurisdictional delineation report that will include the Project's linear features in June.

III. THE REVISED STAFF ASSESSMENT DOES NOT PROVIDE ADEQUATE BASELINE INFORMATION OR MITIGATION MEASURES FOR THE COUCH'S SPADEFOOT TOAD

The Project site contains suitable breeding, foraging, and refuge habitat for Couch's spadefoot toad. The Staff Assessment/Draft Environmental Impact Statement ("SA/DEIS") prepared for the Project concluded: (a) "because the surveys were not conducted during the proper season (i.e., after summer rains), the [Applicant's] lack of observations does not suggest the species is absent from the Project site."[30]; and (b) "[w]ithout survey results it is difficult to assess the potential for direct and indirect impacts to this species."[31]

Since the issuance of the SA/DEIS, the Applicant has submitted preliminary results of Spring 2010 surveys, which confirm the species' potential presence on the Project site. However, the critical limitations previously identified by Staff still have not been resolved. Specifically, appropriately timed surveys have not been conducted, and therefore an accurate impact assessment cannot be developed. As a result, I agree with Staff's conclusion that the Project could have adverse impacts on Couch's spadefoot toads, although there is insufficient information to evaluate the magnitude and extent of the impacts. Without adequate baseline data, there is no scientific basis to conclude that Staff's proposed mitigation would reduce Project impacts to less than significant levels. I reserve the right to submit supplemental testimony on this topic after the Applicant has provided the information necessary to evaluate existing conditions, Project impacts, and mitigation measures for the Couch's spadefoot toad.

A. The Applicant Has Not Provided Information Necessary to Determine Baseline and the Full Range of Project Impacts

The Applicant reported that the soils on the Project site have high infiltration rates and a low potential for surface ponding, and that the Applicant's consultant did not observe evidence of seasonal ponding during surveys conducted in 2009.[32] Based on the foregoing, the Applicant initially concluded that Couch's spadefoot toad is not expected within the disturbance area.[33] However, the Applicant additionally reported that ponding of water "may have a potential to occur" where service road crossings go over channels or swales within the Project area.[34]

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[30] SA/DEIS, p. C.2-30.
[31] SA/DEIS, p. C.2-64.
[32] Applicant's responses to CEC Email Query, January 28, 2010.
[33] Id.
[34] Id.

According to the Applicant, the Sonoran Creosote Bush Scrub community in the Project area is characterized by sandy soils with a shallow clay pan, and caliche burrows (a cavity eroded or excavated into hard calcium carbonate soils).[35, 36] Clay pans are defined as a clay layer in the soil that restricts downward movement of water and growth of roots.[37] These conditions would appear to promote the ponding of water. However, neither the Applicant nor Staff has provided an explanation for why the shallow clay pans or caliche burrows would not support Couch's spadefoot toad breeding ponds.

CURE prepared several data requests in an attempt to resolve this issue, but to date the Applicant has not provided responses to those requests. The Applicant has, however, recently provided "preliminary" data to Energy Commission Staff that indicates Couch's spadefoot toads may occur in the Project area. In its preliminary results of biological surveys conducted in spring 2010 for desert tortoise, rare plants, jurisdictional waters, and incidental wildlife occurrences, the Applicant indicated multiple potential spadefoot toad breeding pond sites occur within the Project area.[38] However, the Applicant has yet to provide any information on the methods that were used to identify potential breeding ponds;[39] their characteristics (e.g., size, substrate, proximity to other habitat elements); or a Project impact analysis with regard to this species and its habitat. This information is necessary to make inferences on the Project's impact to the regional spadefoot toad population, and to devise effective mitigation strategies.

B. The Revised Staff Assessment Does Not Ensure Mitigation of Project Impacts to the Couch's Spadefoot Toad

Whereas mitigation for impacts to Couch's spadefoot toad is appropriate, the measures proposed by Staff must be revised to ensure that they achieve their intended purpose. Condition of Certification BIO-26 ("BIO-26") in the Revised Staff Assessment requires the Applicant to create "additional breeding habitats (ephemeral pond) at least equal in area to the acreage of ponds being impacted" if the Applicant is unable to avoid the Couch's spadefoot toad ponds identified during surveys.[40] BIO-26 does not ensure mitigation of Project impacts to Couch's spadefoot toad for the following reasons.

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[35]AFC, p. 5.3-30

[36] AFC, p. 5.3-16.

[37] Webster's New World College Dictionary Copyright © 2009 by Wiley Publishing, Inc., Cleveland, Ohio.

[38] Revised Staff Assessment, p. C.2-32.

[39] Although, the title of the Applicant's document suggests they were not a focused of the surveys.

[40] Revised Staff Assessment of Blythe Solar Power Project. Biological Resources. June 2010. BIO-26. p. C.2-217.

1. BIO-26 Does Not Meet the Habitat Requirements of the Couch's Spadefoot Toad

Couch's spadefoot toads have three principal habitat requirements. These are:

1. Temporary desert rainpools with water temperatures >15 ºC in which to breed. The breeding pool must last for at least seven days for metamorphosis to occur.
2. Subterranean refuge sites (with a loose enough substrate to permit burial) must occur in the vicinity of the breeding pool; and
3. An insect food base (that probably includes alate termites) and primary production that sustains the food base. [41]

The mitigation proposed in the Revised Staff Assessment addresses only *one* of these habitat requirements, and provides *no assurance* that this single habitat requirement will be met. Specifically, the only habitat requirement addressed by Staff's proposed mitigation is the need for the Applicant to create ponds capable of holding water for at least nine days during the spadefoot toad breeding season. Furthermore, the "breeding season" has been only loosely defined, and criteria for establishing it need to be established in Staff's mitigation. Because BIO-26 does not require the created ponds to have water temperatures >15 ºC, there is no assurance they will serve as suitable breeding sites.

Staff's proposed mitigation has no provision for subterranean refuge sites or a sustainable food base—the other two habitat requirements for Couch's spadefoot toads. These criteria must also be incorporated into BIO-26. Furthermore, the proposed mitigation lacks any discussion of where created ponds would be located, how they would be conserved in perpetuity, a funding mechanism for their preservation and management, and the water supply for meeting Staff's condition that they hold water for a minimum of nine days.

2. Performance Criteria Central to Reserve Design Are Not Incorporated into the Mitigation Scheme

The Revised Staff Assessment suggests water quality and noise disturbance may negatively affect Couch's spadefoot toad breeding activities. BIO-26 does not require the Applicant to meet any minimum standards associated with these potentially influential variables. In addition, BIO-26 does not establish performance criteria for any of the issues (or considerations) central to reserve

[41] Jennings MR, MP Hayes. 1994. Amphibian and reptile species of special concern in California. Rancho Cordova, CA: California Dept. of Fish and Game, Inland Fisheries Division.

design. These include site selection, corridors, buffers, isolation, and fragmentation.[42]

3. Mitigation Does Not Impose Limits on Patch Size

Scientists that developed the California Wildlife Habitat Relationship model considered patch size to be an important consideration in habitat suitability for Couch's spadefoot toads.[43] In particular, once a certain patch size is reached, area alone does not increase habitat suitability. This is especially important because Staff's proposed mitigation does not require the Applicant to replicate the distribution and number of pools impacted by the Project, only the acres that are impacted (e.g., the Applicant could create one "mega" pool to replace impacts to 10 well-distributed pools). These two variables affect overall habitat suitability for Couch's spadefoot toads, and they need to be incorporated into Staff's mitigation.

4. Potentially Significant Adverse Impacts of BIO-26

The Revised Staff Assessment suggests the proposed mitigation may require ground disturbance (for example, soil compaction).[44] However, it does not appear to require an environmental impact analysis for the associated ground disturbance activities, habitat conversion, or water use (if an artificial water source is used). At a minimum, these elements of BIO-26 must be evaluated to ascertain whether there are any potentially adverse impacts stemming from Staff's proposed mitigation.

5. Monitoring Requirements

A management approach (e.g., creation of spadefoot toad breeding ponds) that is unsubstantiated by research is, in essence, a management experiment. Therefore, in the absence of empirical information, it cannot be relied on as a management solution. A rigorous monitoring program with built-in adaptive management measures is almost always necessary to achieve the desired outcome.[45] However, the monitoring program established by the Revised Staff Assessment lacks rigorous monitoring or adaptive management. In particular, the appropriate parameters for monitoring should correspond with the goal(s) of the management action. In this case, Staff's goal is to mitigate Project impacts to Couch's spadefoot toads and their breeding habitat by creating substitute breeding habitat if

[42] Morrison ML. 2002. Wildlife restoration: techniques for habitat analysis and animal monitoring. Washington (DC): Island Press.
[43] Laudenslayer WF Jr, California Department of Fish and Game. 2007. Species Notes for Couch's Spadefoot (*Scaphiopus couchii*): California Wildlife Habitat Relationships (CWHR) System Level II Model Prototype. Available at: nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=7135
[44] Revised Staff Assessment, p. C.2-217.
[45] Morrison ML. 2002. Wildlife restoration: techniques for habitat analysis and animal monitoring. Washington (DC): Island Press.

avoidance is not possible. However, the only established monitoring requirement is to ensure created ponds hold water for at least nine days during the spadefoot toad breeding season. The difference is subtle but extremely significant: the goal is to create substitute breeding habitat *not* to create a pond that holds water for nine days (i.e., not all ponds that hold water for nine days provide breeding habitat). Therefore, Staff must incorporate monitoring that confirms spadefoot toads are breeding in any pond habitat that is created as mitigation.

IV. THE PROJECT MAY RESULT IN UNMITIGATED SIGNIFICANT IMPACTS TO COACHELLA VALLEY MILKVETCH

Coachella Valley milk-vetch is a federally listed endangered species. In the preliminary results of its Spring 2010 surveys, the Applicant reported 14 populations of Coachella Valley milk-vetch within the Project buffer.[46] One week later, the Applicant submitted "revised" results that indicated Coachella Valley milk-vetch had been misidentified and was not present in the Project area.[47] The Applicant's revision is confusing, particularly because (a) Project biologists had visited a reference population of Coachella Valley milk-vetch prior to the surveys;[48] and (b) the Applicant has not provided any scientific (or other) basis to explain how 14 distinct populations could have been misidentified. The Revised Staff Assessment does not address the discrepancy in the Applicant's preliminary survey results. However, the Revised Staff Assessment does require additional surveys to be conducted by crew members that first visit reference sites and/or review herbarium specimens to obtain a search image of Coachella Valley milk-vetch.[49] As neither the Applicant nor Staff have provided reliable data negating the potential for the Coachella Valley milk-vetch to be present on the Project site and to be impacted by the Project, I reserve the right to supplement my testimony on this topic.

V. ADDITIONAL DATA NECESSARY TO ESTABLISH A COMPENSATORY MITIGATION PLAN

The Revised Staff Assessment requires the Applicant to acquire compensation land in order to offset some of the Project's potentially significant impacts to biological resources.[50] However, Staff cannot conclude Project impacts would be fully mitigated by compensatory mitigation until details of the

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[46] AECOM. 2010 May 7. Blythe Solar Power Project (09-AFC-6) – Preliminary Spring 2010 Survey Results for Desert Tortoise, Rare Plants and Jurisdictional Waters. Letter from Bill Graham to Susan Sanders.

[47] AECOM. 2010 May 14. Blythe Solar Power Project (09-AFC-6) – Preliminary Spring 2010 Survey Results Corrected and Preliminary Impact Calculations for Biological Resources. Letter from Bill Graham to Susan Sanders.

[48] AFC, p. 5.3-18.

[49] Revised Staff Assessment, p. C.2-196.

[50] Revised Staff Assessment, pp. 2.2-181-2-212.

compensation plan have been provided by the Applicant. Such details would, at a minimum, include: the location and environmental qualities associated with the proposed compensation lands; an evaluation of the degree of disturbance, dumping, and historical structures (among other factors) that may require cleaning, fencing, repair, or demolition; the timeframe associated with the aforementioned work (if required) and whether additional lands or monies will be required to off-set the aforementioned impediments; and an evaluation of the threats and limiting factors at the compensation lands, including a discussion of how the threats and limiting factors affect desert tortoise populations and other sensitive biological resources for which the compensation lands are intended.[51]

A monitoring and adaptive management process is necessary to ensure compensation lands fully mitigate Project impacts. The Revised Staff Assessment lacks criteria or an enforcement mechanism for this process. To ensure Project impacts are fully mitigated, expectations for long-term monitoring of compensation lands must be incorporated into the impact mitigation plan, including expectations for the establishment of success criteria and triggers for implementing adaptive management. These expectations should incorporate a timeframe appropriate to the desert ecosystem, baseline and desired conditions of the acquisition site, and the increases in relative abundance that will result from habitat enhancement.

Lastly, desert habitat enhancement costs can be expensive.[52] The cost of comprehensive rehabilitation may exceed $10,000 per acre. In 1999, "modest" rehabilitation techniques implemented to expedite natural recovery reportedly cost $500 to $2,000 an acre.[53] These costs suggest that few habitat enhancement (or protection) measures can be accomplished with staff's required funding of $330/a

[51] *See*, *e.g.*, Memorandum from Heather Blair, Energy Commission Staff Biologist (Aspen Environmental Group) to Craig Hoffman, Energy Commission Project Manager, February 5, 2010 regarding Abengoa Mojave Solar – Project time-sensitive issues and informational needs, attached hereto as Attachment 4.
[52] *See* Hailey J, and D Bainbridge. 1999. Desert Restoration: Do something or wait a thousand years? [abstract] Mojave Desert Science Symposium; 1999 Feb 25-27, Las Vegas. USGS, Western Ecological Research Center [internet]. Available from: http://www.werc.usgs.gov/mojave-symposium/ .
[53] *Id.*

Declaration of Scott Cashen
Blythe Solar Power Project

Docket 09-AFC-6

I, Scott Cashen, declare as follows:

1) I am an independent biological resources consultant. I have been operating my own consulting business for the past three years. Prior to starting my own business I was the Senior Biologist for TSS Consultants.

2) I hold a Master's degree in Wildlife and Fisheries Science. My relevant professional qualifications and experience are set forth in the attached testimony and are incorporated herein by reference.

3) I prepared the testimony attached hereto and incorporated herein by reference, relating to the biological resource impacts of the Blythe Solar Power Project.

5) It is my professional opinion that the attached testimony and maps contained therein are true and accurate with respect to the issues that they address.

6) I am personally familiar with the facts and conclusions described within the attached testimony and maps, and if called as a witness, I could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 6-10-10 Signed: _____

At: Walnut Creek, CA

ATTACHMENT 1

Scott Cashen, M.S.
Senior Biologist / Forest Ecologist
3264 Hudson Avenue, Walnut Creek, CA 94597. (925) 256-9185. scottcashen@gmail.com

In his 17 years in the profession, Scott Cashen has consulted on projects pertaining to wildlife and fisheries ecology, avian biology, wetland restoration, and forest management. Because of his varied experience, Mr. Cashen is knowledgeable of the link between the various disciplines of natural resource management, and he is a versatile scientist.

Mr. Cashen's employment experience includes work as an expert witness, wildlife biologist, consulting forester, and instructor of Wildlife Management. He has worked throughout California, and he is knowledgeable of the different terrestrial and aquatic species and habitats present in the state.

Mr. Cashen is an accomplished birder and is able to identify bird species by sight and sound. His knowledge has enabled him to survey birds throughout the United States and instruct others on avian identification. Mr. Cashen's research on avian use of restored wetlands is currently being used by the United States Fish and Wildlife Service to design wetlands for specific "target" species, and as a model for other restored wildlife habitat monitoring projects in Pennsylvania. In addition to his bird experience, Mr. Cashen has surveyed for carnivores, bighorn sheep, and other mammals; special-status amphibian species; and various fish species.

PROFESSIONAL EXPERIENCE

Litigation Support / Expert Witness

Mr. Cashen serves as the biological resources expert for the San Francisco law firm of Adams Broadwell Joseph & Cardozo. He is responsible for reviewing CEQA/NEPA documents, assessing biological resource issues, preparing written comments, providing public testimony, and interfacing with public resource agencies.

REPRESENTATIVE EXPERIENCE

- Victorville 2 Solar-Gas Hybrid Power Project: Victorville, CA (338-acre natural gas and solar energy facility) – Review of CEQA equivalent documents and preparation of written documents.
- Avenal Energy Power Plant: Avenal, CA (148-acre natural gas facility) – Review of CEQA equivalent documents and preparation of written documents.
- Ivanpah Solar Electric Generating System: Ivanpah, CA (3700-acre solar facility) – Review of CEQA equivalent documents and preparation of written documents.
- Carrizo Energy Solar Farm: San Luis Obispo County, CA (640-acre solar energy facility) – Review of CEQA equivalent documents. Preparation of data requests, comments on Preliminary Staff Assessment, comments on wildlife corridor model

(CEQA equivalent documents).

- Live Oak Master Plan: Hanford, CA (390-acre housing development) – Review of CEQA documents and preparation of comment letter.
- Rollingwood: Vallejo, CA (214-unit housing development) – Review of CEQA documents and preparation of comment letter.
- Columbus Salame: Fairfield, CA (430,000 ft² food processing plant) – Review of CEQA documents and preparation of comment letter.
- Concord Naval Weapons Station: Concord, CA (5028-acre redevelopment) – Review of CEQA documents, preparation of comment letters, and provision of public testimony at County hearings.
- Chula Vista Bayfront Master Plan: Chula Vista, CA (556-acre development) – Review of CEQA documents and preparation of comment letter.
- Beacon Solar Energy Project: California City, CA (2012-acre solar facility) – Review of CEQA equivalent and NEPA documents. Preparation of data requests, comments on Preliminary Staff Assessment, comments on Incidental Take Permit Application. Expert witness providing testimony at California Energy Commission hearings.
- Solar One Power Project: San Bernardino County, CA (8230-acre solar facility) – Review of CEQA equivalent and NEPA documents and preparation of data requests. Expert witness providing testimony at California Energy Commission hearings.
- Solar Two Power Project: Imperial County, CA (6500-acre solar facility) – Review of CEQA equivalent and NEPA documents. Preparation of data requests and other documents for case record. Expert witness providing testimony at California Energy Commission hearings.
- Alves Ranch: Pittsburgh, CA (320-acre housing development) – Review of CEQA documents.
- Roddy Ranch: Antioch, CA (640-acre housing and hotel development) – Review of CEQA documents and preparation of comment letter.
- Aviano: Antioch, CA (320-acre housing development) – Review of CEQA documents.
- Western GeoPower Power Plant and Steamfield: Geyserville, CA (887-acre geothermal facility) – Review of CEQA documents and preparation of comment letter.
- Sprint-Nextel Tower: Walnut Creek, CA (communications tower in open space preserve) - Review of project documents and preparation of comment letter.

Project Management

Mr. Cashen has managed several large-scale and high profile natural resources investigations. High profile projects involving multiple resources often require consideration of differing viewpoints on how resources should be managed, and they are usually subject to intense scrutiny. Mr. Cashen is accustomed to these challenges, and he

is experienced in facilitating the collaborative process to meet project objectives. In addition, the perception of high profile projects can be easily undermined if inexcusable mistakes are made. To prevent this, Mr. Cashen bases his work on solid scientific principles and proven sampling designs. He also solicits input from all project stakeholders, and provides project stakeholders with regular feedback on project progress. Mr. Cashen's educational and project background in several different natural resource disciplines enable him to consult on multiple natural resources simultaneously and address the many facets of contemporary land management in a cost-effective manner.

REPRESENTATIVE EXPERIENCE

- Forest health improvement projects – Biological Resources *(CDF: San Diego and Riverside Counties)*
- San Diego Bark Beetle Tree Removal Project – Biological Resources, Forestry, and Cultural Resources *(San Diego Gas & Electric: San Diego Co.)*
- San Diego Bark Beetle Tree Removal Project - Forestry *(San Diego County/NRCS)*
- Mather Lake Resource Management Study and Plan – Biological Resources, Hydrology, Soils, Recreation, Public Access, CEQA compliance, Historic Use *(Sacramento County: Sacramento)*
- "KV" Spotted Owl and Northern Goshawk Inventory *(USFS: Plumas NF)*
- Amphibian Inventory Project *(USFS: Plumas NF)*
- San Mateo Creek Steelhead Restoration Project – TES species, Habitat Mapping, Hydrology, Invasive Species Eradication, Statistical Analysis *(Trout Unlimited and CA Coastal Conservancy: Orange County)*
- Hillslope Monitoring Project – Forest Practice Research *(CDF: throughout California)*
- Placer County Vernal Pool Study – Plant and Animal Inventory, Statistical Analysis *(Placer County: throughout Placer County)*
- Weidemann Ranch Mitigation Project – Mitigation Monitoring and Environmental Compliance *(Toll Brothers, Inc.: San Ramon)*
- Delta Meadows State Park Special-status Species Inventory – Plant and Animal Species Inventory, Special-status Species *(CA State Parks: Locke)*
- Ion Communities Biological Resource Assessments – Biological Resource Assessments *(Ion Communities: Riverside and San Bernardino Counties)*
- Del Rio Hills Biological Resource Assessment – Biological Resource Assessments *(The Wyro Company: Rio Vista)*

Biological Resources

Mr. Cashen has a diverse background in biology. His experience includes studies of a variety of fish and wildlife species, and work in many of California's ecosystems. Mr. Cashen's specialties include conducting comprehensive biological resource assessments, habitat restoration, species inventories, and scientific investigations. Mr. Cashen has led investigations on several special-status species, including ones focusing on the foothill yellow-legged frog, mountain yellow-legged frog, steelhead, burrowing owl, California spotted owl, northern goshawk, willow flycatcher, and forest carnivores. Mr. Cashen was responsible for the special-status species inventory of Delta Meadows State Park, and for conducting a research study for Placer County's Natural Community Conservation Plan.

REPRESENTATIVE EXPERIENCE

Avian

- Study design and Lead Investigator - Delta Meadows State Park Special-status Species Inventory *(CA State Parks: Locke)*
- Study design and lead bird surveyor - Placer County Vernal Pool Study *(Placer County: throughout Placer County)*
- Surveyor - Willow flycatcher habitat mapping *(USFS: Plumas NF)*
- Independent surveyor - Tolay Creek, Cullinan Ranch, and Guadacanal Village restoration projects *(Ducks Unlimited/USGS: San Pablo Bay)*
- Study design and Lead Investigator - Bird use of restored wetlands research *(Pennsylvania Game Commission: throughout Pennsylvania)*
- Study design and surveyor - Baseline inventory of bird species at a 400-acre site in Napa County *(HCV Associates: Napa)*
- Surveyor - Baseline inventory of bird abundance following diesel spill *(LFR Levine-Fricke: Suisun Bay)*
- Study design and lead bird surveyor - Green Valley Creek Riparian Restoration Site *(City of Fairfield: Fairfield, CA)*
- Surveyor - Burrowing owl relocation and monitoring of artificial habitat *(US Navy: Dixon, CA)*
- Surveyor - Pre-construction raptor and burrowing owl surveys *(various clients and locations)*
- Surveyor - Backcountry bird inventory *(National Park Service: Eagle, Alaska)*
- Lead surveyor - Tidal salt marsh bird surveys (*Point Reyes Bird Observatory: throughout Bay Area*)

Amphibian

- Crew Leader - Red-legged frog, foothill yellow-legged frog, and mountain yellow-legged frog surveys *(USFS: Plumas NF)*
- Surveyor - Foothill yellow-legged frog surveys *(PG&E: North Fork Feather River)*
- Surveyor - Mountain yellow-legged frog surveys *(El Dorado Irrigation District: Desolation Wilderness)*
- Crew Leader - Bullfrog eradication *(Trout Unlimited: Cleveland NF)*

Fish and Aquatic Resources

- Surveyor - Hardhead minnow and other fish surveys *(USFS: Plumas NF)*
- Surveyor - Weber Creek aquatic habitat mapping (*El Dorado Irrigation District: Placerville, CA*)
- Surveyor - Green Valley Creek aquatic habitat mapping *(City of Fairfield: Fairfield, CA)*
- GPS Specialist - Salmonid spawning habitat mapping *(CDFG: Sacramento River)*
- Surveyor - Fish composition and abundance study (*PG&E: Upper North Fork Feather River and Lake Almanor*)
- Crew Leader - Surveys of steelhead abundance and habitat use *(CA Coastal Conservancy: Gualala River estuary)*
- Crew Leader - Exotic species identification and eradication *(Trout Unlimited: Cleveland NF)*

Mammals

- Principal Investigator – Peninsular bighorn sheep resource use and behavior study (*California State Parks: Freeman Properties*)
- Scientific Advisor – Red Panda survey and monitoring methods *(The Red Panda Network: CA and Nepal)*
- Surveyor - Forest carnivore surveys *(University of CA: Tahoe NF)*
- Surveyor - Relocation and monitoring of salt marsh harvest mice and other small mammals *(US Navy: Skagg's Island, CA)*

Natural Resource Investigations / Multiple Species Studies

- Scientific Review Team Member – Member of the science review team assessing the effectiveness of the US Forest Service's implementation of the Herger-Feinstein Quincy Library Group Act.

- Lead Consultant - Baseline biological resource assessments and habitat mapping for CDF management units *(CDF: San Diego, San Bernardino, and Riverside Counties)*
- Biological Resources Expert – Peer review of CEQA/NEPA documents (*Adams Broadwell Joseph & Cardoza: California)*
- Lead Consultant - Pre- and post harvest biological resource assessments of tree removal sites *(SDG&E: San Diego County)*
- Crew Leader - T&E species habitat evaluation for BA in support of a steelhead restoration plan *(Trout Unlimited: Cleveland NF)*
- Lead Investigator - Resource Management Study and Plan for Mather Lake Regional Park *(County of Sacramento: Sacramento, CA)*
- Lead Investigator - Wrote Biological Resources Assessment for 1,070-acre Alfaro Ranch property *(Yuba County, CA)*
- Lead Investigator - Wildlife Strike Hazard Management Plan *(HCV Associates: Napa)*
- Lead Investigator - Del Rio Hills Biological Resource Assessment *(The Wyro Company: Rio Vista, CA)*
- Lead Investigator – Ion Communities project sites (*Ion Communities: Riverside and San Bernardino Counties*)
- Surveyor – Tahoe Pilot Project: CWHR validation *(University of California: Tahoe NF)*

Forestry

Mr. Cashen has five years of experience working as a consulting forester on projects throughout California. During that time, Mr. Cashen has consulted with landowners and timber harvesters on best forest management practices; and he has worked on a variety of forestry tasks including selective tree marking, forest inventory, harvest layout, erosion control, and supervision of logging operations. Mr. Cashen's experience with many different natural resources enable him to provide a holistic approach to forest management, rather than just management of timber resources.

REPRESENTATIVE EXPERIENCE

- Lead Consultant - CDF fuels treatment projects *(CDF: San Diego, Riverside, and San Bernardino Counties)*
- Lead Consultant and supervisor of harvest activities – San Diego Gas and Electric Bark Beetle Tree Removal Project *(SDG&E: San Diego)*
- Crew Leader - Hillslope Monitoring Program *(CDF: throughout California)*
- Consulting Forester – Inventory and selective harvest projects *(various clients throughout California)*

EDUCATION / SPECIAL TRAINING

M.S. Wildlife and Fisheries Science, The Pennsylvania State University (1998)

B.S. Resource Management, The University of California-Berkeley (1992)

Forestry Field Program, Meadow Valley, California, Summer (1991)

PERMITS

U.S. Fish and Wildlife Service Section 10(a)(1)(A) Recovery Permit for the Peninsular bighorn sheep

CA Department of Fish and Game Scientific Collecting Permit

PROFESSIONAL ORGANIZATIONS / ASSOCIATIONS

The Wildlife Society

Society of American Foresters

Mt. Diablo Audubon Society

OTHER AFFILIATIONS

Scientific Advisor and Grant Writer – *The Red Panda Network*

Scientific Advisor – *Mt. Diablo Audubon Society*

Grant Writer – *American Conservation Experience*

Land Committee Member – *Save Mt. Diablo*

TEACHING EXPERIENCE

Instructor: Wildlife Management, The Pennsylvania State University, 1998

Teaching Assistant: Ornithology, The Pennsylvania State University, 1996-1997

ATTACHMENT 2

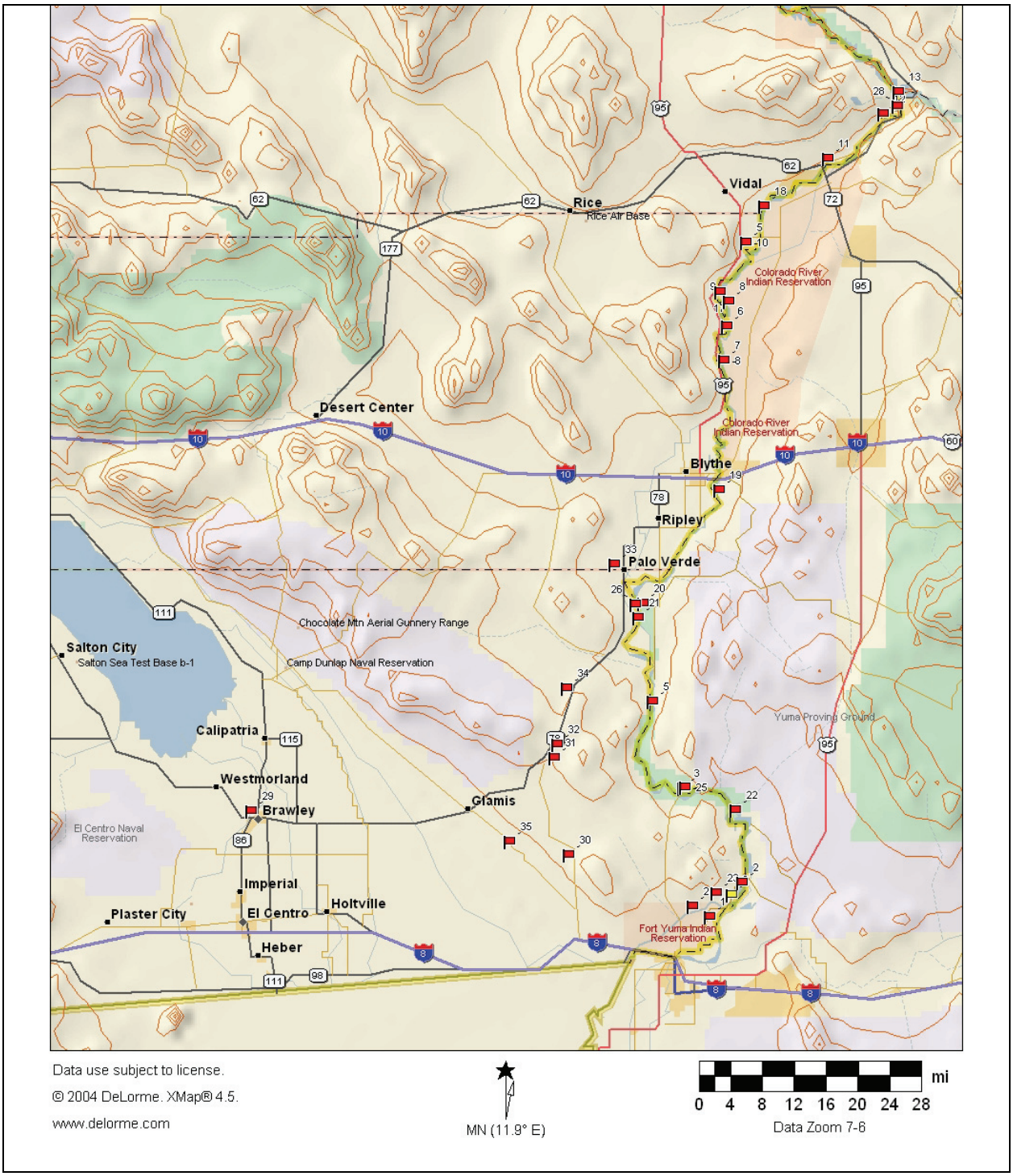

Figure 1. Documented occurrences of Gila woodpeckers (red flags).[1] Flag numbers correspond with CNDDB occurrence numbers.

[1] From California Natural Diversity Database. 2009. Rarefind [computer program]. Version 3.1.0. Mar 2, 2010. Sacramento (CA): Wildlife & Habitat Data Analysis Branch. California Department of Fish and Game.

ATTACHMENT 3

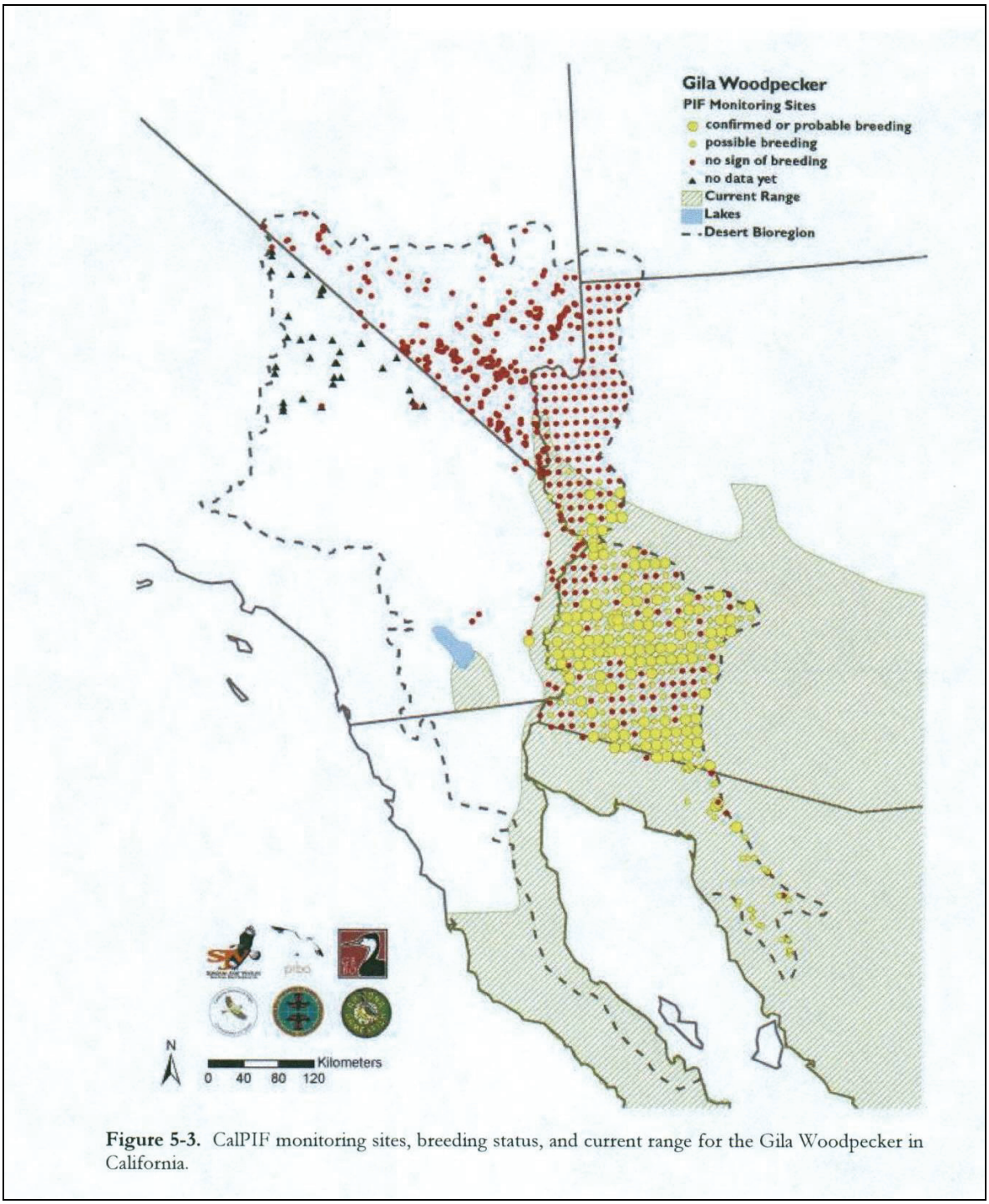

Figure 5-3. CalPIF monitoring sites, breeding status, and current range for the Gila Woodpecker in California.

Figure 2. Current (2009) range of the Gila woodpecker in California.[1]

[1] From CalPIF (California Partners in Flight). 2009. Version 1.0. The Desert Bird Conservation Plan: a
Strategy for Protecting and Managing Desert Habitats and Associated Birds in California. California.
Partners in Flight. http://www.prbo.org/calpif/plans.html.

ATTACHMENT 4

DOCKET
09-AFC-5
DATE FEB 05 2010
RECD. FEB 24 2010

To: Craig Hoffman, Energy Commission Project Manager

From: Heather Blair, Energy Commission Staff Biologist (Aspen Environmental Group)

Date: February 5, 2010

Re: Abengoa Mojave Solar Project – time-sensitive issues and informational needs

Completion of the draft Staff Assessment and its review by USFWS and CDFG facilitated the identification of several time-sensitive issues. Staff believes it will benefit the project schedule to relay this information to the applicant now rather than wait to publish it in the Staff Assessment in March 2010. Staff strongly recommends continued coordination with USFWS (Ashleigh Blackford) and CDFG (Eric Weiss) regarding plan development, permit requirements/timing, compliance with updates to the Bald and Golden Eagle Act (e.g., survey and foraging habitat assessment procedures), and compensatory mitigation. Staff is also available to answer questions about these informational needs.

The documents and information listed below **need to be submitted** by the applicant to the Energy Commission, USFWS, and CDFG:

- Draft Desert Tortoise Exclusion Fencing, Clearance Survey, and Translocation Plan (Desert Tortoise Plan). See below.
- Draft Burrowing Owl Monitoring and Mitigation Plan (Burrowing Owl Plan). See below.
- Swainson's Hawk Survey Results – Spring 2010. As proposed by the applicant in their draft California Endangered Species Act Section 2081 Incidental Take Permit Application.
- Golden Eagle Survey Results and Foraging Habitat Assessment. Required to determine compliance with recent updates to the Bald and Golden Eagle Act, including whether the project would require a take permit. Contact USFWS for guidance on survey protocol and foraging habitat assessment methodology, as it becomes available. Analysis of the survey results and coordination between staff, the applicant, and USFWS is necessary to determine whether a take permit is required for impacts to golden eagle, including loss of foraging habitat.
- Compensatory Mitigation Details:
  - Identification of which 118.2 acre portion of the 233 acre applicant-owned parcel is proposed for mitigation;
  - Evaluation of the degree of disturbance, dumping, historical structures, etc. that may require cleaning, fencing, repairs, demolition, etc.; and
  - Determination of whether the applicant would conduct the aforementioned work (if required) prior to conserving the land or if additional lands or monies will be required to off-set the aforementioned impediments.

It is requested that these plans, survey results, and information be submitted as soon as possible to allow time for review, analysis, and incorporation into conditions of certification, in advance of the Supplemental Staff Assessment (publication scheduled for early May 2010). Of particular importance are the draft Desert Tortoise Plan, draft Burrowing Owl Plan, Swainson's hawk and golden eagle survey results and foraging habitat assessment, and compensatory mitigation details, all of which need to be addressed by staff in the Supplemental Staff Assessment. The following measures, which were developed in coordination with USFWS and CDFG, present substantive guidance for preparation of the draft Desert Tortoise and Burrowing Owl plans. The final Desert Tortoise Plan must be submitted to USFWS with the Biological Assessment, which is currently scheduled to be submitted to the U.S. Department of Energy in February 2010; therefore, a draft plan must be submitted and reviewed as soon as possible.

Staff recommends that careful consideration be given to the timing of burrowing owl and desert tortoise clearance surveys in relation to the overall project construction schedule. As described below, the clearance surveys must be conducted within specific timing and environmental parameters. In coordination with USFWS and CDFG, staff identified two potential scenarios specific to the AMS project that would allow construction to proceed in compliance with these timing restrictions. It is understood that there are other potential scenarios and staff encourages the applicant to present these and other scenarios for approval in the draft Desert Tortoise and Burrowing Owl plans.

1. At site mobilization in Fall/Winter 2010, install temporary desert tortoise exclusion fencing partially around (within 250 feet of) all potential tortoise burrows ***while maintaining connectivity to suitable natural habitat*** adjacent to the project site. Determine presence or absence of burrowing owl during that same timeframe (to determine compensatory mitigation and the number of artificial burrows). Color-banding and passive relocation of non-nesting burrowing owl can occur outside of the temporary exclusion fence (within the proposed project area) at any time. However, if it is determined that an active nest is present onsite, a no disturbance buffer must be established within 250 feet of the active burrowing owl nest and remain until juveniles from the occupied burrows are foraging independently and are capable of independent survival. Desert tortoise clearance would be conducted April through May and/or September through October.
2. Fence the site and conduct burrowing owl and desert tortoise clearance concurrently in September or October (provided the environmental requirements below are satisfied).

Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan

A Desert Tortoise Exclusion Fencing, Clearance Surveys, and Translocation Plan shall be developed in consultation with the CPM, CDFG, and USFWS. This plan shall include detailed measures to avoid and minimize impacts to desert tortoise in and near the construction areas as well as methods for clearance surveys, fence installation, tortoise handling, artificial burrow construction, egg handling and other procedures, which shall be consistent with those described in the USFWS Desert Tortoise Field Manual (www.fws.gov/ventura/speciesinfo/protocols_guidelines) or more current guidance provided by CDFG and USFWS. At a minimum, the following measures shall be included in the plan and implemented by the project owner to manage their construction site, and related facilities, in a manner to avoid, minimize, or mitigate impacts to desert tortoise.

1. Fence Installation. Prior to ground disturbance, the entire project site shall be fenced with desert tortoise exclusion fence. To avoid impacts to desert tortoise during fence construction, the proposed fence alignment shall be flagged and the alignment surveyed within 24 hours prior to fence construction. Surveys shall be conducted by the Designated Biologist using techniques approved by the USFWS and CDFG. Biological Monitors may assist the Designated Biologist under his or her supervision. These surveys shall provide 100 percent coverage of all areas to be disturbed during fence construction and an additional transect along both sides of the proposed fence line. This fence line transect shall cover an area approximately 90 feet wide centered on the fence alignment. Transects shall be no greater than 30 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with USFWS-approved protocol.

    a. Timing and Supervision of Fence Installation. The exclusion fencing shall be installed prior to site clearing and grubbing. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present.

    b. Fence Material and Installation. The permanent tortoise exclusionary fencing shall consist of galvanized hard wire cloth 1 by 2 inch mesh sunk 12 inches into the ground, and 24 inches above ground (refer to parameters for USFWS-approved tortoise exclusion fencing at www.fws.gov/ventura/speciesinfo/protocols_guidelines). For temporary exclusion fencing, a “folded bottom” technique shall be implemented. This method follows the same guidelines as installation of permanent fencing except instead of burying the bottom 12 inches of the fencing, it is bent at a approximately 90 degree angle (to follow the contour of the ground) and spikes or other retaining methods are driven into the ground every two linear feet in such a manner as to “anchor” the bottom of the fence. This method eliminates the need for trenching, which for short-term temporary impacts may be more beneficial to the recovery of the landscape, and thus the species.

c. Security Gates. Security gates shall be designed with minimal ground clearance to deter ingress by tortoises. The gates shall remain closed except during vehicle passage and may be electronically activated to open and close immediately after vehicle(s) have entered or exited to prevent extended periods with open gates, which might lead to a tortoise entering. Cattle grating designed to safely exclude desert tortoise shall be installed at the gated entries to discourage tortoises from gaining entry.

d. Transmission Interconnection Fencing. The Transmission Interconnection Area shall be temporarily fenced with tortoise exclusion fencing to prevent desert tortoise entry during construction. Temporary fencing must follow guidelines for permanent fencing and supporting stakes shall be sufficiently spaced to maintain fence integrity. Temporary exclusion and translocation of desert tortoise in the Transmission Interconnection Area shall be addressed in the Desert Tortoise Translocation Plan.

e. Stormwater Drainage Fencing. The onsite stormwater drainage channels, including the headwalls, outlet, and road crossings, shall be permanently fenced to ensure exclusion of desert tortoise during AMS operation.

f. Fence Inspections. Following installation of the desert tortoise exclusion fencing for both the permanent site and stormwater drainage fencing and temporary fencing in the interconnection area, the fencing shall be regularly inspected. Permanent fencing shall be inspected monthly and during/immediately following all major rainfall events. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within two days of observing damage. Inspections of permanent site fencing shall occur for the life of the project. Temporary fencing must be inspected immediately following major rainfall events. All temporary fencing shall be repaired immediately upon discovery and, if the fence may have permitted tortoise entry while damaged, the Designated Biologist shall inspect the utility corridor or tower site for tortoise.

2. Desert Tortoise Clearance Surveys. Following construction of the tortoise exclusionary fencing around the Plant Site, all fenced areas shall be cleared of tortoises by the Designated Biologist, who may be assisted by Biological Monitors. A minimum of two, 100 percent coverage protocol clearance surveys with negative results must be completed and these must coincide with heightened desert tortoise activity from April through May and September through October. Non-protocol clearance surveys may be conducted in areas of certainly unsuitable habitat (e.g., developed) with prior approval of specific areas by USFWS and CDFG (these proposed areas shall be identified in the draft Desert Tortoise Plan). To facilitate seeing the ground from different angles, the second clearance survey shall be walked at 90 degrees to the orientation of the first clearance survey. Additional clearance survey guidelines provided in the USFWS *Desert Tortoise Field Manual* (www.fws.gov/ventura/speciesinfo/protocols_guidelines).

3. Translocation of Desert Tortoise. If desert tortoises are detected during clearance surveys within the project impact area, the Designated Biologist shall safely

translocate the tortoise the shortest possible distance to the nearest suitable habitat as described below. Any handling efforts shall be in accordance with techniques described in the USFWS's *Desert Tortoise Field Manual* (www.fws.gov/ventura/speciesinfo/protocols_guidelines).

a. If a tortoise is discovered within the project site, it shall be safely translocated to the nearest desert saltbush scrub or Mojave creosote bush scrub east and south of section 33 or the nearest desert saltbush scrub west and south of section 30.

b. If a tortoise will be moved a distance greater than 5 km, disease testing and monitoring shall be conducted in accordance with the approved final Desert Tortoise Translocation Plan.

c. If a visibly diseased tortoise is encountered onsite, procedures shall be implemented in accordance with the approved final Desert Tortoise Plan.

4. Burrow Inspection. All potential desert tortoise burrows within the fenced area shall be searched for presence. To prevent reentry by a tortoise or other wildlife, all burrows shall be collapsed once absence has been determined. Immediately following excavation and if environmental conditions warrant immediate translocation, tortoises excavated from burrows shall be translocated to unoccupied natural or artificial burrows within the location approved by USFWS and CDFG per the final Desert Tortoise Translocation Plan.

5. Burrow Excavation. Burrows inhabited by tortoises shall be excavated by the Designated Biologist using hand tools, and then collapsed or blocked to prevent re-occupation. If excavated during May through July, the Designated Biologist shall search for desert tortoise nests/eggs. All desert tortoise handling and removal, and burrow excavations, including nests, shall be conducted by the Designated Biologist in accordance with the USFWS-approved protocol (Desert Tortoise Council 1999) or more current guidance on the USFWS website.

6. Monitoring During Clearing. Following the installation of exclusionary fencing and after ensuring desert tortoises are absent from the project site, heavy equipment shall be allowed to enter the project site to perform earth work such as clearing, grubbing, leveling, and trenching. A Biological Monitor shall be onsite at all times during initial clearing and grading activities. Should a tortoise be discovered, it shall be relocated as described above in accordance with the final Desert Tortoise Translocation Plan.

7. Reporting. The Designated Biologist shall record the following information for any desert tortoises handled: a) the locations (narrative and maps) and dates of observation; b) general condition and health, including injuries, state of healing and whether desert tortoise voided their bladders; c) location moved from and location moved to (using GPS technology); d) gender, carapace length, and diagnostic markings (i.e., identification numbers or marked lateral scutes); e) ambient temperature when handled and released; and f) digital photograph of each handled desert tortoise as described in the paragraph below. Desert tortoise moved from within project areas shall be marked for future identification as described in *Guidelines for Handling Desert Tortoise during Construction Projects* (Desert

Tortoise Council 1999) or more current guidance on the USFWS website. Digital photographs of the carapace, plastron, and fourth costal scute shall be taken. Scutes shall not be notched for identification.

Burrowing Owl Impact Avoidance and Minimization Measures

Prior to preconstruction surveys, a Burrowing Owl Monitoring and Mitigation Plan (Burrowing Owl Plan) shall be developed by the project owner in consultation with the CPM and CDFG. This plan shall include detailed measures to avoid and minimize impacts to burrowing owls in and near the construction areas (if indentified during surveys) and shall be consistent with CDFG guidance (CDFG 1995). In addition, the plan shall identify the optimal time to concurrently relocate both desert tortoise and burrowing owl. At a minimum, the following measures shall be included in the plan and implemented by the project owner to manage their construction site, and related facilities, in a manner to avoid, minimize, or mitigate impacts to breeding and foraging burrowing owls.

1. Pre-Construction Surveys and Nest Avoidance. The Designated Biologist shall conduct pre-construction surveys for burrowing owls within the project site and a 160-foot buffer. These surveys shall be conducted concurrent with desert tortoise clearance surveys, to the maximum extent possible. The following shall be included in the Plan and implemented to avoid and minimize impacts to burrowing owls onsite:

    a. Ground-disturbing actions should be carried out from September 1 to January 31, which is prior to the burrowing owl nesting season and also potentially within the desert tortoise active season, depending on ground and climate conditions.

    b. A 250-foot exclusion area around occupied burrows will be flagged and this area will not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. The exclusion area shall remain connected to natural area(s) to the extent possible, to avoid completely surrounding the owl with construction activities and/or equipment.

2. Artificial Burrow Installation. Prior to any ground-disturbing activities, the project owner shall install five artificial burrows for each identified burrowing owl burrow in the project area that would be destroyed, within in the approved compensatory habitat area. The Designated Biologist shall survey the site selected for artificial burrow construction to verify that such construction will not affect desert tortoise or Mohave ground squirrel or existing burrowing owl colonies in the relocation area. Installation of the artificial burrows shall occur after baseline surveys of the relocation area and prior to ground disturbance or heavy equipment staging. Design of the artificial burrows shall be consistent with CDFG guidelines (CDFG 1995) and shall be approved by the CPM in consultation with CDFG.

3. Passive Relocation. Prior to passive relocation, any owls that will be relocated shall be color banded in accordance with the guidance provided by USGS bird banding lab (http://www.pwrc.usgs.gov/bbl) to monitor relocation success; this shall not be conducted during the breeding season. During the non-breeding season, owls would

be given a minimum of three weeks to become familiar with the new artificial burrows, after which eviction of owls within the project site could begin. Use of one-way doors described by Trulio (1995) and Clark and Plumpton (2005) would be used to facilitate passive relocation of owls.

a. Monitoring and Success Criteria. The Designated Biologist shall survey the relocation area during the nesting season to assess use of the artificial burrows by owls using methods consistent with Phase II and Phase III Burrowing Owl Consortium Guideline protocols (CBOC 1993). Surveys shall start upon completion of artificial burrow construction and shall continue for a period of five years. If survey results indicate burrowing owls are not nesting on the relocation area, remedial actions shall be developed and implemented in consultation with the CPM, CDFG and USFWS to correct conditions at the site that might be preventing owls from nesting there. A report describing survey results and remedial actions taken shall be submitted to the CPM, CDFG and USFWS no later than January 31 of each year for five years.

4. Preserve and Manage Compensatory Habitat. For each individual owl or pair identified on the project site during pre-construction surveys, 6.5 acres shall be preserved and managed in perpetuity for the occupation of burrowing owls. This compensatory habitat shall be in addition to the acreage required to mitigate impacts to desert tortoise and Mohave ground squirrel.

   The compensatory habitat shall be managed for the benefit of burrowing owls, with the specific goals of:

   a. Maintaining the functionality of artificial and natural burrows; and

   b. Minimizing the occurrence of weeds (species considered “moderate” or “high” threat to California wildlands as defined by CAL-IPC [2006] and noxious weeds rated “A” or “B” by the California Department of Food and Agriculture and any federal-rated pest plants [CDFA 2009]) at less than 10 percent cover of the shrub and herb layers.

   The Burrowing Owl Plan shall also include monitoring and maintenance requirements, details on methods for measuring compliance goals and remedial actions to be taken if management goals are not met.

   The final Burrowing Owl Plan is due before preconstruction surveys begin to ensure that an approved relocation methodology will be followed for any owls occurring within the project area. Therefore, it is understood that the compensatory mitigation acreage (if required) will not be identified in the Burrowing Owl Plan. However, the Plan shall propose a location for compensatory mitigation land and the methodology to quantify the acreage required, as outlined above. If owls are identified during the pre-construction survey, the project owner shall submit an addendum to the Burrowing Owl Plan, which identifies the exact acreage to be preserved and

managed in perpetuity for burrowing owl based on the results of the preconstruction survey and as agreed to in consultation with CDFG.

DECLARATION OF SERVICE
Blythe Solar Power Plant Project

Docket No. 09-AFC-6

I, David Weber, declare that on June 11, 2010, I served and filed copies of the attached **TESTIMONY OF SCOTT CASHEN ON BEHALF OF CALIFORNIA UNIONS FOR RELIABLE ENERGY FOR THE BLYTHE SOLAR POWER PROJECT** dated June 11, 2010. The original document, filed with the Docket Office, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: http://www.energy.ca.gov/sitingcases/solar_millennium_blythe/index.html.

The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Office via email and U.S. mail as addressed below:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-6
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, California on June 11, 2010.

/S/
David Weber

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