UNANSWERED DATA REQUESTS, OBJECTIONS, AND RESPONSES FROM CURE'S FIRST SET OF DATA REQUESTS (NOS. 1-144)

AIR QUALITY

Background: MITIGATION MEASURES FOR FUGITIVE DUST AND CONSTRUCTION EQUIPMENT COMBUSTION EXHAUST

Project construction is expected to take 25 months, and will require an average of 477 employees per day with a peak workforce of 836 workers.[1] According to the AFC, construction workers will commute up to two hours to construction sites from their homes.[2] The applicant anticipates drawing its construction workforce from Kern, Los Angeles, and San Bernardino counties.[3]

The AFC states that construction related air emissions include exhaust and fugitive dust from construction worker commute vehicles.[4] Construction-related emissions will contribute to existing violations of the California 24-hour and annual PM10 ambient air quality standards.[5] In addition, because the Project will be a source of ozone precursor pollutant emissions, construction emissions will contribute to existing violations of Federal and California ozone standards.[6]

Under the California Environmental Quality Act ("CEQA"), feasible mitigation measures must be required to minimize the Project's significant environmental impacts.[7] However, the applicant did not propose any mitigation measures to reduce impacts from construction workforce commute vehicles. Feasible mitigation includes providing buses for the construction workforce to reduce air pollutant emissions.

Data Request

1. Please identify mitigation measures that the Project will employ to reduce air pollutant emissions from construction workforce commute vehicles.

Beacon's Objection

Beacon did not specifically object to Data Request 1.

[1] AFC, p. 5.11-14.
[2] *Id.*
[3] *Id.*
[4] *Id.* at p. 5.2-29.
[5] AFC, Table 5.2-27, p. 5.2-40.
[6] AFC, p. 5.2-19.
[7] Cal. Code Regs., tit. 14, § 15126.4, subd. (a)(2).

CURE's Response

Data Request 1 is related to Staff's data requests 9 through 12, and follow-up on the Air District's preliminary determination of compliance dated December 23, 2008. Data Request 1 requests information relevant to the Commission's duty under CEQA to impose feasible mitigation measures for significant direct, indirect, and cumulative impacts. Data Request 1 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. CURE's data request explains that construction related emissions will contribute to existing violations of the California 24-hour and annual PM10 ambient air quality standards and to existing violations of Federal and California ozone standards. Therefore, whether Beacon proposes any mitigation to reduce air pollutant emissions is relevant and necessary to this proceeding.

Background: EMERGENCY FIREWATER PUMP ENGINE

The AFC's emission estimates for the emergency firewater pump engine are based on EPA Tier 3-certified engines as determined by the BACT analysis.[8] However, the text of the AFC specifies the use of a 300-hp John Deere Model 6081HF;[9] Appendix E variously specifies the use of a 300-hp John Deere Model 6081HF and a 300-hp John Deere Model 6125H.[10] According to manufacturer specifications, neither of these engine models is EPA Tier 3-certified.

Data Requests

3. Please confirm that the Project would employ an EPA Tier 3-certified emergency firewater pump engine.

4. Please specify the engine brand, model, and horsepower rating for the Project's emergency firewater pump engine.

Beacon's Objection

Data Requests 3 and 4 were already answered during this proceeding. The data is set forth in Appendix E, Section 3.2 of the AFC.

CURE's Response

CURE cited the AFC and specifically stated that the AFC's emission estimates for the emergency firewater pump engine are based on EPA Tier 3-certified engines as determined by Beacon's BACT analysis.[11] CURE explained that the text of the AFC, however, specifies the use of two engines, neither of which is EPA Tier 3-certified. Thus, CURE requested that Beacon confirm that the Project would employ an EPA Tier 3-certified emergency firewater pump engine, as assumed in the BACT analysis, and specify the engine brand, model, and horsepower

[8] AFC, p. 5.2-31.
[9] *Id.*
[10] AFC, Appendix E, p. 3-2 and Table 16A.
[11] AFC, p. 5.2-31.

rating for the Project's emergency firewater pump engine. The discrepancy remains unresolved, and air emissions associated with project components is relevant to air quality impacts under CEQA.

WATER RESOURCES

Background: WATER SUPPLY ALTERNATIVES

California's Waste Water Reuse Law[12] precludes the use of potable domestic water for nonpotable uses if suitable recycled water is available to the user. In particular, section 13552.6 of the Water Code finds that the use of potable domestic water in cooling towers is a waste or unreasonable use of water if suitable recycled water is available.

The Water Code defines "recycled water" as "water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource."[13] Recycled water is "available" if it meets four criteria: (1) the source of recycled water is of adequate quality for the proposed use and is available for the proposed use; (2) recycled water can be furnished at a reasonable cost and the cost of supplying treated recycled water is comparable to, or less than, the cost of supplying potable domestic water; (3) the use will not be detrimental to public health; and (4) the use will not adversely affect downstream water rights, water quality, or plant life, fish and wildlife.[14]

It is important to read these provisions in the context of the Legislature's directive to state agencies to encourage wastewater recycling. The Legislature's directives include Water Code section 13512, which states that "[i]t is the intention of the Legislature that the state undertake all possible steps to encourage development of water recycling facilities so that recycled water may be made available to help meet the growing water requirements of the state," and Water Code section 461, which provides that the public policy of the state requires the maximum re-use of wastewater.

In the past, the California Energy Commission has implemented these requirements in siting power plants by looking for sources of wastewater that have already been recycled to a level suitable for cooling tower use, and also for sources of wastewater that could be treated or further treated at a reasonable cost for cooling tower use. The Commission took the latter approach in both the Delta Energy Center and Los Medanos Energy Facility cases, where the Commission required the use of tertiary treated recycled water from the Delta Diablo Sanitation District for cooling the proposed plants, even though the tertiary treatment facility had not yet been built or permitted to provide sufficient amounts of recycled water, and therefore, the tertiary treated water was not currently available.

[12] Water Code, § 13550 et seq.
[13] Water Code, § 13050, subd. (n).
[14] Water Code, § 13550, subd. (a).

Further, in 2003, the California Energy Commission established a policy regarding the use of fresh water for power plant cooling. The Energy Commission's 2003 Integrated Energy Policy Report states that the Commission will approve the use of fresh water for power plant cooling "only where alternative water supply sources and alternative cooling technologies are shown to be 'environmentally undesirable' or 'economically unsound.'" The Commission defines "environmentally undesirable" as "having a significant adverse environmental impact," and "economically unsound" as "economically or otherwise infeasible."[15]

Here, the Project proposes the use of potable water for cooling. The AFC's water supply alternatives assessment dismisses numerous sources of nonpotable water for various reasons, including: (1) the water source's distance from the Project; (2) the water source has future plans for tertiary treatment but current tertiary treatment is not available; (3) there are other entities that are interested in the source; and (4) use of the water source poses potential environmental issues.[16]

Data Requests

5. Please identify the water quality requirements for all proposed uses of water.

7. Please support your conclusion that alternative sources of water are cost prohibitive, by presenting your analysis and all supporting information including the location of each source, quantity of water available, and composition of water available.

Beacon's Objection

Data Requests 5 through 7 were already answered during the proceeding. Data Request 5 can be found in Section 5.17 of the AFC, as well as Appendix J. The information asked for in Data Request 6 can be found in Section 5.17 of the AFC. Information responsive to Data Request 7 is compiled in Section 4.5.3 of the AFC and Appendices J and K.

CURE's Response

CURE withdraws data request 6, which generally asked Beacon to address the Project's compliance with the Water Code and the Commission's policy on the use of fresh water for power plant cooling. CURE seeks an order compelling Beacon to respond to Data Requests 5 and 7, which stem from Staff's data requests 58, 96, 97, and from the November 6, 2008 workshop. For example, CURE's data requests specifically follow-up on Staff data request 58, which asked Beacon to "provide an explanation why available non potable water was not considered as an alternative water source for power plant cooling needs."Data Requests 5 and 7 request specific information relevant to determining compliance with the California Water Code and Energy Commission policy regarding the use of fresh water for power plant cooling. Specifically, the requests seek information that Beacon used to conclude that alternative sources

[15] 2003 Integrated Energy Policy Report, California Energy Commission, December 2003, Docket No. 02-IEP-1, Pub. No. 100-03-019, available at http://www.energy.ca.gov/reports/100-03-019F.PDF.
[16] AFC, p. 4-16.

of water are not feasible for cooling. This conclusion must be based on substantial evidence in the record. Thus, the information requested by CURE is relevant and necessary to the proceeding.

In its objection, Beacon argues that information responsive to CURE's data requests 5 through 7 regarding its proposal to use fresh water for power plant cooling can be found sections 4.5.3 and 5.17 of the AFC and Appendices J and K. However, these sections do not provide the water quality requirements for the project's proposed uses of water (data needed to conduct a feasibility analysis) or analysis and supporting information that alternatives are cost prohibitive (as required by Energy Commission policy).

Data Request

8. Please provide a list of the other entities interested in the water supply alternatives referred to on page 4-16 of the AFC, the quantity of water sought by each entity, and the proposed use of the water sought by each entity.

Beacon's Objections

Data Request 8 is premised on the availability of third-party data that has not been provided to Beacon, and is not reasonably necessary to a decision on the AFC.

CURE's Response

Data Request 8 stems from Staff's data requests 58, 96, 97, and from the November 6, 2008 workshop. Data Request 8 requests specific information relevant to determining compliance with the California Water Code and Energy Commission policy regarding the use of fresh water for power plant cooling, as required by the Warren Alquist Act. Beacon stated that other entities sought non-potable water as a basis for concluding that the use of nonpotable water is not feasible for cooling. CURE asked for information supporting Beacon's claim. Thus, the information requested by CURE is relevant and necessary to the proceeding. If information to support Beacon's conclusion is not available, Beacon can respond accordingly, or alter its conclusion.

Data Request

9. Please provide a list of and discussion of the "potential environmental issues" referred to on page 4-16 of the AFC.

Beacon's Objection

Data Request 9 is vague, ambiguous, or overbroad. Beacon argues that CURE's request is not clear because "the term 'potential environmental issues' does not appear on page 4-16 of the AFC, nor anywhere in the AFC… ." Beacon discusses how Table 4-8 on page 4-17 of the AFC refers to the "potential *for* environmental issues." Finally, Beacon states that because CURE's request is unclear, it "was forced to comb the AFC searching for the referenced phrase."

CURE's Response

Data Requests 9 stems from Staff's data requests 58, 96, 97, and from the November 6, 2008 workshop. Data Request 9 requests information relevant to the Commission's duty under CEQA to analyze potentially significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data Request 9 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. Because of the Commission's policy regarding the use of fresh water for power plant cooling (as laid out in CURE's reply), the requests seek information to support Beacon's conclusion that alternative sources of water are not feasible for cooling. Thus, the information requested by CURE is relevant and necessary to the proceeding.

Table 4-8 ***is on page 4-16*** of the AFC. Further, Table 4-8 does in fact list "potential environmental issues" as a reason for dismissing Ridgecrest Wastewater Treatment Plant as an alternative nonpotable water source, as well as "potential for environmental issues" as a reason for dismissing the Rosamond Wastewater Treatment Plant as an alternative nonpotable water source.[17] Thus, CURE's request is clear.

BIOLOGICAL RESOURCES

Background: DATA RELIABILITY: RARE PLANT SURVEYS

Sampling was used to provide data on sensitive biological resources that occur in the Project area and associated vicinity. These data serve as the cornerstone from which much of the AFC's biological resources analyses are based, including analyses of direct, indirect, and cumulative impacts, as well as analyses of appropriate measures to mitigate those impacts.

The foundation of any biological resource assessment is the reliability of the data. Data reliability is highly correlated with sampling intensity. The AFC states that the entire survey area (i.e., 100% coverage) was surveyed.[18] It is not clear whether the AFC is suggesting that the entire survey area was sampled, or whether the entire area was in fact surveyed, which would constitute a census. True censuses of biological resources are extremely difficult to conduct, even in relatively small areas. As a result, most scientists rely on carefully conducted samples to obtain the desired information. Therefore, it is likely that surveys conducted for the Project represent a sample from which inferences about target populations were made.

In addition to sampling intensity, the reliability of sampling data is dependent on the ability to control sampling bias. Whereas sampling bias can be nearly impossible to eliminate, it can be minimized by several means, including: (1) implementing an appropriate sampling

[17] *See* AFC, p. 4-16, attached as Exhibit 2.

[18] AFC, Appendix F, p. 21.

design; (2) ensuring personnel are appropriately trained; and (3) adhering to strict and carefully constructed sampling protocols.

Survey Effort

Rare plant surveys for the Project were conducted in 2007, and again in 2008, at the request of the agencies due to the lack of adequate rainfall in 2007. The 2008 survey area included the plant site, the two transmission line option corridors, and both sides of the roadway along the 17.6-mile natural gas pipeline route. Surveys of the plant site, potential transmission line corridors, and gas pipeline route were conducted three to four times to account for different blooming times of the target species.[19]

The 2008 survey report indicates that rare plant surveys followed survey guidelines provided by the U.S. Fish and Wildlife Service.[20] Other than the names of the individuals that conducted the surveys, and the dates that surveys were conducted, the AFC and associated 2008 plant survey report do not provide any other specific information about how rare plant surveys were conducted.

Rare plant survey guidelines established by the U.S. Fish and Wildlife Service require biologists to walk parallel transects spaced five to ten meters (16 to 33 feet) apart throughout the entire site, regardless of subjective habitat evaluations.[21] Assuming that this protocol was followed, and assuming that transects were ten meters apart, biologists would have walked at least 942 kilometers of transects:

- 787 kilometers (km) of transect within the Plant Site (two rectangles);[22]
- 50 km of transect within Plant Site (triangle adjacent to railroad tracks);
- 11 km (7 miles) of transect along potential transmission line corridors (assuming centerline only);
- 56 km (17.6 miles of road shoulder x 2 shoulders) of transect along the pipeline corridor (assuming centerline only); and
- 38 km of transect within the 80-acre and 14-acre parcels.

The 2008 plant survey report provides a table of the rare plant survey dates and personnel.[23] Assuming that each listed individual conducted 11 hours[24] of survey time each day, 88 to 275 man-hours (rounds two and one, respectively) were devoted to each round of surveys. To meet survey protocol, surveyors working independently would have each had to walk 10.7 km per hour to cover the areas listed for round two, and 7.1 km per hour during round four. As a rule of thumb, a "swift" walk in which one is breathing noticeably is achieved at a rate of approximately 6.5 km per hour.[25] It is unreasonable to expect a surveyor, who is attempting to

[19] Response to CEC Data Request 13.
[20] Beacon Solar Energy Project - 2008 Spring Survey Report.
[21] Cypher, E.A. 2002. General rare plant survey guidelines. California State University, Stanislaus. Endangered Species Recovery Program. Available online at: http://sacramento.fws.gov/es/documents/rare_plant_protocol. pdf.
[22] See Attachment A.
[23] Beacon Solar Energy Project - 2008 Spring Survey Report, A-1.
[24] Survey hours not provided in report.
[25] http://walking.about.com/od/measure/f/howfastwalking.htm

identify plant species while walking on sandy soils, to maintain this rate of speed. As a result, it does not appear that rare plant surveys conducted for the Project adhered to survey protocols, and thus they should not be considered sufficient to provide reliable information for the presumed absence of rare plants.

Survey Timing

The AFC identified several special-status annual plant species as having the potential to occur on or near the survey area.[26] The applicant conducted focused rare plant surveys within the site during 2007. However, conditions for performing these surveys were less than satisfactory due to extremely low winter rainfall.[27] As a result, the applicant conducted additional focused surveys in 2008. The 2008 surveys resulted in the detection of considerably more native annual species in the survey area than the number detected in 2007. Because nearly three times as many plant species were detected in the survey area during 2008, Project botanists concluded that 2008 was an adequate rainfall year to detect special-status species.[28]

The term "annuals" implies blooming yearly. However, because this is not always the case, desert annuals are more accurately referred to as "ephemerals." The exact phenology of many desert plants is poorly understood; however, in general the flowering of many species is thought to be dependent on the unique combination of sun, wind, precipitation, temperature, and elevation. For many ephemeral species, precipitation is needed in small doses throughout the winter. Too little rain provides a poor climate for seed germination, whereas too much rain may result in seeds being washed away or rotting. Timing of precipitation is also important. Rainfall that occurs too early or too late in the season may inhibit blooming.[29]

Temperature is also critical for ephemerals. If seeds get too hot (e.g., over 85 °F in February or March), seeds may become parched and seedlings scorched. In addition, whereas cool nights can assist flower seedlings by slowing the growth of competitors like grasses and mustards, very cold temperatures can damage blossoms.[30]

The AFC's conclusion that 2008 surveys were sufficient to document the presence of special-status plants is not adequately or scientifically supported. Specifically, the AFC does not provide any quantitative data on rainfall or other environmental factors that may have influenced species richness, abundance, or blooming. Despite an increase in rainfall, some species may flower only after substantial winter rains, or may remain dormant for two or three springs as the result of other factors.[31] Even though site-specific uncertainty in flowering timing and abundance cannot be eliminated, it can be minimized through examination of reference sites known to contain the species of interest.

[26] AFC, Appendix F, p. 11.
[27] AFC, Appendix F, p. vi.
[28] Beacon Solar Energy Project - 2008 Spring Survey Report, p. 26.
[29] DesertUSA 2008 (cited 24 Nov 2008). Available at: http://www.desertusa.com/du_plantsurv.html
[30] *Id.*
[31] *Id.*

An increase in species richness is not sufficient evidence to justify the conclusion that target species would have been detected if they were present. In particular, the AFC needs to demonstrate that survey effort was standardized between years and did not bias results (e.g., by dedicating more time to surveying in 2008 than in 2007).

Because there are numerous issues associated with the reliability of the AFC's rare plant survey data, further information is needed to evaluate Project's impact on rare plants.

Data Requests

11. If 2008 surveys were devoted to documenting the actual presence of special-status plants, please provide the specific methods that were used to conduct focused surveys. Please include: (1) the total number of man-hours devoted to each survey day; (2) the role of each individual that participated; (3) spacing of transects; and (4) whether surveyors worked independently or in teams.

12 Please provide precise information on the locations of special-status plant survey transects established by the survey team. Please address any extra level of effort (e.g., closer transect spacing) that was devoted to washes, swales, or other potentially suitable habitats.

13. Please discuss the extent to which established survey protocols were followed, including development of target species at the reference site(s).

14. Please provide information on the floristic field survey experience of the individuals that conducted the surveys, including any past experience identifying the special-status species identified as having the potential to occur within the Project area.

Beacon's Objection

The information in response to Data Requests 11 through 14 has already been provided and is not reasonably necessary for a decision on the AFC. Data Requests 11 though 14 are also based on an improper motive.

CURE's Response

Data requests 11 through 14 stem from Beacon's 2008 Spring Survey Report, which was filed on October 29, 2008 in response to Staff's data request 13. Data Requests 11 through 14 request information relevant to the Commission's duty under CEQA to analyze potentially significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data Requests 11 through 14 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act.

The 2008 Spring Survey Report states that the Applicant followed protocol. However, as explained in the background to CURE's data requests, the information provided in the Report contradicts protocol. Thus, CURE requested that Beacon provide the underlying assumptions

and data (i.e. survey details) for its conclusions in the Report. Without such data, it is impossible to determine the significance of impacts or to impose sufficient mitigation measures. Thus, the information requested is relevant and necessary to this proceeding. The information responsive to CURE's data requests 11 through 14 has not been provided by Beacon and are still applicable.

Data Requests

17. Please discuss the phenology of the special-status plant species identified as having potential to occur on the Project site.

18. Please provide scientific information to support the conclusion that climatic conditions in 2008 were sufficient to support the flowering of any special-status species with the potential to occur on the Project site.

Beacon's Objection

Information responsive to Data Requests 17 and 18 has already been provided in the proceeding.

CURE's Response

Data requests 17 and 18 stem from Beacon's 2008 Spring Survey Report, which was filed on October 29, 2008 in response to Staff's data request 13. Data Requests 17 and 18 request information relevant to the Commission's duty under CEQA to analyze potentially significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data Requests 17 and 18 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. The AFC's conclusion that 2008 surveys were sufficient to document presence of special-status plants is not adequately or scientifically supported. The AFC does not provide any quantitative data on rainfall or other environmental factors to verify the ability to detect special status plant species. Therefore, the information responsive to CURE's data requests 17 and 18 has not been provided by Beacon. The data is important to determine whether any special status plant species could not have been detected given the climatic conditions, and the requests are still applicable.

Background: DATA RELIABILITY: DESERT TORTOISE SURVEYS

The AFC states that desert tortoise (*Gopherus agassizii*) surveys conducted for the Project adhered to the established U.S. Fish and Wildlife Service protocol.[32] Whereas much of the information presented in the AFC suggests that surveyors followed protocol, some of the information necessary to evaluate survey effort is lacking.

[32] Beacon Solar Energy Project – 2008 Spring Survey Report, p. 9.

Data Requests

21. Please provide: (1) the number of man-hours devoted to focused tortoise surveys, by location; (2) the role of each individual that participated; and (3) clarification on whether surveyors worked independently or in teams.

22 Please address any measures that the desert tortoise survey team took to address surveyor accuracy, including whether the survey team conducted the additional intensive survey recommend in the U.S. Fish and Wildlife Service protocol. If the additional intensive survey was conducted, please discuss the results.

Beacon's Objection

Data Requests 21 and 22 were already answered in the proceeding. The information responsive to Data Requests 21 and 22 are irrelevant and unnecessary to a decision on the AFC. Data Requests 21 and 22 are based on improper motive.

CURE's Response

Data requests 21 and 22 stem from Beacon's 2008 Spring Survey Report, which was filed on October 29, 2008 in response to Staff's data request 13. Data Requests 21 and 22 request information relevant to the Commission's duty under CEQA to analyze potentially significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data Requests 21 and 22 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. Ensuring compliance with State law is a proper motive in an Energy Commission proceeding. The information responsive to CURE's data requests 21 and 22 has not been provided by Beacon, and therefore the requests are still applicable.

The Applicant reported on desert tortoise surveys in the AFC. According to the AFC, these surveys were conducted according to protocol. However, information presented in the 2008 Spring Survey Report called into question the Applicant's adherence to protocol. Specifically, the Applicant provided desert tortoise survey dates and times that suggested the Applicant would not have been able to follow protocol. Data requests 21 and 22 seek information on the Applicant's adherence to protocol in order to accurately assess the Project's impacts on the desert tortoise, and to impose appropriate mitigation. Thus, data requests 21 and 22 seek data that verify protocol-level surveys and are relevant and reasonably necessary to this proceeding.

Background: IMPACTS TO THE MOJAVE GROUND SQUIRREL

In lieu of conducting focused surveys for the state listed threatened Mohave ground squirrel (*Spermophilus mohavensis*), the Applicant assumed presence of the species within identified suitable habitat.[33] However, the Applicant provided conflicting information regarding the amount of potentially suitable habitat that will be impacted. For example, the AFC

[33] AFC, Appendix F, p. 42.

concluded that only habitat west of SR-14 (116 acres) is suitable for the species.[34] However, the Applicant's response to CEC Data Request 18 discusses habitat compensation for possible incidental take of "transient" Mohave ground squirrels within the 429.5 acres of degraded Atriplex scrub and desert wash scrub communities that will be impacted by the Project.[35] Therefore, this 429.5 acre scrub community is potentially suitable habitat for "transient" ground squirrels that will be impacted.[36]

Further, the AFC provides no scientific evidence to support the inference that individuals presumed to occupy the Project area are likely transients. In fact, there are no concepts of wildlife-habitat relationships that support this reasoning, particularly for the large ecological scale being examined for the Project.

The AFC's reasoning regarding habitat suitability, quality, and function--and their relationships to animal density--is flawed. The AFC improperly:

(1) Disregards for "niche" factors (behavioral activities) that serve as determinants of where an animal occurs;

(2) Fails to recognize that wildlife-habitat relationships are complex and often require site-specific study before inferences can be made;

(3) Fails to understand that the traditional definition of "habitat" incorporates habitat "elements" that may not provide food, water, or cover, but are essential to an organism's persistence; and

(4) Fails to recognize the difference between resource use and habitat, and the temporal (e.g., seasonal) nature of both resources and habitat in supporting an organism.

More information on these and other flaws is readily available in Braun 2005, Morrison et al. 2006, and other sources that discuss concepts of wildlife-habitat relationships.[37]

The AFC proposed mitigation for the Mohave ground squirrel based on a formula that incorporates ground squirrel density and habitat quality.[38] However, several limitations and ecological processes must be considered when density data are used to evaluate habitat quality.[39] For example, higher-quality habitats may be occupied by dominant individuals, forcing subdominants into lower-quality habitat. Thus, higher densities may be present in poorer, rather

[34] *Id.*
[35] Response to CEC Data Request 18.
[36] AFC, Appendix F.
[37] McDonald, L.L., J.R. Alldredge, M.S. Boyce, and W.P. Erickson. 2005. Measuring Availability and Vertebrate Use of Terrestrial Habitats and Foods. Pages 465-488 in C.E. Braun, editor. Techniques for Wildlife Investigations and Management. The Wildlife Society, Bethesda (MD); Morrison M.L., B.G. Marcot, and R.W. Mannan. 2006. Wildlife-Habitat Relationships: Concepts and Applications. 3rd ed. Washington (DC): Island Press.
[38] Response to CEC Data Request 18.
[39] Anderson, S.H. 1981. Correlating habitat variables and birds. Pages 538-542 in CJ Ralph and JM Scott, editors. Estimating numbers of terrestrial birds. Studies in Avian Biology 6.

than better, habitats.[40] Although behavior studies of Mohave ground squirrels have provided mixed results, there is evidence that the species exhibits some form of territoriality.[41] As a result, use of presumed density to calculate appropriate mitigation is not appropriate without additional consideration and study.

Data Requests

34. Please provide the following additional information on the mitigation habitat being proposed for Mohave ground squirrel:
    (a) please discuss how land purchased for conservation will be "managed by fencing to improve habitat quality" given that the proposed mitigation land has been subject to off-highway vehicle use and livestock grazing, which may have permanently degraded or damaged existing habitat;[42] and
    (b) please clarify any other habitat improvement techniques that will be implemented in addition to fencing.

35. Please specify the intended use of the estimated $13,625 (or $13,225 if Transmission Line Option 2 is adopted) being proposed for enhancement of compensation lands.[43]

36. Please discuss how the proposed $13,625 (or $13,225 if Transmission Line Option 2 is adopted) for enhancement of compensation lands[44] will be used to enhance habitat for the Mohave ground squirrel, desert tortoise, and burrowing owl. Please quantify examples provided to illustrate what could be accomplished with the proposed funding.

37. Since off-highway vehicle routes may serve as a barrier to Mohave ground squirrel dispersal,[45] please discuss the ability for ground squirrels to disperse into and out of the proposed compensation area that has been subject to off-highway vehicle use.

38. Please discuss the timing of anticipated Mohave ground squirrel habitat improvement measures within the habitat compensation area.

39. Assuming that the availability of resources is a limiting factor in population size, and that the proposed conservation area is considerably smaller than the Project site, discuss how potentially occurring stochastic events will be mitigated and monitored to ensure sustainability of the Mohave ground squirrel population. Please include a discussion of any adaptive management that will be implemented if stochastic events occur.

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[40] McDonald, L.L., J.R. Alldredge, M.S. Boyce, and W.P. Erickson. 2005. Measuring Availability and Vertebrate Use of Terrestrial Habitats and Foods. Pages 465-488 in C.E. Braun, editor. Techniques for Wildlife Investigations and Management. The Wildlife Society, Bethesda (MD).
[41] Stewart, G.R. 2005. Petition to list the Mohave ground squirrel (Spermophilus mohavensis). Defenders of Wildlife.
[42] Response to CEC Data Request 18.
[43] *Id.*
[44] *Id.*
[45] Stewart, G.R. 2005. Petition to list the Mohave ground squirrel (Spermophilus mohavensis). Defenders of Wildlife.

Beacon's Objections

Data requests 34 through 39 seek information that is not reasonably necessary to a decision on the AFC.

CURE's Response

Data requests 34 through 39 stem from Staff's data request 18 and from the November workshop. Data requests 34 through 39 requests information relevant to the Commission's duty under CEQA to impose feasible mitigation measures for significant direct, indirect, and cumulative impacts. Data requests 34 through 39 also request information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. As explained in CURE's requests, the AFC's proposed ***mitigation*** for the Mohave ground squirrel is not supported by data. Thus, CURE seeks information that supports Beacon's assumptions and conclusions. Information responsive to data requests 34 through 39 is necessary to determine how the proposed mitigation habitat management, the proposed funding, the off-road vehicle use, and other factors support Beacon's proposed mitigation of significant impacts to the Mojave ground squirrel. Thus, the information requested by CURE is reasonably necessary to this proceeding.

Data Request

40. Please provide scientific support for the claim that compensation land that has at least ten individuals would support an "increased permanent reproductive population."[46]

Beacon's Objection

Data Request 40 has already been answered during this proceeding.

CURE's Response

Data request 40 stems from Staff's data request 18 and from the November workshop. Data request 40 requests information relevant to the Commission's duty under CEQA to impose feasible mitigation measures for significant direct, indirect, and cumulative impacts. Data request 40 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. CURE is unable to find Beacon's scientific support for the claim that compensation land that has ten individual Mojave ground squirrels would support an increased permanent reproductive population. The information requested is relevant to the amount of compensation land required for mitigation and therefore remains applicable.

[46] Response to CEC Data Request 18.

Background: EFFECTIVENESS OF COMPENSATORY MITIGATION

The applicant intends to purchase compensation lands to mitigate impacts to wildlife species and special-status plants.[47] According to the AFC, "the ultimate goal is to acquire compensatory lands that would offset the loss of biological values associated with construction and operation of the BESP that cannot be completely addressed onsite."[48] The applicant proposed 30 to 31.6 acres of off-site compensatory mitigation for impacts to the desert tortoise, Mohave ground squirrel, and burrowing owl.[49] Because compensation habitat is expected to support all three species, its proposed size was based on impacts to the species requiring the maximum amount of compensatory habitat (i.e., two Mohave ground squirrels).[50]

The AFC makes three significant assumptions in concluding that compensatory mitigation will offset Project impacts to the desert tortoise, Mohave ground squirrel, and burrowing owl. The assumptions are:

(1) The Project site provides disturbed and degraded lands that are of low habitat and conservation value to the three target species;

(2) Target species density on-site is low due to poor-quality habitat; and

(3) Acquisition and conservation of high-quality habitat for the target species would provide for the long-term maintenance of a greater number of individuals despite its considerably smaller size.

Each of these assumptions relies on the ability to effectively evaluate habitat quality. In general, the AFC relies on vegetation community characteristics as indices of habitat quality (although some other factors are briefly mentioned).[51] However, wildlife habitat analysis typically requires much more than a reconnaissance-level evaluation of vegetation. In particular, many non-vegetative factors may influence habitat quality. These include population demography, population genetics, metapopulation dynamics, environmental stochasticity, species biogeography, evolutionary adaptations and selection measures, reproductive ecology and behavior, effects of other species, and effects of human activities.

Habitat per se can only provide part of the explanation of the distribution and abundance of an animal, because habitat by itself does not guarantee long-term fitness of individuals or viability of populations.[52] Habitat often fails as a predictor of performance because constraints on exploitation of critical resources and consideration of critical limiting factors have not been examined.[53]As a result, the key focus of habitat evaluation should be the determination of limiting agents in species abundance.

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[47] AFC, Appendix F, p. 79.
[48] Revised response to CEC Data Request 18.
[49] *Id.*
[50] *Id.*
[51] *Id.*
[52] Morrison M.L., B.G. Marcot, and R.W. Mannan. 2006. Wildlife-Habitat Relationships: Concepts and Applications. 3rd ed. Washington (DC): Island Press.
[53] Morrison M.L., B.G. Marcot, and R.W. Mannan. 2006. Wildlife-Habitat Relationships: Concepts and Applications. 3rd ed. Washington (DC): Island Press.

Non-vegetative factors, especially potentially limiting factors, need to be assessed before assumptions on habitat quality can accurately be made. Assessment of potentially limiting factors to the target species is particularly critical to the assumption that impacts to extensive "low-quality" habitat can be offset through provision of a small parcel of "high-quality" habitat. In particular, population viability in small reserves is known to be much more susceptible to environmental stochasticity than population viability in larger reserves.[54] Before a conclusion can be reached that compensatory mitigation will provide for the long-term maintenance of a greater number of individuals, information is required on how environmental stochasticity or other potentially limiting factors will be evaluated, monitored, and managed to provide for species conservation.

Data Requests

51. For each target species (i.e., desert tortoise, Mohave ground squirrel, burrowing owl), please provide scientific support for the assumption that the Project site provides low-quality habitat. In your answer, please include species-specific discussions of habitat parameters, including cites to studies supporting the use of such parameters that were assessed, assessment techniques, and the effect of these parameters on habitat quality.

53. For each target species, please provide a discussion of how habitat quality at potential mitigation sites will be evaluated.

54. Please provide a discussion of how the mitigation site(s) will offset the loss of biological values associated with construction and operation of the Project. In particular, please identify the biological values of interest, and how these values will be measured and monitored.

55. Please discuss studies of Mohave ground squirrel home-range size that support the habitat-productivity hypothesis, which suggests that home-range size and use of space vary in response to resource availability,[55] clarify potential Project impacts to Mohave ground squirrel resources, and discuss how resources at potential mitigation sites will be measured to ensure appropriate resource compensation.

Beacon's Objection

Data requests 51 and 53 through 55 have already been answered in this proceeding.

CURE's Response

Data requests 51 and 53 through 55 stem from Beacon's response to Staff's data request 18, and from the November workshop. Data requests 51 and 53 through 55 request

[54] Meffe, G.K. and C.R. Carroll. 1997. Principles of Conservation Biology, 2nd edition. Sinauer Associates, Inc., Sunderland, MA.
[55] Harris, J.H., and P. Leitner. 2004. Home-Range Size and Use of Space by Adult Mohave Ground Squirrels, *Spermophilus Mohavensis*. Journal of Mammalogy. 85(3): 517-523.

information relevant to the Commission's duty under CEQA to impose feasible mitigation measures for significant direct, indirect, and cumulative impacts. Data requests 51 and 53 through 55 also request information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. CURE is unable to find Beacon's scientific support for the assumption that the project site provides low-quality habitat, the information showing how habitat quality at potential mitigation sites will be evaluated, or the information showing how the mitigation site will offset the loss of biological resources, including the Mojave ground squirrel. Information responsive to data requests 51 and 53 through 54 is necessary to evaluate Beacon's assumption that the site provides low-quality habitat and to explain how habitat quality at the mitigation site would be evaluated and would offset biological impacts from Beacon's project. The information requested by CURE has not been provided by Beacon and therefore remains applicable.

Data Request

56. Since roads, including off-highway vehicle routes, may serve as barriers and, hence, limiting factors to desert tortoise and Mohave ground squirrel movement,[56] and roads are unlikely to serve as the limiting factor for burrowing owls or special-status plants, please discuss how a single small mitigation area can be used to compensate for impacts to several species likely subject to unique limiting agents.

Beacon's Objection

Data request 56 is not reasonably necessary to a decision on the AFC.

CURE's Response

Data request 56 stems from Beacon's response to Staff's data request 18, and from the November workshop. Data request 56 requests information relevant to the Commission's duty under CEQA to impose feasible mitigation measures for significant direct, indirect, and cumulative impacts. Data request 56 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. As explained in CURE's requests, potentially limiting factors need to be assessed before assumptions on habitat quality can be accurately made. Information responsive to data request 56 is important to enable an analysis of the adequacy of mitigation measures proposed to offset impacts to several special status species. Thus, the information sought by CURE is reasonably necessary to this proceeding.

[56] Boarman, W. I., M. Sazaki, and W. B. Jennings. 1997. The effect of roads, barrier fences, and culverts on desert tortoise populations in California, USA. In: J. Van Abbema (ed.), Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles—An International Conference, pp. 54–58. July 1993, State University of New York, Purchase. New York Turtle and Tortoise Society, New York; [56] Stewart, G.R. 2005. Petition to list the Mohave ground squirrel (*Spermophilus mohavensis*). Defenders of Wildlife.

Background: IMPACTS TO BIRDS FROM COLLISION HAZARDS

Fish and Game Code sections 3503.5 and 3513 prohibit "take" of migratory nongame birds and birds-of-prey. Mortality resulting from birds striking windmills, buildings, towers, and other man-made, elevated structures has been well-documented in the scientific literature.[57] A 1986 study of avian mortality at a solar energy plant in the Mojave Desert concluded that 81% of dead birds found on site died from collision with physical structures of the solar field.[58] In addition, collisions with transmission lines have also been documented as a source of bird mortality. Commonly associated with migratory birds, collisions are likely to occur during periods of darkness or inclement weather, and usually occur when birds impact overhead ground wires.

The Project's solar field will encompass 1,244 acres of mirrors and heat collection elements, among other equipment.[59] In addition, the Project proposes the construction of a 3.5 mile transmission line, 1.6 miles of which will exist within the plant site.[60]

According to the AFC, the Project site lies along an inland shorebird migration route, connecting the Central Valley with the Gulf of California.[61] Several species of migratory birds and raptors are known to occur on the project site and within the project vicinity.[62] However, the AFC failed to provide an analysis of impacts to birds from collisions with project structures.

Data Requests

69. Please provide a discussion of collision hazards to birds from the Project's proposed transmission line, mirrors, and other structures on-site. Please include any studies that support the applicant's conclusions.

70. Please describe mitigation measures that the Project will employ to avoid impacts to birds from collisions.

Beacon's Objection

Data requests are irrelevant and unnecessary to a decision on the AFC.

[57] US Fish and Wildlife Service, Office of Migratory Bird Management. 1998. Bird kills at towers and other human-made structures: An annotated partial bibliography (1960-1998) [internet; cited 2008 Jun 12]. Available at: http://www.fws.gov/migratorybirds/issues/tower.html.
[58] McCrary, M. D., R. L. McKernan, R. W. Schreiber, W. D. Wagner, and T. C. Sciarrotta. 1986. Avian mortality at a solar energy power plant. J. Field Ornithol. 135-141.
[59] AFC, p. 2-8.
[60] *Id.* at p. 5.3-24.
[61] *Id.* at p. 5.3-17.
[62] *Id.*

CURE's Response

Data requests 69 and 70 request information relevant to the Commission's duty under CEQA to analyze potentially significant direct, indirect, and cumulative impacts from bird collisions with Project structures, and to impose feasible mitigation measures for significant impacts. Data requests 69 and 70 also request information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. For example, Fish and Game Code sections 3503.5 and 3513 do not allow "take" of birds-of-prey or migratory game birds.

CURE's data requests explain that a 1986 study of avian mortality at a solar energy plant in the Mojave Desert concluded that 81% of dead birds found on site died from collision with physical structures of the solar field. Importantly, the solar facility used for the study was only a 10 megawatt pilot facility, with one central receiver tower. In addition, collisions with transmission lines have been documented as a source of bird mortality.

Here, the Project's solar field will encompass 1,244 acres of mirrors and heat collection elements, among other equipment. In addition, the Project proposes the construction of a 3.5 mile transmission line, 1.6 miles of which will exist within the plant site.

According to the AFC, the Project lies along an inland shorebird migration route, connecting the Central Valley with the Gulf of California. Several species of migratory birds and raptors are known to occur on the Project site and within the Project vicinity. Moreover, the Project's evaporation ponds will attract birds to the Project site. However, the AFC fails to provide an analysis of impacts to birds from collisions with Project structures.

Thus, the information regarding bird collisions remains relevant and necessary to this proceeding.

Background: IMPACTS TO BIRDS FROM HEAT ENCOUNTERED

Fish and Game Code sections 3503.5 and 3513 do not allow "take" of birds-of-prey or migratory nongame birds. A 1986 study of avian mortality at a solar energy plant in the Mojave Desert concluded that the heat generated from the reflective surface of mirrors was high enough to kill birds.[63]

The Project consists of a 1,244-acre solar collector field made up a large field of many rows of solar collectors.[64] Each solar collector focuses the sun's radiation on a receiver.[65] The solar collectors track the sun to ensure that the sun is continuously focused on the receivers.[66]

[63] McCrary, M. D., R. L. McKernan, R. W. Schreiber, W. D. Wagner, and T. C. Sciarrotta. 1986. Avian mortality at a solar energy power plant. J. Field Ornithol. 135-141.
[64] AFC, p. 2-7.
[65] *Id.*
[66] *Id.*

According to the AFC, several species of birds were observed within the project site study area.[67] However, the AFC failed to analyze potential impacts to birds from the heat that birds would encounter when flying between the collectors and receivers.

Data Requests

71. Please provide a discussion of potential bird mortality from the heat generated by the Project's collectors.

72. Please provide monitoring data from similar solar facilities.

73. If monitoring data is not available from similar facilities, please develop and describe a monitoring plan to analyze whether the heat will cause significant impacts to birds.

74. Please describe mitigation measures that the Project will employ to avoid impacts to birds from heat encountered while flying between the collectors and receivers.

Beacon's Objection

Data requests 71 through 74 are irrelevant and unnecessary to a decision on the AFC.

CURE's Response

Data requests 71 through 74 request information relevant to the Commission's duty under CEQA to analyze potentially significant direct, indirect, and cumulative impacts on bird's from heat generated by the Project, and to impose feasible mitigation measures for significant impacts from heat related injuries or mortality. Specifically, the requests seek analyses and identification of mitigation for impacts to birds from the concentrated heat that birds would encounter when flying between reflectors and receivers.

CURE's requests explain that a 1986 study of avian mortality at a solar energy plant in the Mojave Desert concluded that the heat generated from the reflective surface of mirrors was high enough to kill birds. Specifically, the study states that thirteen birds died from burning in the standby points, and the heavily singed feathers showed that the birds burned to death. The study also recommends that future solar power plants not be sited in close proximity to agricultural fields and open water.

Importantly, the solar facility used for the study was only a 10 megawatt pilot facility, with one receiver tower. Here, the Project consists of a 1,244-acre solar collector field made up of a large field of many rows of collectors. Each solar collector focuses the sun's radiation on a receiver. The solar collectors track the sun to ensure the sun is continuously focused on the receivers.

Several bird species have been observed within the Project site, and the proposed evaporation ponds will attract birds to the site. However, the AFC failed to analyze potential

[67] *Id.* at p. 5.3-17.

impacts to birds from the heat that birds would encounter when flying between the collectors and receivers.

Thus, the information regarding bird mortality from heat encountered remains relevant and necessary to this proceeding.

Background: RAVEN MANAGEMENT PLAN

The applicant submitted a Raven Monitoring, Management, and Control Plan on October 21, 2008. The plan discusses monitoring, management, and control measures that will be implemented to minimize the potential for the Project to attract ravens. The intent of the monitoring portion of the plan is to identify any substantial and sustained increase in raven activity. If increased raven activity is detected, the plan states that the applicant may need to implement adaptive management. Thus, the need to implement adaptive management hinges on adequate monitoring data.

The plan proposes conducting biweekly surveys for raven activity at pre-designated locations throughout the Project site.[68] Surveys will begin when the plant is operational, and will continue for the life of the Project.[69] Surveys will consist of five-minute sampling sessions at each pre-designated location, during which time the surveyor will observe and listen for ravens. It is unclear how data from the surveys will be analyzed, and whether data from five-minute sampling sessions will be adequate enough to provide reliable inferences for raven population trends. Given the potentially significant impacts ravens can have on desert tortoises and other special-status species, adequate data is essential to adaptive management.

Further, the plan states that the applicant will agree to pay in-lieu fees to USFWS in place of quantitative raven monitoring.[70] According to the plan, the in-lieu fees will be contributed to a future quantitative regional monitoring program aimed at understanding the relationship between development in the region, raven population growth, and raven impacts on desert tortoise populations.[71]

Data Requests

75. Please discuss the baseline data that will be used to assess raven population growth and expansion.

76. Please quantify the thresholds for a "substantial" and "sustained" increase in raven activity and explain the basis for your answer.

77. Please provide the estimated number of pre-designated observation locations.

[68] Beacon Solar Energy Project Raven Monitoring, Management, and Control Plan, October 2008, pp. 6-7.
[69] *Id.*
[70] *Id.* at p. 4.
[71] *Id.*

78. Considering known behavior patterns of the species and the potential for observer-induced bias (e.g., raven activity resulting from observer presence), please discuss the adequacy of five-minute surveys in providing sufficient data from which to infer correlations between Project features, raven activity, and the need for adaptive management.

Beacon's Objection

Data requests 75 through 78 seek irrelevant information and either misstate or misconstrue information that has previously been provided.

CURE's Response

Data requests 75 through 78 stem from the November workshop. Data requests 75 through 78 request information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data requests 75 through 78 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. As explained in CURE's requests, the intent of the Raven Management Plan is to identify any increase in raven activity and to implement adaptive management if needed. The need to implement adaptive management hinges on adequate monitoring data. Thus, the information sought by CURE relates to monitoring data and the resulting need for adaptive management. The information is relevant and reasonably necessary to this proceeding.

CURE's data requests remain relevant after the latest raven management plan submitted by Beacon on March 10, 2009 shows that CURE's requests remain applicable and do not misstate or misconstrue information. Beacon will still be performing semi-quantitative and qualitative monitoring,[72] including the identification of potential increases in raven activity[73] through ***five-minute samplings***[74] at biweekly surveys for raven activity at ***pre-designated locations*** throughout the Project site.[75] In addition, the Raven Management Plan states that "[i]f the results of the monitoring efforts suggest that there is a ***substantial and sustained*** (e.g., consecutive years) increase in raven activity…then Beacon may need to implement additional measures to further control ravens at the Project site."[76] Thus, CURE's data request 76 which asks Beacon to quantify the thresholds for a "substantial and sustained" increase in raven activity, is still applicable. Data requests 75 through 78 remain relevant to the proceeding.

[72] March 10, 2009 Raven Management Plan, p. 6.

[73] *See* March 10, 2009 Raven Management Plan, p.7. Thus, CURE's data request 75 which asks Beacon to discuss the baseline data that will be used to assess the expansion of the raven population, is still applicable.

[74] *See* March 10, 2009 Raven Management Plan, p. 7. Thus, CURE's data request 78 which asks Beacon to discuss the adequacy of five-minute surveys, is still applicable.

[75] *See* March 10, 2009 Raven Management Plan, p. 7. Thus, CURE's data request 77 which requests the estimated number of pre-designated observation locations, is still applicable.

[76] March 10, 2009 Raven Management Plan, p. 9.

Data Requests

80. Please provide all correspondence between the applicant and the wildlife agencies regarding the quantitative regional monitoring program.

81. Please provide all portions of the regional monitoring program that have been developed.

82. Please explain how the regional monitoring program will mitigate project-level impacts.

Beacon's Objection

Data requests 80 through 82 are not reasonably necessary to a decision on the AFC.

CURE's Response

Data requests 80 through 82 stem from the November workshop. Data requests 80 through 82 request information relevant to the Commission's duty under CEQA to impose feasible mitigation measures. Data requests 80 through 82 also request information relevant to the Commission's determination of the Project's compliance with LORS under the Warren-Alquist Act. As explained in CURE's requests, the Raven Management Plan states that the Applicant will pay in-lieu fees to a future quantitative regional monitoring program aimed at understanding the relationship between development in the region, raven population growth, and raven impacts on desert tortoise populations. The information sought by CURE in data requests 80 through 82 relates to the description and adequacy of the regional monitoring program, which is proposed to mitigate project-level impacts. The information is relevant and reasonably necessary to this proceeding.

Background: DESIGN OF EVAPORATION PONDS

According to data response number 74, submitted October 13, 2008, the Project pond system was designed based on a calculated monthly water balance between plant wastewater discharge and evaporation. In its supplemental response to CEC data request number 14, submitted November 26, 2008, the applicant committed to modifying the baseline minimum water level in the ponds to two feet, as opposed to a one-foot minimum water depth as originally proposed.

Project pond management will include outfitting each pond with a level gauge for daily water level measurements, a hydrometer for daily salinity measurements, and a direct reading thermometer.[77] To minimize the potential for waterfowl deaths by salt toxicosis and salt encrustation following very low water levels, the Project should consider use of water level and water quality loggers with alarms that enable management response in a more-timely manner.

[77] Response to CEC Data Request 14.

Further, at the November 6, 2008 workshop, Julie Vance, of the CDFG, recommended that the applicant consider the use of netting as a fall-back measure if monitoring shows that the ponds are impacting birds.

Data Requests

84. Please explain how the increased water level in the ponds will change the design of the ponds, and whether such changes will impact pond access to birds, taking into consideration that the proposed minimum pond freeboard requirement is two feet.

Beacon's Objection

Data request 84 has already been answered in the proceeding.

CURE's Response

Data request 84 stems from the applicant's response to Staff's data request 14 (submitted November 26, 2008) and from the November workshop. Data requests 84 requests information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data request 84 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. CURE is unable to locate Beacon's answer regarding how the increased water level in the ponds will change the design of the ponds, and whether such changes will increase birds' access to the ponds, given that the proposed freeboard requirement is two feet. Thus, the information sought by CURE has not been provided by Beacon.

Background: IMPACTS TO BIRDS FROM EVAPORATION POND HYPER-SALINITY

The evaporation ponds will receive process water that will contain an estimated total dissolved solids ("TDS") concentration of 5579 mg/L.[78] The applicant stated that the evaporation pond discharge would include concentrations of TDS that could lead to hyper-saline conditions.[79] Hyper-salinity is known to have toxic impacts on waterfowl. The Bureau of Land Management has described effects of salinity conditions on waterfowl as follows:

(1) Sodium levels as low as 821 ppm reduced growth in 1-day-old mallard ducklings exposed for 28 days;

(2) Mallard ducklings that drank water with 3,000 ppm of sodium had reduced thymus size and bone strength;

(3) Concentrations between 8,800 and 12,000 ppm caused 100 percent mortality in mallard ducklings; and

[78] Supplemental Response to CEC Data Request 14.
[79] Response to CEC Data Request 14.

(4) In adult waterfowl, sodium concentrations of 17,000 ppm caused a die-off when fresh water was unavailable.[80]

Hyper-saline conditions have been noted elsewhere in the area of the Mojave Desert which can lead to salt encrustation on birds, impeding their ability to fly. In Trona, California, approximately 50 miles from the Project site, hyper-salinity has led to the death of over 3,000 birds from 2002 to 2007.[81] Over 60 species have been impacted, including various waterfowl, wading birds, raptors, and songbirds.

The applicant stated that "studies have shown that the formation of salt crystals on hyper-saline ponds requires water temperatures at or below 4 degrees Celsius (39 degrees Fahrenheit)…It is not anticipated that water temperatures will consistently drop to this level of concern."[82] However, the average minimum temperature, as reported for California City, 17 miles southeast of the Project site, is 33 degrees Fahrenheit in December,[83] well below the temperature that was cited as necessary for the formation of salt crystals.

The revised response to data request number 14, submitted October 13, 2008, stated that the risk to birds from the evaporation ponds is related to the concentration of constituents in the evaporation pond water, and therefore analysis of the risks focuses on pond water quality. At the November 6, 2008 workshop, the applicant stated that the applicant anticipates that the concentration of TDS in the evaporation ponds will remain the same over time. However, when describing the Harper Lake Solar Electric Generating System ("SEGS") site, the revised response to data request number 14 states that "TDS concentrations appear to increase over time." In fact, the TDS concentrations tripled over a ten year period.

The applicant proposed mitigation measures to minimize impacts to waterfowl from hyper-saline conditions in the evaporation ponds, including dilution of pond water, temperature monitoring, and visual inspection for the formation of salt crystals. However, none of the measures occur at night when waterfowl typically migrate and when researchers have estimated that 80 percent of bird deaths occur.[84]

The revised response to data request number 14 states that bird mortalities at the SEGS site have been minimized by raising water levels (and thus lowering the concentrations of TDS). Thus, the applicant proposes that by maintaining a minimum water level in the Project's evaporations ponds, risks to birds will be minimized. In efforts to avoid using additional groundwater, the applicant proposes to maintain a minimum water level by pumping water from one or two ponds to the third pond. The applicant assumes that because the Project's ponds will be operated in a manner similar to the SEGS site, it is anticipated that impacts to birds will be avoided.

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[80] http://www.blm.gov/pgdata/etc/medialib/blm/nv/field_offices/ely_field_office/energy_projects/toquop_energy/toquop_2003_feis.Par.99472.File.dat/17%20

[81] http://www.dfg.ca.gov/ospr/spill/nrda/nrda_searles.html

[82] Response to CEC Data Request 14.

[83] http://www.idcide.com/weather/ca/california-city.htm

[84] http://www.dfg.ca.gov/ospr/spill/nrda/serles_injury.pdf

Data Requests

89. Please provide an explanation for the discrepancy between the applicant's statement that TDS concentrations will remain the same over time, and the data showing that TDS concentrations tripled over a ten year period at the SEGS facility.

90. Please provide scientific support for the statement that TDS concentrations will remain the same over time.

Beacon's Objection

Beacon did not specifically object to data requests 89 and 90.

CURE's Response

Data requests 89 and 90 stem from Staff's data request 14 and from the November workshop. Data requests 89 and 90 request information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data requests 89 and 90 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. The information sought by CURE is necessary to resolve a discrepancy in Beacon's anticipated TDS concentration and to analyze significant risks to birds from the evaporation ponds.

Data Requests

91. Please propose mitigation to protect birds from encrustation that specifically considers bird species that are expected at the evaporation ponds, including duration of seasonal and daily exposure.

92. Please identify any differences in pond management between the SEGS site and the Project.

93. Please explain how the SEGS site maintains minimum water levels (e.g., adding groundwater or pumping from one or two ponds to a third pond).

94. If the SEGS site does not maintain minimum water levels by pumping from one or two ponds to a third pond, and given that TDS concentrations will increase over time, please provide support for the assumption that by pumping from one or two ponds to the third pond impacts to birds will be minimized.

Beacon's Objection

Data requests 91 through 93 have already been answered in the proceeding. Data Request 91 is not reasonably necessary to a decision on the AFC. Beacon did not specifically object to data request 94.

CURE's Response

Data requests 91 through 94 stem from Staff's data request 14 and from the November workshop. Data requests 91 through 94 request information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data requests 91 through 94 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. The information sought by CURE is necessary to ensure that risks to birds from the evaporation ponds will be minimized. The information requested by CURE has not been provided by Beacon and remains relevant and necessary to this proceeding.

Background: IMPACTS TO BIRDS FROM EVAPORATION POND SELENIUM

The applicant has estimated the selenium concentration in surface water to be discharged into the evaporation ponds at 2.8 ppb.[85] The applicant stated that the cited concentration is "approximately 40 times lower than the most sensitive ecological risk benchmark [110 ppb] that observable adverse effects have been documented for waterfowl, and ranging to more than 3,000 times lower than concentrations at which an adverse effect has been documented."[86] The applicant estimated selenium concentrations to be discharged to the evaporation ponds from the following individual source terms at the following concentrations:

(1) Mean well water concentration: 0.39 ppb;

(2) Cooling tower blowdown: 0.6 ppb; and

(3) Ion exchange regeneration: 4.5 ppb.

Discharge of selenium is subject to the California Toxics Rule which establishes a water quality criterion for selenium of 5 ppb. Selenium concentrations in wastewater have been limited by California regulatory agencies to concentrations as low as 4 ppb, as demonstrated by the following examples:

(1) The California Regional Water Quality Control Board ("RWQCB"), Central Valley Region, required the City of Davis to limit selenium discharge in effluent to a weekly average of 5 ppb;[87]

[85] Supplemental Response to CEC Data Request 14.
[86] Response to CEC Data Request 14.
[87] R5-2008-0601 City of Davis http://www.swrcb.ca.gov/rwqcb5/board_decisions/adopted_orders/yolo/r5-2008-0601_enf.pdf

(2) The RWQCB, Colorado River Basin Region, required the City of El Centro to limit selenium discharge in effluent to a monthly average of 4 ppb;[88] and

(3) The City of Davis 2001 National Pollutant Discharge Elimination System ("NPDES") permit limits selenium discharge in effluent to a four-day average of 5 ppb and to a one-hour maximum of 20 ppb.[89]

Selenium is generally thought to exhibit moderate toxicity to aquatic organisms at concentrations of 2 ppb to 5 ppb and high toxicity at concentrations of greater than 5 ppb.[90,91] The cited examples and ecologic screening levels are well below the 110 ppb value cited by the applicant as the "most sensitive ecological risk benchmark."

The applicant has proposed to take action to reduce selenium concentrations if the ponds "become a hazard for wildlife."[92] The applicant has proposed that when selenium concentrations reach 110 ppb, or more than 20 times the maximum concentrations imposed by regulatory agencies for selenium discharge in wastewater, the ponds will be emptied, cleaned of precipitate, and refilled.[93] Other actions proposed by the applicant include avian monitoring at least twice a month to document any mortalities, birth defects or reduced growth. The applicant's proposed trigger for remedial action would be the documented mortality of birds from selenium poisoning and water quality testing showing selenium concentrations above the cited ecological risk assessment benchmark of 110 ppb. Only when there is documented selenium-related mortality of birds and when evaporation pond water quality exceeds selenium concentrations of 110 ppb, will the evaporation ponds will be emptied of precipitate and sludge to reduce concentrations to the 110 ppb benchmark that is cited by the applicant as protective of waterfowl.[94]

In its response to CEC Data Request 14, the applicant stated that "ducks and coots appear to be most sensitive to selenium contamination, with black-necked stilts being moderately sensitive, and American avocets being more tolerant…Similar projects have used toxicity levels as the standard for monitoring selenium levels."[95] If waterfowl are more sensitive to selenium than are avocets, the effects on waterfowl would occur before management actions are enforced. Mortality data from the Harper Lake SEGS site reveal that waterfowl were the most affected.[96]

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[88] R7-2006-0075 City of El Centro http://www.swrcb.ca.gov/rwqcb7/board_decisions/adopted_orders/orders/2006/06_0075.pdf
[89] City of Davis DPDES http://cityofdavis.org/pw/water/pdfs/WWExecSumm_Website.pdf
[90] http://www.owue.water.ca.gov/docs/06-EvapPonds.pdf
[91] http://www.saltonsea.water.ca.gov/calendar/ac/06.02.2006/ImpactAssessment_EcologicalRisk.pdf
[92] Supplemental Response to CEC Data Request 14.
[93] *Id.*
[94] *Id.*
[94] *Id.*
[95] Response to CEC Data Request 14.
[96] Response to CEC Data Request 75.

Data Requests

95. Since selenium is generally thought to exhibit moderate toxicity to aquatic organisms at concentrations of 2 ppb to 5 ppb and high toxicity at concentrations of greater than 5 ppb,[97,98] please provide the source of the cited "most sensitive ecological risk benchmark" of 110 ppb.

96. Please describe NPDES discharge requirements for selenium that would likely be imposed by the RWQCB and how the discharge requirements will be met in wastewater discharged to the ponds upon evaporation as selenium concentrations increase.

97. Please provide data and detailed calculations for deriving the estimated selenium concentration of 2.8 ppb for discharge water to the evaporation ponds.

98. Please provide data and included detailed calculations for deriving the estimated concentrations for selenium to be discharged to the ponds from water wells (0.39 ppb), the cooling tower (0.6 ppb), and the ion exchange regeneration (4.5 ppb).

99. Please explain why selenium tolerance levels are based on avocets, which have an intermediate sensitivity level, rather than on waterfowl, which are more sensitive to selenium.

Beacon's Objection

Beacon did not specifically object to data requests 95 and 99. Data request 96 is irrelevant and either misstates or misconstrues information. Data requests 97 and 98 were already answered in this proceeding and not reasonably necessary to a decision on the AFC.

CURE's Response

Data requests 95 through 99 stem from Staff's data request 14 and from the November workshop. Data requests 95 through 99 request information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data requests 95 through 99 also requests information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. As explained in CURE's requests, selenium poses significant risks to waterfowl. The information sought by CURE is necessary to ensure that risks to birds from the evaporation ponds will be minimized. Beacon has not explained how CURE's data request 96 misstates or misconstrues information. The information requested by CURE has not been provided by Beacon and remains relevant and necessary to this proceeding.

[97] http://www.owue.water.ca.gov/docs/06-EvapPonds.pdf
[98] http://www.saltonsea.water.ca.gov/calendar/ac/06.02.2006/ImpactAssessment_EcologicalRisk.pdf

Background: IMPACTS TO NATIVE DESERT VEGETATION

The Project area contains silver cholla (*Cylindropuntia echinocarpa* ssp. *echinocarpa*) and the Joshua tree (*Yucca brevifolia*), which are protected under the California Desert Native Plants Act ("Native Plants Act").[99]

The Native Plants Act requires the following for issuance of a permit:

- The name, address, and telephone number of the applicant;
- The amount and species of native plants to be transported;
- The name of the county from which the native plants are to be removed;
- A description sufficient to identify the real property from which the native plants are to be removed;
- The name, address, and telephone number of each landowner from whose property the native plants are to be removed;
- The applicant's timber operator permit number, if the harvesting is subject to the Z'berg-Nejedly Forest Practice Act of 1973;
- The proposed date or dates of the transportation;
- The location of the office of the peace officer who will validate the tag or tags;
- The destination of the native plants;
- The ultimate use of the native plants; and
- Make, model, and license number of the transportation vehicle.[100]

Data Requests

102. Since the Project area contains protected silver cholla and the Joshua tree, please address the Project's compliance with the California Desert Native Plants Act.

103. Please provide information regarding the significance of the impact from removing, displacing or disturbing the silver cholla and Joshua trees within the Project area.

104. Please provide the number of silver cholla found in the Project area.

105. Please provide the number of Joshua trees found in the Project area.

106. Please explain how the applicant will mitigate the loss of silver cholla and Joshua trees.

[99] California Food and Agriculture Code division 23, chapter 7, section 80073.
[100] California Food and Agriculture Code, division 23, chapter 7, section 80114.

Beacon's Objection

Data request 102 is irrelevant to a decision on the AFC. Data requests 103, 104, and 106 are not reasonably necessary to a decision on the AFC. The information sought by data request 105 has already been provided.

CURE's Response

Beacon's objections show that Beacon proposes mitigation for, but refuses to analyze significant impacts to, protected native desert vegetation. Data requests 102 through 106 request information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures that will reduce the impact to less than significant. Data requests 102 through 106 also request information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. As explained in CURE's requests, the Project area contains silver cholla and the Joshua tree, which are protected under the California Desert Native Plants Act. Thus, CURE's data requests 102 through 106 request information that is necessary to analyze significant impacts to these protected species. The information requested by CURE has not been provided by Beacon and remains relevant and necessary to this proceeding.

Background: IMPACTS TO MOJAVE TARPLANT

The AFC states that Mojave tarplant (Deinandra mojavensis) has the potential to occur on or in the vicinity of the Project site. Mojave tarplant has been listed as endangered by the State of California and as a "1B" species by the California Native Plant Society. This species is separable from other members of the section Madiomeris by the combination of yellow anthers, a disk pappus of short scales, five ray flowers (and phyllaries), entire basal leaves, and a densely flowered inflorescence.[101] These features are evident during the plant's flowering period, which is typically July through October.[102]

Four Project biologists conducted focused surveys for Mojave tarplant from July 1 through July 3, 2008. The survey area included the Project site, transmission line options, and the 17.6-mile gas pipeline corridor.[103] The AFC states that no Mojave tarplants were detected during the surveys, and that the species is not expected to occur in the survey area.[104] However, the information presented in the AFC suggests that focused surveys for Mojave tarplant were not conducted according to established protocols, particularly the amount of survey effort necessary to provide thorough coverage of potential impact areas.[105] Consequently, the AFC failed to

[101] Hickman, J.C., editor. 1993. The Jepson Manual: Higher Plants of California. Berkeley, CA: University of California Press. 1400 pp.
[102] California Native Plant Society. 2008. Inventory of Rare and Endangered Plants (online edition, v7-06b). <http://www.cnps.org/inventory>. Accessed on Apr. 24, 2006.
[103] Beacon Solar Energy Project - 2008 Spring Survey Report, A-1.
[104] Beacon Solar Energy Project - 2008 Spring Survey Report, p. 36.
[105] Assuming 4 individuals conducting surveys for 4 days would provide approximately 176 man-hours of survey effort.

adequately demonstrate that the Project will not result in significant impacts to this state-listed endangered species.

Data Requests

107. Please provide the specific methods that were used to conduct focused surveys for Mojave tarplant. In your answer, please include: (1) the total number of man-hours devoted to each survey day; (2) the role of each individual that participated; (3) spacing of transects; and (4) whether surveyors worked independently or in teams.

108. Please provide precise information on the locations of Mojave tarplant survey transects established by the survey team. Please address any extra level of effort (e.g., closer transect spacing) that was devoted to washes, swales, or other potentially suitable habitats.

109. Please discuss the extent to which established survey protocols were followed, including a description of any reference site(s) visited and the phenological development of Mojave tarplant at the reference site(s).

110. Please provide information on the floristic field survey experience of the individuals that conducted the surveys, including any past experience identifying Mojave tarplant.

Beacon's Objection

Data requests 107 and 108 are not reasonably necessary to a decision on the AFC and are based on improper motive. Data request 109 has already been answered in this proceeding. Beacon did not specifically object to data request 110.

CURE's Response

Data requests 107 through 110 stem from Beacon's 2008 Spring Survey Report which was submitted in response to Staff's data request 13. Data requests 107 through 110 request information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data requests 107 through 110 also request information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. As explained in CURE's requests, information supplied in the 2008 Spring Survey Report indicates that focused surveys for Mojave tarplant were not conducted according to established protocols. Thus, CURE requests information to support the adequacy of Beacon's surveys. Without such information, the significance of impacts to the Mojave tarplant cannot accurately be determined. The information requested by CURE has not been provided by Beacon and remains relevant and necessary to this proceeding.

Background: IMPACTS FROM REROUTING DESERT WASHES

The Project proposed to reroute two desert washes that cross the Project site. CEC Data Request 17 asked for a discussion on how a newly-created channel would replicate the functions and values of the natural desert washes that would be impacted. The applicant responded by stating that the newly-created channel will replicate the functions and wildlife values of a natural desert wash because the soils, morphology, hydrology, and resulting biota of the rerouted wash will interact in a similar manner as a natural desert wash.[106] Although the supplemental information provided by the applicant is helpful in evaluating the wash mitigation strategy, it does not adequately address the challenges associated with establishing a natural ecological community in a created environment.

PLANTING PLAN

The applicant intends to establish at least 4.8 acres of native desert wash vegetation within the rerouted channels. In addition to providing habitat, establishing vegetation is intended to control erosion and provide bank stabilization.[107] The AFC suggests that mitigation would be achieved by "onsite and in-kind planting of desert wash scrub vegetation."[108] However, the conceptual mitigation plan proposes hand-seeding only and does not discuss any planting that will occur.[109] Clarification of the implementation portion of the mitigation plan is needed before its likelihood of success can be evaluated.

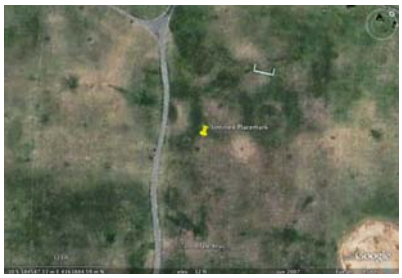
EXTENT OF PROPOSED MITIGATION

The Project's proposal to reroute two desert washes will result in permanent impacts to approximately 16.0 acres of state waters. This includes 13.6 acres of unvegetated state waters and 2.4 acres of vegetated wetlands.[110] The AFC proposes a 1:1 mitigation ratio for impacts to unvegetated state waters, and a 2:1 mitigation ratio for impacts to vegetated wetlands.[111] The applicant's intent to mitigate impacts to state waters by rerouting desert washes and re-establishing lost functions and values is clear. However, the AFC does not clearly articulate how these functions and values will be measured, or the remedial actions that will be taken if these functions and values are not achieved.

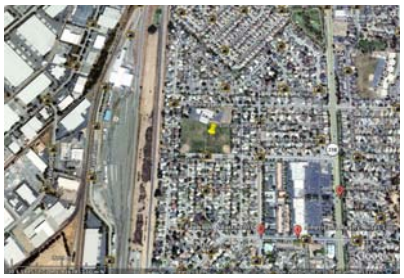
Success standards established in the conceptual mitigation plan relate to cover values for both non-native species and native plants.[112] For example, the plan proposes success standards of less than2% non-native species cover and at least 26% native plant cover by year five.[113] Cover is defined as the vertical projection of the crown or stem of a plant onto the ground

[106] Response to CEC Data Request 17.
[107] AFC, Appendix F, p. 73.
[108] *Id.*
[109] AFC, Conceptual Mitigation Plan, p. 8.
[110] *Id.* at p.6.
[111] *Id.*
[112] *Id*. at p. 15.
[113] *Id.*

surface.[114] Cover measurement occurs at a user-defined scale, and the scale considered may greatly alter the outcome. For example, suppose one was interested in determining the amount of cover provided by grass in an urban environment. If the scale under consideration relates only to the lawn area itself, a healthy lawn may provide nearly 100% cover. However, if the scale of interest is larger, and relates to the entire neighborhood, grass cover would be considerably less. The figures depicted below illustrate this example. The grass shown is from the same location.



Grass cover measured at fine scale (approximately 95% cover).



Grass cover measured at coarse scale (approximately 5% cover).

The AFC provides unclear information regarding how cover was measured for determining impacts to vegetated versus unvegetated washes, and how cover will be measured to determine if success criteria are met. Considering the importance of scale when discussing cover values, specification of measurement techniques is vital to evaluating the expected replacement values that will be provided by the proposed mitigation area.

INVASIVE WEED CONTROL

The AFC discusses the intent to mitigate the adverse effects of non-native invasive plant species whose establishment may be facilitated by ground disturbance and other Project activities. This includes control of exotic plants within the rerouted washes and "wherever possible."[115] Tamarisk (Tamarix ramosissima) and several invasive species have been documented in the Project vicinity.[116] Newly engineered desert washes will be highly susceptible to tamarisk invasion. Tamarisk spreads easily but is very difficult to eliminate. Individual plants can produce 500,000 seeds per year, and shoots can grow three to four meters per season.[117] For this species in particular, long-term monitoring and sustained control are essential, as some tamarisk is capable of re-sprouting following treatment (kill rates average less than or equal to 90%).[118]

[114] Higgins, K.F., K.J. Jenkins, G.K. Clambey, D.W. Uresk, D.E. Naugle, J.E. Norland, and W.T. Barker. Vegetation Sampling and Measurement in Bookhout T.A., ed. Research and Management Techniques for Wildlife and Habitats. Fifth ed., rev. Bethesda (MD): The Wildlife Society.
[115] AFC, Appendix F, p. 72.
[116] AFC, Conceptual Mitigation Plan, p. 14.
[117] Bossard, C.C., J.M. Randall, and M.C. Hoshovsky, eds. 2000. Invasive Plants of California Wildlands. University of California Press, Berkeley (CA).
[118] *Id.*

The AFC appears to propose non-native species control for five years, after which time control methods will be deemed successful if non-native species cover is less than 2%.[119] In aquatic environments, including washes, non-water soluble herbicide may be used as a control measure. This includes use of Rodeo ® or Aquamaster ®. Both of these herbicides are non-selective and will require careful application to be successful at controlling target species without killing seedlings established by hand-seeding efforts.

It is unclear whether invasive species can be controlled within the five-year period proposed in the mitigation plan. This is especially true for extremely invasive species such as tamarisk, which has a relatively low kill rate. In addition, it is unclear whether the success criteria established in the mitigation plan account for tamarisk's ability to persist and spread as long as there is a seed source in the area.

Data Requests

111. Please provide a map depicting the proposed locations of rerouted desert washes, the location of proposed fencing in relation to the washes, and location of the proposed vegetation establishment zone(s).[120]

112. Please clarify whether and how wildlife will access portions of the washes enclosed by fencing.

113. Please clarify whether implementing the mitigation plan will involve planting, or only hand-seeding. If only hand-seeding is proposed, please discuss the ability of seedlings to effectively control erosion and provide bank stability.

114. Please discuss how erosion and bank stability will be monitored, including any quantitative data that will be collected. In your answer, please discuss how naturally occurring erosion and sedimentation will be distinguished from that resulting from the Project (and thus the need to implement adaptive management). Include a discussion of any acceptable levels of erosion and the corresponding threshold beyond which adaptive management will be necessary.

115. Please provide additional discussion about the abundance and cover of any vegetation present within portions of the "mostly unvegetated" wash that will be impacted by the Project. In your answer, please include a discussion of the scale used in making the determination.[121]

116. Please provide the techniques that will be used to estimate cover in the mitigation area.

117. Considering the Applicant's proposal that the Project biologist make a determination on whether further action is warranted should the cover goal not be

[119] AFC, Conceptual Mitigation Plan, p. 15.
[120] The AFC references Figure 2 as showing the locations of rerouted washes; however, washes are not depicted in the figure.
[121] AFC, Appendix F, p. 73.

met,[122] please discuss the data that will be collected to determine that the site is a "healthy" ecosystem overall, and that vegetative and ecological regeneration are sufficient to deem the mitigation area a success.[123] In your answer, please describe a scenario for which it would be acceptable for the Project biologist to conclude that further action (including monitoring) was not warranted, even though success standards had not been met.

118. Please list the areas that will be subject to non-native weed control and clarify what the applicant means by "wherever possible."[124]

119. In light of the fact that invasive species control can be extremely difficult and often unsuccessful, please explain the AFC's conclusion that "efforts to avoid the increase in exotic vegetation" will reduce impacts to surrounding vegetation communities to a "level of insignificance."[125]

120. Please justify the relatively short five-year control period and provide documentation that the timeframe and methods proposed in the mitigation plan have been successful in preventing long-term establishment of invasive species following similar types of anthropogenic disturbance.

121. Please justify using less than 2% cover of non-native species as a viable threshold below which non-native species populations will not exponentially expand.

Beacon's Objection

Data requests 111 through 118 were already answered in this proceeding. Data requests 118 through 121 are not reasonably necessary to a decision on the AFC.

CURE's Response

Data requests 111 through 121 stem from Staff's data requests 17, 18, and 20, and from the November workshop. Data requests 111 through 121 request information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Data requests 111 through 121 also request information relevant to the Commission's determination of the Project's compliance with LORS under the Warren Alquist Act. As explained in CURE's requests, the information provided by Beacon regarding replicating the functions and wildlife values of a natural desert wash in a newly created channel did not adequately address the challenges associated with establishing a natural ecological community in a created environment. Thus, CURE requests information to support Beacon's conclusion that the newly created channel will in fact replicate the functions and wildlife values of a natural desert wash because the soils, morphology, hydrology, and resulting biota of the rerouted wash will interact in a similar manner as a natural desert wash.

[122] AFC, Conceptual Mitigation Plan, p. 16.
[123] *Id.*
[124] AFC, Appendix F, p. 72.
[125] *Id.* at p. 57.

The information requested by CURE has not been provided by Beacon and remains relevant and necessary to this proceeding.

Background: IMPACTS FROM WEED MANAGEMENT

The applicant's response to CEC Staff's request 78, filed on October 13, 2008, states that "Beacon will conduct ongoing maintenance and monitoring of the [western burrowing owl] conservation area for exotic weed control for a 5-year period following construction of the burrows." However, the applicant did not specify what method of weed management would be used in the conservation area.

Data Request

122. Please clarify what method(s) of weed management will be used in the western burrowing owl conservation area.

Beacon's Objection

Information responsive to data request 122 has already been provided, and the information requested is not reasonably necessary to a decision on the AFC.

CURE's Response

Data request 122 stems from the Applicant's response to Staff's data request 78. The Applicant stated that Beacon will conduct ongoing maintenance and monitoring for exotic weed control. CURE Data request 122 requests information relevant to the Commission's duty under CEQA to analyze significant direct, indirect, and cumulative impacts and to impose feasible mitigation measures. Potentially significant impacts include air, water quality and biological resource impacts from the potential use of pesticides in weed management. The information sought by CURE is necessary to determine the Project's impacts on the western burrowing owl, and the adequacy of mitigation measures. The information requested by CURE has not been provided by Beacon and remains relevant and necessary to this proceeding.

Table 4-8 Water Supply Alternatives Considered

Organization Name	Delivery Distance	Year 2010+ Output (AFY)	Results of Contacting Organization and Information Regarding Water Availability
LADWP Aqueduct	1- 2 miles	N/A	LADWP indicated that they were legally unable to supply water to the BSEP because they did not have supplies that could be considered "surplus" as is required by the City of Los Angeles Charter. (See Appendix K)
California City Wastewater Treatment Facility	15 miles	320~370	Facility currently does not have tertiary treatment (treatment level required for power plant cooling use) at this time, but is planning a future project to provide tertiary treatment (See Appendix K). Not currently a feasible water supply source, but conceivably could become viable in the future. Beacon Solar will monitor the situation.
Rosamond Wastewater Treatment Plant	27 miles	560	Plans exist to produce 0.5 mgd of tertiary treated water (insufficient for BSEP use), and other entities also have expressed interest in this source; long distance to BSEP site (cost issue as well as potential for environmental issues) (See Appendix K). Not considered a viable alternative.
Ridgecrest Wastewater Treatment Plant	30 miles	2,000	Plans to treat all water to tertiary standards exist. Other entities (solar projects) more local to Ridgecrest interested in this source; lengthy distance to BSEP site creates cost and potential environmental issues. Not considered a viable alternative.
Tehachapi Wastewater Plant	35 miles	1,200	Project in development to produce tertiary treated water. Source not considered viable due to distance from BSEP site.
Lancaster Water Reclamation Plant	40 miles	15,700	Full tertiary treatment expected in 2010. Plans exist to sell/use water locally under the Antelope Valley Integrated Regional Water Management Plan (AV-IRWMP). Other projects (including power projects) considering this source. Source not considered viable for BSEP due to distance.
Palmdale Water Reclamation Plant	50 miles	15,700	Similar to Lancaster including participation in AV-IRWMP. Other projects (including power projects) considering this source). Source not considered viable for BSEP due to distance.
Victor Valley Wastewater Reclamation Authority	62 miles	4,500~6,700	Tertiary treated water expected to be available sometime in the future after meeting current and expected commitments. However, source not considered viable due to distance from BSEP site.

The results of the investigation show that there is currently no reclaimed water source that can be considered a feasible alternative for the BSEP upon commencement of commercial operation. Sources investigated could not provide a suitable supply (in terms of quality and/or quantity), and/or the sources