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STATE OF CALIFORNIA

**Energy Resources Conservation
and Development Commission**

In the Matter of:

The Application for Certification for the
BEACON SOLAR ENERGY PROJECT

Docket No. 08-AFC-2

**CALIFORNIA UNIONS FOR RELIABLE ENERGY
COMMENTS ON PROJECT DESIGN REFINEMENTS**

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Tanya A. Gulesserian
Rachael E. Koss
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
(650) 589-1660 Voice
(650) 589-5062 Facsimile
tgulesserian@adamsbroadwell.com

Attorneys for the CALIFORNIA
UNIONS FOR RELIABLE ENERGY

I. INTRODUCTION

California Unions for Reliable Energy (“CURE”) submits this document to provide comments on the Project Design Refinements for the Beacon Solar Energy Project (“Project”). In its April 1, 2009 Preliminary Staff Assessment (“PSA”) and June 1, 2009 Status Report, Energy Commission Staff (“Staff”) requested that Beacon Solar, LLC (“Beacon” or “Applicant”) provide additional information necessary for Staff’s analysis of the Project. In response, on June 22, 2009, Beacon submitted 700 pages of “project refinements” including, among other things, changes to the design of the rerouted desert wash, incorporation of a partial zero liquid discharge system, changes to waste discharge, the use of propane to fuel the boilers rather than natural gas, addition of a second emergency access route, and changes to the evaporation pond design. As discussed below, the Applicant’s assessment of potentially significant impacts posed by several of the changes are flawed. Further, in light of the numerous changes proposed by Beacon, significant new information will be added to Staff’s analysis of the Project. Thus, a revised PSA must be prepared and circulated for public review and comment.

II. AS A RESULT OF THE PROJECT DESIGN REFINEMENTS, THE PSA MUST BE REVISED AND RECIRCULATED FOR PUBLIC COMMENT

It appears that Staff’s goal is to include additional analyses and mitigation measures in the Final Staff Assessment (“FSA”).¹ However, CEQA requires recirculation of an environmental impact report, (“EIR”), or EIR equivalent, when significant new information is added to the EIR following public review but before

¹ Staff Status Report No. 9, July 8, 2009, p. 2.

certification.² The CEQA Guidelines clarify that new information is significant if “the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect.”³ The purpose of recirculation is to give the public and other agencies an opportunity to evaluate the new data and the validity of conclusions drawn from it.⁴ Consequently, Staff’s objective to include numerous additional analyses and mitigation measures in the FSA to address Beacon’s proposed Project changes violates CEQA. Rather, Staff must recirculate a revised PSA that includes the new analyses and mitigation measures.

III. BEACON’S ASSESSMENT OF POTENTIALLY SIGNIFICANT IMPACTS POSED BY THE PROJECT DESIGN REFINEMENTS IS FLAWED

A. Beacon’s Evaluation of Potentially Significant Impacts to Desert Tortoise from the Additional Emergency Access Route is Flawed

Beacon proposes a second access road for emergency vehicles along the northern edge of the Project site connecting to Neuralia Road.⁵ Beacon concluded that “[n]o significant impacts are expected from the installation of this road.”⁶

Three biologists surveyed the emergency access route for desert tortoise presence.⁷ The survey team detected seven burrows, one of which they determined to be potentially used by a desert tortoise.⁸

² Pub. Resources Code, § 21092.1.

³ CEQA Guidelines § 15088.5.

⁴ *Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (1981) 122 Cal.App.3d 813, 822.

⁵ Project Design Refinements, p. 2-4.

⁶ *Id.* at p. 4-3.

⁷ Desert Tortoise Survey Report, p. 2.

⁸ *Id.* at p. 4.

CURE is concerned with the desert tortoise survey and Beacon's conclusion that the access road will not impact the desert tortoise. First, in general, survey results are known to be positively correlated with surveyor experience. However, the survey report does not provide any information on the experience or qualifications of the surveyors. Thus, it is impossible to assess whether the survey performed is adequate. Beacon must provide information regarding the qualifications of the survey team.

Second, the survey team used the formula provided in the United States Fish and Wildlife Service's ("USFWS") Pre-Project Survey Protocol for the 2009 Field Season to calculate a density estimate of zero desert tortoises in the survey area.⁹ The Applicant concluded that based on a density estimate of zero, "a minimal amount of take would be expected in the action area of the emergency access route."¹⁰ However, occurrence of either live tortoise or tortoise sign (burrows, scats, and carcasses) in the action area indicates desert tortoise presence and therefore requires formal consultation with USFWS for an incidental take permit.¹¹ Therefore, even though the Applicant estimated a density of zero, the presence of at least one burrow potentially being used by desert tortoise indicates that the new access route poses a potentially significant impact under CEQA and may harass, harm, wound, or kill desert tortoise, thereby requiring an incidental take permit under the Federal Endangered Species Act.

⁹ *Id.* at pp. 3-4.

¹⁰ *Id.* at p. 4.

¹¹ Pre-Project Survey Protocol for the 2009 Field Season (USFWS 2009).

Beacon has underestimated the potentially significant impacts to desert tortoise from the additional emergency access route. Consequently, no measures were proposed to mitigate impacts to desert tortoise. CEQA requires lead agencies to disclose and analyze all of a project's potentially significant adverse environmental impacts.¹² Identification of a project's significant environmental effects is one of the primary purposes of an environmental document and is necessary to implement the stated public policy that agencies should not approve projects if there are feasible mitigation measures or project alternatives available to reduce or avoid significant environmental impacts.¹³ An environmental document must propose and describe mitigation measures sufficient to minimize the identified significant adverse environmental impacts.¹⁴ Mitigation measures must be designed to minimize, reduce, or avoid an identified environmental impact or to rectify or compensate for that impact.¹⁵ Thus, in order for Staff to comply with CEQA in its environmental document, Beacon should reevaluate impacts to desert tortoise from the additional emergency access route, and provide adequate mitigation for significant impacts.

B. Beacon's Evaluation of Potentially Significant Impacts to the Western Burrowing Owl from the Additional Emergency Access Route is Flawed

There is often inadequate information about the presence of burrowing owls on a project site until ground disturbance is imminent. When this occurs, there is

¹² Pub. Resources Code, § 21100(b)(1).

¹³ Pub. Resources Code, §§ 21002, 21002.1(a).

¹⁴ Pub. Resources Code, §§ 21002.1(a), 21100(b)(3).

¹⁵ CEQA Guidelines, § 15370.

usually insufficient time to evaluate impacts to owls and their habitat. The absence of standardized field survey methods impairs adequate and consistent impact assessment during regulatory review processes, which in turn reduces the possibility of effective mitigation. As a result, the California Burrowing Owl Consortium (“CBOC”) developed survey protocol and mitigation guidelines to meet the need for uniform standards when surveying burrowing owl populations and evaluating impacts from development projects.

Beacon claims that it conducted protocol level surveys for the western burrowing owl according to CBOC guidelines.¹⁶ Beacon concluded that the additional emergency access route does not pose significant impacts to the burrowing owl.¹⁷ However, Beacon’s report on its burrowing owl surveys reveals that protocol level surveys were not conducted. Thus, it is impossible to determine the Project’s true impacts on the burrowing owl, or how to adequately mitigate those impacts.

1. Beacon’s Phase II Surveys Do Not Satisfy the Protocol

According to Beacon, “Phase II [western burrowing owl] surveys were conducted concurrently with [desert tortoise] surveys because 100 percent visual coverage of the 500-foot buffer zone was attained while surveying” the zones of influence for desert tortoise.¹⁸ For desert tortoise, the zone of influence surveys

¹⁶ Project Design Refinements, p. 4-3.

¹⁷ *Id.*

¹⁸ Report Summarizing Results of the Beacon Solar Energy Project Emergency Access Route Burrowing Owl Presence/Absence Surveys, p. 3.

occurred at 100 feet, 300 feet, 600 feet, and 1,200 feet from the center of the emergency access route.¹⁹

The CBOC protocol calls for pedestrian survey transects to be spaced to allow 100 percent visual coverage of the ground surface, and the distance between transect center lines should be no more than 30 meters (98.4 feet).²⁰ Given that 30 meters is approximately equivalent to 100 feet, the Applicant lacked surveys at 200 and 400 feet from the road (on both sides), as required by the protocol. To put this into context, the protocol would have required 5.5 miles of transects to be surveyed. The Applicant only surveyed 3.5 miles, or 64% of what the protocol requires. Moreover, this calculation assumes that the desert tortoise surveys at 500 feet also included searching for burrowing owls (the methods in the survey report only account for 100 and 300 feet). Clearly, Beacon did not follow protocol.

Further, it is unlikely that surveys were conducted effectively for both burrowing owls and desert tortoises. The ability to effectively survey for multiple species concurrently depends on the habits of the target species. Average burrowing owl flushing distance was reported to be 102 feet from observers on foot.²¹ Effective detection of birds generally involves experience and the ability to incorporate several different visual and aural cues of presence. Often, burrowing owls are detected when flushed from the burrow or perch site. Assuming observers

¹⁹ *Id.*

²⁰ California Burrowing Owl Consortium Burrowing Owl Survey Protocol and Mitigation Guidelines, April 1993, p. 2, available at <http://www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf>.

²¹ Klute D.S., L.W. Ayers, M.T. Green, W.H. Howe, S.L. Jones, J.A. Shaffer, S.R. Sheffield, T.S. Zimmerman. 2003. Status assessment and conservation plan for the western Burrowing Owl in the United States. Bio Tech Pub FWS/BTP-R6001-2003. Washington: US Fish and Wildlife.

are carefully scanning the ground for desert tortoises and burrows, it is questionable that observers would be able to detect owls that flush from a distance potentially more than 100 feet away (i.e., how can a surveyor look down and 100 feet ahead at the same time?).

Beacon has deviated from the protocol set out by CBOC. Consequently, it is impossible to determine impacts to the western burrowing owl posed by the additional emergency access route. As such, adequate mitigation for those impacts has not been proposed. Beacon must address this deficiency.

2. Beacon's Phase III Surveys Do Not Satisfy the Protocol

There are also issues with Beacon's Phase III surveys conducted for burrowing owls between June 1 and June 4, 2009. First, the timing of the surveys does not satisfy the CBOC protocol. According to Beacon's report, surveys were conducted at the following start and end times: (1) June 1, 2009, 17:55-19:00; (2) June 2, 2009, 05:45-06:25; (3) June 3, 2009, 05:45-06:45; and (4) June 4, 2009, 05:45-06:30.²² Protocol requires that surveys be conducted from two hours before sunset to one hour after, or from one hour before to two hours after sunrise.²³ On June 1, 2009, sunset occurred at 20:01. Thus, Beacon missed the protocol survey window for June 1, 2009.

²² Report Summarizing Results of the Beacon Solar Energy Project Emergency Access Route Burrowing Owl Presence/Absence Surveys, p. 5.

²³ California Burrowing Owl Consortium Burrowing Owl Survey Protocol and Mitigation Guidelines, April 1993, p. 2, available at <http://www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf>

Second, the Applicant incorrectly assumes that because desert tortoise surveys were performed at 600 and 1200 feet, the total Project survey area included the proposed emergency access route plus a survey buffer out to 1200 feet.²⁴ The Applicant conducted surveys at 600 and 1200 feet along a line, plus whatever width to each side of the line could be seen while walking the line. Thus, the survey team would not be able to detect a burrow at 900 feet, for example, because surveyors would not be able to see a burrow from the 600-foot or 1200-foot line.

Third, the protocol requires that a winter survey be conducted if no owls are observed during the breeding season.²⁵ The report concludes that no burrowing owls were detected during the breeding season surveys,²⁶ but the report does not mention a winter survey. Impacts to the burrowing owl cannot be determined until a winter survey is conducted.

Again, Beacon's surveys do not satisfy the requirements of the CBOC protocol. Thus, it is impossible to determine the extent to which the additional emergency access road will impact the western burrowing owl, or how to adequately mitigate those impacts.

²⁴ Report Summarizing Results of the Beacon Solar Energy Project Emergency Access Route Burrowing Owl Presence/Absence Surveys, p. 5.

²⁵ California Burrowing Owl Consortium Burrowing Owl Survey Protocol and Mitigation Guidelines, April 1993, p. 2, available at <http://www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf>.

²⁶ Report Summarizing Results of the Beacon Solar Energy Project Emergency Access Route Burrowing Owl Presence/Absence Surveys, p. 4.

3. Beacon's Conclusions Regarding the Presence of Burrowing Owls are Unsupported

Beacon makes several unsupported assumptions regarding the presence of burrowing owls on the additional emergency access route. Moreover, in some cases, Beacon's conclusions are contradicted by its own data.

First, Beacon's report states that "[t]here were very few locations at which WBO could burrow, and no burrows detected were clearly WBO. There was no whitewash, bone fragments, pellets, feathers, etc. at any of the burrow locations."²⁷ However, Table 1 of Beacon's report indicates that Sinkhole #5 had bird splash near the entrance.²⁸ Beacon's own data contradicts its conclusions.

Second, Beacon's report claims that "[t]he soil is too loose for a stable WBO burrow."²⁹ However, the report does not contain any indication that soil was measured. Moreover, the literature does not support the Applicant's conclusion. In fact, some studies have shown that loose soil may actually be preferred by burrowing owls because it enables the owl to easily modify the burrow.³⁰ Beacon provides no evidence to the contrary. Thus, Beacon's claim that the soil is too loose for burrows is completely unsupported.

²⁷ *Id.*

²⁸ *Id.* at p. 3.

²⁹ *Id.* at p. 4.

³⁰ Rosenberg, D.K., L.A. Trulio, D. Catlin, D. Chromczack, J.A. Gervais, N. Ronan, and K.A. Haley. 2007. The ecology of the Burrowing Owl in California. Unpubl. report to Bureau of Land Management; Vegetation and Soils of Burrowing Owl Nest Sites in Conata Basin, South Dakota. James G. MacCracken, Daniel W. Uresk and Richard M. Hansen. *The Condor*, Vol. 87, No. 1 (Feb., 1985), pp. 152-154.

Third, Beacon's report alleges that "...all sign found in and around the Project Survey Area was very old."³¹ It is unclear how Beacon determined that the sign was "very old." Beacon provides no evidence to support its conclusion. Moreover, Beacon's conclusion appears to be contradicted by its own data. The field data sheets show that on June 1, 2009, the survey team did not find any sign at location 10.³² However, on June 2, 2009, whitewash was found at location 10.³³ Thus, it appears that the sign was, in fact, very new, and Beacon's assumption is unsupported.

Finally, Beacon asserts that because "very few fossorial mammals such as ground squirrels, foxes, or badgers use the site...very few potential burrows are available for WBOs to use."³⁴ However, Beacon did not perform surveys for these species, nor did Beacon implement the techniques necessary to obtain an index of abundance for these species. Thus, Beacon cannot assume that few fossorial mammals use the site. Further, Beacon cannot base its conclusion that there are very few burrows available for burrowing owls to use on its completely unsupported assumption.

Beacon has made numerous unsupported assumptions regarding the presence of burrowing owls in the area of the additional emergency access route. As a result, impacts to the burrowing owl have not been adequately analyzed or mitigated.

³¹ Report Summarizing Results of the Beacon Solar Energy Project Emergency Access Route Burrowing Owl Presence/Absence Surveys, p. 4.

³² *Id.*, Appendix A.

³³ *Id.*

³⁴ *Id.* at p. 5.

C. Beacon Failed to Address Impacts to Special Status Plants from the Additional Emergency Access Route

The PSA identifies six special-status plant species as having the potential to occur in the Project area.³⁵ These species have received special status listing from the California Department of Fish and Game or the California Native Plants Society. Therefore, Beacon must perform protocol level rare plant surveys according to the guidelines provided by one or both of these agencies. However, Beacon failed to perform *any* surveys for special status plants that may be impacted by the additional emergency access route. Beacon must perform protocol surveys for special status plants in order to adequately analyze and mitigate impacts from the additional emergency access route.

D. Beacon's Proposed Mitigation for the Rerouted Desert Wash is Inadequate

Beacon proposes to reroute 16 acres of desert washes.³⁶ Beacon asserts that of the 16 acres, 2.4 acres are vegetated and 13.6 acres are unvegetated.³⁷ Beacon proposes to mitigate the unvegetated portion of the wash at a ratio of 1:1, and the vegetated portion at a ratio of 2:1.³⁸ In its comments on the PSA, CURE explained that the method used by the Applicant to calculate acreage of vegetated wash is confusing and does not appear to be a valid statistical technique.³⁹ According to the

³⁵ PSA, p. 4.2-12.

³⁶ Rerouted Wash Mitigation Plan, p. 1.

³⁷ *Id.*

³⁸ *Id.*

³⁹ Comments of the California Unions for Reliable Energy on Preliminary Staff Assessment, Beacon Solar Energy Project, April 30, 2009, pp. 48-49.

Applicant’s Streambed Alteration Agreement application, methods used to make these calculations were as follows:

To ascertain relative cover of established scale-broom occurring within (or dependent on) the ephemeral washes, seven random reaches (totaling 2,990 linear feet) in the Pine Tree Creek Wash were mapped using sub-foot GPS equipment (Figure 3). A weighted arithmetic mean was calculated by taking into account the differences of sampling effort of scale-broom occurring in Pine Tree Creek Wash. The results were then extrapolated to estimate total cover for nonmapped areas resulting in an overall estimate of scale-broom occurring within both washes. The results of the scale-broom sampling for Pine Tree Creek Wash are located in Table 1.⁴⁰

**Table 1
Pine Tree Creek Wash Vegetative Cover Sampling**

Reach	Reach Length (ft)	% Absolute Cover	Weighted Mean
1	430	14	0.027
2	310	10	0.026
3	175	6	0.007
4	780	26	0.034
5	200	7	0.046
6	475	16	0.014
7	620	21	0.008
Total	2,990	100	0.16

Very little additional information was provided, although one of the footnotes shows the total weighted mean, 0.16, was multiplied by proposed impacts to Pine Tree Creek Wash, 14.96 acres, to conclude that 2.4 acres of the wash are vegetated.⁴¹

The Applicant’s proposed mitigation, including proposed mitigation ratios and the extent to which the rerouted wash will be revegetated, reflects these calculations.

However, Beacon failed to explain or cite the statistical process for calculating weighted means. Again, to substantiate the sampling procedure’s validity, the Applicant needs to explain: 1) how weighted means were calculated; 2)

⁴⁰ Beacon Solar Energy Project Jurisdictional Delineation Report, p. 3.

⁴¹ Beacon Solar Energy Project Jurisdictional Delineation Report, p. 4.

how sampling units were selected; 3) the appropriateness of using weighted means given the potential for spatial auto-correlation and a modifiable areal unit problem; 4) the transformation of sampling units measured in linear feet to impacts measured in acres; and 5) how vegetative cover was measured. Thus, Beacon has still not documented or justified its conclusion that only 2.4 acres of Pine Tree Creek Wash are vegetated, and therefore it is impossible to determine whether 4.8 acres of vegetation in the rerouted wash constitutes adequate mitigation.

E. Beacon’s Claim that Changes to the Design of the Rerouted Wash Will Improve Biological Function is Unsupported

Beacon states that design changes to the rerouted desert wash “will assist in achieving replacement of the biological and hydrological function and value of the wash.”⁴² Beacon proposes “three key design changes” to facilitate function and value.⁴³ However, it is unclear that the proposed design changes will actually improve biological function of the rerouted wash.

First, Beacon proposes to reduce the side slopes of the change from 3:1 to 4:1 horizontal to vertical.⁴⁴ According to Beacon, “[t]his reduction in slope is necessary to meet Kern County requirements regarding public safety.”⁴⁵ Although Beacon lists this design change as one of the three “keys” to facilitating function and value of the rerouted wash, Beacon then states that a reduction in slope is required for

⁴² Project Design Refinements, p. 4-2.

⁴³ Rerouted Wash Mitigation Plan, p. 2.

⁴⁴ *Id.*

⁴⁵ *Id.*

public safety. Beacon does not explain how reduced side slopes will facilitate biological function and value.

Second, Beacon intends to incorporate 10-foot drop structures comprised of soil cement and riprap backfilled with soil to facilitate function and value of the rerouted wash.⁴⁶ Beacon claims that this will “maintain reasonable velocities through the channel while maximizing the habitat potential between drop structures.”⁴⁷ However, Beacon provides no support for its claim. Without evidence that substantiates the success of this technique in a similar environment, Beacon cannot assert that the use of drop structures will facilitate biological function and value.

Beacon’s third “key design change” is a reduction in the longitudinal slope of the channel.⁴⁸ Beacon states that the reduction will reduce the flow rate within the channel and will facilitate “braiding and microtopographic variation.”⁴⁹ Again, Beacon provides no support for its claim. Without evidence that substantiates the success of this technique in a similar environment, Beacon cannot assert that a reduction in the longitudinal slope of the channel will facilitate biological function and value.

Beacon provides no evidence that its proposed design changes to the rerouted wash will facilitate function and value. Thus, Beacon cannot assume that the biological function of the rerouted wash will be at least as good as the existing wash.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

Consequently, there remains a significant impact to biological resources that must be mitigated.

F. The Success Standards in the Rerouted Desert Wash Mitigation Plan are Inadequate

Beacon purports that the “development of both hydrological and biological functions and values will be measured by success criteria.”⁵⁰ However, Beacon’s success standards are inadequate in many respects.

First, the Rerouted Wash Mitigation Plan states that “[t]he Project restoration ecologist will compare the condition of the rerouted wash with the existing wash in order to verify the biological and hydrological functions of the rerouted wash are equal to or greater than the existing onsite wash.”⁵¹ However, Beacon does not explain what the comparison will entail. Specifically, the mitigation plan must explain how functions will be measured and how often they will be measured. A subjective opinion made by visual observation is not sufficient to make inferences regarding success of the rerouted wash. Subjective opinions become complicated when, for example, there is personnel turnover. Beacon must specify how functions will be measured, including specific techniques that will be used, so that the scientific integrity of the proposed method can be evaluated.

Second, the mitigation plan defines hydrological success standards in the following three ways:

⁵⁰ *Id.*

⁵¹ *Id.* at p. 3.

- (1) Minimal or no structures or diversion, and maintain natural water sources and flood flow, volume, and extent;
- (2) Maintain natural water sources and confirm the on-site wash segment remains properly connected; and
- (3) Maintain natural levels of sediment transport and prevent development of significant erosion areas.⁵²

These criteria are too vague to be effective. Before these items can be considered success criteria Beacon must: (1) quantify “minimal” structures or diversions needs; (2) qualify “natural” water sources; and (3) quantify “natural” levels of sediment transport and “significant” erosion.

In addition, the mitigation plan states that “routine inspections of the wash during the life of the project for maintenance and repair will identify issues associated with excessive sediment scour (erosion) and deposition that may compromise success of the restoration effort.”⁵³ “Routine” and “excessive” must be quantified to ensure that the mitigation is effective. Beacon must provide clear and effective criteria that ensure mitigation will reduce impacts to a less than significant level. Without effective criteria, the mitigation plan is insufficient to reduce significant impacts.

Third, the mitigation plan asserts that rerouting of the wash will be successful if the wash achieves vegetation cover equivalent or better than the existing wash with the objective of achieving 26% cover within the wash area.⁵⁴ However, Beacon has failed to provide how baseline cover was established and how

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.* at pp. 3-4.

cover in the rerouted wash will be measured. Specifically, Beacon must explain whether success would be achieved if 26% of the rerouted wash is solid vegetation (100% cover) but the remaining 74% of the wash has no cover. Also, Beacon appears to have confused the term *coverage* with the ecological concept of *cover*, and consequently has misapplied them throughout the mitigation plan. As a result, Beacon proposes to revegetate only 4.8 acres of the 18.4-acre rerouted wash.⁵⁵ This is clearly not proportional to the extent of impacts proposed to the wash, which according to satellite imagery has at least some vegetation and cover continuity throughout.⁵⁶

Finally, the mitigation plan proposes that rerouting of the desert wash will be successful if the wash achieves “plant species richness, evenness, and structure equivalent to” the existing Pine Tree Creek wash.⁵⁷ However, Beacon did not measure plant species richness, evenness, or structure in establishing the baseline (or at least it was never reported). Thus, it will be impossible to make a comparison. Further, the mitigation plan fails to provide any discussion of the methods that will be used to measure richness, evenness, and structure in the rerouted wash. Beacon must specify how these criteria will be measured, including specific techniques that will be used, so that the scientific integrity of the proposed method can be evaluated.

⁵⁵ *Id.* at p. 4.

⁵⁶ See Comments of the California Unions for Reliable Energy on Preliminary Staff Assessment, Beacon Solar Energy Project, April 30, 2009, Attachment B.

⁵⁷ Rerouted Wash Mitigation Plan, p. 4.

In sum, the success standards in the Rerouted Desert Wash Mitigation Plan are inadequate. The standards must be revised so that the biological functions and value of the rerouted wash can be appropriately evaluated.

G. The Remedial Measures in the Rerouted Desert Wash Mitigation Plan are Unclear and Inadequate

Beacon proposes corrective actions to be taken if the success criteria are not met within five years.⁵⁸ However, the proposed remedial measures lack clarity and are inadequate.

The remedial measures include extending the five-year monitoring period “until criteria is met or for a period agreed to by Beacon, CDFG and CEC.”⁵⁹ This measure is unclear. Beacon must specify how long the extension period will be (e.g., in one year increments) because the increment of extension must account for many variables such as the germination of exotics and poor germination conditions. For example, suppose at the end of year five, there are five percent exotics present in the rerouted wash. Then, Beacon eliminates the exotics and during the next year germination conditions are poor, leaving less than two percent exotics. It appears that, according to Beacon’s proposed plan, monitoring would then end. However, the exotics seed bank is still present and the next year when germination conditions improve, the percent of exotics greatly increases. At that point, monitoring will have ceased and there will be no detection of the large presence of exotics in the rerouted wash. Exotic species control is known to require a long-term sustained

⁵⁸ *Id.*

⁵⁹ *Id.*

effort if control is to be successful.⁶⁰ Thus, monitoring should continue for the life of the Project.

Beacon also proposes to employ a restoration ecologist to help the development of typical wash characteristics (interfluvial/braiding, shelving, scour and deposition) if these features are not found to be forming.⁶¹ It is unclear what Beacon will characterize as success regarding these features. Would one of each of these features qualify as success? This measure requires quantification.

H. Beacon's Revisions in the Report on Waste Discharge Regarding Heat Transfer Fluid are Inadequate

Staff recently confirmed CURE's finding that the Applicant erred in assuming that heat transfer fluid ("HTF") contaminated soil is non-hazardous.⁶² As a result, Beacon revised its Report of Waste Discharge ("ROWD"). The revised ROWD includes the following procedures for the handling of HTF-contaminated soil:

- (1) Clean-up of spills within 48 hours and movement of the affected soil to a staging area in the land treatment unit where it will be covered with plastic sheeting pending receipt of analytical results and characterization of the waste material;
- (2) Analysis of samples for HTF using modified USEPA Method 8015.

Initially, samples would also be analyzed for ignitability and toxicity

⁶⁰ The National Invasive Species Council 2008-2012 National Invasive Species Management Plan, August 2008, p. 9.

⁶¹ Rerouted Wash Mitigation Plan, p. 5.

⁶² Email from Ellie Townsend-Hough to Eric Solorio re: DTSC letter, June 9, 2009.

using appropriate State and Federal methods to characterize the waste as hazardous or nonhazardous;

- (3) If soil is characterized as a hazardous waste, impacted soils will be transported from the site for disposal at a licensed hazardous waste landfill. No HTF-impacted soils characterized as hazardous waste will be disposed or treated on site; and
- (4) Soil containing 10,000 milligrams per kilogram of HTF or more will be managed as hazardous waste, and soil containing less than 10,000 mg/kg of HTF will be non-hazardous waste and can be managed at the site.⁶³

However, these procedures are insufficient to adequately protect workers and the environment. According to the ROWD, leakage of HTF to the soil would generate up to 750 cubic yards of contaminated material per year,⁶⁴ a volume equivalent to 150 five-yard dump trucks. As discussed below, there is evidence that spills of HTF-contaminated soils will be classified as hazardous, and therefore, it is imperative that appropriate provisions to protect workers and the environment be incorporated into Project approval.

The Material Safety Data Sheet (“MSDS”) for Therminol VP-1, the HTF Beacon proposes to use, states that when discarded, Therminol may be a hazardous waste as defined by the Resource Conservation and Recovery Act (“RCRA”).⁶⁵ The MSDS states that Therminol “should be analyzed in accordance with Method 1311

⁶³ Revised ROWD, June 2009, p. 8.

⁶⁴ *Id.*

⁶⁵ <https://team.solutia.com/sites/msds/Therminol%20MSDS%20Documents/211WEN.pdf>.

for...benzene.”⁶⁶ Given that the manufacturer’s MSDS states that Therminol may be hazardous, samples must be tested using the Toxicity Characteristic Leaching Procedure (“TCLP”) found in the U.S. Environmental Protection Agency’s (“EPA”) protocol (EPA Method 1311), paying particular attention to benzene. The TCLP test would determine the toxicity of the sample by comparing the results to the regulatory limits for contaminants identified by EPA, including benzene. The TCLP test is necessary to determine the mobility of the contaminants in the soil in conditions that simulate those in a landfill.

Further, because the MSDS states that Therminol-contaminated soils may be a hazardous waste, allowing spills to occur before testing is conducted is irresponsible. Under the scenario outlined in the ROWD, leakage of HTF would be allowed to occur that could possibly cause hazardous waste levels of contaminated soil.⁶⁷ Testing will only be conducted when contaminated soils are taken to a staging area.⁶⁸ Testing only after construction of the plant would allow for a plant to be built without sufficient safeguards for protection of workers and the environment and which may cause repeated spills which would need to be addressed as hazardous waste. Given the potential for a hazardous waste finding following testing of Therminol-contaminated soil, testing should be conducted now. The results should be submitted to the Kern County Department of Environmental Health, the agency with authority to make a hazardous waste determination under

⁶⁶ *Id.*

⁶⁷ Revised ROWD, June 2009, p. 8.

⁶⁸ *Id.*

what is known as a waste analysis.⁶⁹ If tests are not conducted now, the wastes should be presumed to be hazardous and the procedures for identification and clean-up of spills must be identified in a revised ROWD to ensure protection of groundwater, workers, and wildlife.

In addition, please note that another project which underwent Energy Commission review, the Victorville 2 Project, described Therminol VP-1 as follows:

Therminol is a synthetic oil consisting of diphenyl ether and biphenyl. Biphenyl has a CERCLA Reportable Quantity of 100 pounds; approximately 377 pounds (42 gallons) of Therminol contains the Reportable quantity of biphenyl. Therminol is moderately toxic, a skin irritant, and a Class III-B combustible liquid.⁷⁰

This finding is consistent with the manufacturer of Therminol who has identified the CERCLA reportable spill of biphenyl as 100 pounds.⁷¹ The manufacturer states that “[f]or this/these chemicals, release of more than a Reportable Quantity to the environment in a 24 hour period requires notification of the National Response Center...”⁷² Accordingly, spills of Therminol of 42 gallons or greater trigger the need for reporting to the National Response Center for a determination of an appropriate response.⁷³ This requirement must be included as a condition in the approval of the Project.

⁶⁹ Telephone conversation between Matt Hagemann and Vicki Cheung, Kern County Department of Environmental Health, April 15, 2009.

⁷⁰ See Victorville 2 AFC, p. 6.7-18 at

<http://www.energy.ca.gov/sitingcases/victorville2/documents/applicant/afc/6.07%20Haz%20Mat.pdf>

⁷¹ <https://team.solutia.com/sites/msds/Therminol%20MSDS%20Documents/105WEN.pdf>.

⁷² *Id.*

⁷³ <http://www.epa.gov/superfun/policy/release/rq/>.

In short, although Staff now recognizes that Beacon erred in assuming that HTF contaminated soil is non-hazardous, the handling procedures for contaminated soil provided in the revised ROWD are inadequate. The procedures must be revised to afford the greatest protection to workers and the environment.

IV. CONCLUSION

Beacon has submitted an enormous amount of information regarding its proposed changes to the Project design. Beacon's impact analyses for several of the changes are inadequate and require further assessment. Moreover, in light of the numerous changes proposed by Beacon, significant new information will be added to Staff's analysis of the Project. Thus, a revised PSA must be prepared and circulated for public review and comment.

Dated: July 22, 2009

Respectfully submitted,

_____/s/_____
Marc D. Joseph
Tanya A. Gulesserian
Rachael E. Koss
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
(650) 589-1660 Voice
(650) 589-5062 Facsimile
tgulesserian@adamsbroadwell.com

Attorneys for the CALIFORNIA UNIONS
FOR RELIABLE ENERGY

PROOF OF SERVICE

I, Bonnie Heeley, declare that on July 23, 2009 I served and filed copies of the attached **California Unions for Reliable Energy Comments on Project Design Refinements**, dated July 22, 2009. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at www.energy.ca.gov/sitingcases/beacon. The document has been sent to both the other parties in this proceeding as shown on the Proof of Service list and to the Commission's Docket Unit electronically to all email addresses on the Proof of Service list and by depositing in the U.S. Mail at South San Francisco, CA with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list to those addresses NOT marked "email preferred." I also sent a copy via email and an original and one copy via U.S. mail to the California Energy Commission Docket Office.

I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, CA on July 23, 2009.

_____/s/_____
Bonnie Heeley

CALIFORNIA ENERGY COMMISSION
ATTN DOCKET NO. 08AFC2
1516 NINTH STREET MS4
SACRAMENTO, CA 95814-5512
docket@energy.state.ca.us

TANYA A. GULESSERIAN
tgulesserian@adamsbroadwell.com
(email only)

SSARA HEAD, VICE PRESIDENT
AECOM ENVIRONMENT
1220 AVENIDA ACASO
CAMARILLO, CA 93012
Sara.head@aecom.com

BILL PIETRUCHA, PROJECT MGR
JARED FOSTER, P.E., MECH. ENG.
WORLEY PARSONS
2330 E. BIDWELL ST SUITE 150
FOLSOM, CA 95630
Bill.Pietrucha@worleyparsons.com
Jared.Foster@worleyparsons.com

JANE LUCKHARDT
DOWNEY BRAND ATTORNEYS LLP
621 CAPITOL MALL 18TH FLR
SACRAMENTO, CA 95814
jluckhardt@downeybrand.com

KAREN DOUGLAS
CALIFORNIA ENERGY
COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
KLDouglas@energy.state.ca.us

JEFFREY D. BYRON
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
jbyron@energy.state.ca.us

KENNETH CELLI
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
kcelli@energy.state.ca.us

ERIC K. SOLORIO
CALIFORNIA ENERGY
COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
esolorio@energy.state.ca.us

JARED BABULA
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
jbabula@energy.state.ca.us

PUBLIC ADVISER'S OFFICE
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
publicadviser@energy.state.ca.us

S. BUSA, K. STEIN, M. RUSSELL,
D. MCCLOUD, G. NARVAEZ
NEXTERA ENERGY RESOURCES LLC
700 UNIVERSE BLVD
JUNO BEACH, FL 33408
Scott.Busa@Nexteraenergy.com
Kenneth.Stein@Nexteraenergy.com
Meg.Russell@Nexteraenergy.com
Duane.McCloud@Nexteraenergy.com
Guillermo.Narvaez
@Nexteraenergy.com

California ISO
e-recipient@caiso.com
(email only)

DIANE FELLMAN
DIRECTOR WEST REGION
NEXTERA ENERGY RESOURCES
234 VAN NESS AVENUE
SAN FRANCISCO, CA 94102
Diane.fellman@nexteraenergy.com