

**State of California
Energy Resources Conservation and Development Commission**

In the Matter of:)	Docket No. 08-AFC-2
)	
Application for Certification)	STAFF'S POST EVIDENTIARY
<u>for the Beacon Solar Energy Project</u>)	HEARING BRIEF

At the conclusion of the March 22, 2010, evidentiary hearing the hearing officer for the Beacon Solar Energy Project ("BEACON") directed parties to file briefs in response to evidence submitted by intervener CURE regarding the technical areas of biological resources, soil and water, hazardous materials/waste and transmission engineering. In addition the hearing officer requested parties to discuss thresholds of significance for visual resources in the context of brightness and contrast. Finally, parties are to address the request by Kern County that the Commission require the applicant to pay an impact fee of approximately 30 million dollars to the county.

INTRODUCTION

THE PROJECT DESIGN CONTAINS THREE FEATURES, SITE SELECTION, DISTANCE TO INTERCONNECTION AND THE USE OF RECYCLED WATER, WHICH MINIMIZE ENVIRONMENTAL IMPACTS.

Three critical features of the BEACON project make this facility a prime example of a solar project that advances the state's goal of renewable-energy development in a manner that is fully consistent with environmental protection. The three features include:

- 1) BEACON will be constructed on degraded former agricultural lands that contain no sustainable populations of sensitive species.
- 2) BEACON is near an interconnection point requiring only a short transmission line.
- 3) By incorporating a partial zero-liquid discharge system and agreeing to use tertiary treated recycled wastewater, BEACON has fully complied with the Energy

Commission's water policy as described in the 2003 Integrated Energy Policy Report. BEACON's use of recycled water for power plant cooling will also have a positive economic impact on local municipalities.

These project features, coupled with comprehensive Conditions of Certification, result in staff concluding the project would comply with all laws, ordinances, regulations and standards. Except for Visual Resources, all environmental impacts would be reduced to less than significant levels or fully mitigated as required under the California Endangered Species Act. (Transcripts p352: 22-25, p353: 1-25, p354: 1-3)

Staff's recommended Conditions of Certification were developed over two years of coordinated joint environmental review with the California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFWS), Kern County Air Pollution Control District, the Lahontan Regional Water Quality Control Board and Kern County. (Final Staff Assessment, (FSA) 1-3, 4.2-2, 4.2-46)

Because CURE is seeking additional measures on the project or is questioning the data provided through the applicant's and staff's studies, CURE has the burden under, California Code of Regulations, title 20, section 1748(e), to prove such additional conditions are not only necessary to protect the environment but, are also feasible.

I. FEATURE ONE: DEGRADED HABITAT

THE BEACON SITE IS MOSTLY HIGHLY DISTURBED FORMER AGRICULTURAL LANDS WITH LITTLE HABITAT VALUE FOR DESERT WILDLIFE AND PLANTS.

The BEACON plant site was subject to extensive alfalfa operations for over 10 years until the late 1980s. (Exhibit 2, 2-3, FSA 3-3, 4.2-12, 4.3-13.) Pumping thousands of acre-feet of ground water a year and maintaining soil fertility was unsustainable and farming on the site ended. (FSA 4.3-13, 4.9-7, Exhibit 21, 5.17-14.) The use of disturbed land with degraded habitat is the crowning feature of this project.

The barren or sparse vegetative cover that characterizes the project site reflects strategic site selection. The evidence in the record supports a finding that:

- 1) The majority of the site is highly disturbed habitat not capable of supporting resident populations of desert tortoise or Mohave ground squirrel. (BS 2008a, FSA 4.2-9, 4.2-35, 4.2-37, Exhibit 327 p3.)
- 2) Protocol level surveys for desert tortoise and western burrowing owl were performed on the entire project site as well as the transmission line and a previously proposed 17.6-mile gas line. (BS 2008a, EDAW 2008d, FSA 4.2-16, 4.2-21, 4.2-37, Exhibit 325 pp. 8-9, Exhibit 326 p. 2.)
- 3) No living tortoises were found on the plant site. (FSA 4.2-16, EDAW 2008d, 2008a Exhibit 326 pp. 3-4.)
- 4) The potential for individual desert tortoises and Mohave ground squirrels to wander on site nevertheless exists, and staff's recommended mitigation would fully mitigate the potential impacts on individual animals. (FSA 4.2-25, 4.2-35, 4.2-37, See Conditions of Certification BIO-9, BIO-10, BIO-11, BIO-12, BIO-13.)
- 5) The project will also be mitigating for impacts to two pairs of burrowing owls. (Exhibit 325 pp. 9-13, FSA 4.2-2, 4.2-34, BIO-17.)

CURE disagrees with staff, USFWS and CDFG in the characterization of the project site as not suitable habitat to sustain a resident population of desert tortoise (DT) or Mohave ground squirrel (MGS). Most of CURE's biological concerns flow from this difference of opinion. Staff, CDFG, USFWS and the applicant have agreed that DT and MGS mitigation should be for the potential take of individuals during construction and operation and not for the loss of the land because the land does not represent good quality habitat. The purpose of selecting degraded agricultural land is to avoid the development of good habitat, and such actions should be encouraged. The burden is on CURE to show why staff's analysis and recommended Conditions of Certification are not sufficient to address impacts. Simply disagreeing with staff and the applicant is insufficient rebuttal. CURE relies on the presence of a juvenile DT carcass that died in the past and some bone fragments as proof of habitat. Yet the record is to the contrary in that finding a few DT bones without more does not indicate habitat. (Transcripts p329: 7-25, p330: 1-25, p331: 1-25, p332: 1-15, p324: 14-25, p335: 1-25, p336: 1-7)

Staff directs the Committee to FSA pages 4.2-48 to 4.2-63 where staff biologist Dr. Susan Sanders specifically addresses nearly all the issues CURE identified in testimony regarding biological resources. Staff notes that both CDFG and USFWS are in agreement with staff that, with implementation of staff's proposed conditions of certification, construction, operation and decommissioning of the BEACON facility would comply with all federal, state, and local laws, ordinances, regulations, and standards relating to biological resources and would fully mitigate potential impacts to biological resources. (FSA 4.2-2, transcripts p349: 11-19, p352: 4-8, p355: 13-25, p356: 1-5)

CDFG's and USFWS's concurrence with staff also undermines CURE's assertions that CDFG or USFWS guidelines and regulations were not followed by the applicant when undertaking biological surveys. (Exhibit 325 pp. 8-9, FSA 4.2-2, transcripts p348: 16-25, p349: 1-19, p352: 15-25, p353: 1-25, p354: 1-3, p355: 13-25, p356: 1-5)

Following publication of the FSA, CURE questioned the project's consistency with federal law.

CLAIM BY CURE: The Staff Assessment does not make a finding of consistency with the Federal Endangered Species Act, because it cannot. Due to the Project's potential to impact the State and Federally threatened desert tortoise, decisions about the Project's impacts and what is required to mitigate these impacts must be made by the U.S. Fish and Wildlife Service ("USFWS") through the consultation process. Although the Staff Assessment attempts to analyze these impacts and formulate mitigation measures, this analysis may bear little resemblance to the ultimate determination of the USFWS.

RESPONSE: CURE's claim incorrectly states the law and the facts. Section 10(a)(1)(B) of the Endangered Species Act authorizes the Service to issue to non-Federal entities a permit for the "incidental take" of endangered and threatened wildlife species. Consultation is optional, but the applicant has decided to apply for an incidental take permit to protect the project owner in case a take of DT occurs. (Transcripts p350: 24-25, p351: 1-4, USFWS website http://www.fws.gov/endangered/pdfs/HCP/HCP_Incidental_Take.pdf.)

The FSA concludes that the project is consistent with Federal law. Staff's proposed Conditions of Certification **BIO-9** through **BIO-13** were developed in consultation with

USFWS and are likely to be consistent with terms and conditions required as part of the Habitat Conservation Plan. These conditions of certification would ensure that the project is not likely to adversely affect the desert tortoise or its critical habitat. (FSA 4.2-2, 4.2-47, transcripts p348: 16-25, p349: 1-19) There is no evidence in the record or requirement in the law that the Federal process must be completed before the project can be licensed.

By utilizing abandoned agricultural lands BEACON is placing property, which was not serving as habitat or an area for food production, into an energy, income and job generating development. This is an appropriate place for such a project. (4.8-13)

II. FEATURE TWO: SHORT TRANSMISSION INTERCONNECTION

DELIVERY OF RENEWABLE POWER WILL REQUIRE ONLY A SHORT TRANSMISSION LINE OF 3.5 MILES.

Besides degraded habitat the BEACON site offers close proximity to an interconnection point. BEACON will only require a short 3.5 mile line to connect its renewable energy into Los Angeles Department of Water and Power's (LADWP), system. (FSA 3-5, 3-6) Development of renewable energy is often complicated by the need for long transmission lines because remote projects can be many miles away from appropriate interconnection points. BEACON has avoided these issues.

CURE raises two issues:

- 1) Should the project be able to connect to the grid at a point where on occasion some hydroelectric generation may have to be reduced due to congestion? (Transcript p191: 17-25, p192: 1-25, p193:1-25, p194:1-4)
- 2) Should the project be conditioned to require an interconnection agreement before construction of the plant site versus construction of transmission? (Transcript p191: 17-25, p192: 1-25, p193:1-25, p194: 1-4)

CURE provided no evidence that curtailment of hydroelectric power or the timing of construction based on an interconnection agreement was legally required or would result in significant environmental impacts. CURE may believe that the transmission system should accommodate maximum energy from renewable generators, wind, solar and hydro, at any time they are available but there is no evidentiary or legal basis to justify another point of interconnection with the grid or additional line upgrades. There is also no evidence supporting a Condition of Certification requiring an interconnection agreement before plant construction may begin. The existing factual record demonstrates that the project's 250 MW of power can be connected into LADWP's system without adverse impacts to the reliability of the transmission system engineering, after implementation of staff's recommended mitigation measures. The fact that LADWP or any other public agency did not raise any concerns with transmission indicates the system can handle BEACON's output.

Regarding power curtailment, in the unlikely event both wind and solar are fully generating, holding back hydro generation would be an appropriate response since hydro can be stored. (Transcripts p208 13-25, p209: 1-25, p210: 1-19, FSA 5.5-1, 5.5-4 to 5.5-7, Exhibit 637 Email from LADWP regarding BEACON) Moreover, the Commission does not have jurisdiction over LADWP's transmission operations and could not obligate LADWP to oversize the lines or otherwise manage transmission.

III. FEATURE THREE: RECYCLED WATER

THE USE OF RECYCLED WATER FOR POWER PLANT COOLING WILL BENEFIT THE REGION BEYOND THE DIRECT REDUCTION IN POTABLE GROUND WATER USE.

The decision by the applicant to utilize recycled water by one of two alternative plans has much broader implications beyond drastically reducing on-site ground water consumption from nearly 1400 afy to 153 afy. (FSA 4.9-12, 4.9-13) There are substantial facts that show BEACON's use of either plan will provide multiple economic and water resource benefits to the region. (FSA 6-10, FSA 6-11, Exhibit 506, transcripts p134: 17-25, p135: 1-3, p136: 6-21, p137: 1-25, p138: 1-18, p139: 4-12)

The Rosamond option would allow for the beneficial use of water which is currently evaporating into the desert air, and the transportation of recycled water from Rosamond would bring new water into the Kohen sub-basin. (FSA 6-10, 4.9-62) From a common sense approach, acquiring and utilizing otherwise evaporating water to generate high value renewable energy is eminently reasonable.

The California City option would assist the City in fulfilling its goals to remove existing homes off thousands of septic systems that are polluting the ground water and limiting the housing density. Removing the current limit on housing density would enhance the City's ability of urban planning to address carbon emissions. (FSA 6-10, 6-11, Exhibit 506, transcripts p134: 17-25, p135: 1-3, p136: 6-21, p137: 1-25, p138: 1-18, p139: 4-12)

During the intervening months since FSA publication, staff further evaluated the California City option to investigate lost recharge from septic systems and modified the Conditions of Certification to include additional monitoring of California City wells and a tamarisk removal program. (Exhibit 337 pp. 3, 7, 9, Appendix I pp. 1, 3, 4) Staff's additional assessment supports its original finding that California City recycled water is a reasonable alternative to adequately protect soil and water resources. (FSA 4.9-62)

IV. CALIFORNIA ENVIRONMENTAL QUALITY ACT DOES NOT REQUIRE PERFECT INFORMATION, ALLOWS FOR UNCERTAINTY AND ALLOWS FOR ADDITIONAL ANALYSIS TO BE PERFORMED AFTER PROJECT APPROVAL.

An evaluation of environmental effects of a proposed project need not be exhaustive, but the sufficiency of an Environmental Impact Report (EIR) is to be reviewed in the light of what is reasonably feasible. The courts have looked not for perfection but for adequacy, completeness and a good faith effort at full disclosure. (Cal. Code Regs., tit. 14, §15151)

Twenty-seven technical professionals spent two years analyzing the BEACON project, evaluating impacts and developing mitigation measures. After numerous public workshops, discussion with other agencies, drafting a 1200-page staff analysis, supplementing information and revising Conditions of Certification, staff has gone beyond the letter and spirit of the California Environmental Quality Act (CEQA) and has met all adequacy and disclosure requirements.

An EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project. (*Laurel Heights Improvement Association v Regents of University of California* (1988) 47 Cal.3d 376, 404-405) Staff believes the record accomplishes this in each of the over twenty technical areas covered in the FSA.

All projects the size of the BEACON facility have elements of uncertainty. As discussed in the FSA, uncertainty exists in many technical areas from ground water computer modeling to the existence of buried cultural resources and identifying the exact number of animals on the site to the number of potential heat transfer fluid leaks (HTF). For the areas of uncertainty, staff developed measures through Conditions of Certification to help mitigate against possible adverse outcomes. Such measures include monitoring, secondary mitigation and performance measures.

A. MONITORING ALLOWS FOR POST CERTIFICATION DATA COLLECTION TO ASSESS THE APPROPRIATE MITIGATION OPTIONS TO BE IMPLEMENTED.

Staff included monitoring as a prominent part of the Soil and Water Conditions of Certification because characterizing impacts to groundwater is complicated, requiring various assumptions and forecasting. Therefore uncertainty exists. Although staff does not anticipate significant impacts from onsite groundwater pumping or collection of septic system water, monitoring programs are included to verify actual events in the field and to trigger mitigation if potential impacts are found. This is especially useful for construction water given the temporary use of a high volume of water. (FSA 4.9-21 to 4.9-31, Exhibit 337 Soil & Water-1, Appendix I) Besides Soil and Water, other sections include monitoring as part of the recommended Conditions of Certification to meet the requirement for a monitoring system under Public Resources Code section 25532. (FSA 4.1-48, 4.1-52, 4.2-79, 4.2-80, 4.2-83)

B. SECONDARY MITIGATION PROVIDES INSURANCE TO COVER UNCERTAINTY IN THE VIABILITY OF THE PRIMARY MITIGATION OPTION.

CURE raised a concern whether the re-engineered wash and floodplain will mitigate significant impacts to the resources associated with this natural desert wash system.

The plan to move and re-vegetate the wash is a novel undertaking and there is uncertainty whether such a plan will work both in terms of biological resources and engineering. To address the biological aspects, staff included a two-tier mitigation package that requires creation of native plant communities within the engineered channel, and, if that fails, off-site land acquisition. (FSA 4.2-28, Soil & Water Appendix C, SOIL & WATER-8, BIO-18) The fact that there are limited examples of re-routing a

desert wash does not invalidate staff's mitigation plan or analysis or prove that such a mitigation package is not effective.

C. PERFORMANCE MEASURES ARE WELL ESTABLISHED TOOLS PROVIDING FLEXIBILITY FOR MEETING ENVIRONMENTAL REQUIREMENTS.

Addressing the hydrology component of the wash, staff developed a number of specific performance measures after extensive hydrological analysis that will allow reasonable flexibility as actual field construction begins. Since the publication of the FSA, the applicant has provided 60% drawings for the wash design, which will allow compliance staff to work from more detailed drawings, earlier in the process, to ensure the performance measures are met. It is simply not practical or desirable to impose rigid, prescriptive mitigation measures that preclude reasonable flexibility in tailoring an evolving engineering plan to the fine details of final design, so long as sufficient performance criteria are specified. (Exhibit 321, FSA 4.9-47 to 4.9-55, Soil & Water Appendix C, Appendix J, Soil & Water Conditions of Certification 9-17.)

The redesigned wash should replicate the original wash as much as possible, and replace its hydrological and biological functions. Specifically the new wash should collect water flow at the same inception point and discharge at the same ending point. The wash should also be able to handle 100-year storm events. (FSA 4.9-43, 4.9-46, 4.9-121) The use of performance standards as directed by Conditions of Certification **BIO-18** will also ensure the wash achieves biological restoration goals.

Under CEQA it is perfectly appropriate to utilize performance standards and defer some amount of environmental problem solving until after project approval. (Cal. Code Regs., tit. 14, § 15126.4(a)(1)(B), See *Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal. App. 3d 1011. *Project approved without first determining precisely the means of mitigating the project's impacts.* See also *Riverwatch v. County of San Diego supra*),. In *Endangered Habitats League v. County of Orange* (2005) 131

Cal. App.4th 777, 793-794, the court found deferral is permissible where the agency commits itself to mitigation and either adopts a performance standard and makes further approvals contingent on finding a way to meet the standard or lists alternative means of mitigating the impacts which must be considered, analyzed, and possibly adopted in the future.

In *Riverwatch v. County of San Diego* (1999) 76 Cal. App. 4th 1428, the County's EIR concluded the widening of State Route 76 would impact the San Luis Rey River Floodplain, but that impacts could be mitigated by measures and design elements incorporated into the project. (*Id.* p. 1446) The specific mitigation required was largely dependent on a study to be performed by CALTRANS as part of an encroachment permit. (*Id.* p. 1447) Petitioners asserted that the county violated CEQA because the final EIR deferred a more detailed analysis of the realignment of State Route 76 until after CALTRANS had completed its study. (*Id.* at P. 1448) The appellate court disagreed holding that "the fact the entire extent and precise detail of the mitigation that may be required is not known does not undermine the final EIR's conclusion that the impact can in fact be successfully mitigated." (*Id.* p. 1447)

In BEACON, staff developed a comprehensive set of Conditions of Certification to ensure the project adequately replaces the wash with a channel that replicates the functions and values of Pine Tree Creek. For example Condition of Certification Soil & Water 9 requires CPM review of the wash designs at various stages. This ensures the wash continues to meet the overall functional requirements. As in *Endangered Habitats*, the BEACON project will have to build a wash that meets compulsory performance measures. **S&W-9** *60% drawings must comply with Conditions of Certification.* **S&W-10** *the project must comply with Kern County standards for drainage.* **S&W-11** *using FEMA methods, the project must analyze the potential for sediment to influence discharge.* **S&W-12** *the project owner shall provide engineering analyses showing that the shallow flooding along uncertain paths from the south will not cause diversion channel bank failure from lateral overtopping.* **S&W-14** *the project*

owner shall design the diversion channel to avoid soil cement lining on the bed of the channel between grade control structures.)

Like CALTRANS in, *Riverwatch*, BEACON will be doing further studies on the specific engineering of the desert wash, but these studies will finalize how the project will meet the required performance measures. (FSA, 4.9-147, 4.9-148, Soil & Water Conditions 6, 9-17). Similarly, performance standards are established in Condition of Certification **BIO-18** to provide quantifiable biological success criteria (for example, the condition establishes a target percent plant cover within the revegetated wash upon completion of the 10-year revegetation effort).

Monitoring, secondary mitigation and performance measures provide effective means to address uncertainty in the degree of project impacts, in an effective and feasible manner.

V. RECYCLED WATER PLANS

THE EVALUATION OF THE RECYCLED WATER PLANS COUPLED WITH CONDITIONS OF CERTIFICATION TO ADDRESS UNCERTAINTY ALLOWS FOR A FINDING THAT ALL POTENTIAL IMPACTS HAVE BEEN EVALUATED AND SUFFICIENTLY MITIGATED.

The California City and Rosamond recycled water plans are discussed in a number of sections throughout the FSA as noted below. Exhibit 506 contains outlines from Rosamond and California City of the estimated costs and the proposed plan for delivering recycled water to the project site. The purpose of Exhibit 506 is to evidence the feasibility of the project acquiring recycled water from Rosamond or California City and to support discussion found in technical sections. Information such as the details of cost sharing, the arrangement of houses to be connected in California City, or the placement of pumps within the existing footprint of the treatment plants are not essential to this proceeding or staff's analysis of the project's direct, indirect, and cumulative impacts. The important consideration is that two viable plans exist to supply the project

with recycled water and both would avoid use of onsite ground water and benefit the environment of the respective regions.

A. RECYCLED WATER PIPELINES HAVE MINIMAL IMPACTS TO ENVIRONMENTAL RESOURCES.

Both California City and Rosamond are in the process of planning for and developing upgrades on how water is utilized in their respective municipalities. California City needs to move away from septic based waste systems and Rosamond is moving to the second phase of its efforts to increase the tertiary treatment capacity of its existing wastewater treatment plant. Phase I, which is already complete, increased the amount of tertiary treated water to half a million gallons a day, (Transcripts p137: 9-24) and phase II, which is planned, will raise the amount of available tertiary water to a total of two million gallons a day, only part of which would be utilized by BEACON. (Exhibit 506 p.2 “capital cost estimate”, FSA 6-10, transcripts p133: 4-25 p134: 1-25, p135: 1-3, p136: 6-21, p137: 8-25, p138: 1-25, p139: 1-12, p142: 2-9) Beacon will be able to take advantage of these developments and the municipalities will in turn be able to capitalize on the Beacon project by selling Beacon their recycled wastewater. (Exhibit 506)

Staff’s environmental analysis focused on pipeline construction, the component of the recycled water plans specific to BEACON that would carry the recycled water from either the Rosamond or California City waste water treatment plants to the project site. Staff spent considerable time developing pipeline routes that would avoid and minimize environmental impacts, therefore reducing the need for mitigation. Because the pipeline will be buried in graded developed road and road shoulders most, construction impacts will be temporary, leading staff to find few impacts from pipeline construction. (FSA 4.2-127, 6-10)

The original project design was to include a 17.6-mile gas line which was subject to DT and Western Burrowing Owl surveys, as well as rare plant surveys and habitat analysis.

(FSA 4.2-8, Exhibit 2, Project Description, figure 2-1, See also Exhibit 7 AFC bio section, 2007 surveys and Exhibit 62, 2008 surveys)

To utilize existing survey data and analysis, the 17.6-mile pipeline route was incorporated into both the Rosamond recycled water line route and the California City recycled water line route. For Rosamond, the 17.6-mile route is a portion of the total length of 39.61 miles. For the California City option, the 17.6-mile route completely subsumes the 9.35 mile route that runs north along Neuralia Road to the BEACON project site. (FSA 4.2-8, 4.2-127, 6-10, Exhibit 2, Project Description, figure 2-1, Exhibit 506, Description of water line with map) The line running from the California City treatment facility to Neuralia will follow Mendiburu Road for 2.8 miles. As with Neuralia, Mendiburu is a developed paved road which already contains buried sewer lines. (FSA 4.5-7, 4.9-38, Exhibit 506 California City proposal)

This 17.6-mile line that makes up the northern segment of the Rosamond Alternative and most of the length for California City line, would be buried within a broad, disturbed and managed road shoulder on Neuralia Road (FSA Biological Resources Appendix A - Figures 2g to 2l). The road is flanked by creosote bush scrub; however, construction would be confined to the existing disturbed area at the edge of California City Boulevard and will avoid areas with native vegetation (FSA 4.2-135)

Because the 17.6-mile route crosses barren or disturbed roadside habitat, pipeline construction would not result in loss of native plant communities or sensitive habitats. Direct and indirect construction impacts to vegetation and wildlife would be reduced to less than significant levels with implementation of impact avoidance and minimization measures described in staff's proposed Conditions of Certification **BIO-1** through **BIO-8**. Minimization and avoidance measures described in staff's proposed Conditions of Certification, **BIO-9**, **BIO-10** and **BIO-12** would avoid impacts to DT and MGS. Implementation of Staff's proposed Conditions of Certification **BIO-15** through **BIO-17** would avoid impacts to nesting birds, including burrowing owls, and would avoid

impacts to American badger and desert tortoise. (FSA 4.2-26, 4.2-135, transcripts p362: 2-25, p363: 1-25, p364: 1-22, Exhibit 87)

For the short 2.8 mile segment following Mendiburu Rd, a mostly paved road, the relevant technical sections have concluded that standard Conditions of Certification, such as best management practices, worker training and monitoring, will adequately address potential significant impacts. For example, in Cultural resources, staff recommends implementation of **CUL-3**, as well as standard monitoring and worker training, to address potential significant impacts. (FSA 4.3-91 to 4.3-94) In Land Use, staff found that California City has proposed pipelines that follow existing right of ways resulting in no adverse land impacts. (FSA 4.5-7) Soil & Water staff determined that, to reduce construction related erosion and sedimentation impacts to less than significant, the applicant should be required to comply with Conditions of Certification **SOIL & WATER-3** and **5** for installation of the pipeline on Mendiburu and Neuralia. (FSA 4.9-38) Traffic and Transportation staff recommends Conditions of Certification **Trans-2** and **3** to address potential traffic issues. (FSA 4.10-8, 4.10-9) Air Quality staff concluded impacts from the construction of all the pipelines would be adequately addressed by Conditions of Certification recommended in other sections of its assessment. (FSA 4.1-13, 4.1-14)

Similar to the 17.6-mile route, impacts to biological resources along Mendiburu can be avoided and reduced through standard Conditions of Certification **BIO-1** through **BIO-8**. Minimization and avoidance measures described in staff's proposed Conditions of Certification, **BIO-9**, **BIO-10** and **BIO-12** would avoid impacts to DT and MGS. Implementation of Staff's proposed Conditions of Certification **BIO-15** through **BIO-17** would avoid impacts to nesting birds, including burrowing owls, and would avoid impacts to American badger and desert tortoise. (FSA 4.2-26, 4.2-135). The short Mendiburu segment is adjacent to areas of existing housing or lands subdivided for future development. (Exhibit 506, California City map.) Although Mendiburu runs through developed areas, the requirements in BIO-20 to survey for special status plant

species, develop a protection plan and avoid such plants during construction should also apply to the Mendiburu water line. (FSA 4.2-114, 4.2-115)

Unlike Mendiburu and Neuralia roads, which transverse the more developed California City area, the remaining 23 miles of water pipeline cross more open space and areas which include suitable habitat for both DT and MGS. (Exhibit 506, California City map, FSA 4.2-127) Staff expended significant resources analyzing and developing mitigation for this remaining segment of the water pipeline route. Staff directs the Committee's attention to BIOLOGICAL RESOURCES APPENDIX A, FSA 4.2-127 to 4.2-170 and the attached maps showing the results of habitat and biological analysis. Staff specifically selected a route that would be constructed almost entirely within the existing road bed and shoulder to avoid or minimize environmental impacts. (FSA 4.2-13, testimony p372: 2-25, p373: 1-25, p374: 8-25)

Because only reconnaissance level vegetation surveys were conducted along the 23-mile alignment, pre-construction floristic surveys would be conducted in spring prior to construction in accordance with guidelines described in staff's proposed Condition of Certification **BIO-20** to determine whether special-status plants occur within areas that might be directly or indirectly impacted by pipeline construction. In the unlikely event that special-status plant species are detected during the surveys, staff has concluded that direct and indirect impacts to such occurrences can be avoided with measures described in **BIO-20**. (FSA 4.2-74)

Staff concluded that construction of the remaining 23-mile pipeline segment will result in impacts to 11.2 acres of habitat for desert tortoise and Mohave ground squirrel, all but 1.9 acres of which would be temporary. To compensate for impacts to 11.2 acres of good to fair desert tortoise and Mohave ground squirrel habitat, staff's proposed Condition of Certification **BIO-21** which specifies a 3:1 mitigation ratio through acquisition of 33.6 acres of suitable habitat for these species. Staff has also recommended avoidance and minimization measures to reduce potential construction impacts to desert tortoise and Mohave ground squirrel, including requirements to have a

qualified biologist present at all times in the immediate vicinity of project activities that would disturb soil, vegetation, and wildlife, worker training programs, speed limits for construction vehicles and other measures. These are described in staff's proposed Conditions of Certification **BIO-1** through **BIO-8**, which apply to protection of biological resources including desert tortoise, Mohave ground squirrel. Staff's proposed Condition of Certification **BIO-12** requires verification that all desert tortoise and Mohave ground squirrel avoidance, minimization, and compensation measures have been implemented. (FSA 4.2-161, 4.2-162)

Please see the following pages for discussion by other disciplines of the recycled water options:

Air Quality: 4.1-13, 4.1-14, 4.1-18, 4.1-25, 4.1-32

Cultural Resources: 4.3-5, 4.3-91, 4.3-92,

Land Use: 4.5-7

Public Health: 4.7-11, 4.7-15

Soil & Water: 4.9-1, 4.9-11, 4.9-34, 4.9-37, 4.9-38, 4.9-57, 4.9-62, 4.9-63, Appendix I pp. 3-4

Traffic & Transportation: 4.10-1, 4.10-8, 4.10-9, 4.10-15, 4.10-16

Visual Resources: 4.12-19,

Power plant reliability: 5.4-4, 5.4-5

Alternatives: 6-1, 6-10, 6-11, 6-19,

B. THE RECYCLED WATER OPTIONS DO NOT PRESENT CUMULATIVE IMPACTS BECAUSE OF THE DISTANCE FROM THE TREATMENT PLANTS AND LACK OF IMPACTS IN KIND.

Cumulative analysis varies with each technical discipline, but, generally, distance is an element in determining what projects are considered in cumulative impacts. Most technical sections considered projects nearer to the project site such as the Pine Tree Wind development project, consisting of 80 wind turbines, and the Barren Ridge Substation. (FSA 4.1-35, 4.1-135, 4.2-44, 4.5-9, 4.6-11, 4.7-16, 4.10-12, 4.11-9, 4.12-24) To be considered cumulative, impacts need to be of like kind to be included in a cumulative analysis. "Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (Cal. Code Regs., tit. 14, § 15355) An Environmental Impact Report (EIR) "should not discuss impacts which do not result in part from the project

evaluated in the EIR.” (Cal. Code Regs., tit. 14, § 15130(a)(1)) Staff’s discussion of cumulative impacts covers reasonably foreseeable projects that present similar impacts to the BEACON project and are in the same geographical area affected by the project. The discussion of cumulative impacts should be guided by standards of practicality and reasonableness. (Cal. Code Regs., tit. 14, § 15130(b)) Given these regulatory parameters, staff did not evaluate the pending improvements at the two treatment facilities, which are 40 miles away for Rosamond and over ten miles away for the California City facility, outside the range of impacts from the project. (Exhibit 506, FSA 4.2-127) In addition, there is no evidence that upgrades to either facility would cause impacts in kind with the BEACON project.

IV HAZARDOUS MATERIALS/WASTE MANAGEMENT

THE PROJECT ADEQUATELY PROTECTS THE PUBLIC AND ENVIRONMENT FROM HAZARDOUS MATERIALS THROUGH TECHNICAL AND ADMINISTRATIVE MEASURES.

Common sense dictates that the project should implement measures to avoid spills and leaks of heat transfer fluid (HTF), and to follow rigorous protocol when a spill or leak does occur. This is exactly what the BEACON project is required to do through staff’s recommended Conditions of Certification. During the Evidentiary Hearings, CURE appeared not to be aware of the extensive requirements regulating HTF spills and the use of a land treatment unit (LTU), contained in the Soil & Water Appendices E, F, and H of the FSA. (FSA 4.13-5, 4.9-174, 4.9-189, 4.9-190, 4.9-210)

CURE’s efforts to cast doubt on the safety of this project are simply misguided. CURE relies on events at the older SEGS facilities as evidence that the same problems will happen at BEACON, yet provides little evidence that a facility built in 2011 will perform like facilities built in the 1980s. (Exhibit 615, transcript p438: 23-25, p439: 1-18) Even if the BEACON facility does perform as the older SEGS facilities and a similar quantity of HTF leaks out, CURE failed to show what the environmental impacts would be as a result of these leaks or why the proposed Conditions of Certification are not adequate.

After careful review of the design of the BEACON project, both in terms of preventing leaks and addressing contaminated soil, staff concluded that management of the waste generated during construction and operation of the BEACON facility would not result in any significant adverse impacts and would comply with applicable LORS, if the waste management practices and mitigation measures proposed in the BEACON AFC and staff's proposed conditions of certification are implemented. (FSA 4.13-1) In addition, hazardous materials use at the proposed site would not present a significant impact on the public health and safety. (FSA 4.4-1, transcript p460: 13-25, p461: 1-7)

A. AMPLE LEAK/SPILL PREVENTION MEASURES EXIST TO PROTECT THE ENVIRONMENT AND PUBLIC HEALTH.

Staff has assessed the properties of Therminol, the HTF, and reviewed the record of its use at Solar Electric Generating Stations 8 and 9 at Harper Lake, California. Staff examined past leaks, spills, and fires involving this HTF. The placement of additional isolation valves in the HTF pipe loops throughout the solar array would add significantly to the safety and operational integrity of the entire system by allowing a loop to be closed if a leak develops in a ball joint, flex-hose, or pipe, instead of closing off the entire HTF system and shutting down the plant. Applicant has proposed including isolation valves for this purpose in the project description (BS 2008a, section 2.5.3.1). Staff therefore proposes Condition of Certification HAZ-7, which would require the project owner to install a sufficient number of isolation valves that can be either manually or remotely activated. (FSA 4.4-8)

B. STAFF'S CONDITIONS CONTAIN PROTOCOLS FOR HANDLING HTF SPILLS AND CONTAMINATED SOIL.

Before there can even be an HTF spill, BEACON will develop a Spill Prevention Control Countermeasure Plan (SPCC). The SPCC Plan contains information on procedures,

methods and equipment at the BEACON site that are in place to prevent discharges of HTF from reaching navigable waters. The requirements for a SPCC Plan for the project are further discussed in the Hazardous Materials Management and Soil and Water Resources Appendices E, F, and H sections of the FSA. (FSA 4.13-5, 4.9-174, 4.9-189, 4.9-190, 4.9-210)

In addition to the SPCC, the facility will prepare and implement an emergency response plan which includes information on hazardous materials contingency and emergency response procedures, spill containment and prevention systems, personnel training and spill notification. (FSA 4.4-10)

Confusion arose during the evidentiary hearing as to the process BEACON must follow once a spill occurs. Revised Figure 7 in the BEACON Project Design Refinement (DB 2009t, Attachment 6, page 8) presents a flow diagram of the management and treatment of the HTF-affected soil proposed by the applicant. Spills of HTF would be cleaned up within 48 hours, and the contaminated soil would be placed in the staging area of the Land Treatment Unit (LTU) and covered with plastic sheeting. Samples of excavated HTF contaminated soil would be collected in accordance with the United States Environmental Protection Agency's (USEPA) current version of the manual "Test Methods for Evaluating Solid Waste" (SW- 846). The waste material would be characterized in accordance with State and Federal requirements and the results would be submitted to DTSC for a determination of the appropriate disposal method based on whether the waste is considered hazardous or non-hazardous. HTF contaminated soil would remain in the LTU staging area until the impacted soils are properly characterized using modified USEPA Method 8015. (FSA 4.9-211, 4.13-10)

Soil characterized as hazardous waste would be transported from the site by a licensed hazardous waste hauler for disposal at a Class I landfill. Soils characterized as non-hazardous would remain and be treated in the LTU. (FSA 4.13-10)

The applicant's proposed treatment and disposal methods are generally consistent with and would provide for compliance with the Waste Discharge Requirements established through consultation with the Lahontan Regional Water Quality Control Board (LRWQCB) and presented in Soil and Water Resources Appendices E, F, and H. (See 4.9-173, 4.9-190, 4.9-210.) Staff proposes Condition of Certification **WASTE-7** to address the Waste Discharge Requirements. This would require the applicant to comply with the requirements for accidental discharges of HTF associated with the operation of the project and ensure that hazardous concentrations of contaminated HTF-soil will not be treated in the LTU. With implementation of Condition of Certification WASTE-7, staff believes there would be no significant impacts due to HTF spills during project operation. (FSA 4.13-11, transcript p495: 7-25, p496: 1-23, p497: 15-25, p498: 1-7, p508: 20-25, p509: 1-6)

V. VISUAL RESOURCES

THE CONTRAST INTRODUCED BY THE BRIGHTNESS FROM THE PARABOLIC TROUGH SOLAR COLLECTOR FIELD AND THE TROUGH STRUCTURES CREATE A SIGNIFICANT IMPACT

It is undisputed that the project would introduce a high degree of contrast to the existing physical environment for a portion of the day from certain elevated locations. (Exhibit 324, p2) The question is whether the strong degree of contrast introduced by the brightness from the parabolic trough solar collector field equates to a significant impact under CEQA. Two factors are considered to create the strong degree of contrast, the structures in the parabolic trough solar collector field and the amount of light or brightness given off by the parabolic troughs. (FSA 4.12-48)

The California Environmental Quality Act defines a "significant effect on the environment" to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including . . . objects of historic or aesthetic significance" (Cal. Code Regs., tit. 14, §15382).

Based on the substantial visual contrast expected at certain times during the day, staff concluded the project would result in a significant visual impact. Moreover, staff could not identify feasible measures to mitigate the significant impact. Visual Resources technical staff testified that there are no historical thresholds of significance for large solar projects that delineate when a substantial visual contrast becomes a significant impact. (Transcripts p161: 10-21, p162:13-21, p172: 5-18) Rather staff is left to assess each situation on a project-by-project basis, taking into account all relevant factors, such as terrain, proximity to highways, proximity to other public areas, direction of reflecting mirrors relative to viewers affected, duration of impact, etc.

Staff assesses each key observation point (KOP), using eight factors: visual quality, viewer concern, visibility, number of viewers, duration of view, contrast, dominance, and view blockage; see Visual Resources Diagram 1. Appendix VR-1 provides a description of the visual-related terms shown in Diagram 1. (FSA 4.12-10, 4.12-32, 4.12-33, 4.12-45)

Contrast concerns the degree to which a proposed project's visual characteristics or elements of form, line, color, and texture differ from form, line, color and texture existing in the landscape. The degree of contrast rates from weak (low) to strong (high). (FSA 4.12-48) Contrast can be seen through ambient brightness intensity. (Hamblin testimony, p159: 1-25, p160: 1-24)

From key observation point 2 (KOP 2), the degree of contrast introduced by the parabolic troughs and the amount of light or brightness given off by the surface area of them during operation would accentuate the contrast with the surrounding landscape and be strong (high). The degree of contrast would demand attention, would unlikely be overlooked and would be dominant in the view at this KOP. (FSA 4.12-13)

From KOP 6, the degree of contrast introduced by the amount of light or brightness that is given off by the surface area of the parabolic troughs during operation would accentuate the contrast with the surrounding landscape. At this KOP, a view of the

parabolic troughs during operation would introduce a “glittering” effect similar to a shimmering from a body of water. (FSA 4.12-18)

For KOP 2 when considering the moderately high overall visual sensitivity and the moderate overall visual change, the introduction of the project’s publicly visible structures would substantially degrade the existing visual character or quality of the site and its surroundings. (4.12-13) A similar discussion of KOP 6 can be found at 4.12-18 of the FSA.

Given the totality of the project and the surrounding environment, staff concluded the brightness contrast would be of such a degree as to reach a level of significant impact. (FSA 4.12-12, FSA 4.12-17, Hamblin testimony p161:22-25, p162: 1-21, p168: 11-25, p169: 1-25, p170: 1-25, p171: 1-13)

A. OVER-RIDING CONSIDERATIONS

THE RECORD SUPPORTS A FINDING OF OVER-RIDING CONSIDERATIONS.

Notwithstanding the unmitigable visual impacts described above, consideration needs to be given to the following facts: (FSA 1-7)

1. BSEP would contribute to meeting goals under California’s Renewable Portfolio Standard Program (Senate Bill (SB) 1078; as amended by SB 107), which establishes that 20% of the total electricity sold to retail customers in California per year by December 31, 2010 must consist of renewable energy;
2. BSEP would contribute to meeting the Governor’s Executive Order #S-14-08 which establishes that renewable energy must contribute 33% of the supply for meeting total state energy demands by 2020;
3. BSEP would contribute to the state accomplishing its goals for reducing global carbon emissions in accordance with the California Global Warming Solutions Act of 2006 (Assembly Bill 32); and

4. BSEP would generate both short term construction-related and long term operational-related increases in local jobs, expenditures and payrolls, as well as sales tax revenues

Because of these benefits, the lack of feasible mitigation and the concerns regarding the adverse impacts that global warming will have upon the state and our environment, including desert ecosystems, staff believes it would be appropriate, and the evidentiary record supports, the Energy Commission making a finding of over-riding considerations consistent with California Code of Regulations, title 14, section 15093 and California code of Regulations, title 20, section 1755. (Exhibit 505)

VI. KERN COUNTY REQUEST FOR IMPACT FEES

THE COMMISSION SHOULD NOT REQUIRE THE APPLICANT TO PAY FEES TO KERN COUNTY BUT SHOULD ALLOW THE APPLICANT AND KERN COUNTY TO NEGOTIATE A RESOLUTION TO THE FEE ISSUE

Kern County has requested that the Commission require the applicant pay Kern County an impact fee of \$1,591,658.90 a year for 30 years to cover the cost of various emergency services. The county bases this amount on what appears to be facility size and not necessarily actual consumption of public services. Staff does not recommend such a condition because staff concludes that the proposed project would not have significant impacts on local fire protection or emergency services. The fire risks at the proposed facility do not pose significant demands on local fire protection services. Staff also concludes that the Kern County Hazmat Team and the Kern County Fire Department (KCFD) are adequately equipped and staffed to respond to hazardous materials accidents at the proposed facility within an acceptable response time (Eckroth 2008). (FSA 4.14-1)

Staff consulted with Kern County Fire department in determining the impacts of the project on emergency services. (FSA 4.14-3, 4.14-4, 4.14-11, 4.14-12) Staff also evaluated the need for emergency medical services at the facility and found no significant impacts. (FSA 4.14-13)

Staff reviewed the cumulative impacts BEACON could have on the fire and emergency service capabilities of the KCFD. Staff agrees with the applicant that combined impacts would not be significant and that existing local services would adequately provide emergency service. (FSA 4.14-13)

Staff is aware of the budget issues facing all counties and cities in the state and encourages Kern County and the applicant to develop a fee plan that is mutually agreeable and has a nexus to the actual expected impacts from the project as opposed to a fee program based on acreage.

Dated: April 19, 2010

Respectfully submitted,

 /s/ Jared J. Babula

JARED J. BABULA
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**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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APPLICATION FOR CERTIFICATION
For the *BEACON SOLAR ENERGY
PROJECT*

Docket No. 08-AFC-2

PROOF OF SERVICE

(Revised 2/8/10)

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DECLARATION OF SERVICE

I, Janet Preis, declare that on April 19, 2010, I served and filed copies of the attached, Staff's Post Evidentiary Hearing Brief, dated April 19, 2010. 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: [\[http://www.energy.ca.gov/sitingcases/beacon/index.html\]](http://www.energy.ca.gov/sitingcases/beacon/index.html).

The documents have 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, in the following manner:

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OR

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CALIFORNIA ENERGY COMMISSION

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I declare under penalty of perjury that the foregoing is true and correct.

/s/ Janet Preis