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Applicant's Submittal of Rebuttal Testimony

Calico Solar, LLC

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Tessera Solar
power from stirling energy systems

July 29, 2010

Mr. Christopher Meyer
CEC Project Manager
Attn: Docket No. 08-AFC-13
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Calico Solar (formerly Solar One) Project (08-AFC-13)
Applicant's Submittal of Rebuttal Testimony

Dear Mr. Meyer:

Tessera Solar hereby submits the Applicant's Rebuttal Testimony. I certify under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.

Sincerely,

Felicia L. Bellows
Vice President of Development

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814 - 1-800-822-6228 - WWW.ENERGY.CA.GOV

Docket Number: ***08-AFC-13*** Date: July 29, 2010

Project Name: **Application for Certification for the *CALICO SOLAR Project***

TENTATIVE EXHIBIT LIST

Exhibit	Brief Description Including Date of Document and Docketed Date	Admitted	Refused	CEC Use Only
82.	**Rebuttal Testimony for Felicia Bellows**			
82-A.	Applicant's Requested Changes to Conditions			
82-B.	Maps of Pre- and Post-Project Public Access Routes			
82-C.	Map of Biological Resources Avoided by Project Boundary Modification			
82-D.	Revised Project Base Map			
82-E.	July 1, 2010 BNSF letter			
83.	**Rebuttal Testimony for Julie Mitchell**			
84.	**Rebuttal Testimony for Robert Scott**			
84- A.	Map of Wells in the Vicinity of the Calico Solar Project			
85.	**Rebuttal Testimony for Joe Liles**			
86.	**Rebuttal Testimony for Robert Byall**			
87.	**Rebuttal Testimony for Patrick Mock**			
88.	**Rebuttal Testimony for Theresa Miller**			
89.	**Rebuttal Testimony for Waymon Votaw**			

Exhibit	Brief Description Including Date of Document and Docketed Date	Admitted	Refused	CEC Use Only
90.	**Rebuttal Testimony for Tariq Hussain**			
90-A.	Map of Offsite Consequences Analysis for Two Independent Centralized Hydrogen Systems			
91.	**Rebuttal Testimony for Noel Casil**			

Exhibit 82

REBUTTAL TESTIMONY

OF

FELICIA BELLOWS

Project Overview

Q1. Will you please state your name and occupation?

A1. My name is Felicia Bellows and I am Vice President of Development for Tessera Solar.

Q2. Are you the same Felicia Bellows that submitted opening testimony in this proceeding?

A2. Yes

Q3. Are you sponsoring additional exhibits?

A3. No. All documents related to my testimony are attachments.

Q4. What is the purpose of your rebuttal testimony?

A4. The purpose of this testimony is to:

a) Update the Committee on recent adjustments in the project and the reasons for those adjustments.

b) Provide the Committee an overview of the major modifications to the project and discuss the reasons for those adjustments

c) Discuss our concerns with and proposed changes to some of the proposed conditions of certification contained in the Supplemental Staff Assessment.

d) Discuss our proposed approach to mitigation funding.

Recent Adjustments to the Project

Q5. Would you describe recent adjustments you are proposing in access to the project site and the necessity for that change?

A5. Access to our site and the surrounding private parcels are shown in Attachment 82 B. Permanent access onto the Calico site has always been planned on a paved road turning east off of Hector Road approximately .2 miles north of Interstate 40. The access road would traverse sections 15, 10 and 11 in a northeast direction, cross the BNSF tracks over a bridge and on to the main services complex. Originally, until the bridge was to be completed, temporary access to the site during Phase 1 was to be made travelling north on the unmaintained continuation of Hector Road, crossing the BNSF tracks at the current at grade crossing there and turning east and travelling parallel to the railroad along BNSF's right-of-way to the main services complex and the solar field. In addition, once Phase 2 work has begun, access to the western most piece of the Project in Section 8 was to be made travelling along the BNSF right-of-way south of the railroad from Section 10 to Section 8.

On July 14, 2010, BNSF told us that they want these two means of access to change. First, BNSF does not want us to use the temporary access road that leads to the usage of their right-of-way. They want us to use the permanent access road as soon as possible and will facilitate this by building us a temporary at grade crossing at our

expense where the permanent access road crosses the tracks until the bridge is completed. They would allow temporary use of their right-of-way north of the railroad until they complete the temporary at grade crossing. Second, BNSF does not want us to access Section 8 from Section 10 via their right-of-way. They want us to exit our site at our gate, travel north along the continuation of Hector Road until we reach BNSF's right-of-way and then take their right-of-way west to the Project in Section 8.

We do not believe responding to BNSF's request will result in any new or significant impacts. As our technical experts will testify, the trip counts on the continuation of Hector Rd and expected emissions would remain unchanged; only the internal circulation pattern would change. The route of the permanent access road and the continuation of Hector Road have been surveyed for biological and cultural resources and fully discussed in the AFC and various CEC staff documents. There would be no new or additional impacts as a result of making these changes requested by BNSF.

Q6. Has BNSF requested the applicant make additional changes in the project?

A6. In their July 1, 2010 comments on the SA/DEIS (Attachment 82 E), BNSF raised concerns related to the alignment of the generation interconnection between the power plant and the Pisgah Substation, the routing of a hydrogen line under the rail line and glint and glare. Specifically BNSF stated that the generation interconnection would result in induction electricity safety issues including signal interference and shock hazard. We do not agree with BNSF's concerns because the setback distance between the interconnection and rail line is approximately 88 feet. Based on NESC –C2-2007, minimum clearance required for a 230 KV power line to the railroad tracks is 30 ft, so our line, planned at 88 ft, clearly exceeds this requirement. We are willing, however, to move the generation interconnection 300 ft from BNSF's right-of-way to address BNSF's induction concern. The path and the length of the interconnection will remain the same. Our experts have evaluated this change and believe it is insignificant and will not result in a significant impact. Biological and cultural surveys have been performed in the area of the new alignment.

BNSF also expressed concerns with hydrogen being piped underneath its rail lines and requested that those lines be rerouted if we use a centralized system. While the hydrogen system is designed to prevent uncontrolled leaks, to respond to BNSF's concerns, if we use a centralized hydrogen distribution system, we are willing to split hydrogen production and delivery into two pieces with one system including a hydrogen generator, storage tanks, and underground pipe located south of the railroad and one north of the railroad. Our hazardous materials and safety experts will provide testimony stating their belief that this will not change their conclusions that the project does not represent a significant adverse impact.

Finally, BNSF's letter expressed concern regarding potential glint and glare effects interfering with rail operations. Based on our studies we do not expect any of these issues but have agreed to perform a site-specific study using experts selected by BNSF to evaluate and identify means to resolve any potential glint and glare effects. This study will be complete and appropriate mitigation put in place prior to

the first SunCatcher being mounted on a pedestal at the site. Our suggestion on specific language for a new visual condition on this issue (also included in Attachment 82 A) is:

Prior to the first SunCatcher disc being mounted on a pedestal, a site-specific Glare/Glint study shall be performed to address the Glare /Glint issues raised by BNSF with respect to the potential impact of the proposed Calico Solar SunCatcher on BNSF rail operations and the recommended mitigation measures. Once this study is complete, BNSF and Calico Solar will work to implement mitigation that satisfies both parties, and this mitigation shall be implemented by Calico Solar at its expense. The site specific study shall commence immediately upon BNSF's selection of the experts to perform the study. In the event the CEC's on-going Glare/Glint study resolves BNSF's Glare/Glint issues to BNSF's satisfaction, BNSF will advise the CEC and Calico Solar and the CEC site-specific Glare/Glint study and the implementation of its mitigation measures shall be deemed in compliance with the above Condition of Certification.

Q7. Would you describe the change you are proposing in providing construction power for the project and the reason for that change?

A7. Construction power has always been planned to be provided by Southern California Edison (SCE) via a temporary power line from one of the nearby distribution lines or the Pisgah Substation. We submitted all of the necessary applications and request to SCE for temporary service in the fall of 2009 as required under the SCE PPA. We were recently informed by SCE, however, that SCE will not be able to provide us construction power until February 2011 at the earliest and quite possibly beyond the target date for the Phase 1 upgrade at Pisgah substation.

Since construction will begin on the site in October when we will need power, we are requesting that the Commission allow us to use two diesel generators for construction power. One generator would be capable of producing 500 kW and the other 75 kW. Both generators would be U.S. EPA rated as Class 3 or, depending on availability, Class 4, meaning they would have the lowest emissions possible for this size and type of equipment. As our air quality expert will testify, the use of this equipment will not result in an environmental impact or LORS conformance issue.

Previous Modifications to the Project

Q8. Concern has been expressed by some of the parties that this project should not be permitted at this time because of numerous previous changes proposed by Tessera Solar. Can you briefly describe those changes and the reasons for them?

A8. We have made three major modifications in the Calico Solar project: water supply, hydrogen system, and project boundary. The SSA analyzes these changes.

I discussed the changes in the water supply in my opening testimony. Our water supply shifted from on-site wells located on federal land, to reclaimed water, to offsite wells, and back to on-site wells located on private land. The initial driver of this change was concern on the timing required to permit the wells located on BLM land. We did not learn of this timing issue until after the AFC had been submitted.

In considering an alternative source of water for the project, the use of recycled water was proposed by the CEC, but then later deemed to be too problematic to deal with by the Mojave Water Agency as it involved an export of water from their service territory. At this point we began reconsidering both the use of on-site and off-site ground water and provided the Commission regular updates on our progress.

Our AFC proposed a distributed hydrogen system that relied on k-bottles located on each SunCatcher. We subsequently requested that the Commission approve either the use of a distributed or centralized hydrogen system. The centralized system as the distributed system would produce hydrogen on-site using electrolysis, but then the hydrogen would be piped to each SunCatcher. We requested this option to be able to take advantage of the lessons being learned from the Maricopa Solar project. We have also increased the amount of hydrogen stored in the system to increase the efficiency and longevity of the equipment.

The most significant of the three modifications – the change in the project boundary, resulted from discussion with the natural resource agencies and environmental groups that requested we reduce our potential impact on sensitive plants and animals. The Desert Tortoise Recovery Office in particular requested that we pull the northern boundary of the project down 4,000 feet from the toe of the Cady Mountains to provide an adequate corridor for desert tortoise movement around the top of the project (see Attachement 82 C). This had the added benefit of reducing the number of desert tortoise directly impacted by the project, avoiding big horn sheep foraging habitat and increasing the distance between the project and the bighorn sheep and golden eagle habitat, and reducing impacts on special status plants. Working with the agencies, we also made further modifications within the project boundary to avoid sensitive environmental resources.

A map showing the modifications we have made in our project to avoid sensitive resources is shown in Attachment 82 C. Attachment 82 D shows the base map for our project.

Q9. Do you believe permitting should be delayed because of these modifications?

A9. No. Our understanding is that the permitting process is dynamic rather than static. The Commission has specific data adequacy requirements intended to ensure there is a threshold of information to allow the agencies and the public to understand the project and begin the permitting process. Data requests, workshops, and the staff's initial assessment allow further clarification of the information as well as refinement of the project. As the agencies and public have an opportunity to formulate their thoughts and concerns, most projects evolve to respond to legitimate concerns and are modified as mitigation is worked out and LORS conformance issues are resolved.

This dynamic is continued through the hearing and Committee deliberation portion of the process. My understanding is that during the hearings, the Committee and subsequently the Commission consider the various perspectives and seek to balance technical, legal, and policy considerations to ensure the overriding objectives of the Warren-Alquist Act and provisions of the California Environmental Quality Act are met.

Concurrent with the interaction between a project applicant, the agencies, and engaged public, there is another dynamic that is occurring: project engineering and design. The information submitted in the AFC is at a preliminary engineering level of detail. As permitting progresses, the engineering on the project is also progressing toward final design. Often engineering of the project is taken from the firm that developed the concept and initial design to another firm that will be responsible for actual construction of the facility on the proposed site. This dynamic typically results in adjustments of the design, specifics on site layout, and the realities of constructing a large industrial facility. By the time of the hearings, most projects and ours included, are approaching final engineering design to allow construction to begin once a CEC permit is issued.

On the Calico Solar project, we have the added dynamic of dealing with an innovative technology that is being refined. The SunCatchers do not have the benefit of decades of construction and operation experience as is the experience with the natural gas combined cycles and combustion turbines the Commission is most familiar with. Although we believe the technology is appropriate for commercial development because of its years of operation at Sandia, recent Maricopa installation, and modular nature of its design, we also know that each project and each unique site will provide opportunities to further refine the technology and its application.

Given all of these processes, I would expect changes in the project to be normal, expected, and in most instances welcome. Since many of the changes are driven by input from the agencies and public or issues that arose after filing of the AFC, these changes demonstrate that the process is in fact working.

Comments on Proposed Conditions of Certification

Q10. What are your concerns related to the CEC staff's proposed conditions of certification?

A10. While we agree with most of the conditions of certification proposed by the CEC staff to eliminate or reduce potentially significant adverse environmental impacts or ensure the project complies with applicable laws, ordinances, regulations or standards (see Exhibit CC); there are some that we believe require significant modification because they are either unworkable or unduly burdensome. These conditions are the following:

- BIO-8 (Impact Avoidance and Minimization) – We believe this condition is overly complicated and has significant potential to be in conflict with the requirements the U.S. Fish and Wildlife Service is expected to include in its Biological Opinion. We request that the CEC condition mirror the Biological Opinion. The condition has a couple of other provisions that we also request be modified related to trash collection and soil stabilization that are discussed in Attachment 82 A and by our biological expert.

- BIO-12 (Plant Avoidance and Minimization) – Our biological resources expert discusses our significant concerns with this proposed mitigation in his testimony. Overall, we agree with the SSA's avoidance requirements. However, as is discussed in the SSA, impacts to Small-Flowered

Androstephium and Utah vine milk-weed are not considered significant, and therefore mitigation is not required. Our second major concern relates to the requirement that we prepare a Protected Plant Replacement Plan for San Bernardino County-listed species. While we agree to submit a letter report summarizing the inventory of these plants, impacts to these species are not significant and therefore avoidance or mitigation for these plants is not required.

- BIO-13 (Fringe-toed Lizard) – Our concern with this condition is that the analysis does not support the impact conclusion and the cost of mitigation appears to be excessive. Our biology testimony will discuss this in more detail.

- BIO-17 (Desert Tortoise Compensation) – As written, this condition represents our most serious concern. We entirely agree with the concept of mitigating impact to the desert tortoise and have been in discussion for many, many months with the various agencies regarding the mitigation ratios, translocation requirements and logistics, and even details on specific private lands to purchase for compensatory mitigation. Regarding the private lands, we have discussed the expected prices and have been advised by some of the agencies to avoid situations where landowners were requesting significantly exaggerated prices. It then came as an absolute shock to us when the SSA came out to reveal the agencies are expecting us to pay almost $50 million for desert tortoise mitigation. We had no previous warning of this and had not considered anything of this magnitude during our Power Purchase renegotiations with SCE or discussions with potential project financiers. It seems grossly unfair that the agencies spring this figure on us at essentially the last minute.

  And most importantly, by setting a price of essentially $8000/acre in the SSA's for these projects, the Commission is setting a price in the market for these lands. I assure you that every savvy land broker in California is watching this process and has already dialed up the various land owners of potential mitigation land to offer his or her services in capturing a price up to $8000/acre as reflected in this table. This is unfair to these projects' developers as well as to the counties who will have development possibly curtailed if land prices rise to levels above which true development can occur.

Part of the $8,000 per acre is the $1,450 per acre for long term management and maintenance funding. BLM stated during the Imperial Valley Solar hearings that this $1,450 represented a worst-case scenario. It is therefore inappropriate to require securitization of that amount. As discussed below, we request phasing of mitigation payments. The fact that the $1,450 is a worst-case scenario further supports the mitigation payment proposal described below. In other cases, the Energy Commission has agreed to phased funding of mitigation. For example, the Moss Landing AFC (99-AFC-4) includes two conditions (BIO-7 and BIO-9) that allow for phased payment of mitigation funds. Similarly, El Segundo (00-AFC-14) allowed for phased biological mitigation funding in condition BIO-1.

In addition, we are particularly concerned about the cost for this long-term management and funding. We do understand that long-term management is necessary to protect special status species habitat. But if this land is being turned over to the BLM for management, then we would expect this cost to be significantly lower since they already have the management infrastructure in place. As the BLM expert stated during the Imperial Valley hearings, BLM is a land management agency and additional funding is not necessarily required for them to carry out their mandate.

We also believe that some of the miscellaneous costs are higher than necessary. We will submit specific language on or before the hearing date.

We look forward to having a discussion of these concerns during the hearings.

- BIO-18 (Raven Management) – The intent and approach of this condition is acceptable to us but again we do not understand the reason for the exceedingly high cost. As written, the condition requires over $650,000 in funding. There is not support in the analysis for these funds, and it is not clear what they will be used for and how it relates to our project. Our project will result in the removal of all desert tortoise on site and includes other conditions to reduce the presence of ravens.

- GEO-2, GEO-3, and SOIL&WATER-8, part 7 (Detention Basins) – These conditions treat the detention basins as dams and place the same requirements on them as a dam overseen by the Division of Dam Safety. As our engineering expert will testify, these basins hold a minimal amount of water and are of minimal height.

- NOISE-6 (Noise Limits) -This condition limits construction on Sundays. There may be situations where construction is necessary and we would like the condition modified to allow construction if a variance is approved by San Bernardino County or the CPM.

- VIS-3 (Set Back Distances) – As written, the language in this condition is either confusing, at best, or overly restrictive. It establishes a 360-foot setback from the freeway or a buried pipeline. The setback from the pipeline will preclude a significant portion of the site from development to mitigate an unclear visual impact. We request the condition be reworded to establish a setback from the freeway only. We note that Staff agreed to a setback distance of 223 feet in the Imperial Valley project, and we therefore believe that is appropriate here as well.

- WORKER&FIRE SAFETY-7 -- (Fire Department Payment) – Again, we understand and agree with the concept of this condition. However, it establishes a significant upfront and annual cost on the Applicant which was unplanned and is unnecessary. Our hazardous materials resource person will testify to the fact that a large incident onsite due to hydrogen is highly unlikely and discuss what could occur onsite and the appropriate

equipment/services necessary to address this risk. In addition, while the intent of the condition appears to encourage the Applicant and the San Bernardino County Fire Department to negotiate funding, the publication of expected payments significantly impacts the Applicant's ability to truly negotiate a figure lower than the expected payment. Applicant requests that it be allowed to arrange for fire/emergency services by negotiating with the San Bernardino County Fire Department, negotiating with the Newberry Springs Fire Department or creating its own fire/emergency station onsite that meets the necessary requirements.

Q11. Do you have concerns with other conditions that require less significant modifications?

A11. There are a few other conditions we believe need to be modified or clarified to be more reasonable and workable. Others need to be modified to eliminate lengthy preconstruction timeframes that could delay construction. We had proposed changes to some of these conditions previously but believe the staff was not able to focus attention on them. The reasons for our concerns and proposed wording for these proposed modifications are included in Attachment 82 A.

Financing of Mitigation

Q12. Will you discuss more about your concern related to financing of the mitigation costs?

A12. As written in most of the CEC staff's proposed conditions of certification, the applicant is required to fund the mitigation, particularly the in-lieu biological mitigation costs, prior to the start of construction. For example, condition BIO-10 (3)(h) states:

> "The project owner shall provide financial assurances to the CPM, with final copies of the document to CDFG, to guarantee that an adequate level of funding is available to implement any of the mitigation measures required by this condition that are not completed prior to the start of ground-disturbing activities."

We have two major concerns about the proposed mitigation funding requirements. First, our project, like many of the large solar projects being reviewed by the Commission, is seeking federal loan guarantees and other assistance under the ARRA program. We and the other projects are in a very unique situation. These projects are large and the mitigation funding required is very large in comparison to a fossil-fueled plant due to the amount of land involved, often running into the millions or tens of millions of dollars. In addition, to qualify for the Treasury Grant, the projects must commence construction this year. Due to the financial crisis that began in late 2008, however, new and innovative technologies largely find the commercial finance markets closed to them. Thus, the DOE Loan Guarantee program, set up to finance new and innovative technologies, is critical to the financing of these projects.

Delays in the Loan Guarantee process, however, are creating the potential that the Loan Guarantee process will not be complete in 2010, and the project will not have reached financial close until the first quarter of 2011 at the earliest. This is well after the project must commence construction to meet the ARRA program requirements.

The combination of the Treasury Grant deadline and the Loan Guarantee timelines mean that it will be necessary to commence construction and make any mitigation payments with sponsor equity alone. While Tessera Solar has sufficient equity to initiate construction and provide part of the mitigation funding on its own, it does not have sufficient funds to begin construction and fund the entirety of the mitigation costs until project financing is completed.

In the event that construction commences prior to financial close, the pace of construction, and thus ground disturbance and impacts, for this project and probably all other ARRA projects, will necessarily be limited until financial close is reached.

Second, we believe that it is unnecessary and unreasonable to require an applicant to fully mitigate impacts that may not happen for some time. The Calico project will be constructed in two phases. Phase 1 will involve development of approximately 2,320 acres and Phase 2 will involve development of approximately 3,895 acres. As the impacts to Phase 2 will not happen until the commencement of construction of Phase 2, we believe that it is appropriate to phase mitigation. Phased mitigation will ensure that mitigation is in place prior to the relevant impacts occurring.

Q13. Why is a letter of credit or other financial instrument not adequate to resolve these issues?

A13. Prior to financial close it will be very difficult for the Calico project to provide Letters of Credit for the full amount of mitigation required. Although a Letter of Credit may be a means of securing mitigation payments, for a company the size of Tessera Solar a Letter of Credit is equivalent to cash because it must be secured 100% with cash. So once again, prior to financial close, this is an issue for Calico as well as many other solar projects being developed today in CA.

Q14. What is your proposal for resolving the challenge represented by the timing of the DOE loan guarantee and mitigation funding requirement and the development of a phased project?

A14. We request that the Commission modify and phase the timing for providing mitigation funds to match the timing of the DOE loan guarantee. Under these unique circumstances, Tessera Solar believes that it is reasonable to limit up-front mitigation payments or securitization of mitigation payments to a limited "good-faith" amount that is consistent with the limited amount of ground disturbance that will take place prior to financial close.

For the reasons set forth immediately below, Tessera Solar proposes to make "good-faith" mitigation payments in the amount of $1 million project prior to commencement of any ground disturbing activity, and then $1 million each subsequent quarter until financial close.

Tessera Solar's pre-financial close construction plans for the Calico Solar project call for disturbance of 400-500 acres, much less than 10% of the 6,215 acre project site.

Once financing is closed, we will proceed to develop the first phase of the project and subsequently develop the second phase. There may be some lag time between construction of the first and second phases due to SCE's upgrade schedule.

We propose that mitigation payments be staggered to reflect the pace of construction and the federal financial assistance timelines:

- $1 million good faith payment (or LC) upon issuance of the CEC permit and BLM right of way grant
- $1 million payment each quarter following issuance of the CEC permit and BLM ROWG until financial close if a quarter passes
- Remainder of payment for mitigation for acreage associated with Phase 1 upon financial close
- Mitigation payment for acreage associated with Phase 2 prior to breaking ground on Phase 2 SunCatcher installation.

We will provide the Committee with specific language for this condition.

Q15. Has this phased mitigation funding proposal been made to the Bureau of Land Management?

A15. Yes, we have discussed this concept with the Bureau of Land Management and California Department of Fish and Game. Both have indicated some flexibility in the timing of mitigation payments, and we have made a similar proposal to BLM so that it can be discussed at the REAT.

Q16. Does that complete your rebuttal testimony?

A.16 Yes

I swear under penalty of perjury that the above that this testimony is true and correct to the best of my knowledge.

7/29/10
Date

Felicia Bellows

Exhibit 82
Attachment A

EXHIBIT 82, ATTACHMENT A
APPLICANT'S COMMENTS and PROPOSED CHANGES TO
CALICO SOLAR PROJECT CONDITIONS OF CERTIFICATION

The Calico Supplemental Staff Assessment contains 154 proposed conditions of certification (See Table 1 below). The applicant does not have any objection to 126 of those. The applicant believes minor changes are needed on two (GEO-1 and WORKER SAFETY-6) of the proposed conditions which involve changes in the submittal dates contained in the verification to ensure that construction can occur in a timely manner. Listed below are conditions of major concern to the applicant because the requirements are overly burdensome, unnecessary, or inappropriately impact the viability of the project. These conditions are discussed in the rebuttal testimony of Felicia Bellows and various technical experts, as well as identified below.

Table 1
OVERVIEW OF PROPOSED CALICO CONDITIONS OF CERTIFICATION

	Applicant Agrees With:	**Applicant Disagrees With:**
1	AQ-SC1	BIO-8
2	AQ-SC2	BIO-10
3	AQ-SC3	BIO-12***
4	AQ-SC4	BIO-13***
5	AQ-SC5	BIO-15
6	AQ-SC6	BIO-16
7	AQ-SC7	BIO-17***
8	AQ-SC8	BIO-18
9	AQ-1	BIO-19
10	AQ-2	BIO-21
11	AQ-3	GEO-1*
12	AQ-4	GEO-2
13	AQ-5	GEO-3
14	AQ-6	HAZ-2
15	AQ-7	HAZ-5
16	AQ-8	HAZ-7
17	AQ-9	SOIL & WATER-2
18	AQ-10	SOIL & WATER-3
19	AQ-11	SOIL & WATER-7
20	AQ-12	SOIL & WATER-8
21	AQ-13	SOIL & WATER-9
22	AQ-14	NOISE-6
23	AQ-15	VIS-1
24	BIO-1	VIS-2
25	BIO-2	VIS-3
26	BIO-3	WORKER SAFETY-1
27	BIO-4	WORKER SAFETY-6*
28	BIO-5	WORKER SAFETY-7
29	BIO-6	
30	BIO-7	
31	BIO-9	
32	BIO-11	
33	BIO-14	
34	BIO-20	
35	BIO-22	
36	BIO-23	

	Applicant Agrees With:	Applicant Disagrees With:
37	BIO-24	
38	BIO-25	
39	BIO-26	
40	BIO-27	
41	BIO-28	
42	BIO-29	
43	BIO-30	
46	PAL-1	
47	PAL-2	
48	PAL-3	
49	PAL-4	
50	PAL-5	
51	PAL-6	
52	PAL-7	
53	HAZ-1	
54	HAZ-3	
55	HAZ-4	
56	HAZ-6	
57	HAZ-8	
58	SOIL&WATER-1	
59	SOIL&WATER-4	
61	SOIL&WATER-5	
62	SOIL&WATER-6	
63	SOIL&WATER-10**	
64	SOIL&WATER-11**	
65	NOISE-1	
66	NOISE-2	
67	NOISE-3	
68	NOISE-4	
69	NOISE-5	
70	TLSN-1	
71	TLSN-2	
72	TLSN-3	
73	TLSN-4	
74	WASTE-1	
75	WASTE-2	
76	WASTE-3	
77	WASTE-4	
78	WASTE -5	
79	WASTE -6	
80	WASTE -7	
81	WASTE -8	
82	WORKER SAFETY-2	
83	WORKER SAFETY-3	
84	WORKER SAFETY-4	
85	WORKER SAFETY-5	
86	WORKER SAFETY-8	
87	GEN-1	
88	GEN-2	
89	GEN-3	
90	GEN-4	
91	GEN-5	

	Applicant Agrees With:	Applicant Disagrees With:
92	GEN-6	
93	GEN-7	
94	GEN-8	
95	CIVIL-1	
96	CIVIL-2	
97	CIVIL-3	
98	CIVIL-4	
99	STRUC-1	
100	STRUC-2	
101	STRUC-3	
102	STRUC-4	
103	MECH-1	
104	MECH-2	
105	MECH-3	
106	ELEC-1	
107	TSE-1	
108	TSE-2	
109	TSE-3	
110	TSE-4	
111	TSE-5	
112	TSE-6	
113	TSE-7	
114	COMPLIANCE-1	
115	COMPLIANCE-2	
116	COMPLIANCE-3	
117	COMPLIANCE-4	
118	COMPLIANCE-5	
119	COMPLIANCE-6	
120	COMPLIANCE-7	
121	COMPLIANCE-8	
122	COMPLIANCE-9	
123	COMPLIANCE-10	
124	COMPLIANCE-11	
125	COMPLIANCE-12	
126	COMPLIANCE-13	

* Indicates Applicant proposed change relates to submittal timing only (e.g., proposed modification to “30 days prior to construction”, “or a lesser number of days agreed to by the applicant and the CPM or CBO”, etc.

** Indicates Applicant proposed conditions

*** Indicates the Applicant will provide the Committee alternative wording for this condition prior to or during the upcoming hearing.

Summary of Reasons for Proposed Condition Changes

Testimony by Felicia Bellows explained the reasons for our concerns on Conditions BIO-8; BIO-12; BIO-13; BIO 17; BIO-18; GEO-2, GEO-3, and SOIL&WATER-8; NOISE-6; and WORKER SAFETY-7.

Reasons for our proposed changes on other conditions are discussed below or in testimony by technical experts:

1. BIO-8 (Impact Avoidance and Minimization) – In addition to the major concern raised in testimony by Felicia Bellows, this condition has two other items we propose be modified in this condition. First, it requires all trash and food waste to be placed in self-closing containers. While we understand and agree with this requirement, we do not concur with the rest of the condition that requires waste containers to be emptied daily. We believe this is excessive and unnecessary. We therefore request the Committee change the language to read: "During construction all trash and food related items shall be placed in self-closing containers and removed regularly to prevent overflow."

2. GEO-1 (Fault Location) – This condition required surveys for geologic faults within 50 feet of any occupied structure or critical facility. The applicant requests the timeframe in the verification be changed to submit the fault evaluation report to 30 days prior to construction.

3. HAZ-2 (Hazardous Materials Plans and Reports) - This condition requires submission of a Hazardous Materials Business Plan and RMP 60-days prior to receiving any hazardous materials on the project site. For our project, the RMP is tied only to the hydrogen and hydrogen will be first delivered to the site at a different time than other hazardous materials. Consequently, we request that the condition be reworded to have separate submittal dates for the Hazardous Materials Business Plan and the RMP.

4. HAZ-5 (Operational Security Plan) - This relates to performing background checks on all project personnel. While we believe this is appropriate for permanent personnel who handle hydrogen, we do not believe it is necessary for all personnel that are employed at the site. Our proposed modification to this condition would limit background information reviews accordingly.

5. HAZ-7 (Hydrogen Storage and Handling System Review) – This condition currently requires that a mechanical engineer review and stamp the hydrogen storage and handling system design and documentation prior to the start of construction. Since this will be one of the later systems installed at the site, we request that this review and stamp be completed 30 days prior to the receipt of any hydrogen on site.

6. VIS-1 (Painting) – As written, this condition requires that the applicant paint all of the non-mirrored surfaces on the SunCatchers. As we pointed out in previous testimony, this is not feasible in some cases because of the need for friction to hold components in place and the need for uniform heat absorption of the material. We proposed a modification to require painting of the surfaces to the extent feasible.

7. VIS-2 (Lighting) - This condition sets requirements for demonstrating compliance with lighting standards. Since temporary and permanent lighting equipment will be purchased at different times, we request that the compliance timeframes for temporary and permanent lighting be submitted at different times and that the requests be made at least 30 days prior rather than 90 days.

The Applicant requests the following modifications to the Conditions of Certification:

BIO-8 The project owner shall undertake the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to biological resources. All measures shall be subject to review and approval by the CPM.

1. Limit Disturbance Areas and Perimeter Fencing. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities in consultation with the Designated Biologist. Spoils and topsoil shall be stockpiled in disturbed areas lacking native vegetation and which do not provide habitat for special-status species. Parking areas, staging and disposal site locations shall similarly be located in areas without native vegetation or special-status species habitat. All disturbances, project vehicles, and equipment shall be confined to the flagged areas. Tortoise fencing shall be placed along the outside perimeter of the access road that would provide access to areas north of the project site.
2. Minimize Road Impacts. New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the flagged impact area as described above. All vehicles passing or turning around would do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.
3. Minimize Traffic Impacts. Vehicular traffic during project construction and operation shall be confined to existing designated routes of travel to and from the project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit shall not exceed 25 miles per hour within the project area, on maintenance roads for linear facilities, or on access roads to the project site. Speed limits on paved roads shall be consisted with posted speed limits.
4. Monitor During Construction. In areas that have not been fenced with desert tortoise exclusion fencing and cleared, the Designated Biologist shall be present at the construction site during all project activities that have potential to disturb soil, vegetation, and wildlife. The Designated Biologist or Biological Monitor shall walk immediately ahead of equipment during brushing and grading activities.
5. Minimize Impacts of Transmission/Pipeline Alignments, Roads, Staging Areas. Staging areas for construction on the plant site shall be within the area that has been fenced with desert tortoise exclusion fencing and cleared. For construction activities outside of the plant site (transmission line, pipeline alignments) access roads, pulling sites, and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources. Transmission lines and all electrical components shall be designed, installed, and maintained in accordance with the Avian Power Line Interaction Committee's (APLIC's) Suggested Practices for Avian Protection on Power Lines (APLIC 2006) and Mitigating Bird Collisions with Power Lines (APLIC 2004) to reduce the likelihood of large bird electrocutions and collisions.
6. Avoid Use of Toxic Substances. Soil bonding and weighting agents used on unpaved surfaces shall be non-toxic to wildlife and plants.

7. Minimize Lighting Impacts. Facility lighting shall be designed, installed, and maintained to prevent side casting of light towards wildlife habitat.

8. Avoid Vehicle Impacts to Desert Tortoise. Parking and storage shall occur within the area enclosed by desert tortoise exclusion fencing to the extent feasible. No vehicles or construction equipment parked outside the fenced area shall be moved prior to an inspection of the ground beneath the vehicle for the presence of desert tortoise. If a desert tortoise is observed, the Best Management Practices outlined in the Biological Opinion prepared for the Project shall be followed. ~~, it shall be left to move on its own. If it does not move within 15 minutes, a Designated Biologist or Biological Monitor under the Designated Biologist's direct supervision may remove and relocate the animal to a safe location if temperatures are within the range described in the USFWS' 2009 Desert Tortoise Field Manual (http://www.fws.gov/ventura/speciesinfo/protocols_guidelines).~~ All access roads outside of the fenced project footprint shall be delineated with temporary desert tortoise exclusion fencing on either side of the access road, unless otherwise authorized by the CPM, BLM Wildlife Biologist, USFWS, and CDFG.

9. Avoid Wildlife Pitfalls:

   a. Avoid Wildlife Entrapment. At the end of each work day, the Designated Biologist shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If backfilling is not done, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with desert tortoise-exclusion fencing. All trenches, bores, and other excavations outside the areas permanently fenced with desert tortoise exclusion fencing shall be inspected periodically, but no less than three times, throughout the day and at the end of each workday by the Designated Biologist or a Biological Monitor. Should a tortoise or other wildlife become trapped, the Designated Biologist or Biological Monitor shall remove and relocate the individual as described in the Desert Tortoise Relocation/Translocation Plan. Any wildlife encountered during the course of construction shall be allowed to leave the construction area unharmed.

   b. Avoid Entrapment of Desert Tortoise. Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches, stored less than 8 inches aboveground, and within desert tortoise habitat (i.e., outside the permanently fenced area) for one or more nights, shall be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored outside the fenced area, or placed on pipe racks. These materials would not need to be inspected or capped if they are stored within the permanently fenced area after the clearance surveys have been completed.

10. Minimize Standing Water. Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement shall use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. A Biological Monitor shall patrol these areas to ensure water does not puddle and shall take appropriate action to reduce water application where necessary.

11. Dispose of Road-killed Animals. Road-killed animals or other carcasses detected on roads near the project area shall be picked up immediately and delivered to the Biological

Monitor. For special-status species roadkill, the Biological Monitor shall contact USFWS and CDFG within 1 working day of receipt of the carcass for guidance on disposal or storage of the carcass. The Biological Monitor shall report the special-status species record as described in Conditions of Certification BIO-2 and BIO-26.

12. Minimize Spills of Hazardous Materials. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Designated Biologist shall be informed of any hazardous spills immediately as directed in the project Hazardous Materials Plan. Hazardous spills shall be immediately cleaned up and the contaminated soil properly disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated area. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills.

13. Worker Guidelines. During construction all trash and food-related waste shall be placed in self-closing containers and removed ~~daily from the site~~ regularly to prevent overflow. Workers shall not feed wildlife or bring pets to the project site. Except for law enforcement personnel, no workers or visitors to the site shall bring firearms or weapons. Vehicular traffic shall be confined to existing routes of travel to and from the project site, and cross country vehicle and equipment use outside designated work areas shall be prohibited. The speed limit when traveling on dirt access routes within desert tortoise habitat shall not exceed 25 miles per hour.

14. Implement Erosion Control Measures. Standard erosion control measures shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes threatens to enter "Waters of the State". Sediment and other flow-restricting materials shall be moved to a location where they shall not be washed back into the stream. To the extent feasible, ~~A~~all disturbed soils and roads within the project site shall be stabilized to reduce erosion potential, both during and following construction, except for those portions of roads where soil tackifiers shall not be used. Areas of disturbed soils (access and staging areas) with slopes toward a drainage shall be stabilized to reduce erosion potential.

15. Monitor Ground-Disturbing Activities Prior to Pre-Construction Site Mobilization. If pre-construction site mobilization requires ground-disturbing activities such as for geotechnical borings or hazardous waste evaluations, a Designated Biologist or Biological Monitor shall be present to monitor any actions that could disturb soil, vegetation, or wildlife.

16. Control and Regulate Fugitive Dust. To reduce the potential for the transmission of fugitive dust the project owner shall implement dust control measures. These shall include:

    a. The project owner shall apply non-toxic soil binders, equivalent or better in efficiencies than the CARB-approved soil binders, to active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction to reduce fugitive dust emissions.

    b. Water the disturbed areas of the active construction sites at least three times per day and more often if uncontrolled fugitive dust is noted.

    c. Enclose, cover, water twice daily, and/or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a 5% or greater silt content.

~~d. Establish a vegetative ground cover (in compliance with biological resources impact conditions of certification) or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.~~

~~e~~d. Increase the frequency of watering, if water is used as a soil binder for disturbed surfaces, or implement other additional fugitive dust mitigation measures, to all active disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 mph.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to BLM's Wildlife Biologist and the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

BIO-10 The project owner shall provide restoration/compensation for impacts to native vegetation communities and develop and implement a Revegetation Plan for all areas subject to temporary project disturbance. Upon completion of construction, all temporarily disturbed areas shall be restored to pre-project grade and revegetated according to the measures described below. Temporarily disturbed areas within the project area include, but are not limited to: all areas where underground infrastructure was installed, temporary access roads, construction work temporary lay-down areas, and construction equipment staging areas. For the purpose of this mitigation measure, "temporarily disturbed areas" shall include disturbances that are considered permanent impacts in the analyses above (i.e., would take more than 5 years to recover) but would benefit from the revegetation activities identified here. The following measures shall be implemented for all temporarily disturbed areas, excluding areas immediately around facilities which may be landscaped according to a separate Landscape Plan. These measures will include:

1. Plan Details. The plans shall include at minimum: (a) locations and details for top soil storage; (b) methods to salvage and replant cacti and the plant species to be used in restoration; (c) seed collection guidelines; (d) a schematic depicting the mitigation area; (e) time of year that the planting will occur and the methodology of the planting; (f) a description of the irrigation methodology if used; (g) measures to control exotic vegetation on site; (h) performance standards (see below); and (i) a detailed monitoring program. All habitats dominated by non-native species prior to project disturbance shall be revegetated using appropriate native species. This plan shall also contain contingency measures for failed restoration efforts (efforts not meeting success criteria).

2. Topsoil Salvage. Topsoil shall be stockpiled from the project site for use in revegetation of the disturbed soils, as necessary and feasible. The topsoil excavated shall be segregated, kept intact, and protected, under conditions shown to sustain seed bank viability, as necessary and feasible. The upper 1 inch of topsoil which contains the seed bank shall be scraped and stockpiled for use as the top-dressing for the revegetation area, as necessary and feasible. An additional 6 to 8 inches of soil below the top 1 inch of soil shall also be scraped and separately stockpiled for use in revegetation areas, as necessary and feasible. Topsoil shall be replaced in its original vertical orientation following ground disturbance, ensuring the integrity of the top one inch in particular. All

other elements of soil stockpiling shall be conducted as described on pages 39-40 of Rehabilitation of Disturbed Lands in California (Newton and Claassen 2003).

3. Seed Stock. Only seed of locally occurring native species shall be used for revegetation. Seeds shall contain a mix of short-lived early pioneer species such as native annuals and perennials and subshrubs. Seeding shall be conducted as described in Chapter 5 of Rehabilitation of Disturbed Lands in California (Newton and Claassen 2003). A list of plant species suitable for Mojave Desert region revegetation projects, including recommended seed treatments, are included in Appendix A-8 of the same report. The list of plants observed during the 2010 special-status plant surveys of the Project area can also be used as a guide to site-specific plant selection for revegetation.

4. Monitoring Requirement and Performance Standards. Post-seeding and planting monitoring will be yearly and shall continue for a period of no less than 10 years or until the defined performance standards are achieved (whichever is later). Remediation activities (e.g., additional planting, removal of non-native invasive species, or erosion control) shall be taken during the 10-year period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance standards after the 10-year maintenance and monitoring period, monitoring and remedial activities shall extend beyond the 10-year period until the performance standards are met, unless otherwise specified by the Energy Commission and BLM. As needed to achieve performance standards, the project owner shall be responsible for replacement planting or other remedial action as agreed to by BLM and CPM. Replacement plants shall be monitored with the same survival and growth requirements as required for original revegetation plantings. The following performance standards must be met by the end of the monitoring period: (a) at least 80% of the species and vegetative cover observed within the temporarily disturbed areas shall be native species that naturally occur in desert scrub habitats; (b) absolute cover and density of native plant species within the revegetated areas shall equal at least 60% of the pre-disturbance or reference vegetation cover; and (c) the site shall have gone without irrigation or remedial planting for a minimum of three years prior to completion of monitoring.

5. ~~If a fire or flood damages a revegetation area within the 10-year monitoring period, the owner shall be responsible for a one-time replacement. If a second fire or flood occurs, no replanting is required, unless the event is caused by the owner's activity (e.g., as determined by BLM or other firefighting agency investigation).~~

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Within 90 days after completion of each year of project construction, the project owner shall provide to the CPM verification of the total vegetation and community subject to temporary and permanent disturbance. To monitor and evaluate the success of the restoration, the project owner shall submit annual reports of the restoration including the status of the site, percent cover of native and exotics, and any remedial actions conducted by the owner to the CPM and BLM Wildlife Biologist.

No less than 30 days following the publication of the Energy Commission License Decision or the Record of Decision/ROW Issuance, whichever comes first, the project owner shall submit to the CPM and BLM's Wildlife Biologist a final agency-approved Revegetation Plan that has been reviewed and approved by BLM's Wildlife Biologist and the CPM. All modifications to the Revegetation Plan shall be made only after approval from BLM's Wildlife Biologist and the CPM.

Within 30 days after completion of each year of project construction, the project owner shall provide to the CPM for review and approval, a written report identifying which items of the Revegetation Plan have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which items are still outstanding.

On January 31st of each year following construction until the completion of the revegetation monitoring specified in the Revegetation Plan, the Designated Biologist shall provide a report to the CPM and BLM's Wildlife Biologist that includes: a summary of revegetation activities for the year, a discussion of whether revegetation performance standards for the year were met; and recommendations for revegetation remedial action, if warranted, are planned for the upcoming year.

BIO-15 DESERT TORTOISE CLEARANCE SURVEYS AND EXCLUSION FENCING

The project owner shall undertake appropriate measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to desert tortoise. Methods for clearance surveys, fence specification and installation, tortoise handling, artificial burrow construction, egg handling and other procedures shall be consistent with those described in the USFWS' 2009 *Desert Tortoise Field Manual* (http://www.fws.gov/ventura/speciesinfo/protocols_guidelines) or more current guidance provided by CDFG and USFWS. The project owner shall also implement all terms and conditions described in the Biological Opinion for the Project prepared by USFWS. These measures include, but are not limited to, the following:

1. Desert Tortoise Exclusion Fence Installation. To avoid impacts to desert tortoises, permanent desert tortoise exclusion fencing shall be installed along the permanent perimeter security fence and temporarily installed along the Applicant's utility corridors in accordance with the Biological Opinion prepared for the Project. Tortoise exclusion fencing shall also be installed as necessary to prevent tortoises on the southern NAP (not a part) area (between the project site and Interstate 40) to prevent tortoises from entering the highway. If the culvert areas cannot be fenced due to restrictions associated with highway maintenance, the two tortoises would be translocated off the site (see **BIO-16**). The proposed alignments for the permanent perimeter fence and utility rights-of-way fencing shall be flagged and surveyed within 24 hours prior to the initiation of fence construction. Clearance surveys of the perimeter fence and utility rights-ofway alignments shall be conducted by the Designated Biologist(s) using techniques approved by the USFWS and CDFG and may be conducted in any season with USFWS and CDFG approval. Biological Monitors may assist the Designated Biologist under his or her supervision with the approval of the CPM, BLM, USFWS, and CDFG. These fence clearance surveys shall provide 100-percent coverage of all areas to be disturbed and an additional transect along both sides of the fence line. This fence line transect shall cover an area approximately 90 feet wide centered on the fence alignment. Transects shall be no greater than 15 feet apart. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 *Desert Tortoise Field Manual*. Any desert tortoise located during fence clearance surveys shall be handled by the Designated Biologist(s) in accordance with the USFWS' 2009 *Desert Tortoise Field Manual*.

    a. Timing, Supervision of Fence Installation. The exclusion fencing shall be installed prior to the onset of site clearing and grubbing. Fencing shall also be placed along both sides of any construction access roads within tortoise habitat but outside the

fenced construction area, and maintained throughout the construction phase of the project, unless otherwise approved by the CPM, BLM Wildlife Biologist, USFWS, and CDFG. The fence installation shall be supervised by the Designated Biologist and monitored by the Biological Monitors to ensure the safety of any tortoise present.

b. Fence Material and Installation. The permanent tortoise exclusionary fencing shall be constructed in accordance with the USFWS' 2009 *Desert Tortoise Field Manual* (Chapter 8 – Desert Tortoise Exclusion Fence).

c. Security Gates. Security gates shall be designed with minimal ground clearance to deter ingress by tortoises. The gates may be electronically activated to open and close immediately after the vehicle(s) have entered or exited to prevent the gates from being kept open for long periods of time. Cattle grating designed to safely exclude desert tortoise shall be installed at the gated entries to discourage tortoises from gaining entry.

d. Fence Inspections. Following installation of the desert tortoise exclusion fencing for both the permanent site fencing and temporary fencing in the utility corridors, the fencing shall be regularly inspected. If tortoise were moved out of harm's way during fence construction, permanent and temporary fencing shall be inspected at least two times a day for the first 7 days to ensure a recently moved tortoise has not been trapped within the fence. Thereafter, permanent fencing shall be inspected monthly and during and within 24 hours following all major rainfall events. A major rainfall event is defined as one for which surface flow is detectable within the fenced drainage during the storm, or for which channels on-site show any evidence of newly deposited sediments, bank erosion, or channel reworking following the storm. The project owner shall be responsible for monitoring storm flows and changes to channels to evaluate need for fence inspection. Any damage to the fencing shall be temporarily repaired immediately to keep tortoises out of the site, and permanently repaired within 48 hours of observing damage. Inspections of permanent site fencing shall occur for the life of the project. Temporary fencing shall be inspected weekly and, where drainages intersect the fencing, during and within 24 hours following major rainfall events. All temporary fencing shall be repaired immediately upon discovery and, if the fence may have permitted tortoise entry while damaged, the Designated Biologist shall inspect the area for tortoise.

2. Desert Tortoise Clearance Surveys within the Plant Site. Following construction of the permanent perimeter security fence and the attached tortoise exclusion fence, the permanently fenced power plant site shall be cleared of tortoises by the Designated Biologist, who may be assisted by the Biological Monitors. Clearance surveys shall be conducted in accordance with the USFWS' 2009 *Desert Tortoise Field Manual* (Chapter 6 – Clearance Survey Protocol for the Desert Tortoise – Mojave Population) and shall consist of two surveys covering 100% the project area by walking transects no more than 15-feet apart. If a desert tortoise is located on the second survey, a third survey shall be conducted. Each separate survey shall be walked in a different direction to allow opposing angles of observation. Clearance surveys of the power plant site may only be conducted when tortoises are most active (April through May or September through October). Surveys outside of these time periods require approval by USFWS and CDFG. Any tortoise

located during clearance surveys of the power plant site shall be relocated and monitored in accordance with the Desert Tortoise Translocation Plan (Condition of Certification **BIO-16**).

a. Burrow Searches. During clearance surveys all desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, shall be examined by the Designated Biologist, who may be assisted by the Biological Monitors, to assess occupancy of each burrow by desert tortoises and handled in accordance with the USFWS' 2009 Desert Tortoise Field Manual. To prevent reentry by a tortoise or other wildlife, all burrows shall be collapsed once absence has been determined. Tortoises taken from burrows and from elsewhere on the power plant site shall be translocated as described in the Desert Tortoise Translocation Plan.

b. b. Burrow Excavation/Handling. All potential desert tortoise burrows located during clearance surveys would be excavated by hand, tortoises removed, and collapsed or blocked to prevent occupation by desert tortoises. All desert tortoise handling and removal, and burrow excavations, including nests, would be conducted by the Designated Biologist, who may be assisted by a Biological Monitor in accordance with the USFWS' 2009 Desert Tortoise Field Manual.

3. Monitoring Following Clearing. Following the desert tortoise clearance and removal from the power plant site and utility corridors and initial memo or verbal completion report to BLM's Wildlife Biologist, the CPM, USFWS, and CDFG (below), workers and heavy equipment shall be allowed to enter the project site to perform clearing, grubbing, leveling, and trenching. A Designated Biologist shall monitor clearing and grading activities to find and move tortoises missed during the initial tortoise clearance survey. Should a tortoise be discovered, it shall be translocated as described in the Desert Tortoise Translocation Plan to an area approved by the Designated Biologist.

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

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP and implemented. Implementation of the measures shall be reported in the Monthly Compliance Reports by the Designated Biologist. Immediately upon completion of clearance surveys and desert tortoise removal from the site, the Designated Biologist shall provide an initial memo or verbal report of the results to BLM's Wildlife Biologist, the CPM, USFWS, and CDFG. Within 30 days after completion of desert tortoise clearance surveys the Designated Biologist shall submit a report to BLM's Wildlife Biologist, the CPM, USFWS, and CDFG describing implementation of each of the mitigation measures listed above and compliance with Gila monster clearance survey (**BIO-14**). The report shall include the desert tortoise survey results, capture and release locations of any relocated desert tortoises, and any other information needed to demonstrate compliance with the measures described above.

BIO-16 DESERT TORTOISE TRANSLOCATION PLAN

The project owner shall develop and implement a final Desert Tortoise Translocation Plan (Plan) in conformance with standards and guidelines described in *Translocation of Desert Tortoises (Mojave Population) From Project Sites: Plan Development Guidance* (USFWS 2010), any more current guidance or recommendations as available from CDFG or USFWS, and meets the approval of USFWS, CDFG, BLM's Wildlife Biologist and the CPM. The goal of the Plan shall be to safely exclude desert tortoises from within the fenced project area and translocate them to suitable habitat capable of supporting them, while minimizing stress and potential for disease transmission. Tortoises to be moved farther than 500 meters shall be tested for disease prior to translocation. Caltrans requires all project disturbance be outside their designated Right-of-Way. In fact, a 50-foot buffer in addition to their ROW is required for setbacks. Since no feature of the project will be within the ROW or the buffer, no Caltrans Encroachment permit is necessary. This includes all temporary and permanent fencing associated with either the project or desert tortoise activities. ~~The Plan shall include written correspondence with Caltrans indicating whether tortoise exclusion fencing may be installed to prevent tortoises on the southern NAP area (between the project site and Interstate 40) to prevent tortoises from entering the highway. If Caltrans does not permit that fencing, then desert tortoises shall be translocated off the NAP site (see **BIO-15**).~~ The final Plan shall be based on the draft Desert Tortoise Translocation Plan prepared by the applicant and shall include all revisions deemed necessary by USFWS, CDFG, BLM'S Wildlife Biologist, and staff. The Plan shall include but not be limited to, a list of the authorized handlers, protocols for disease testing and assessing tortoise health, proposed translocation locations and procedures, schedule of translocations, a habitat assessment of translocation lands, monitoring and reporting, and contingency planning (e.g., handling an injured or diseased tortoise).

Verification: Within 30 days of publication of the Energy Commission License Decision or BLM's Record of Decision/ROW Issuance, whichever comes first, the project owner shall provide BLM's Wildlife Biologist and the CPM with the final version of a Desert Tortoise Translocation Plan that has been reviewed and approved by BLM's Wildlife Biologist and the CPM in consultation with USFWS and CDFG. All modifications to the approved Plan shall be made only after approval by BLM's Wildlife Biologist and the CPM, in consultation with USFWS and CDFG.

Within 30 days after initiation of translocation activities, the Designated Biologist shall provide to BLM's Wildlife Biologist and the CPM for review and approval, a written report identifying which items of the Plan have been completed, and a summary of all modifications to measures made during implementation of the Plan. Written monthly progress reports shall be provided to the BLM's Wildlife Biologist and CPM for the duration of the Plan implementation, including the duration of monitoring of translocated tortoises.

BIO-18 RAVEN MONITORING, MANAGEMENT, AND CONTROL PLAN

The project owner shall design and implement a Raven Monitoring, Management, and Control Plan (Raven Plan) that is consistent with the most current USFWS approved raven management guidelines and that meets the approval of the July 2010 C.2-224 BIOLOGICAL RESOURCES USFWS, CDFG, and the CPM. Any subsequent modifications to the approved Raven Plan shall be made only with approval of the CPM in consultation with USFWS and CDFG. The Raven Plan shall include but not be limited to a program to monitor increased raven presence in the Project vicinity and to implement raven control measures as needed based on that monitoring. The purpose of the plan is to avoid any Project-related increases in raven numbers during

construction, operation, and decommissioning. The threshold for implementation of raven control measures shall be any increases in raven numbers from baseline conditions, as detected by monitoring to be proposed in the Raven Plan. Regardless of raven monitoring results, the project owner shall be responsible for all other aspects of the Raven Plan, including avoidance and minimization of project-related trash, water sources, or perch/roost sites that could contribute to increased raven numbers. In addition, to offset the cumulative contributions of the Project to desert tortoise from increased raven numbers, the Project owner shall also contribute to the USFWS Regional Raven Management Program. The Project owner shall do all of the following:

1. Prepare and Implement a Raven Management Plan that includes the following: a. Identify conditions associated with the Project that might provide raven subsidies or attractants; b. Describe management practices to avoid or minimize conditions that might increase raven numbers and predatory activities; c. Describe control practices for ravens; d. Address monitoring and nest removal during construction and for the life of the Project, and; e. Discuss reporting requirements.
2. Contribute to the USFWS Regional Raven Management Program. The project owner shall submit payment to the project sub-account of the REAT Account held by the National Fish and Wildlife Foundation (NFWF) to support the USFWS Regional Raven Management Program. The amount shall be a one-time payment of not more than $50,000 ~~$105 per acre of permanent disturbance ($652,175)~~.

Verification: No later than 30 days prior to the start of construction, the project owner shall provide written verification to the CPM that NFWF has received and accepted payment into the project's sub-account of the REAT Account to support the USFWS Regional Raven Management Program. No later than 30 days prior to any construction-related ground disturbance activities, the Project owner shall provide the CPM, USFWS, and CDFG with the final version of a Raven Plan. All modifications to the approved Raven Plan shall be made only with approval of the CPM in consultation with USFWS and CDFG. Within 30 days after completion of Project construction, the Project owner shall provide to the CPM for review and approval, a written report identifying which items of the BIOLOGICAL RESOURCES C.2-225 July 2010 Raven Plan have been completed, a summary of all modifications to mitigation measures made during the Project's construction phase, and which items are still outstanding. On January 31st of each year following construction the Designated Biologist shall provide a report to the CPM that includes: a summary of the results of raven management and control activities for the year; a discussion of whether raven control and management goals for the year were met; and recommendations for raven management activities for the upcoming year.

BIO-19 PRE-CONSTRUCTION NEST SURVEYS/IMPACT AVOIDANCE MEASURES FOR MIGRATORY BIRDS

Pre-construction nest surveys shall be conducted each year during the construction phase of the project if ~~construction activities~~vegetation clearance will occur within 50-feet of potential nesting sites during the bird breeding period (from January 1 through August 1). The Designated Biologist or Biological Monitor conducting the surveys shall be experienced bird surveyors who have demonstrated experience conducting nest searches; are knowledgeable of the nesting habitats of species that may nest on the site; and are familiar with standard nest-locating techniques such as those described in Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines:

1. Surveys shall cover all potential nesting habitat in the project site and within ~~500~~ 250 feet of the boundaries of the plant site and linear facilities;
2. At least two pre-construction 100-percent coverage surveys shall be conducted of each proposes construction area, separated by a minimum 10-day interval. One of the surveys shall be conducted within the 10 days preceding initiation of vegetation clearing ~~construction activity~~. Additional follow-up surveys may be required if periods of ~~construction~~ site inactivity exceed one week in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation;
3. If active nests are detected during the survey, a 50~~0~~ foot no-disturbance buffer zone shall be implemented and a monitoring plan shall be developed. This protected area surrounding the nest may be adjusted by the Designated Biologist in consultation with CDFG, BLM, USFWS, and CPM. Nest locations shall be mapped using GPS technology and the location data provided in completion reports (below) to the CPM and BLM Wildlife Biologist; and
4. The Designated Biologist shall monitor the nest until he or she determines that nestlings have fledged and dispersed. Monitoring shall avoid disturbing the nests or causing an increased risk of predation. Activities that might, in the opinion of the Designated Biologist and in consultation with the CPM and BLM, disturb nesting activities shall be prohibited within the buffer zone until such a determination is made.

Verification: Upon completion of the surveys, and prior to initiating any vegetation removal or ground-disturbing activities (i.e., no more than 10 days prior to the start of such activities), the project owner shall provide the CPM and BLM a letter-report describing the methods and findings of the ~~pre-construction~~vegetation clearing nest surveys, including the time, date, and duration of the survey; identity and qualifications of the surveyor(s); and a list of species observed. If active nests are detected during the survey, the report shall include a map or aerial photo identifying the location of the nest and shall depict the boundaries of the no-disturbance buffer zone around the nest.

BIO-21 BURROWING OWL IMPACT AVOIDANCE AND MINIMIZATION MEASURES

The Project owner shall implement the following measures to avoid, minimize and offset impacts to burrowing owls:

1. Pre-Construction Surveys. The Designated Biologist or Biological Monitor shall conduct pre-construction surveys for burrowing owls no more than 30 days prior to initiation of construction activities. Surveys shall be focused exclusively on detecting burrowing owls, and shall be conducted from two hours before sunset to one hour after or from one hour before to two hours after sunrise. The survey area shall include the Project Disturbance Area and surrounding 500 foot survey buffer.
2. Implement Avoidance Measures. If an active burrowing owl burrow is detected within 500 feet from the Project Disturbance Area the following avoidance and minimization measures shall be implemented:
    a. Establish Non-Disturbance Buffer. Fencing shall be installed at a 250-foot radius from the occupied burrow to create a non-disturbance buffer around the burrow. The non-disturbance buffer and fence line may be reduced to 160 feet if all Project-related activities that might disturb burrowing owls would be conducted

during the non-breeding season (September 1st through January 31st). Signs shall be posted in English and Spanish at the fence line indicating no entry or disturbance is permitted within the fenced buffer.

b. Monitoring: If construction activities would occur within 500 feet of the occupied burrow during the nesting season (February 1 – August 31st) the Designated Biologist or Biological Monitor shall monitor to determine if these activities have potential to adversely affect nesting efforts, and shall implement measures to minimize or avoid such disturbance.

3. Passive Relocation of Burrowing Owls. If pre-construction surveys indicate the presence of burrowing owls within the Project Disturbance Area (the Project Disturbance Area means all lands disturbed in the construction and operation of the Genesis Project), the Project owner shall prepare and implement a Burrowing Owl Relocation and Mitigation Plan, in addition to the avoidance measures described above. The final Burrowing Owl Relocation and Mitigation Plan shall be approved by the CPM, in consultation with USFWS, BLM and CDFG, and shall:

   a. Identify and describe suitable relocation sites within 1 mile of the Project Disturbance Area, and describe measures to ensure that burrow installation or improvements would not affect sensitive species habitat or existing burrowing owl colonies in the relocation area;

   b. Provide guidelines for creation or enhancement of at least two natural or artificial burrows per relocated owl, including a discussion of timing of burrow improvements, specific location of burrow installation, and burrow design. Design of the artificial burrows shall be consistent with CDFG guidelines (CDFG 1995) and shall be approved by the CPM in consultation with CDFG, BLM and USFWS;

   c. Passive relocation sites shall be in areas of suitable habitat for burrowing owl nesting, and be characterized by minimal human disturbance and access. Relative cover of non-native plants within the proposed relocation sites shall not exceed the relative cover of nonnative plants in the adjacent habitats;

   d. Provide detailed methods and guidance for passive relocation of burrowing owls occurring within the Project Disturbance Area.~~; and~~

4. Burrowing Owl Relocation Area Management Plan. If artificial burrows are constructed, the project owner shall develop a Burrowing Owl Relocation Area Management Plan. The Burrowing Owl Relocation Area Management Plan shall include monitoring and maintenance requirements, details on methods for measuring compliance goals, and remedial actions to be taken if management goals are not met. A report describing results of monitoring and management of the relocation area shall be submitted to the CPM, BLM Authorized Officer, CDFG, and USFWS no later than January 31st of each year for the life of the project.

~~4. Acquire Compensatory Mitigation Lands for Burrowing Owls. The following measures for compensatory mitigation shall apply only if burrowing owls that are detected within the Project Disturbance Area. The Project owner shall acquire, in fee or in easement, 19.5 acres of land for each burrowing owl that is displaced by construction of the Project. This compensation acreage of 19.5 acres per single bird or pair of nesting owls assumes~~

~~that there is no evidence that the compensation lands are occupied by burrowing owls. If burrowing owls are observed to occupy the compensation lands, then only 9.75 acres per single bird or pair is required, per CDFG (1995) guidelines. If the compensation lands are contiguous to currently occupied habitat, then the replacement ratio will be 13.0 acres per pair or single bird. The Project owner shall provide funding for the enhancement and long-term management of these compensation lands. The acquisition and management of the compensation lands may be delegated by written agreement to CDFG or to a third party, such as a non-governmental organization dedicated to habitat conservation, subject to approval by the CPM, in consultation with CDFG and USFWS prior to land acquisition or management activities. Additional funds shall be based on the adjusted market value of compensation lands at the time of construction to acquire and manage habitat. In lieu of acquiring lands itself, the Project owner may satisfy the requirements of this condition by depositing funds into the Renewable Energy Action Team (REAT) Account established with the National Fish and Wildlife Foundation (NFWF), as described in Section 3.i. of Condition of Certification BIO-1 7.~~

~~a. Criteria for Burrowing Owl Mitigation Lands. The terms and conditions of this acquisition or easement shall be as described in Paragraph 1 of BIO-17 [Desert Tortoise Compensatory Mitigation], with the additional criteria to include: 1) the mitigation land must provide suitable habitat for burrowing owls, and 2) the acquisition lands must either currently support burrowing owls or be within dispersal distance from an active burrowing owl nesting territory (generally approximately 5 miles). The burrowing owl mitigation lands may be included with the desert tortoise mitigation lands ONLY if these two burrowing owl criteria are met. If the burrowing owl mitigation land is separate from the acquisition required for desert tortoise compensation lands, the Project owner shall fulfill the requirements described below in this condition.~~

~~b. Security. If burrowing owl mitigation land is separate from the acreage required for desert tortoise compensation lands the Project owner or an approved third party shall complete acquisition of the proposed compensation lands prior to initiating ground-disturbing Project activities. Alternatively, financial assurance can be provided by the Project owner to the CPM with copies of the document(s) to CDFG, BLM and the USFWS, to guarantee that an adequate level of funding is available to implement the mitigation measure described in this condition. These funds shall be used solely for implementation of the measures associated with the Project. Financial assurance can be provided to the CPM in the form of an irrevocable letter of credit, a pledged savings account or another form of security ("Security") prior to initiating ground-disturbing Project activities. Prior to submittal to the CPM, the Security shall be approved by the CPM, in consultation with CDFG, BLM and the USFWS to ensure funding. The estimated costs of enhancement and endowment (see subsection C.2.4.2, Desert Tortoise, for a discussion of the assumptions used in calculating the Security, which are based on an estimate of $3501.23 per acre to fund acquisition, enhancement, and long-term management). The final amount due will be determined by the PAR analysis conducted pursuant to BIO-17.~~

Verification: If pre-construction surveys detect burrowing owls within 250~~500~~ feet of proposed construction activities, the Designated Biologist shall provide to the CPM, BLM, CDFG and USFWS documentation indicating that non-disturbance buffer fencing has been installed at least 10 days

prior to the start of any construction-related ground disturbance activities. The Project owner shall report monthly to the CPM, CDFG, BLM and USFWS for the duration of construction on the implementation of burrowing owl avoidance and minimization measures. Within 30 days after completion of construction the Project owner shall provide to the CPM, BLM, CDFG and USFWS a written construction termination report identifying how mitigation measures described in the plan have been completed.

If pre-construction surveys detect burrowing owls within the Project Disturbance Area, the Project owner shall notify the CPM, BLM, CDFG and USFWS no less than 10 days of completing the surveys that a relocation of owls is necessary. The Project owner shall, ~~do all of the following if relocation of one or more burrowing owls is required:~~

~~a.W~~within 30 days of completion of the burrowing owl pre-construction surveys, submit to the CPM, CDFG and USFWS a Burrowing Owl Relocation and Mitigation Plan.

~~b. No less than 90 days prior to acquisition of the burrowing owl compensation lands, the Project owner, or an approved third party, shall submit a formal acquisition proposal to the CPM, CDFG, and USFWS describing the 39-acre parcel intended for purchase. At the same time the Project owner shall submit a PAR or PAR-like analysis for the parcels for review and approval by the CPM, CDFG and USFWS.~~

~~c. Within 90 days of the land or easement purchase, as determined by the date on the title, the Project owner shall provide the CPM with a management plan for review and approval, in consultation with CDFG, BLM and USFWS, for the compensation lands and associated funds.~~

~~d. No later than 30 days prior to the start of construction-related ground disturbing activities, the Project owner shall provide written verification of Security in accordance with this condition of certification.~~

~~e.No later than 18 months after the start of construction-related ground disturbance activities, the Project owner shall provide written verification to the CPM, BLM, CDFG and USFWS that the compensation lands or conservation easements have been acquired and recorded in favor of the approved recipient.~~

~~f.~~ On January 31st of each year following construction for a period of five years, the Designated Biologist shall provide a report to the CPM, USFWS, BLM and CDFG that describes the results of monitoring and management of the burrowing owl relocation area. The annual report shall provide an assessment of the status of the relocation area with respect to burrow function and weed infestation, and shall include recommendations for actions the following year for maintaining the burrows as functional burrowing owl nesting sites and minimizing the occurrence of weeds.

GEO-1 The two Alquist-Priolo faults (Pisgah fault and the Lavic Lake fault) shall be located (if actually present) by trenching or suitable geophysical methods with sufficient accuracy and confidence to assure that no occupied structures are placed within 50 feet, either side, of an established fault trace or any identified splays. Other structures deemed critical to the project, by the owner, may also be set back, as practical, imprudent and appropriate.

Verification: At least ~~90~~ 30 days prior to ground breaking (prior to final project design) the project owner shall submit a fault evaluation report signed and stamped by a geologist licensed in the state of California. The evaluation shall include sufficient field exploration to establish whether or not either or both faults (or their splays) extend onto the project site. Surveyed locations shall be obtained for any faults encountered and a map showing the fault locations in relation to project structures shall be provided. Onsite faults shall be considered active unless conclusive field evidence shows otherwise.

~~**GEO-2** Because of the embankments on the downhill side, the proposed storm water detention basins constitute detention dams, some of which may be large enough to be under the jurisdiction of the State of California, Department of Water Resources, Division of Safety of Dams. Each detention dam site shall be characterized in a geotechnical investigation to establish foundation conditions and assess geologic hazards that affect embankment design. Appropriate geotechnical recommendations shall be provided for use in design and construction of the embankments and the associated storage area. All dams must be designed by a California licensed geotechnical or civil engineer familiar with design of small dams.~~

~~**Verification:** At least 60 days prior to ground breaking for the detention basins, the project owner shall submit a geotechnical investigation report covering each proposed detention basin. Appropriate geotechnical recommendations and specifications shall be provided for use in design and construction of the embankments and the associated storage area. All detention facilities can be included in a single report or in the overall final project geotechnical report. One set of stamped design drawings, typical of the detention dams, must be submitted by the project owner, prior to starting detention dam construction.~~

~~**GEO-3** The California Department of Water Resources, Division of Safety of Dams has jurisdiction over proposed and existing dams that impound 50 acre-feet of water or more. Embankments 6 feet high or less are excluded, regardless of storage capacity and embankments impounding less than 15 acre-feet of water are excluded, regardless of height. Any detention basin meeting the Division of Safety of Dams jurisdictional criteria for a dam shall be permitted through that agency.~~

~~**Verification:** If final detention basin design results in no jurisdictional dams, the project owner shall submit a letter of verification from the design engineer. If one or more detention basins fall within the jurisdiction of the Division of Safety of Dams, the project owner shall submit copies of the permit application(s) to the Division of Dams Safety of Dams. Upon completion of construction of jurisdictional dams, the project owner shall submit copies of acceptance documents from the Division of Safety of Dams.~~

HAZ-2 The project owner shall concurrently provide a Hazardous Materials Business Plan (HMBP), a Risk Management Plan (RMP) that includes the consequences of a train derailment resulting in a hydrogen pipeline leak and fire, and a Spill Prevention, Control, and Countermeasure Plan (SPCC) to the San Bernardino County Fire Department, and the CPM for review. After receiving comments from the San Bernardino County Fire Department, and the CPM, the project owner shall reflect all received recommendations in the final documents. If no comments are received from the county within 30 days of submittal, the project owner may proceed with preparation of final documents upon receiving comments from the CPM. Copies of the final HMBP, RMP, and SPCC Plan shall then be provided to the San Bernardino County Fire Department for their records and to the CPM for approval.

Verification: At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Hazardous Materials Business Plan (HMBP)~~, a Risk Management Plan (RMP),~~ and a Spill Prevention, Control, and Countermeasure Plan (SPCC) to the CPM for approval.

At least 60 days prior to receiving any hydrogen on the site for commissioning or operations, the project owner shall provide a copy of a final Risk Management Plan (RMP) to the CPM for approval.

HAZ-5 The project owner shall prepare a site-specific Security Plan for the operational phase and shall be made available to the CPM for review and approval. The project owner shall implement site security measures addressing physical site security and hazardous materials storage. The level of security to be implemented shall not be less than that described below (as per NERC 2002).

The Operation Security Plan shall include the following:

1. Permanent full perimeter fence, at least 8 feet high around the Solar Field;
2. Main entrance security gate, either hand operable or motorized;
3. Evacuation procedures;
4. Protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;
5. Written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on-site or off-site;
6. a. A statement (refer to sample, attachment "A") signed by the project owner certifying that background investigations have been conducted on all permanent project personnel whose responsibilities would include the handling or managing of hydrogen or the hydrogen system. Background investigations shall be restricted to ascertain the accuracy of employee identity and employment history, and shall be conducted in accordance with state and federal law regarding security and privacy;

   b. A statement(s) (refer to sample, attachment "B") signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the CPM after consultation with the project owner) that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractor personnel that visit the project site.
7. Site access controls for employees, contractors, vendors, and visitors;
8. Closed circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) with cameras able to pan, tilt, and zoom, have low-light capability, and are able to view the outside entrance to the control room and the front gate; and
9. Additional measures to ensure adequate perimeter security consisting of either:
   a. Security guard present 24 hours per day, 7 days per week, OR
   b. Power plant personnel on-site 24 hours per day, 7 days per week and one of the following:

      perimeter breach detectors

      or

      CCTV able to view both site entrance gates and 100 per cent of the power block area perimeter.

The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to the security plans. The CPM may authorize modifications to these measures, or may require additional measures, such as protective barriers for critical power plant components or cyber security depending on circumstances unique to the facility or in response to industry-related standards, security concerns, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Council, after consultation with appropriate law enforcement agencies and the applicant

Verification: At least 30 days prior to the initial receipt of hazardous materials onsite, the project owner shall notify the CPM that a site-specific Operations Site Security Plan is available for review and approval. In the Annual Compliance Report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed, and updated certification statements are appended to the Operations Security Plan. In the Annual Compliance Report, the project owner shall include a statement that the Operations Security Plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

HAZ-7 The project owner shall ensure that whichever of the two proposed hydrogen storage and handling systems is used in the project, the system is reviewed, evaluated by a Mechanical Engineer registered in California to ensure that it complies with all applicable ANSI, ASME, and NFPA design codes, and that the system is and approved by this person as shown by applying a professional "stamp" to the document review page.

Verification: At least ~~60~~ 30 days prior to ~~construction~~receiving any hydrogen on the project site, the project owner shall provide to the CPM for review and approval a copy of design drawings, documentation, and specifications of the hydrogen storage and handling system that has been reviewed, evaluated, approved, and stamped by a Mechanical Engineer registered in the state of California.

WASTE DISCHARGE REQUIREMENTS

SOIL&WATER-2 The project owner shall comply with the Waste Discharge Requirements ~~for discharge of storm water associated with construction activity that are~~ presented in **Soil and Water Appendices B, C, D** and **E** for the construction and operation of the surface impoundments (evaporation ponds) and storm water management system. These requirements relate to discharges, or potential discharges, of waste that could affect the quality of waters of the state, and were developed in consultation with staff of the State Water Resources Control Board and/or the applicable California Regional Water Quality Control Board (hereafter "Water Boards"). It is the Commission's intent that these requirements be enforceable by both the Commission and the Water Boards. In furtherance of that objective, the Commission hereby delegates the enforcement of these requirements, and associated monitoring, inspection and annual fee collection authority, to the Water Boards. Accordingly, the Commission and the Water Board shall confer with each other and coordinate, as needed, in the enforcement of the requirements. The project owner shall pay the annual waste discharge permit fee associated with this facility to the Water Boards. In addition, the Water Boards may "prescribe" these requirements as waste discharge requirements pursuant to Water Code Section 13263 solely for the purposes of enforcement, monitoring, inspection, and the assessment of annual fees, consistent with

Public Resources Code Section 25531, subdivision (c). ~~and submit the appropriate compliance fee to the LRWQCB. The project owner shall develop, obtain compliance project manager (CPM) approval of, and implement a Storm Water Pollution Prevention Plan (SWPPP) for the construction of the Calico Solar Project site, laydown area, and all linear facilities. In addition, the project owner shall comply with the Waste Discharge Requirements regarding the monitoring and reporting associated with the operation of waste water evaporation ponds.~~

Verification: ~~At least 30 days prior to site mobilization, the project owner shall submit to the CPM and LRWQCB, a copy of the construction SWPPP for review and CPM approval prior to site mobilization. The project owner shall also submit to the CPM evidence of payment to LRWQCB of the appropriate compliance fee. The project owner shall retain a copy of the SWPPP on site. The project owner shall submit to the CPM copies of all correspondence between the project owner and the LRWQCB regarding the Waste Discharge Requirements for the discharge of storm water associated with construction activity within 10 days of its receipt or submittal. The project owner shall submit copies to the CPM of all correspondence between the project owner and the LRWQCB regarding the Requirements of Waste Discharge of process water and storm water associated with industrial activity within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent by the project owner to the SWRCB.~~ No later than sixty (60) days prior to any wastewater or storm water discharge, the project owner shall provide documentation to the CPM, with copies to the LRWQCB, demonstrating compliance with the WDRs established in Appendices B, C, D and E. Any changes to the design, construction, or operation of the ponds or storm water system shall be requested in writing to the CPM, with copies to the LRWQCB, and approved by the CPM, in consultation with the LRWQCB, prior to initiation of any changes. The project owner shall provide to the CPM, with copies to the LRWQCB, all monitoring reports required by the WDRs, and fully explain any violations, exceedances, enforcement actions, or corrective actions related to construction or operation of the ponds or storm water system.

STORM WATER DAMAGE MONITORING AND RESPONSE PLAN

SOIL&WATER-3 The project owner shall ensure that all SunCatchers within flow areas ~~pole foundations~~ are designed to withstand 100-year storm water scour ~~from surface erosion and/or channel migration based on a Pole Foundation Stability Report to be completed by a Professional Engineer and Professional Geologist. The Pole Foundation Stability Report shall establish a Minimum Depth Stability Threshold~~. The project owner shall also develop a Storm Water Damage Monitoring and Response Plan to evaluate potential impacts from storm water, including pole foundations that fail due to storm water flow or otherwise break and scatter mirror debris and other SunCatcher components on to the ground surface. The Storm Water Damage Monitoring and Response Plan shall include the following elements:

- Detailed maps showing the installed location of all SunCatcher pole foundations within each project phase, including existing ~~and proposed~~ drainage channels.
- Each SunCatcher pole foundation should be identified by a unique ID number marked to show initial ground surface at its base, and the depth of the pylon ~~to the tip of the pole~~ below ground.
- Minimum Depth Stability Threshold to be maintained of pylons ~~SunCatcher pole foundations~~ to meet long-term stability for applicable wind, water and debris loading effects;

- Above and below ground construction details of a typical installed SunCatcher ~~pole foundation~~.
- BMPs to be employed to minimize the potential impact of broken mirrors to soil resources.
- Methods and response time of mirror cleanup and measures that may be used to mitigate further impact to soil resources from broken mirror fragments.

Monitor and Inspect Periodically, Before First Seasonal and After Every 10-year Storm Event:

- Security and Tortoise Exclusion Fence: Inspect for damage and buildup of sediment or debris.
- SunCatcher Pole Foundations within Drainages or Subject to Drainage Overflow: Inspect for tilting, mirror damage, depth of scour compared to ~~foundation~~ pylon depth below ground and the Minimum Depth Stability Threshold, collapse, and downstream transport.
- Drainage Channels: Inspect for substantial migration or changes in depth, and transport of broken mirror glass, if applicable.
- Constructed Diversion Channels: Inspect for scour and structural integrity issues caused by erosion, and for sediment and debris buildup.

Short-Term Incident-Based Response:

- Security and Tortoise Exclusion Fence: repair damage, and remove buildup of sediment and debris.
- SunCatcher Pole Foundations: Remove broken glass, damaged structures, and wiring from the ground, and for foundations no longer meeting the Minimum Depth Stability Threshold, either replace/reinforce or remove the ~~SunCatcher~~ mirrors to avoid exposure for broken glass.
- Drainage Channels: no short-term response necessary unless changes indicate risk to facility structures.
- ~~Constructed Diversion Channels: repair damage, maintain erosion control measures and remove built-up sediment and debris.~~

Long-Term Design-Based Response:

- Propose operation/BMP modifications to address ongoing issues. Include proposed changes to monitoring and response procedures, frequency, or standards.
- Replace/reinforce SunCatcher Pole Foundations no longer meeting the Minimum Depth Stability Threshold or remove the ~~SunCatchers~~ mirrors to avoid exposure for broken glass.
- Propose design modifications to address ongoing issues. ~~This may include construction of active storm water management diversion channels and/or detention ponds.~~

Inspection, short-term incident response, and long-term design-based response may include activities both inside and outside of the approved right-of-way. For activities outside of the

approved right-of-way, the applicant will notify BLM and acquire environmental review and approval before field activities begin.

Verification: At least thirty (30) days prior to commercial operation, the project owner shall submit to the CPM a copy of the ~~Pole Foundation Stability Report and the~~ Storm Water Damage Monitoring and Response Plan for review and approval prior to commercial operation. The project owner shall retain a copy of these documents onsite at the power plant at all times. The project owner shall prepare an annual summary of the number of pole foundations failed, cause of the failures, and cleanup and mitigation performed for each failed pole foundation.

SOIL&WATER-7 GROUNDWATER LEVEL MONITORING AND REPORTING PLAN

The project owner shall submit a Groundwater Level Monitoring and Reporting Plan to San Bernardino County and to the CPM for review and approval in accordance with the County of San Bernardino Code Title 3, Division 3, Chapter 6, Article 5 (Desert Groundwater Management Ordinance).

The Groundwater Level Monitoring and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels.

Monitoring shall be conducted prior to construction, during construction, and throughout project operation. The primary objective for the monitoring is to establish pre-construction and project related groundwater level trends that can be quantitatively compared against observed and simulated trends near the project pumping well and dedicated monitoring wells. Water level measurements in the project's water supply well shall represent non-pumped conditions, and be collected a minimum of four hours after pump shut-down.

Prior to project construction, monitoring shall commence to establish preconstruction base-line conditions and shall incorporate any existing monitoring and reporting data collected in the project area. The monitoring network shall be designed to incorporate any ongoing monitoring and reporting program currently occurring in the Lavic Lake ~~and Lower Mojave~~ groundwater basin~~s. The monitoring network shall be comprised of wells screened to measure water levels representing the water-bearing zone from which the project water supply well will extract groundwater basin~~.

Verification: The project owner shall complete the following:

1. At least two (2) months prior to power plant construction, a Groundwater Level Monitoring and Reporting Plan shall be submitted to the County of San Bernardino for review and comment before completion of Condition of Certification SOIL& WATER-3, and a copy of the County's comments and the plan shall be submitted the CPM for review and approval. Monitoring that makes use of the following wells shall be deemed sufficient: the Project's water supply well (Well #3), the pre-existing well (Well #1), the Schraeger well and a well to be constructed downstream of the onsite evaporation pond. The plan shall include a scaled map showing the site and vicinity, existing well locations, and ~~proposed~~ monitoring locations (both existing wells and the new monitoring well~~s~~ proposed for construction). The map shall also include relevant natural and man-made features (existing and proposed as part of this project). The plan also shall provide: (1) well construction information and borehole lithology for each existing well proposed for use as a monitoring well; (2) description of proposed drilling and well installation methods for new wells and wells for which such information is available; (3) proposed monitoring well design; and, (4) schedule for completion of the work.

2. At least one (1) month prior to construction, a Groundwater Level Network Report shall be submitted to the CPM. The report shall include a scaled map showing the final monitoring well network. ~~It~~ For new wells

and wells for which such information is available, it shall document the drilling methods employed, provide individual well construction as-builds, borehole lithology recorded from the drill cuttings, well development, and well survey results. The well survey shall measure the location and elevation of the top of the well casing and reference point for all water level measurements, and shall include the coordinate system and datum for the survey measurements. Additionally, the report shall describe the water level monitoring equipment employed in the wells and document their deployment and use.

3. As part of the monitoring well network development, any newly constructed monitoring wells shall be permitted and constructed consistent with San Bernardino County and State specifications.

4. At least one (1) week prior to project construction, all water level monitoring data shall be provided to the CPM. The data transmittal shall include an assessment of pre-project water level trends, a summary of available climatic information (monthly average temperature and rainfall records from the nearest weather station), and a comparison and assessment of water level data.

5. After project construction and during project operations, the project owner shall submit the monitoring data annually to the CPM. The summary shall document water level monitoring methods, the water level data, water level plots, and a comparison between pre- and post-project start-up water level trends. The report shall also include a summary of actual water use conditions, monthly climatic information (temperature and rainfall), and a comparison and assessment of water level data. As part of this assessment, the project owner shall calculate water level trends and complete a 5-year projection of future water levels based on these trends and an evaluation of water supply reliability.

~~**STORMWATER CONTROL/FLOOD PROTECTION DESIGN PLANS**~~

~~**SOIL&WATER-8**~~

~~The project owner shall submit two (2) copies of the 30-percent, 60-percent and 90-percent design drawings for the grading and drainage facilities to the CPM for review and comment. The 30-percent, 60-percent and 90-percent design drawings for the grading and drainage facilities shall be accompanied by a basis of design report to convey and support the design approach.~~

~~To prepare the grading and drainage facilities drawings and accompanying basis of design report, the project owner shall do the following:~~

~~1. Conduct an analysis to quantify the design discharges and associated volumes of water, debris, and sediment associated with the 100-year storm at the apex of the fan under current watershed conditions.~~

~~2. Conduct a geomorphic and hydraulic analysis to determine the maximum design storm that can be routed through the site utilizing existing fluvial washes that will not result in significant damage to proposed site infrastructure.~~

~~3. Conduct a geomorphic and biologic analysis to determine the minimum design storm that can be routed through the site utilizing existing fluvial washes that will provide the necessary sediment load through the site and "downstream areas" to maintain existing sensitive habitat needs, as described in the *Geomorphic Assessment of Calico Solar Project Site*. This analysis must consider and address the need for fine sand to support associated dune complex evolution that depends upon El Niño events (i.e., wet winters occurring approximately every 3 to 7 years) delivering sediment to the lower fan and the accompanying La Niña events (i.e., dry winters occurring approximately every 3 to 7 years) eroding and transporting fine sands to these dunes through wind action.~~

4. Determine the pass through design storm that can be routed through the site unimpeded to deliver the necessary sediment load through the site to maintain existing sensitive habitat needs in "downstream areas" and not result in significant damage to proposed site infrastructure.

5. Size, locate, and design each detention basin to allow the pass through design storm to move through the site unimpeded while capturing larger design storm flows and related sediment and debris to protect the proposed infrastructure.

6. Convey design of each basin by showing supporting calculations and design drawings to convey the basin in plan view, cross-sections, depth to spillway, amount of freeboard to top of basin, basin volume to spillway, description of sidewall slopes, method of providing pass through design storm and related sediment unimpeded, method of providing erosion protection of basin side walls, inlet design, outlet design, spillway design, spillway erosion control, combined outlet maximum flow, transition from outlet to existing downstream fluvial wash, tortoise fence location and design, maintenance of tortoise fence, maintenance of basin, maintenance of excess sediment in basin from larger flood flows.

7. The project owner shall apply for and receive approval from the Department of Water Resources Division of Safety of Dams (DSOD) for the plans and specifications for the construction of any dam(s) or reservoir(s) that are under DSOD jurisdiction prior to beginning construction.

8. For all flood control basin dams, the project owner shall provide at a minimum:

   - specific locations of basins and dams on appropriate scale map,
   - configuration of all basins and dams including basin-specific cross sections,
   - a description of all materials designed to be used in the construction of the dams,
   - footings designs,
   - designs of cutoff walls,
   - designs of keyways,
   - description and design of drainage pass though methods,
   - flow metering (ability to maintain maximum discharge to that of the maximum on-site flow design) technique and design,
   - method of and design of debris deflection (i.e., trash racks) for each basin,
   - emergency spillway design,
   - pass through pipe outlet energy dissipation method and design, and
   - basin inlet erosion protection.

9. In addition to the criteria discussed above, the basis of design report shall also follow the procedures outlined in the following documents as far as is applicable:

   c. San Bernardino County Drainage Manual and 2007 Development Code (amended, March 25, 2010).

d. Federal Emergency Management Agency Guidelines for Determining Flood Hazards on Alluvial Fans and Guidelines and Specifications for Flood Hazard Mapping Partners.

The project owner shall prepare a set of design specifications to supplement the 90-percent design drawings. Plans, specifications, computations and other data shall be prepared by persons properly licensed by the State of California. If the 60-percent plans or 90-percent plans and specifications do not comply with the appropriate Conditions of Certification, the necessary changes or revisions to the plans shall be made by the project owner. If the CPM finds that the work described in the plans and specifications conform to the Conditions of Certifications in the Energy Commission Decision and other pertinent LORS, then the project owner shall submit two (2) copies of the 100-percent set for CPM review and approval. All design drawings must be submitted on bound or stapled 24" x 36" size paper.

Verification: Prior to site mobilization, the project owner shall prepare preliminary (30-percent) grading and drainage facilities drawings and accompanying basis of design report for CPM review and approval. No later than 30 days after publication of the Energy Commission Decision, the 60-percent set of design drawings and accompanying basis of design report shall be submitted to the CPM for review and approval. The project owner shall submit the 90-percent design drawings and accompanying basis of design report to the CPM for review and approval after the person who originally drew the plan or their duly authorized agent addresses the CPM's 60-percent submittal comments and required changes. The 100-percent design drawings and specifications (construction documents) shall be signed and sealed by a Registered Professional Engineer in the State of California and submitted as the final, approved set of construction documents prior to site mobilization. Prior to initiation of site construction, the 100-percent design drawings and specifications (construction documents) shall be submitted along with the final basis of design report signed and sealed by a Registered Professional Engineer and a Registered Professional Geologist in the State of California to the CPM for review and approval

SOIL&WATER-9 WATER SUPPLY RELIABILITY

The annual monitoring report required by **SOIL&WATER-7** shall include an evaluation of water supply reliability. Based on the results of this evaluation, the CPM may request the project owner develop and submit a Water Conservation and Alternative Water Supply Plan. The purpose of this plan is to curtail and minimize water use, and to remediate observed reduce water level and storage declines in the water bearing zone utilized for the project that are caused by the project until the water supply is again stable or the proposed alternative water supply is available.

Verification: The project owner shall provide a Water Conservation Plan within thirty (30) days after the request of the CPM. The plan shall be implemented immediately upon approval by the CPM. Part of this plan shall include suspension of mirror washing to the extent necessary to address reduced availability of water until the water supply has stabilized or an alternative supply is available from the Cadiz groundwater basin to provide the water. The project owner shall submit a Notice of Completion to the CPM within thirty (30) days of securing remedying problems with the alternative water supply. The Notice of Completion shall list each plan component and document that it has been completed. Part of the documentation shall include water use records that show the conservation savings achieved. If development of an alternative water supply was part of the plan, the project owner shall provide all documentation, permits, as-builts, proof of a contract or other right to a long-term supply and test results that may be required for the water supply. The Water Conservation Plan shall remain in effect until CPM approval of the project owner's Notice of Completion.

SOIL&WATER-10 NPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITY.

The project owner shall comply with the requirements of the general National Pollutant Discharge Elimination System (NPDES) permit for discharge of storm water associated with construction activity. The project owner shall submit copies of all correspondence between the project owner and the State Water Resources Control Board (SWRCB) or the LRWQCB regarding this permit to the CPM. The project owner shall also develop and implement a construction SWPPP for construction on the Calico solar project main site, laydown areas, pipeline, and transmission line.

Verification: The project owner shall submit a copy of the construction SWPPP to the CPM at least 10 days prior to site mobilization for review and approval, and retain a copy of the approved SWPPP on site throughout construction. The project owner shall submit copies of all correspondence between the project owner and the SWRCB or the LRWQCB regarding the NPDES permit for the discharge of storm water associated with construction activity to the CPM within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent to the SWRCB, the confirmation letter indicating receipt and acceptance of the Notice of Intent, any permit modifications or changes, and completion/permit Notice of Termination.

SOIL&WATER-11 INDUSTRIAL FACILITY SWPPP

The project owner shall comply with the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity, including development of an Industrial Facility SWPPP. If the Regional or State Board finds the project does not require a General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity, written confirmation from either board confirming this permit is not required would satisfy this condition.

Verification: The project owner shall submit a copy of the Industrial Facility SWPPP for operation of the project to the CPM at least 60 days prior to the start of commercial operation and shall retain a copy of the approved SWPPP on site throughout the life of the project. The project owner shall submit copies of all correspondence between the project owner and the LRWQCB regarding the general NPDES permit for discharge of storm water associated with industrial activity to the CPM within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent by the project owner to the SWRCB, the confirmation letter indicating receipt and acceptance of the Notice of Intent, and any permit modifications or changes.

NOISE-6 Heavy equipment operation, including pile driving, and noisy (greater than 75 dbA) construction work relating to any project features shall be restricted to the times of day delineated below, unless a variance has been issued by San Bernardino County for limited nighttime construction:

Mondays through Saturdays:	7:00 a.m. to 7:00 p.m.
Sundays and Holidays:	No Construction Allowed (without a variance)

Haul trucks and other engine-powered equipment shall be equipped with mufflers that meet all applicable regulations. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

Verification: Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project. Prior to ground disturbance, a copy of the variance issued by the county, if one should be issued, shall be submitted to the CPM for review and approval.

VIS-1 To the extent feasible, ~~T~~the project owner shall treat all non-mirror surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion and contrast by blending with the existing tan and brown color of the surrounding landscape; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. The transmission line conductors shall be non-specular and nonreflective, and the insulators shall be non-reflective and non-refractive. This measure shall include coloring of security fencing with vinyl or other nonreflective coating; or with slats or similar semi-opaque, non-reflective material, to blend to the greatest feasible extent with the background soil.

The project owner shall submit for CPM review and approval, a specific Surface Treatment Plan that will satisfy these requirements. The treatment plan shall include:

A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;

B. A list of each major project structure, building, tank, pipe, and wall; the transmission line towers and/or poles; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;

C. One set of color brochures or color chips showing each proposed color and finish;

D. A specific schedule for completion of the treatment; and

E. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

Verification: At least ~~90~~ 30 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to San Bernardino County for review and comment. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and they are ready for inspection and shall submit to each one set of electronic color photographs from the same key observation points identified in (d) above. The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces

of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

VIS-2 To the extent feasible and consistent with safety and security considerations, the project owner shall design and install all temporary and permanent exterior lighting so that:

a) lighting does not cause excessive reflected glare;

b) lighting does not illuminate the nighttime sky;

c) mounting heights and locations of all lighting fixtures, including roadway lighting, will not allow light to fall on the mirror surfaces of the SunCatchers in the stowed position, and;

d) illumination of the project and its immediate vicinity is minimized as to times of use and extent~~, and;~~.

~~e) lighting on the exhaust stacks shall be the minimum needed to satisfy safety and security concerns.~~

Permanent night lighting shall comply with all applicable standards, practices, and regulations including, and specifically, the following Illuminating Engineering Society documents:

- RP-33-99 Lighting for Exterior Environments
- DG-13-99 Outdoor Lighting
- TM-10-00 Addressing Obtrusive Light (Urban Sky Glow and Light Trespass) in Conjunction with Roadway Lighting
- TM-15-07 Luminaire Classification System for Outdoor Luminaires

Verification: At least 30 ~~90~~ days prior to ordering any temporary exterior lighting, the project owner shall contact the CPM to show compliance of temporary lighting with all of the above requirements. At least 30 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to show compliance of permanent lighting with all of the above requirements. This shall include, but not be limited to, final lighting plans, fixture and control schedules, fixture and control cut sheets and specifications, a photometric plan showing vertical and horizontal footcandles at all property lines to a height of 20 feet, and the proposed time clock schedule.

Prior to construction and prior to commercial operation, the project owner shall notify the CPM that the installation of the temporary and permanent lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days after receiving the notification the project owner shall implement the modifications and notify the CPM when the modifications are competed and ready for inspection.

Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form as specified in the Compliance General Conditions, including a proposal to resolve the complaint, and a schedule for implementation of the proposed resolution. The project owner shall notify the CPM within 48 hours after completing the resolution of the complaint. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days and included in the Annual Report.

VIS-3 To reduce the visual dominance and glare effects of the SunCatchers to motorists on Highway I-40, the applicant shall set back the nearest units ~~to the area north of the existing pipeline right-of-way, and~~ at a minimum distance of ~~360~~ 223 feet from the edge of the roadway, whichever is greater.

Verification: At least ~~90~~ 30 days prior to start of construction, the project owner shall present to BLM's Authorized Officer and the CPM a revised plan depicting how the proposed SunCatchers will be set back from the highway. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The project owner shall not begin construction until receiving CPM approval of the revised plan.

WORKER SAFETY-1 The project owner shall submit to the Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing the following:

- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Injury and Illness Prevention Program;
- A Construction heat stress protection plan that implements and expands on existing Cal OSHA regulations as found in 8 CCR 3395;
- A Construction Emergency Action Plan; and
- A Construction Fire Prevention Plan.

The Personal Protective Equipment Program, the Exposure Monitoring, the Personal Protective Equipment Program, the Exposure Monitoring Program, the Heat Stress Protection Plan, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable safety orders. ~~These plans shall include programs to prevent exposure of workers to the unusual hazard of high intensity reflected light from the solar parabolic mirrors.~~ The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the San Bernardino County Fire Department for review and comment prior to submittal to the CPM for approval.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Safety and Health Program. The project owner shall provide a copy of a letter to the CPM from the San Bernardino County Fire Department stating the fire department's comments on the Construction Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-6 The project owner shall:

a. Provide a second access gate for emergency personnel to enter the site. This secondary access gate shall be at least one-quarter mile from the main gate.

b. Provide a second access road that comes to the site. This road shall be at a minimum an all-weather gravel road, at least 20 feet wide, and with culverts to direct flow under the road at any wash the road may cross.

c. Maintain the main access road and the second road and provide a plan for implementation.

Plans for the secondary access gate, the method of gate operation, gravel road, and to maintain the roads shall be submitted to the San Bernardino County Fire Department for review and comment and to the CPM for review and approval.

Verification: At least ~~thirty~~ sixty (~~30~~60) days prior to the start of site mobilization, the project owner shall submit to the San Bernardino County Fire Department and the CPM preliminary plans showing the location of a second access gate to the site, a description of how the gate will be opened by the fire department, and a description and map showing the location, dimensions, and composition of the main road, and the gravel road to the second gate. At least thirty (30) days prior to the start of site mobilization, the project owner shall submit final plans plus the road maintenance plan to the CPM review and approval. The final plan submittal shall also include a letter containing comments from the San Bernardino County Fire Department or a statement that no comments were received.

WORKER SAFETY-7 The project owner shall either:

(1) Arrange for fire/emergency services by negotiating with the San Bernardino County Fire Department, and/or negotiating with the Newberry Springs Fire Department regarding funding of its project-related share of capital and operating costs ~~Reach an agreement, either individually or in conjunction with a power generation industry association or group that negotiates on behalf of its members, with the San Bernardino County Fire Department (SBCFD) regarding funding of its project-related share of capital and operating costs to build and operate new fire protection/response infrastructure and provide appropriate equipment as mitigation of project-related impacts on fire protection services within the jurisdiction.~~

or

(2) Construct its own fire/emergency station onsite that meets the necessary requirements.

~~Shall fund its share of the capital costs in the amount of $1,187,000 and provide an annual payment of $1,095,000 to the SBCFD for the support of new fire department staff and operations and maintenance commencing with the start of construction and continuing annually thereafter on the anniversary until the final date of power plant decommissioning.~~

Verification:

(1) At least thirty (30) days prior to the start of construction, the project owner shall provide to the CPM a copy of the individual agreement with the SBCFD and/or Newberry Springs Fire Department, ~~or, if the owner joins a power generation industry association, a copy of the bylaws and group's agreement/contract with the SBCFD~~.

or

(2) At least thirty (30) days prior to construction of the on-site fire/emergency station, the project owner shall submit plans and specifications for the on-site fire/emergency station to SBCFD and/or Newberry Springs Fire Department for review and comment, and to the CBO and CPM for review and approval.

~~Documentation that the its share of the capital cost has been paid to the SBCFD, documentation that the first and subsequent annual payments have been made, and shall also provide evidence in each January Monthly Compliance Report during construction and the Annual Compliance Report during operation that subsequent annual payments have been made.~~

Exhibit 82
Attachment B

Newberry Springs

N.A.P. Area 1

Calico Solar

N.A.P. Area 3

N.A.P. Area 2

Ludlow

LEGEND

BLM Pre-Project Route Designation

- Open Route
- Undefined Route
- BNSF Road
- Current Public Access Route
- City
- Project Boundary
- N.A.P. (Not a Part)
- BNSF Railroad

SOURCES:
Railroad (TIGER 2000)
Aerial (NAIP, 2005)
Project boundary (Mortenson, June 2010)
Public Access Routes, BLM Roads (BLM, 2006)

Current Public Access Routes And Pre-Construction Route Designations Calico Solar Project

URS

1 0 1 2 Miles

SCALE: 1" = 2 miles (1:126,720)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CD	DATE: 07-28-10	FIG. NO:
PM: AL	PROJ. NO: 27658103.02000	1

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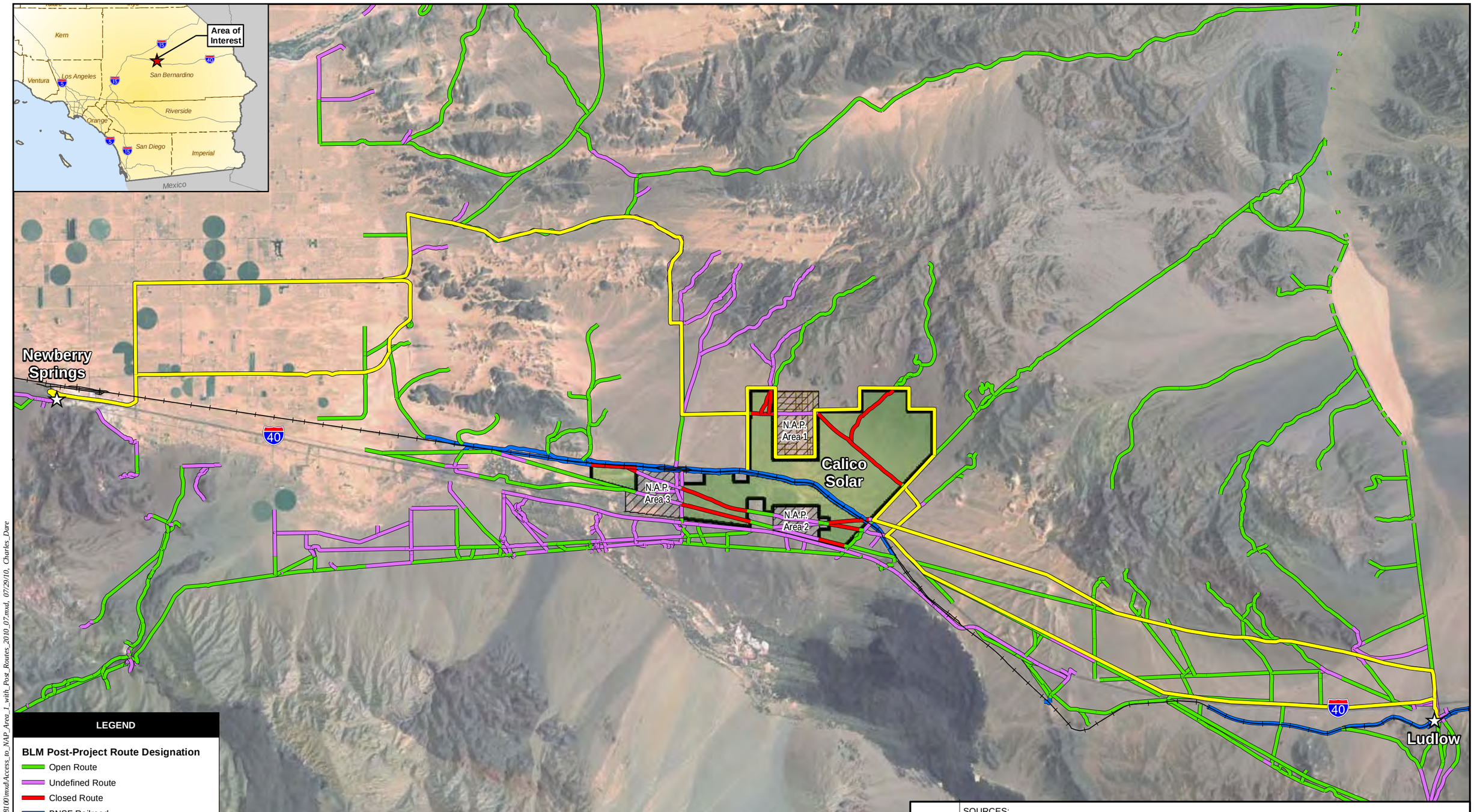


Path: G:\gis\projects\15772\27658103\mxd\Access_to_NAP_Area_1_with_Post_Routes_2010_07.mxd, 07/29/10, Charles_Dare

SOURCES:
Railroad (TIGER 2000)
Aerial (NAIP, 2005)
Project boundary (Mortenson, June 2010)
Public Access Routes, BLM Roads (BLM, 2006)

Proposed Public Access Routes And Post-Construction Route Designations Calico Solar Project

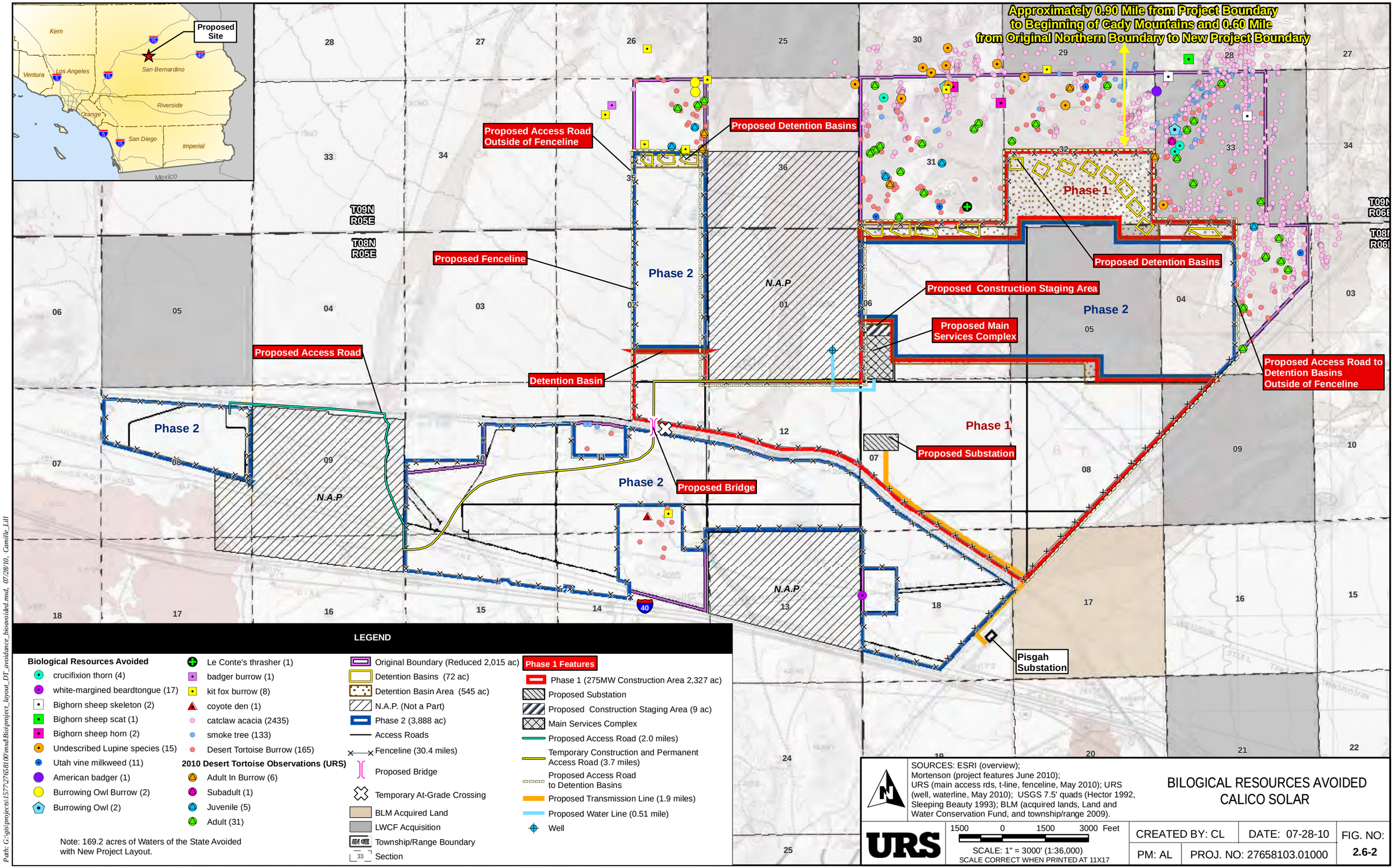
URS

1 0 1 2 Miles

SCALE: 1" = 2 miles (1:126,720)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CD	DATE: 07-28-10	FIG. NO:
PM: AL	PROJ. NO: 27658103.02000	2

Exhibit 82
Attachment C



LEGEND

Biological Resources Avoided
- crucifixion thorn (4)
- white-margined beardtongue (17)
- Bighorn sheep skeleton (2)
- Bighorn sheep scat (1)
- Bighorn sheep horn (2)
- Undescribed Lupine species (15)
- Utah vine milkweed (11)
- American badger (1)
- Burrowing Owl Burrow (2)
- Burrowing Owl (2)
- Le Conte's thrasher (1)
- badger burrow (1)
- kit fox burrow (8)
- coyote den (1)
- catclaw acacia (2435)
- smoke tree (133)
- Desert Tortoise Burrow (165)

2010 Desert Tortoise Observations (URS)
- Adult In Burrow (6)
- Subadult (1)
- Juvenile (5)
- Adult (31)

Note: 169.2 acres of Waters of the State Avoided with New Project Layout.

- Original Boundary (Reduced 2,015 ac)
- Detention Basins (72 ac)
- Detention Basin Area (545 ac)
- N.A.P. (Not a Part)
- Phase 2 (3,888 ac)
- Access Roads
- Fenceline (30.4 miles)
- Proposed Bridge
- Temporary At-Grade Crossing
- BLM Acquired Land
- LWCF Acquisition
- Township/Range Boundary
- Section

Phase 1 Features
- Phase 1 (275MW Construction Area 2,327 ac)
- Proposed Substation
- Proposed Construction Staging Area (9 ac)
- Main Services Complex
- Proposed Access Road (2.0 miles)
- Temporary Construction and Permanent Access Road (3.7 miles)
- Proposed Access Road to Detention Basins
- Proposed Transmission Line (1.9 miles)
- Proposed Water Line (0.51 mile)
- Well

SOURCES: ESRI (overview); Mortenson (project features June 2010); URS (main access rds, t-line, fenceline, May 2010); URS (well, waterline, May 2010); USGS 7.5' quads (Hector 1992, Sleeping Beauty 1993); BLM (acquired lands, Land and Water Conservation Fund, and township/range 2009).

BILOGICAL RESOURCES AVOIDED CALICO SOLAR

URS

1500 0 1500 3000 Feet

SCALE: 1" = 3000' (1:36,000)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CL	DATE: 07-28-10	FIG. NO: 2.6-2
PM: AL	PROJ. NO: 27658103.01000	

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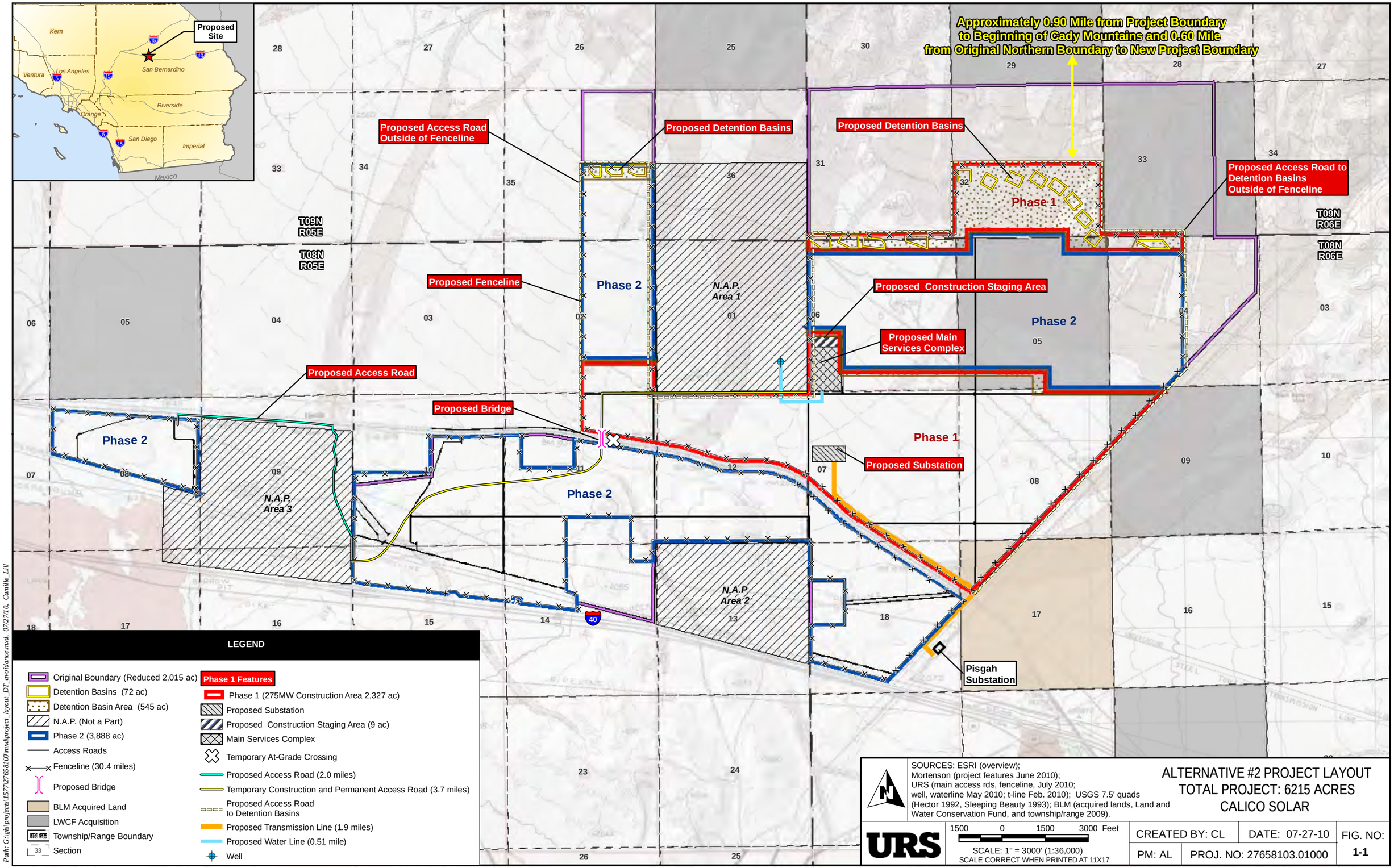
Exhibit 82
Attachment D



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SOURCES: ESRI (overview); Mortenson (project features June 2010); URS (main access rds, fenceline, July 2010; well, waterline May 2010; t-line Feb. 2010); USGS 7.5' quads (Hector 1992, Sleeping Beauty 1993); BLM (acquired lands, Land and Water Conservation Fund, and township/range 2009).

ALTERNATIVE #2 PROJECT LAYOUT
TOTAL PROJECT: 6215 ACRES
CALICO SOLAR

URS

1500 0 1500 3000 Feet

SCALE: 1" = 3000' (1:36,000)
SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CL	DATE: 07-27-10	FIG. NO: 1-1
PM: AL	PROJ. NO: 27658103.01000	

Exhibit 82
Attachment E

Edward P. Phillips, REM, REA, CPESC, CPSWQ
Manager Environmental Operations
California Division

BNSF Railway Company
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San Bernardino, CA 92408-3571
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Fax 909-386-4087
edward.phillips@bnsf.com

July 1, 2010

Mr. Christopher Meyer
Energy Commission Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Mr. Jim Stobaugh
Project Manager
BLM Nevada State Office
P.O. Box 12000
Reno NV 89520

Re: Comments on Calico Solar Project SA/DEIS

Dear Sirs:
BNSF Railway (BNSF) appreciates the opportunity to comment on the Staff Assessment and Draft Environmental Impact Statement ("SA/DEIS") for the Calico Solar Project ("Project") proposed by Calico Solar, LLC ("Calico Solar") published March 30, 2010. BNSF is one of the two Class 1 railroads operating in California. Its mainline, traversed by as many as 80 trains per day, carries interstate commerce from the Ports of Los Angeles and Long Beach to U.S. Midwestern, Southwestern and Eastern markets.
The Project proposes to place 34,000 SunCatchers, a 5,000-foot transmission line, substation, and maintenance facilities, along both sides of several miles of BNSF's mainline. Given the importance of this corridor, it is essential that safety along BNSF's mainline be maintained. In light of this, BNSF has several concerns regarding the Project with respect to safety and other issues. BNSF has been working with Calico Solar in a cooperative effort to ensure that measures to address BNSF's concerns are incorporated into the Project, and BNSF will continue to do so. Nonetheless, BNSF is providing the following comments to the SA/DEIS to ensure that its concerns are adequately addressed, through Project design, operation plans, permit conditions, or as mitigation measures as appropriate.
1) Visual Resources – Glint and Glare. The portion of the BNSF mainline along which the Project is proposed to be built is curved, and an essential signal for rail traffic is located in the vicinity near Hector Road. Both daytime glint and glare from Project mirrors, as well as the spill of light from nighttime maintenance activities, either of which may occur on both sides of the track, may significantly impact BNSF engineers' ability to see the signal. The situation would be exacerbated by the site elevations which Calico Solar has proposed. Glint and glare would not be a mere nuisance issue, but rather could present a significant safety issue. While the SA/DEIS has begun to address glint and glare with respect to motorists on nearby roadways (SA/DEIS pp. C.13-13 – C.13-22), and BNSF understands that a Glint and Glare Study is currently being performed, neither currently addresses potential glare impacts to rail. BNSF requests that these concerns be studied and addressed. As the SA/DEIS has not proposed alternate locations for the Project, it is imperative that these issues be addressed at this time.

2) Transmission Line Safety and Nuisance – Induction Issues. The proposed Project would include over 5,000 feet of new transmission line and a new substation immediately adjacent to BNSF's mainline. BNSF has experienced interference with signals and its employees being shocked in similar situations in other locations, and is concerned that the proposed configuration of these Project elements may raise a safety issue. While the SA/DEIS addresses these transmission safety issues generally (SA/DEIS pp. C.12-5 – C.12-7), BNSF requests that they be studied specifically with respect to the proximity of the transmission line and new substation to the mainline, and that appropriate conditions on the locations of these facilities be required.

3) Hazardous Materials Management – Hydrogen. Calico Solar proposes an extensive underground pipeline system to provide hydrogen to the 34,000 SunCatchers proposed to be constructed on the 8,230 acre site surrounding the existing mainline. This pipeline system raises at least two safety concerns. First, if a derailment were to occur, given the desert sands, train cars could come in contact with the shallow underground pipeline system. Second, it has been determined that the hydrogen pipeline will have uncontrollable leaks. BNSF understands that Calico Solar has tripled the amount of hydrogen the Project will require due to their greater understanding of the potential for hydrogen pipeline leaks.

In addition to the analysis of hydrogen issues presented at pp. C.5-5 – C.5-13 of the SA/DEIS, BNSF requests that the hazards posed by the location, extent and depth of the proposed underground hydrogen pipeline system, and the anticipated hydrogen leaks, be analyzed with respect to rail operations. BNSF requests that the Risk Analysis being prepared with respect to hydrogen consider a possible derailment scenario. Additionally, BNSF requests that the exact location of hydrogen in relation to the signal cable be determined; that sensors be required to be placed to detect hydrogen leaks; that mitigation measures such as automatic shut-off valves along the hydrogen pipeline be considered; that the Spill Prevention, Control, and Countermeasures Plan require notification of the railroad of hydrogen releases; that an auto-dialer and/or other notification system be established to promptly notify BNSF of hydrogen releases; and that BNSF be granted access to the Project site in the event of an emergency, including derailment.

4) Geology and Paleontology – Water Supply. BNSF is concerned the potential drawdown of the groundwater basin by the newly proposed water well may cause subsidence which might adversely affect rail track alignment, creating a safety issue. While the SA/DEIS briefly addresses the issue of possible subsidence due to groundwater pumping at p. C.4-12 (Geology and Paleontology), BNSF suggests that the analysis be expanded. In addition, BNSF requests that a notification procedure be put in place for any noted subsidence, whereby BNSF maintenance teams would be alerted of the issue. BNSF also intends to preserve the option of replacing its abandoned wells in the Hector Road location.

In addition to the above, BNSF is concerned that security for the proposed vehicle access over the bridge over the mainline be considered, and that the BNSF ROW be demarcated to notify Calico Solar employees and others of their proximity to the tracks. BNSF understands that maintenance will be performed at night.

To the extent that any of the above rail-related issues have not been analyzed in the Project SA/DEIS, BNSF asks that the issues be analyzed and incorporated into the SA/DEIS. BNSF further requests that, where applicable, the issues be addressed, through Project design, operation plans, permit conditions, or as mitigation measures as appropriate.

We will continue to work with Calico Solar and look forward to meeting with CEC and BLM Project teams as soon as possible to provide any information or suggestions that will assist the agencies in their analysis and recommendations.

Thank you for the opportunity to comment on the SA/DEIS. If you have any questions, please contact Mr. Edward Phillips at (909) 386-4082.

Very truly yours,

Edward Phillips

cc: Cynthia L. Burch, Esq.

Exhibit 83

Prepared Testimony

Of

Julie Mitchell

Air Quality

Q1. Please state your name and place of employment.

A1. My name is Julie Mitchell and I am employed by URS Corporation. My specialty is air quality analysis.

Q2. Are you the same Julie Mitchell who presented earlier written and oral testimony in this proceeding?

A2. Yes.

Q3. What is the purpose of your testimony?

A3. I have been asked by the Calico Solar project team to recalculate the construction emissions from the project.

Q4. What has changed since you last calculated the project's construction emissions?

A4. Changes since my original calculations are as follows:

- **Generators:** As explained in the Rebuttal Testimony of Felicia Bellows, electricity for construction of the project will not initially be available from SCE. I was asked to calculate the emissions resulting from the use of one 500 KW and one 75 KW generator—both EPA Tier 3 generators—for project construction until the permanent electrical power source (backfeed from the project's new transmission line) is available. The use of generators increases construction emissions, but not enough to offset the reduction in calculated emissions from the other construction modifications.
- **Water source:** The source of water needed for project construction would be an on-site well, whereas the previously identified Cadiz water source would have required transport of water to the project by train and/or truck. Accordingly, the previously assumed emissions associated with the train and

truck trips to deliver water to the project site for construction have been eliminated. This reduces construction emissions compared to those presented in the Supplement to the AFC, January 2010.

- **Emission factor refinement:** In previous construction emission estimates, offsite vehicle exhaust emissions were based on EMFAC emission factors for vehicles traveling 10 mph. The revised emissions incorporated emission factors for vehicles traveling at 50 mph. Because vehicle engines operate more efficiently at 50 mph than 10 mph, the revised emission factors resulted in a reduction in the offsite vehicle emissions. This same emission factor refinement was applied to the Imperial Valley Solar project and accepted by CEC staff.
- **Other changes:** The smaller project footprint (from 8,230 to 6,215 acres) was not incorporated into the revised emission estimate, although this would cause a reduction in emissions due to shorter on-site roadway construction and travel and less site earthmoving activities. The substitution of an on-site well in place of the Cadiz well water would add construction emissions due to the construction of an on-site water pipeline and drilling for the well. I note these changes, but did not include them in my recalculation of emissions, because the change in total emissions would be modest compared to the three changes described above.

Q5. Please give the assumptions that you used to determine the emissions associated with the generators needed to provide electricity for project construction.

A5. First, the types and number of generators needed were provided to me by Tessera. The project team advised that the generators could operate up to 16 hours per day, 26 days per month. The generators will be onsite up to 12 months and will be registered in the CARB PERP. The engines will be EPA Tier 3 compliant. The total emissions are expected to be 12.6 tons for NO_2 and less than 1 ton for PM_{10}.

Q6. What analysis did you perform to allow you to reach your conclusions?

A6. The generator emissions were estimated using the EPA Tier 3 emission factors.

Q7. What are your conclusions with regard to the use of these generators?

A7. As the engines will be registered in the PERP, the MDAQMD will be informed about the use of the engines, but no further permitting is required. This was confirmed by Samuel Oktay of MDAQMD. As discussed further below, the additional emissions from the generators added to the maximum annual construction emissions from other sources will not exceed the federal conformity threshold, thus a conformity analysis is not required.

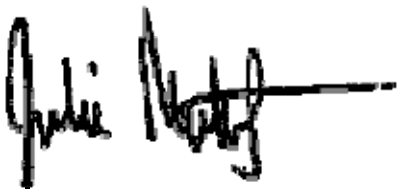
Q8. What are the results of your recalculations in terms of total annual construction emissions?

A8. These totals are less than the totals reported in the SSA, Air Quality Table 7, which showed maximum annual NO_x emissions of 95.55 tons and maximum annual PM_{10} emissions of 90.57 tons. The revised maximum annual construction emissions calculated NO_x emissions of 79.45 tons and PM_{10} emissions of 78.32 tons.

Q9. Does this complete your direct testimony?

A9. Yes.

I declare under penalty of perjury that the foregoing is true and correct, and that this testimony was executed on July 29, 2010 in San Diego, California



_____

Julie Mitchell

A/73451139.1

Exhibit 84

Prepared Rebuttal Testimony of

Robert K. Scott

Water Supply

Q1. Please state your name.

A1. My name is Robert K. Scott, PG CHg. My resume, which is accurate, is included as Attachment A.

Q2. What is the purpose of your testimony today?

A2. I am discussing the Project's water supply from Well #3 and other issues related to the Lavic Lake groundwater basin. I have been involved in assessing the availability of water for the Project.

Q4. Are you sponsoring any additional exhibits?

A4. Yes. I am sponsoring Exhibit 84-A "Map of Wells in the Vicinity of the Calico Solar Project." This map accurately depicts the wells.

Q5. What are the water requirements for the project?

A5. The Calico Solar Project will use approximately 20 acre-feet of per year (AFY) once all 850 MW are in operation. Water use for construction is projected to average 136 AFY. Construction will occur over a period of 4 years.

Q6. What can you tell us about the reliability of Well #3 and other wells in the Lavic Lake groundwater basin?

A6. The Project's proposed water supply is Well #3, which is located in the Lavic Lake groundwater basin. Based on our study of the well, we have concluded that this well can supply the water demand of the proposed project. Our conclusion regarding the reliability of this well is based on our testing of the well and our review of the available information regarding the basin from which this well would acquire the necessary water supply.

The Lavic Lake groundwater basin is addressed in Bulletin 118, which is issued and updated by the California Department of Water Resources (DWR), the state agency charged with collecting, analyzing and publishing groundwater information. Bulletin 118 addresses the status and provides known information regarding all groundwater basins in California. According to Bulletin 118, Lavic Lake groundwater basin covers 159 square miles, the groundwater storage capacity is estimated to be 270,000 acre feet (AF), and natural recharge from rainfall is estimated at 300 AFY. As noted in the Supplemental Staff Assessment (SSA), the United States Geological Survey (USGS), the federal entity charged with investigating, analyzing and reporting on geologic and water conditions, estimates recharge at 200 to 400 AFY, and the most likely actual recharge is at the upper end of the U.S.G.S. range. (SSA, page C.7-29) I also agree with the SSA that the Calico well is the only known operating well in the Lavic Lake groundwater basin. Because there are no

other active wells in the basin, it is reasonable to assume that the estimated storage capacity in the basin has not been depleted.

We performed a 24-hour pumping test on Well #3, which is a standard duration test for municipal water supply wells. Results indicated that production yield for the well is significantly higher than the Project water demands for construction and operation. While testing the well at 100 gpm (corresponding to a long-term yield of 160 AFY), the drawdown in water levels remained stable at about 6.6 feet (ft) for the entire duration of the test, which corresponds to a specific capacity of 15 gpm/ft. Results of the testing also showed no indication of boundary effects, which supports my conclusion that the well is a good producer.

Considering the fact that there is about 800 ft of water column in the well and over 200 feet of water column above the well screen, the 6.6 ft of drawdown needed to produce 100 gpm, stresses the aquifer by less than 1% of the total water column and 3% of the water column available for drawdown. By contrast, municipal production wells typically operate with drawdown that is between 50% to 80% of the available water column. Therefore, the additional water available for drawdown (nearly 200 feet) is considered a substantial buffer to compensate for potential long-term pumping effects, such as boundary conditions, that could occur in the future. This observation further supports my conclusion that this well is a good long-term producer.

The information we have obtained on other abandoned or unused wells in the Lavic Lake groundwater basin (including Well #1 at the Project site) indicates that those wells are relatively shallow, and that they may not access the most productive vertical zone in the aquifer, as does Well #3.

The SSA indicates that future projects may also take water from the Lavic Lake groundwater basin. Whether these projects would be able to obtain a supply from the basin depends on whether they were also able to locate wells that can access the basin's recharge. I agree with the conclusion in the SSA that the Calico project's incremental contribution towards cumulative impacts would not make a substantial difference in water levels, and that if there were any adverse impact from these potential future projects it would be due to the fact that the other projects are not as water-efficient as the Calico project. For example, I agree that if a wet-cooled parabolic through plant, which attempted to pump 6,000 AFY from the basin, were approved and constructed, that project could have severe impacts on the basin and the Calico project's minimal 20 AFY demand would not contribute considerably to those severe impacts. (SSA page C.7-61)

Q7. The Supplemental Staff Assessment questions whether the Pigsah fault separates the Lavic Lake groundwater basin from the Lower Mojave groundwater basin, and Condition SOIL&WATER-7 proposes to require monitoring in the Lower Mojave groundwater basin. Are these provisions appropriate?

A7. No. The Lower Mojave basin lies west of the Lavic Lake groundwater basin. The two basins are separated by the Pisgah Fault.

The SSA does not reference any evidence that the fault is not a barrier. To the contrary, the SSA states that observed water levels suggest that the fault is at least a partial barrier, and that it is "likely" that the Project would not have a significant impact across that barrier. (SSA, page C.7-32) The SSA also acknowledges that several investigators and agencies have concluded that the Pisgah Fault separates the two basins. (SSA, page C.7-31 and C.7-32). The SSA raises a question

only because staff were unable to locate the underlying data for prior studies, which date back to 1967. (SSA, page C.7-31)

The investigators that the SSA cites evaluated data and concluded that the Pisgah Fault is a barrier. DWR and USGS., the state and federal entities charged with investigating groundwater basin and geological conditions, both conclude that the Pisgah fault is considered a boundary between the Lower Mojave and Lavic Lake groundwater basins. As such, groundwater in the Lavic Lake groundwater basin is considered part of the Colorado River Hydrologic Region and not part of the Southern Lahontan Hydrologic Region, of which the Lower Mojave groundwater basin is a part.

Because of the separation between the two basins, there is no reasonable basis for requiring the Calico project to monitor water levels in the Lower Mojave groundwater basin. In addition, requiring the applicant to monitor the Lower Mojave groundwater basin would serve no purpose other than to observe and contrast conditions in the two basins. The Lower Mojave groundwater basin is the subject of an ongoing water adjudication proceeding, for which the Mojave Water Agency has been appointed as the watermaster. It is my understanding that groundwater use in the Lower Mojave groundwater basin is metered, the basin is extensively monitored and continuously investigated, and that pumping rules and regulations are frequently adjusted in response to the data obtained and analysis performed by the watermaster. Having Calico duplicate the monitoring efforts would not result in useful information.

The SSA states that the purpose of this monitoring is to ensure that "if monitoring data indicate downward trends in water level and groundwater storage, Condition of Certification SOIL&WATER-9 requires the project owner develop and implement a Water conservation and Alternative Water Supply Plan to mitigate impacts." (SSA, page C.7-40) Insofar as this pertains to monitoring in the Lower Mojave, west of the Pisgah Fault, as proposed in SOIL&WATER-7, this requirement is burdensome and not reasonable. As the SSA acknowledges, the Lower Mojave groundwater basin is already experiencing "large, steady water level declines." (SSA, page C.7-31) Thus, there are today, and will likely continue to be, declines in the Lower Mojave. Those declines cannot be attributed to the Calico Project because they are ongoing and because of the barrier formed by the Pisgah Fault. Even if that were not the case, there is no technical basis for claiming some ability to determine whether the inevitable future declines could possibly be attributed to the Calico project, especially in light of its minimal water demand when compared to the 31,000-39,000 AFY currently being pumped from the Lower Mojave basin.

Finally, even if the Pisgah Fault were not a barrier, there would be no rational basis to require monitoring in the Lower Mojave groundwater basin. Given the distance from the Calico well to the Lower Mojave groundwater basin, and the relatively small amounts that the Calico project will be pumping, even if there were no barrier, any drawdown associated with the Calico well would be masked by the overall basin drawdown within the Lower Mojave.

Q8. Is the Applicant suggesting changes to SOIL&WATTER-7?

A8. Yes. We are suggesting that this language be revised as provided in Exhibit 82-A. We are suggesting that the requirement to monitor the Lower Mojave Basin be excluded as it will not contribute to the meaningful assessment of project related impacts.

Q9. Could you explain what is meant by the terms Radius of Influence, Zone of Influence, and draw down?

A9. During pumping, the Radius of Influence (ROI) is considered the distance from a pumping well where groundwater drawdown and flow is affected after a given period of time. By contrast, the Zone of Influence (ZOI) is considered the distance from a pumping well that a molecule of groundwater may be captured and produced from that same well after a given period of time. Typically, ROI is a much greater distance than ZOI and is used to assess how far away groundwater flow might be affected by pumping. The ZOI is typically used to assess the source, and corresponding quality, of groundwater that will be produced from the well.

It should be noted that the long-term ROI, which is the factor discussed in the SSA at page C.7-34, is commonly overestimated because it is a simple calculation that does not take into account outside influences on the aquifer, such as seasonal recharge. Therefore, the SSA is conservative in its assumption that long-term drawdown effects within the site vicinity is 4 ft and 1 ft at the projected ROI. Considering that the standing water column is about 800 feet, I agree with the SSA conclusion that an "impact of less than 4 ft is likely insignificant." Furthermore, the projected ROI at 1 ft of drawdown is speculative at best because of outside influences on the aquifer and should not extend beyond the basin boundary with any level of certainty. In summary, the ROI and ZOI estimated for the Project supports my conclusion that water produced by the Project will be from local sources with insignificant effect on groundwater flow and drawdown conditions in the basin.

Q10. Condition SOIL&WATER-7 proposes a monitoring network. What network of wells is reasonably necessary to monitor the reliability and impacts of Well #3 on the Lavic Lake groundwater basin?

A10. Monitoring is required to assess water quality, and monitoring is required by the San Bernardino Desert Groundwater Management Ordinance. The Applicant has accordingly prepared a monitoring plan that includes static monitoring of Well #3, Well #1, the Schraeger well, and an additional new monitoring well to be constructed downstream of the onsite evaporation pond to monitor groundwater quality and groundwater levels. I understand that the RWQCB has indicated these wells are sufficient to monitor groundwater quality, and I believe they are sufficient to satisfy County monitoring regulations. These wells can also be used to extrapolate the ROI during pumping activities. Groundwater data published by other watermasters throughout Southern California can also be used to assess whether regional conditions of aquifer storage have been affected by drought, which will help determine when any lowering levels in the Lavic Lake groundwater basin would be the result of drought rather than pumping.

The requirement that Well #3 be monitored at static water levels will provide information about water levels at the depth of that well. The information obtained from the shallower monitoring wells will supplement that information and allow us to monitor any changes in levels that would be induced by pumping in the deeper zone. Thus, drilling new wells to the depth of Well #3, as proposed in SOIL&WATER-7, is not necessary. Also, an extensive monitoring system throughout the entire Lavic Lake groundwater basin is not necessary. As explained above, monitoring in the Lower Mojave groundwater basin is also not required. We accordingly request modifications to the verification for SOIL&WATER-7 that clarify that these three monitoring wells are acceptable.

Q11. Do you recommend other changes to Condition SOIL&WATER-9 regarding water reliability?

A11. Yes. The condition as written in the SSA presumes that any issues that arise regarding well production could be addressed only by ceasing all mirror washing and turning to an alternative water supply. That is not the case. As with any well, it is possible that there could be mechanical

problems with Well #3, that it could require rehabilitation during the Project's lifespan, or that there are other temporary or minor issues that could be addressed without resorting to the drastic consequences of ceasing mirror washing throughout the entire Project. We suggest edits to SOIL&WATER-9 to allow more flexibility to fashion remedies appropriate to the circumstances that may arise.

I declare under penalty of perjury that the foregoing is true and correct, and that this testimony was executed on July 29, 2010 in San Diego, California.

_____

Robert K. Scott

Exhibit 84
Attachment A

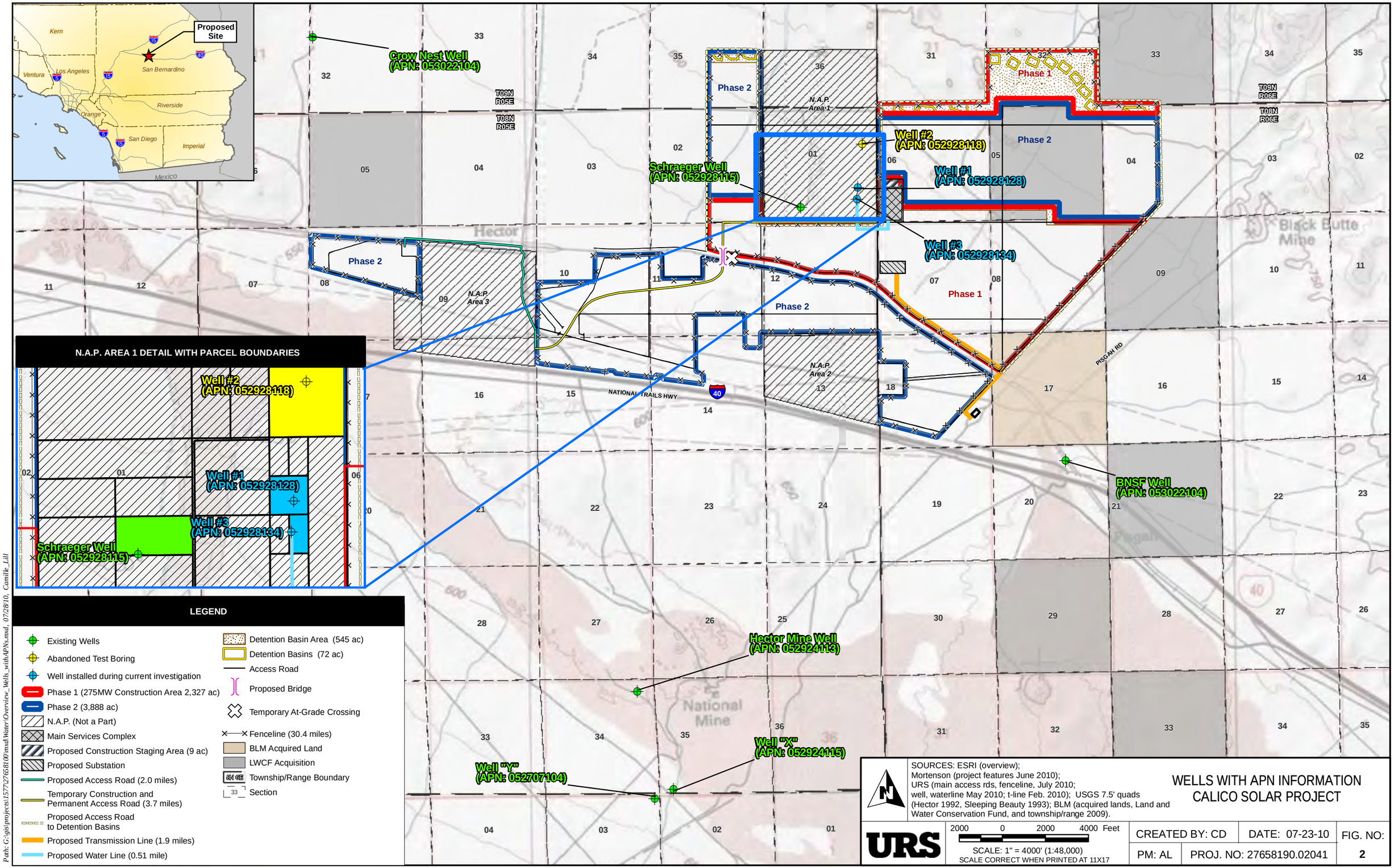

Kern
Ventura
Los Angeles
San Bernardino
Riverside
Orange
San Diego
Imperial
Mexico
Proposed Site
Crow Nest Well (APN: 053022104)
Schraeger Well (APN: 052928115)
Well #2 (APN: 052928118)
Well #1 (APN: 052928128)
Well #3 (APN: 052928134)
Hector Mine Well (APN: 052924113)
Well "X" (APN: 052924115)
Well "Y" (APN: 052707104)
BNSF Well (APN: 053022104)
Phase 1
Phase 2
N.A.P. Area 1
N.A.P. Area 2
N.A.P. Area 3
T09N R05E
T08N R05E
T09N R06E
T08N R06E
NATIONAL TRAILS HWY
PISGAH RD
Black Butte Mine
Hector
National Mine
N.A.P. AREA 1 DETAIL WITH PARCEL BOUNDARIES
LEGEND
Existing Wells
Abandoned Test Boring
Well installed during current investigation
Phase 1 (275MW Construction Area 2,327 ac)
Phase 2 (3,888 ac)
N.A.P. (Not a Part)
Main Services Complex
Proposed Construction Staging Area (9 ac)
Proposed Substation
Proposed Access Road (2.0 miles)
Temporary Construction and Permanent Access Road (3.7 miles)
Proposed Access Road to Detention Basins
Proposed Transmission Line (1.9 miles)
Proposed Water Line (0.51 mile)
Detention Basin Area (545 ac)
Detention Basins (72 ac)
Access Road
Proposed Bridge
Temporary At-Grade Crossing
Fenceline (30.4 miles)
BLM Acquired Land
LWCF Acquisition
Township/Range Boundary
Section
SOURCES: ESRI (overview); Mortenson (project features June 2010); URS (main access rds, fenceline, July 2010; well, waterline May 2010; t-line Feb. 2010); USGS 7.5' quads (Hector 1992, Sleeping Beauty 1993); BLM (acquired lands, Land and Water Conservation Fund, and township/range 2009).
WELLS WITH APN INFORMATION
CALICO SOLAR PROJECT
URS
2000 0 2000 4000 Feet
SCALE: 1" = 4000' (1:48,000)
SCALE CORRECT WHEN PRINTED AT 11X17
CREATED BY: CD
DATE: 07-23-10
FIG. NO: 2
PM: AL
PROJ. NO: 27658190.02041
Path: G:\gis\projects\15772765B100\mxd\Water\Overview_Wells_withAPNs.mxd, 07/28/10, Camille_Lill

Exhibit 85

Prepared Rebuttal Testimony of

Joseph Liles

Water Supply

Q1. Please state your name and employer.

A1. My name is Joseph Liles and I am a Senior Project Geologist with the URS Corporation.

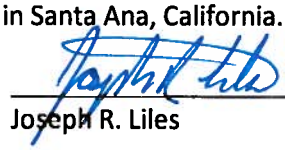
Q2. Are you involved in the details of the Project relevant to water supply?

A2. Yes.

Q3. Have you reviewed the testimony of Robert Scott, to be filed contemporaneously on July 29, 2010 with your testimony?

A3. Yes. I was involved in the construction of the well and the pumping tests and therefore concur in the parts of Robert Scott's testimony that address those issues. Specifically, I concur in Robert Scott's testimony regarding the construction of the well, the testing of the well, and the test results, as stated in Answer 5, paragraphs 3 through 5.

I declare under penalty of perjury that the foregoing is true and correct, and that this testimony was executed on July 29, 2010 in Santa Ana, California.



Joseph R. Liles

Joseph Liles, PG, CHG

Senior Project Geologist

Areas of Expertise

Hydrogeology

Soil/Groundwater Investigations

Years of Experience

With URS: 9 Years

With Other Firms: 1 Year

Education

BS/Geology/2000/California State University of Fullerton

Registration/Certification

Professional Geologist/CA/#8297

Registered Geologist/AZ/#45430

Certified Hydrogeologist/CA/#889

Overview

Mr. Liles is a Senior Project Geologist in the Site Assessment and Remediation Division (Hydrogeology Practice Group) at URS Corporation. He has 9 years experience in the environmental field managing soil/groundwater investigations, developing regulatory negotiation strategy.

Mr. Liles has managed numerous soil/groundwater investigations conducted at gasoline service stations, Naval bases, manufacturing facilities, and current/former retail properties. His regulatory experience includes personal interaction with California Regional Water Quality Control Boards (Santa Ana and Los Angeles,), Department Toxic Substances Control (DTSC), Los Angeles Department of Public Works (LADPW), Alameda County Environmental Health Services(ACEHS), Orange County Health Care Agency (OCHCA), and various members of the Certified Unified Program Agency (CUPA).

Project Specific Experience

Project Manager, (Confidential Client) Distribution Center Buena Park, CA: Project Manager of soil and groundwater investigation activities for a national retail shipping facility located in Buena Park, California. Tasks consist of coordinating field activities including oversight of quarterly groundwater sampling, aquifer testing, injection of potassium permanganate, soil borings, monitoring well installation and sampling, and preparation of reports.

Project Manager, (Confidential Client) Six Former Gasoline Service Stations Located Throughout Central and Southern California. Sears: Project management of groundwater sampling, site assessment and remediation of multiple former underground storage tank sites throughout California owned by a national retail company. Responsibilities include; project budgeting and cost tracking, setup and scheduling of fieldwork, agency interaction, conducting fieldwork, data interpretation and report writing.

Project Manager, (Confidential Client) Distribution Center La Habra, CA: Project Manager of Compliance, and groundwater investigation activities for a national retail shipping facility located in La Habra, California. Tasks consist of coordinating field activities including oversight of quarterly groundwater sampling, compliance related activities, and preparation of reports.

Project Geologist, Property Redevelopment – Pier A West, Wilmington, CA. Port of Long Beach: Project Geologist conducting a soil and groundwater investigation of multiple former waste oil sumps and subsequent impacted groundwater. The soil investigation was to determine the area and quantity of soil to be excavated for offsite disposal. The groundwater plume delineation was conducted to assist in the design on a multi-phase extraction system to dewater the sump areas

during excavation activities. The investigation includes a historical literature review, interpretation of a previous consultant work, subsurface investigation to determine lithology, and monitoring well installation. This project is challenging due to the fast-track schedule and agency requirements.

Project Geologist, Soil and Groundwater Remediation, (Confidential Client), Anaheim, CA. Project Geologist for soil and groundwater investigation activities for a site impacted with TCE for a confidential client in Anaheim, California. Responsibilities include; project budgeting, setup and scheduling of fieldwork, agency interaction, overseeing fieldwork, data interpretation, and report writing.

Project Geologist, Soil and Groundwater Remediation, (Confidential Client), Anaheim, CA. Project Geologist for soil and groundwater investigation activities for a site impacted with PCE, TCE, DCE, and 1,1,1-TCA for a confidential client in Anaheim, California. Responsibilities include; project budgeting, setup and scheduling of fieldwork, agency interaction, overseeing fieldwork, data interpretation, and report writing.

Project Geologist, Aquifer Testing for Multiple Sites, Ca. Los Angeles Department of Public Works: Project Geologist conducting, well installation, slug testing, step and constant rate pumping tests. Aquifer testing at North Haiwee Dam located in Olancha, Ca. was conducted to determine pumping rate required for dewatering large excavation area to retrofit dam to meet current seismic codes. Slug testing was conducted at multiple sites in Los Angeles to determine local aquifer properties during a tunnel construction project.

Project Geologist; High-Rise Development Dewatering Assessment, (Confidential Client), San Diego, CA. Project Geologist conducting, well installation, slug testing, step and constant rate pumping tests. The planned project includes the development of a 1.4 acre property into a high rise (30+ stories) commercial building with five levels of subterranean parking. Challenges to the project include the fact that groundwater is shallow and there is potential for high recharge from the San Diego Bay less than one block from the site. For purposes of assessing potential construction dewatering, URS utilized information from a detailed geotechnical study and implemented a series of aquifer pumping tests. Results of the study were used to propose a dewatering program in conjunction with the shoring and excavation plans. Project construction is scheduled to begin in 2008.

Staff Geologist, Research, Development , and Distribution Facility, Tustin, CA. (Confidential Client): Staff Geologist for a RCRA site closure project. Responsibilities included, project setup, fieldwork including phase I site investigation, phase II soil investigation, soil and concrete sampling, and report preparation.

Technical Resource – Drilling Methods, Numerous Projects, Southern California: He is utilized as a technical resource providing

drilling guidance to many professionals within his company throughout Southern California. He provides guidance with monitoring well design, installation, development, and rehabilitation. He is responsible for mentoring junior staff during fieldwork implementation. His drilling experience is well rounded having conducted subsurface investigations using direct push, hollow stem auger, mud rotary, rotary sonic, Air rotary casing hammer, cable tool, and bucket auger.

Technical Resource – Aquifer Testing, Numerous Projects, Southern California: He is utilized as a technical resource providing aquifer testing guidance to many professionals within his company throughout Southern California. He provides guidance with defining testing methods, logistical planning, test implementation, data acquisition, and analysis of testing.

Field Manager, Water Supply Well 38-4, Lake Los Angeles, California, Los Angeles County Department of Public Works, 0.5-years, $0.15MM (labor only): Field Manager responsible for training a team of geologists/engineers that installed a water supply well capable of producing 1,000-gpm (completed to 420 ft bgs). The well installation oversight activity included installing a sanitary seal conductor casing, logging cuttings during the pilot boring, geophysical logging, isolation testing at discrete depths, well design, installation of well casing/screen, well development, aquifer testing/analysis, and pump design. A DWSAP was provided in the final documentation report. This fast-tracked project was successfully completed within three months.

Field Manager, ASR Well 4-71, Lake Los Angeles, California, Los Angeles County Department of Public Works, 0.5-years, $0.15MM (labor only): Field Manager responsible for training a team of geologists/engineers that installed a water supply well capable of producing 500-gpm (completed to 660 ft bgs). The well installation oversight activity was similar to Water Supply Well 38-4. LACDPW will also use this well for Aquifer Storage Recovery (ASR).

Professional Societies/Affiliates

National Ground Water Association (NGWA)

Specialized Training

2000/40-Hour OSHA Health & Safety Certification (29 CFR 1910.120)
2001–2007/8-Hour OSHA Health & Safety Annual Update Certification
2001/8-Hour OSHA Site Supervisor's Certification
2000–2007/First Aid/CPR Certifications

Chronology

2000–Present: URS Corporation, Project Geologist, Santa Ana, CA
1998: Orange County Water District, Geologist, Fountain Valley, CA

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Santa Ana, CA 92705
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Direct: 714.648.2779
Fax: 714.667.7147
Joe_liles@urscorp.com

Exhibit 86

Prepared Rebuttal Testimony

Of

Robert Byall

Facility Design

Q1. Please state your name and place of employment.

A1. My name is Robert Byall and I am the Senior Project Civil Engineer for Tessera Solar.

Q2. What is the purpose of your testimony?

A2. The purpose of my testimony is to address Staff's assertion in the SSA that project detention and debris basins are enclosed by "dams" and may be subject to the jurisdiction of the California Division of Safety of Dams.

Q3. What have you reviewed?

A3. I have reviewed Chapter 7, Hydrology, Water Use and Water Quality, as well as proposed Conditions of Certification GEO-2 and GEO-3, of the SSA.

Q4. What is the relationship of the project's proposed detention and debris basins to the jurisdiction of the Division of Safety of Dams?

A4. The basins will not be subject to the jurisdiction of the Division of Safety of Dams. As stated in the SSA, DSOD has jurisdiction over dams that impound 50 acre-feet of water or more. Embankments six feet high or less are excluded, as are embankments impounding less than 15 acre-feet of water, regardless of the height of the embankment. None of the project's detention or debris basins will impound more than 15 acre-feet and none of the impoundment structures will be six feet in height. Accordingly, Conditions of Certification GEO-2, GEO-3 and SOIL&WATER-8, part 7, will not apply to the project.

Q5. Does this complete your direct testimony?

A5. Yes.

I declare under penalty of perjury that the foregoing is true and correct, and that this testimony was executed on July 29, 2010 in Scottsdale, Arizona.

Robert Byall

Exhibit 87

Rebuttal Testimony
Of
Pat Mock
Biological Resources

Q1. Please state your name and occupation.

A1. My name is Pat Mock and I am a Principal Scientist with URS Corporation.

Q2. Are you the same Dr. Pat Mock who previously provided written and oral testimony in this proceeding?

A2. Yes.

Q3. Have you reviewed the SSA for the Calico Solar Project and do you have any comments to make on the Staff's biology testimony?

A3. I have reviewed the Staff' biology testimony in the Biological Resources section of the SSA. My overall comments regarding the SSA relate to how the analysis should be changed given the reduced project footprint. As Felicia Bellows has testified, the project footprint has been reduced at the request of the wildlife agencies. The reduced project footprint has many beneficial effects with regard to impacts to biological resources. The reduced project footprint avoids impacts to Nelson's bighorn sheep, significantly reduces impacts to the desert tortoise habitat and movement corridor, reduces impacts to the potential Mojave fringe toed lizard movement corridor, reduces impacts to burrowing owl, and American badger, reduces impacts to golden eagle foraging habitat, and reduces impacts to special status plant species.

Q4. Do you have any concerns with the analysis in the Biological Resources section of the SSA?

A4. Yes. I disagree with the Staff's analysis and conclusions in some respects. Based on my extensive personal knowledge of the site, understanding of the biological resources potentially affected by the proposed project, and the nature of the proposed project, I believe that Staff have overestimated the potential impacts in some respects and have included some mitigation measures that are not necessary. Most significantly, I believe that staff has overstated the impacts to the Mojave fringe-toed lizard and burrowing owl.

Q5. Can you comment on the SSA's assessment of impacts to desert kit fox?

A5. The desert kit fox has been observed on the project site. Desert kit fox is not a special status or sensitive species as defined by CEQA. Therefore, under CEQA, impacts to this species are not considered potentially significant. As Staff notes, given that the desert kit fox is a fur bearing mammal, it is protected from commercial trapping under the Fish and Game regulations. Because the project will not involve any trapping of this species, however, these regulations are not applicable. However, we agree that it is reasonable to avoid and minimize impacts to this species where practicable, and therefore agree to implement the provisions provided in SSA Condition BIO-24.

Q6. Can you comment on the SSA's conclusion that cumulative impacts to Mojave fringe-toed lizard would remain significant even after mitigation is implemented?

A6. Staff concludes that there will be cumulatively significant impacts to the Mojave fringe toed lizard based on impacts to east-west movement corridors and habitat loss and fragmentation. Based on the site's location and the extensive preservation of Mojave fringe toed lizard habitat that exists in the area, I do not concur with this assessment. The reduced project footprint allows for a desert tortoise movement corridor. This corridor would also be utilized by the Mojave fringe toed lizard. It is important to realize that Mojave fringe toed lizard habitat is patchy as it is limited to sandy dunes and they utilize non-dune habitat to traverse between sandy dune habitats. There currently exists preserved Mojave fringed toed lizard habitat on BLM lands to the northwest of the project site and on National Park Service lands to the north east. The Pisgah ACEC adjacent to the project on the east also includes Mojave fringe toed lizard habitat. Attached is a figure showing Mojave fringe toed lizard areas on public lands near the Calico project site. The desert tortoise movement corridor will allow for continued movement of the Mojave fringe toed lizard between areas that BLM has conserved specifically for this species.

The project will impact only 21 acres of sandy dune habitat, the habitat utilized by the Mojave fringe toed lizard. The compensation measures provided in the SSA will ensure that this impact is fully offset. In fact, we believe that the acreage amount is in excess of what is required given the amount of sand dune habitat found on the project site. Therefore, the project will not contribute to a cumulative significant impact. This is particularly true given that the BLM has already preserved over 25,600 acres of Mojave fringe toed lizard habitat in the project's vicinity. Moreover, the EIS for the West Mojave Plan concluded that there will not be any cumulatively significant impact to the Mojave fringe toed lizard, and the project is consistent with the provisions of this Plan.

We will provide the Committee alternative wording for condition BIO-13 prior to or during the upcoming hearing.

Q7. Can you comment on the proposed mitigation for special status plants?

A7. Yes. The Applicant agrees with staff's conclusions that impacts to small-flowered androstephium and Utah vine milkweed are not considered significant (p. C-2.212) but note the Condition language (Bio-12) does not exclude these species from avoidance/mitigation. In addition, Bio-12 requires the preparation of an avoidance/mitigation plan for County of San Bernardino listed species. While we agree to prepare a summary report of prior inventories of these species, since impacts to these species are less than significant, avoidance/mitigation of these species are not required. The Applicant has submitted revised Bio-12 condition language to clarify.

The SSA requires that the applicant conduct late-season biological surveys. We do not object to conducting such surveys but are concerned that the requirement that "*re-surveys shall occur as many times as necessary to ensure that surveys are conducted during the appropriate blooming period for the target taxa*" is unclear and could be interpreted as requiring surveys until a target species is found. Given that the target species may not exist on site, this could result in the implementation of costly and unnecessary survey efforts. To meet the intent of this condition, I suggest monitoring accessible reference populations, and then surveying a single time when the reference population is detectable. This will ensure that the species will be detectable at the time the surveys are conducted and will avoid the unnecessary expenditure of funds.

Q8. With regard to the desert tortoise, do you have any comments on the analysis included in the SSA?

A8. With regard to the desert tortoise, it is important to note that the reduced project footprint will significantly reduce impact to the desert tortoise and will allow for the preservation of a movement corridor. This movement corridor was designed specifically to consistent with criteria provided by the Desert Tortoise Recovery Office. Therefore, the actual impacts to desert tortoise will be considerably less than described in the SSA.

Q9. Can you comment on the desert tortoise mitigation measures?

A9. We believe the preservation of over 14,300 acres of desert tortoise habitat will fully mitigate impacts to the desert tortoise.

Q10. Turning to the burrowing owl, do you have any comments on the proposed mitigation?

A10. Yes. First, it is important to note that, as previously mentioned, the reduced project footprint allows for the avoidance of some burrowing owl habitat. Condition BIO-21 in the SSA calls for pre-construction surveys for the burrowing owl, passive relocation of burrowing owls, and provision of compensatory mitigation lands. We agree with the measures designed to avoid and minimize impacts to the burrowing owl and the applicant will conduct surveys, will avoid any active nest during the breeding season, and will passively relocate burrowing owls to suitable habitat. The applicant will also create artificial burrows. We disagree, however, that compensatory lands are required to offset impacts to this species. The provision of artificial burrows will be sufficient.

Q11. Do you have any comments on Condition BIO-8?

A11. Yes. This condition requires that all trash containers be emptied daily. We believe that requiring that all trash be placed in self-closing containers that are emptied as necessary to prevent overflow is sufficient to ensure that no adverse impacts will occur as a result of trash generated and stored on site.

Q12. Does this complete your direct testimony?

A12. Yes.

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

July 29, 2010

Date Patrick Mock, PhD

A/73450119.2

Exhibit 88

Rebuttal Testimony

Of

Theresa Miller

Biology

Q1. Will you please state your name and occupation?

A1. My name is Theresa Miller and I am a Senior Biologist for URS Corporation. My resume has been included with this testimony.

Q2. What is the purpose of your testimony in this proceeding?

A2. I am testifying to explain the development of the Desert Tortoise Translocation Plan for the project.

Q.3 What desert tortoise survey efforts were conducted?

A3. URS conducted 10m transect surveys of the 8,230-acre original footprint of the Calico Solar Project site plus a 1,000 foot buffer between March 29 and April 15, 2010. The same level of effort was implemented for surveys of the potential receptor sites at the Pisgah ACEC and the Ord-Rodman DWMA, and in the potential control sites to the northwest of the Project site between April 16 and May 24. The survey implemented the 2010 USFWS survey protocol (USFWS 2010) and represents a 100% coverage survey. A map of the Project site, receptor sites, and control sites was overlaid with survey cells that typically encompassed 50 acres (mean cell size 45 acres, range: 13 – 64 acres). Typical rates of coverage were 5 to 6 acres per person-hour and 1.25 transect km per person-hour. Each cell was surveyed by four or five experienced biologists using the 10m transect protocol. All detected tortoise were visually measured and assessed for signs of disease, and field forms were completed for each tortoise. Tortoise locations were recorded with consumer-grade GPS units. All potential tortoise burrows detected were recorded with GPS units and classified according to USFWS burrow categories (Class 1 through 5).

Q4. Are these survey efforts reliable in detecting and estimating desert tortoise presence?

A4. The 100% coverage surveys were conducted by desert tortoise biologists that have extensive knowledge of desert tortoise behavior and have conducted substantial amounts of tortoise surveys and radio telemetry tracking of tortoise. The rate of coverage of the survey cells was appropriate to allow the best opportunity for surveyors to detect tortoise. Furthermore, the surveys were conducted according to the USFWS 2010 protocol, which uses the best available science on the desert tortoise to determine presence and abundance, and includes an estimation of abundance to account for tortoises that may be underground in burrows or hidden above ground during the surveys.

Q5. Can you please describe the role and process of the Desert Tortoise Translocation Plan (DTTP)?

A5. The role of the DTTP is to clearly identify methods to move desert tortoise from the Project site to a conserved receptor site that is as close as possible to the location from which the tortoise are collected. The ultimate goal of the DTTP is to minimize take (mortality) of the desert tortoise through identification of measures that minimize stress on the tortoises being translocated, and on the resident populations at the recipient sites. The DTTP also identifies the monitoring program that will be implemented to evaluate the success of the program and identifies thresholds that would require adaptive management and potential remedial actions.

The process of developing the plan included close interaction with the BLM, USFWS, and CDFG, and began with the identification and analysis of several criteria to select potential receptor sites that would provide suitable, good quality habitat for desert tortoise. The criteria that was used resulted in the selection of potential habitat that would provide the best opportunity for tortoises to survive after translocation. Habitat assessments and tortoise surveys at 100% coverage of each potential receptor site and the potential control sites were performed in 2010, and the results of the surveys were used to determine tortoise density in each

receptor site. The maximum number of tortoise that could be translocated into each receptor site was determined based on the existing density and the habitat quality of the receptor sites, the actions and schedule for each step of the translocation program were defined.

Q6. Do you believe in your professional opinion that the measures identified in the DTTP will mitigate impacts to desert tortoise to less than significant levels?

A6. The DTTP is a key mitigation measure to minimize impacts to desert tortoise, and has been prepared in addition to mitigation fees that will be applied to conservation of desert tortoise. Because the methods in the DTTP have been developed in collaboration with the USFWS, BLM, and CDFG, and because this plan has been developed in compliance with the Desert Tortoise Recovery Office's Desert Tortoise Field Guide, I feel confident that the best available scientific data has been used and will be implemented during the translocation program, and I believe that the combination of the mitigation fees and the measures identified in the DTTP will fully mitigate impacts to desert tortoise.

Q7. Does this complete your direct testimony?

A7. Yes.

Dated: 7/29/10

Theresa Miller

Theresa Miller, CE

Senior Biologist

Areas of Expertise

Listed Species Surveys, Monitoring, Habitat Assessment and Research
Habitat Conservation Planning
Wildlife Corridor Assessment
Biological Impact Assessment
ESA/Wetlands Permitting
Vegetation Mapping and Botanical Surveys
NEPA/CEQA Permitting and Environmental Analysis
FEMA/NISTAC Hazard Mitigation Program NEPA Analysis
Risk Assessment and Hazard Mitigation Planning
Task Management
Marine Mammal Acoustic Analysis

Years of Experience

With URS: 9 Years
With Other Firms: 2 Years

Education

BA, Biology, Marine Science

Registration/Certification

Certified Ecologist, Ecological Society of America
U.S. Fish and Wildlife Service Recovery/Permit No. TE-135968-1
-California Gnatcatcher (Presence/Absence Surveys)
-California Fairy Shrimp
Blunt-nosed leopard lizard - Level II Surveyor

Overview

Ms. Theresa Miller is a USFWS-permitted wildlife biologist with more than 11 years of experience and expertise in California sensitive species, especially in southern and central California. She conducts biological surveys with a focus on birds, reptiles and amphibians, and mammals, and develops technical reports and planning documents. Specializing in environmental projects, she has participated in and managed many aspects of focused wildlife and habitat surveys and written many biological resources evaluations for NEPA/CEQA and FEMA documents. Her project experience has involved task management, agency coordination, GIS/GPS analyses, GIS modeling, database development, and risk assessments for hazard mitigation planning for numerous public and private agencies.

Project Specific Experience

NEPA/CEQA ENVIRONMENTAL PLANNING PROJECTS

NRG Energy El Segundo Generating Station, Los Angeles County, CA. Performed site visit and prepared marine mammal small take exemption permit application and sea turtle habitat conservation plan for operations and maintenance of power plant in Los Angeles County along Pacific Coast.

NRG Energy Encina Power Station, San Diego County, CA. Prepared marine mammal small take exemption permit applications and sea turtle habitat conservation plan for continued operation of the power plant located in San Elijo Lagoon and along Pacific Ocean in San Diego County.

EIS and Biological Assessment, Resource Management Plan Revision and EIS, Socorro, NM. Technical writer responsible for impacts analyses on special status species, vegetation, wildlife and livestock grazing sections for an EIS and BA for the Socorro BLM Field Office Resource Management Plan Revision. (2006)

Range Management Plan Amendment/EIS, McGregor Range, Socorro, NM. Technical writer responsible for alternatives and environmental consequences analyses for special status species, vegetation, wildlife, and livestock grazing sections for an EIS for the McGregor Range Management Plan Amendment. The RMPA/EIS determined impacts based on a forecast of 15 years of range management and improvements. (2005)

Metropolitan Water District, Upper Feeder-Santa Ana River Embankment Protection, Riverside County, CA. Biology task leader to assist FEMA with NEPA compliance. Conducted least Bell's vireo surveys along the Santa Ana River in Riverside County to determine impacts from project implementation as part of FEMA HMGP mitigation/restoration project. (2006)

Whitewater Mutual Water Company, Irrigation Water Intake/Storage Structure Repair. Biology task leader to assist FEMA with NEPA compliance. Conducted arroyo southwestern toad and southwestern willow flycatcher surveys to determine biological impacts of restoring the irrigation water intake and water storage facilities to pre-disaster condition. Part of FEMA HMGP program. (2006)

Nursery Products Composting Facility Initial Study (IS)/Mitigated Negative Declaration (MND)/Environmental Impact Assessment (EIR), San Bernardino, CA. Biology Task Manager for the proposed development of a 160-acre biosolids/green waste composting facility in San Bernardino County. Coordinated and lead field team for USFWS protocol desert tortoise surveys and rare plant surveys, and prepared biotechnical report as well as biology section of EIR (2006)

Solar One Energy Facility AFC and EIS, San Bernardino County, CA. Biologist/team leader on survey team in support of an Application for Certification for an 800MW thermal generating facility located within San Bernardino County. The project will cover 15,000 acres and will include over 36,000 solar dishes. Desert tortoise, Mohave ground squirrel, Mojave fringe-toed lizard, vegetation mapping, and rare plant surveys were conducted over majority of project area.

Exhibit 89

PREPARED REBUTTAL TESTIMONY
OF
WAYMON VOTAW
Facility Design/Reliability/Efficiency

Q1. Please state your name and occupation.

A1. My name is Waymon Votaw and I am the Senior Director and Head of Asset Management for Tessera Solar.

Q2. Are you the same Waymon Votaw who previously provided written and oral testimony in this proceeding?

A2. Yes, and the resume I previously provided remains valid.

Q3. What is the purpose of your testimony in this proceeding?

A3. My testimony provides an update on the reliability of the SunCatcher technology and responds to the concerns raised by the CEC staff in the Supplemental Staff Assessment.

Q4. Would you give an update on the reliability of the SunCatchers in the Maricopa Solar project?

A4. Maricopa Solar has generated 1,265,388 kWh, representing a capacity factor of 27.5 percent, from March 16, 2010 through July 21, 2010, at an overall availability of 96.1 percent ("Maricopa Performance Data" or "MPD"). The availability of the SunCatcher, the primary technical component of the technology, has operated with an availability of 97.5 percent. Over the last 30 days, the overall project has operated on a steady state basis at an availability of 97.8 percent, so the availability is trending up as operations continue.

We expect the performance of Maricopa Solar to continue to improve.

Q5. Do you agree with the CEC staff's approach to evaluating power plant reliability as described on page D-4.2 of the SSA?

A5. The staff's approach is typical and appropriate. It is describing industry norm calculation methodologies with the terminology matching that of NERC for GADS reporting (IEEE based). The only thing not discussed in the description is how to convert equipment or system reliability into facility "equivalent availability." For example, a 12,000 dish facility that loses one SunCatcher for one hour would have a field equivalent availability impact of 1/12000 for the period. I don't think this is something to worry about, but rather is a function of the high level nature of the method description. Any comparison of our facilities would be to other facilities using standard GADS calculation methodology.

Q6. Do you agree with the CEC staff's conclusions on equipment availability, fuel and water availability, and power plant reliability in relation to natural hazards?

A6. Yes, the Calico Solar project relies on a redundant, modular use of the SunCatcher technology. With the QA/QC program we have developed and our experience at the Maricopa plant, we do not expect any problems related to equipment availability.

As the staff have observed, fuel availability is not a concern with a solar power plant and I do not expect any concerns with the water supply to be provided by the local well.

Finally, due to the engineering design, modular nature of the facility, and extensive evaluation both at Sandia National Laboratories and Maricopa Solar project, I am confident that the technology will be reliable in response to natural hazards such as seismic, flooding, and high wind events.

Q7. Do you agree with the concerns expressed by the CEC staff regarding the plant maintainability?

A7. I have a much greater level of confidence in the SunCatcher's reliability than has been expressed by the CEC staff. Earlier versions of the SunCatcher at Sandia have operated for over 30,000 hours. These were truly research versions and were subject to numerous tests that demonstrated the viability of the technology but contributed to a lower availability factor than we have experienced at Maricopa. To date, the SunCatchers at Maricopa have been in operation for 135 days and have accumulated over 75,000 on-sun hours. This combined with my hands-on experience operating the facility give me a high level of confidence in our ability to maintain the plant and ensure its dependability in providing electricity to the grid.

Q8. Have you read the paper by Dr. Butler that staff refers to in their SSA?

A8. Yes, I have.

Q9. Do you have any comments on the statement made by Dr. Butler that staff relies on in their SSA analysis on reliability? That statement is "An expert familiar with the machines claims that the SunCatcher exhibits a Mean Time Between Failures (MTBF) of only 40 hours."

A9. I found it interesting that the staff included that comment in its analysis. Dr. Butler is an expert in concentrating solar technology and made that statement in testimony filed on behalf of conservation groups in the Sunrise Power Link proceeding before the California Public Utilities Commission. The entirety of his statement regarding mean time between failures was as follows:

"I am the SAIC project manager for a dish/Stirling design that was in competition with the SES design. By 2002, SAIC had also demonstrated relatively high availability of the system for periods of time. However, the 'mean time between failure' was approximately 40 hours. Major reliability problems with the SAIC Stirling engine included hydrogen leakage through joints and seals, internal engine seal leakage, swashplate actuator stalls, and heater head braze joint hydrogen leaks." (Phase I Direct Expert Testimony of Dr. Barry Butler on Behalf

of Conservation Groups, Before the Public Utilities Commission of the State of California, Dated 5/31/2007, Page 3 of 7)

Dr. Butler's statement was based on 2002 data from a technology in competition with the SES SunCatcher 2002. The technology discussed by Dr. Butler had lower power output (see page 4 of Dr. Butler's testimony) and was subsequently not selected by either SDG&E or SCE for power purchase agreements. One of Dr. Butler's recommendations was that the Stirling technology be demonstrated at a 1 MW level before scaling up to a larger arrays involving 1,000s of dishes. That step has been exceeded and successfully accomplished at the 60 MW Maricopa Solar project.

Q10. Does this complete your direct testimony?

A10. Yes.

I swear under penalty of perjury that this testimony is true and correct to the best of my knowledge.

7/29/10
Date

Waymon Votaw

Exhibit 90

REBUTTAL TESTIMONY
OF
TARIQ HUSSAIN

Hazardous Materials Management

Q1. Will you please state your name and occupation?

A1. My name is Tariq Hussain and I am a Program Manager for URS Corporation. My resume has been included with this testimony.

Q2. What is the purpose of your testimony in this proceeding?

A2. I am testifying to address some of the analysis and conclusions in the Hazardous Materials Management section of the SSA and to discuss the effect of a proposed change to the hydrogen distribution system for the project.

Q3. What have you reviewed with respect to the SSA?

A3. I have reviewed the Large Quantity Hazardous Materials/Hydrogen section of the SSA, including proposed new Conditions of Certification HAZ-7 and HAZ-8. I have also reviewed the rebuttal testimony of Felicia Bellows regarding BNSF's requested modification to the Calico Solar project's hydrogen system.

Q4. What are your comments on the SSA's analysis of the potential impacts of the project's use of hydrogen?

A4. I prepared the original scenarios and calculations of the potential impacts of a worst-case hydrogen release from the project. I analyzed two different potential hydrogen systems, one of which would distribute hydrogen through pipelines (the centralized system) and the other of which would distribute the hydrogen in k-bottles to each SunCatcher (the distributed system). The SSA uses the analysis I prepared and correctly concludes that the worst-case scenario is highly unlikely, that the analysis is conservative, and that with mitigation, the risks posed by the use of hydrogen as the working fluid in the Stirling cycle engines is less than significant.

The SSA also appears to state, however, that in the event of a large release of hydrogen from the project, a "large hydrogen gas fire" at ground level is more likely than a hydrogen explosion in the atmosphere. I disagree with this conclusion. Because of the nature of hydrogen, in the event of any release hydrogen tends to ascend rapidly and if present in sufficient concentrations can be detonated by a spark. Data from literature indicates that in such a scenario the probability of a significant fire at ground level is less likely than an explosion at higher elevations.

Q5. Do you have any comments on new proposed Conditions of Certification HAZ-7 and HAZ-8 in the SSA?

A5. I agree with Condition HAZ-7. Regarding Condition HAZ-8, I believe that third-party peer review of a professionally and independently prepared PSM Plan is unnecessary in light of the other measures provided and the availability of the PSM Plan for review by OSHA and other regulatory agencies. . The applicant has not requested a change in proposed Condition HAZ-8.

Q6. What is the proposed change to the hydrogen distribution system for the project?

A6. I am informed, based on the rebuttal testimony of Felicia Bellows that BNSF has requested that the project include two independent centralized hydrogen systems, one north and one south of the BNSF rail line that traverses the project site. The central hydrogen tank for the north side of the project would still be located at the Main Services Center, but would be smaller than the tank previously identified because it would serve only SunCatchers on the north side of the rail road. The central hydrogen storage tank for the south side of the project would be located approximately as shown in the attached figure, which I prepared.

Q7. What is the effect of this change in terms of a worst-case hydrogen release scenario?

A7. Because each central storage tank would be substantially smaller than the single tank previously analyzed, the radius of any explosion impact would be proportionately reduced. A worst-case event occurring at either the northern or the southern centralized system would not affect any sensitive receptors.

Q8. Does that conclude your direct testimony?

A8. Yes.

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

Date: July 28th 2010

Tariq Hussain

S. Tariq Hussain

Environmental/Chemical Engineer

Areas of Expertise

Risk Analysis and Management, Process Safety Management, PSM/RMP Audits, Process Engineering, Storm water Pollution Prevention Plans, Spill Prevention and Countermeasures Plans, OPA-90 Plans, Spill Training, TableTop Spill Exercises, Risk of Upset Studies, Engineering Evaluation and Cost Analysis, Water Wastewater Treatment Technologies, Waste Minimization Plans, Waste Water Studies, Water Chemistry Analysis and Treatment., Engineering Evaluation/Cost Analysis (EE/CA), and Project Management.

Years of Experience

With URS: 20 Years

With Other Firms: 6 Years

Education

MS/1987/Chemical Engineering/University of Kansas, Lawrence KS

MS/1981/Petroleum Refining and Petrochemical Engineering/Institute of Petroleum and Gas, Ploiesti, Romania

Registration/Certification

1994/Registered Environmental Assessor/California

Overview

Mr. Hussain is a chemical engineer with over 26 years of experience specializing in process risk analysis and hazardous chemical handling. His experience in heavy industries includes regulatory compliance projects for the oil, power, water and food sectors. His experience in the field of process engineering is expansive and diverse and includes projects such as estimating the risk of chemical release from a power plant, a high pressure nitrogen plant and from the refrigeration process involving anhydrous ammonia.

Project Specific Experience

Risk Analysis, Solar Energy Plants, California

Performed risk analysis for several proposed solar power project in California. These plants use hydrogen gas in small bottles associated with each solar panel and also store these bottles in bulk at a centralized depot. For the AFC we calculated the nature of the risks posed by hydrogen cylinders individually and in bulk storage. The modeling scenario was set for the release and subsequent explosion of the whole content of one hydrogen bottle. In a latter study it was proposed to generate on-site and store hydrogen gas in bulk tanks. The risk associated with such a scenario was also estimated and presented to the CEC in a supplementary filing.

Senior Consultant, RMP Review, Multiple Locations, for the Marine Corp Station in Camp Pendleton

MCB Camp Pendleton operates multiple water waste water treatment plants at the base in California. Each of the nine plants was equipped to handle Chlorine injection for disinfection, both 155 pound and 1ton chlorine cylinders were used. The quantity of chlorine stored at each site exceeded the threshold for both federal and State risk management programs (RMP/CalARP). The existing RMP program required a five year review that was the focus of the project. Tasks completed included an audit of the program, some revisions in the Process Hazard Analysis (PHA), a review of the Off-site Consequence Analysis (OCA) and a Seismic Evaluation. Significant changes in the treatment process required the update and review of the safety plans.

Section Writer: Hazardous Material, Risk Analysis, Hydrogen Energy Plant, California

Hydrogen Energy proposed an Integrated Gasification Combined Cycle power plant for Kern County in California. It was an unique project that proposed to gasify 100% petroleum coke to produce hydrogen to fuel a combustion turbine operating in a combined cycle mode. The uniqness of the project included the use of chemical not usually used in a power

plant project. This called for the risk analysis of these chemicals for the AFC in a precedent setting mode. In addition the proposed plant is unique because it proposes to store generated carbon dioxide in depleted underground oil reservoirs as part of the carbon sequestration process. The risk posed by the transportation and storage of carbon dioxide gas was calculated and submitted to the CEC as part of AFC.

Lead Consultant, RMP/CalARP for Aqueous Ammonia, Magnolia Power Project, Burbank, California. A new Power unit was being added on to the existing plant at the Magnolia Power Plant located in Burbank California. Aqueous ammonia was required for emission control from the turbine. Tasks included a PHA, OCA and a seismic evaluation. The RMP was approved before the deadline for project startup.

Project Manager for several RMP projects for new power plants. Wildflower Energy LP installed several peaked units in San Diego County and Riverside. All the plants used aqueous ammonia for emission controls. As part of the permitting program the RMP/CalARP had to be completed prior to the issuance of the permit to operate. URS successfully managed this task and the RMP was completed and approved in record time.

Risk Analysis for an Operating Refinery: Evaluated the environmental risks presented by an operating oil refinery located in Long Beach California for an insurance underwriter. A separate study included the environmental risk evaluation for a pipeline used in the transfer of petroleum products from the refinery to a marine terminal. This evaluation included a study of past problems, existing concerns and an evaluation of future risk based on these evaluations. Consideration of age of equipment safety measures, operating and maintenance procedures was required for the study.

Section Writer for Several Proposed Power Plant AFC (Fresno): The Panoche Energy Center (PEC) project is a Peaking and or Load Shaping project proposed for Fresno California. The AFC for the project was prepared for evaluation by the California Energy Commission (CEC) and the process is being assisted by a URS team of experts including Mr. Hussain. One of the major objectives of the PEC project is to respond to Pacific Gas & Electric's (PG&E) Long term Request for Offers (RFO) for Power Purchase. The load shaping products, such as the proposed PEC, provides purchasers with the ability and flexibility to deviate from their forecasted purchases of electricity caused by deviations between forecasted and actual retail load. Load Shaping products such as the PEC project typically have low annual capacity factors as they are only on-line at times of high electricity demands. Because of the nature of the project it is important that the economic model of the project be protected in our discussions with CEC. For this project, Mr. Hussain's role includes hazardous materials and water wastewater issues each part playing a significant part role in the overall economic model of the proposed plant.

Prepared the hazardous material section for the AFC for the Bullard Energy Center (BEC) project. The AFC is currently under review by the CEC. The section included an analysis of the use of $NH_4(OH)$ for the SCR. An Offsite Consequence Analysis (OCA) was conducted to determine the footprint of the hazard in the event of a worst-case accidental release from the ammonia storage tank. The OCA defined that a 0.1 mile circular area would be affected in the event of a worst case release scenario, in which all contents of the storage tank are accidentally released. In an effort to determine the potential for cumulative impacts, several facilities within the 0.1 mile vulnerability zone defined by the OCA were contacted to determine their use of hazardous materials onsite to develop a cumulative impact assessment for the BEC project. It should be noted that only the facilities within the 0.1 mile zone have the potential to provide cumulative impacts to the project. However as an added measure, additional establishments (located outside the vulnerability zone up to a 1 mile radius from the site of the BEC) were identified and contacted. None of the businesses identified through this investigation handle hazardous substances in quantities that would create a potential cumulative impact in combination with the BEC.

Application for Emergency Power Plant Installation: As part of the California Energy Commission's 21-day emergency approval process for peaker plants Wildflower Energy LP (Wildflower) proposed to install multiple units of a simple cycle peaking electric generation facility at various locations in California. Mr. Hussain was the principal consultant for hazardous material issues for Wildflower. The Indigo project was located in the city of Palm Springs. In Riverside County. The facility consisted of three LM6000 Enhanced Sprint gas turbine engines with a combined rating of 135 Megawatt (MW). The Indigo Energy Facility was one of the first such facilities to be approved for construction under the emergency program.

The Larkspur Energy Facility located in the Otay Mesa area of San Diego, California was the second such project completed by Wildflower. The County of San Diego Department of Environmental Health – Hazardous Materials Division (HMD) permits and approval was an essential component of the project approval project. Wildflower's planned effort to manage and minimize the risks associated with the storage and use of 10,000 gallons of aqueous ammonia, less than 20 % concentration by weight, at the Larkspur Energy Facility. Aqueous ammonia is the only CalARP-regulated substance to be used at the proposed Facility. The proposed Facility qualifies for a state-only RMP since more than 500 lbs. of aqueous ammonia will be stored on-site. The Facility does not qualify for the federal U.S. Environmental Protection Agency (USEPA) RMP (40 CFR 68). The federal RMP aqueous ammonia usage threshold is 20,000 lbs, which is greater than the aqueous ammonia amount that will be stored on-site. In addition, the federal RMP does not require an Offsite Consequence Analysis (OCA) for aqueous ammonia with a concentration less than 20% by weight.

Expert Witness, McColl Site, Fullerton CA, Multiple Oil Companies: Served as an expert witness on the McColl superfund site in California for two major oil companies. The opinions formed were regarding the origins of the McColl waste and the various chemical reactions taking in the pits, where refinery wastes were deposited over forty year ago. We took what was the chemical composition of the original waste and compared with what existed today. Modeled the chemical reactions taking place over 40 years and their interaction with soil conditions and came to the present day chemical compositions. This analysis confirmed what was discharged from the refineries and traced their origin. For another oil company conducted research on the possible chemical reactions taking place in the waste material deposited at the McColl Superfund site in California. The waste deposited in the pits originated from refinery operations during the second world war. Research was based on the type of refinery operations from which the waste could have originated and the nature of chemical reaction that could have taken place in the pits over a span of forty years. Other factors contributing to the nature and types of reactions were also considered.

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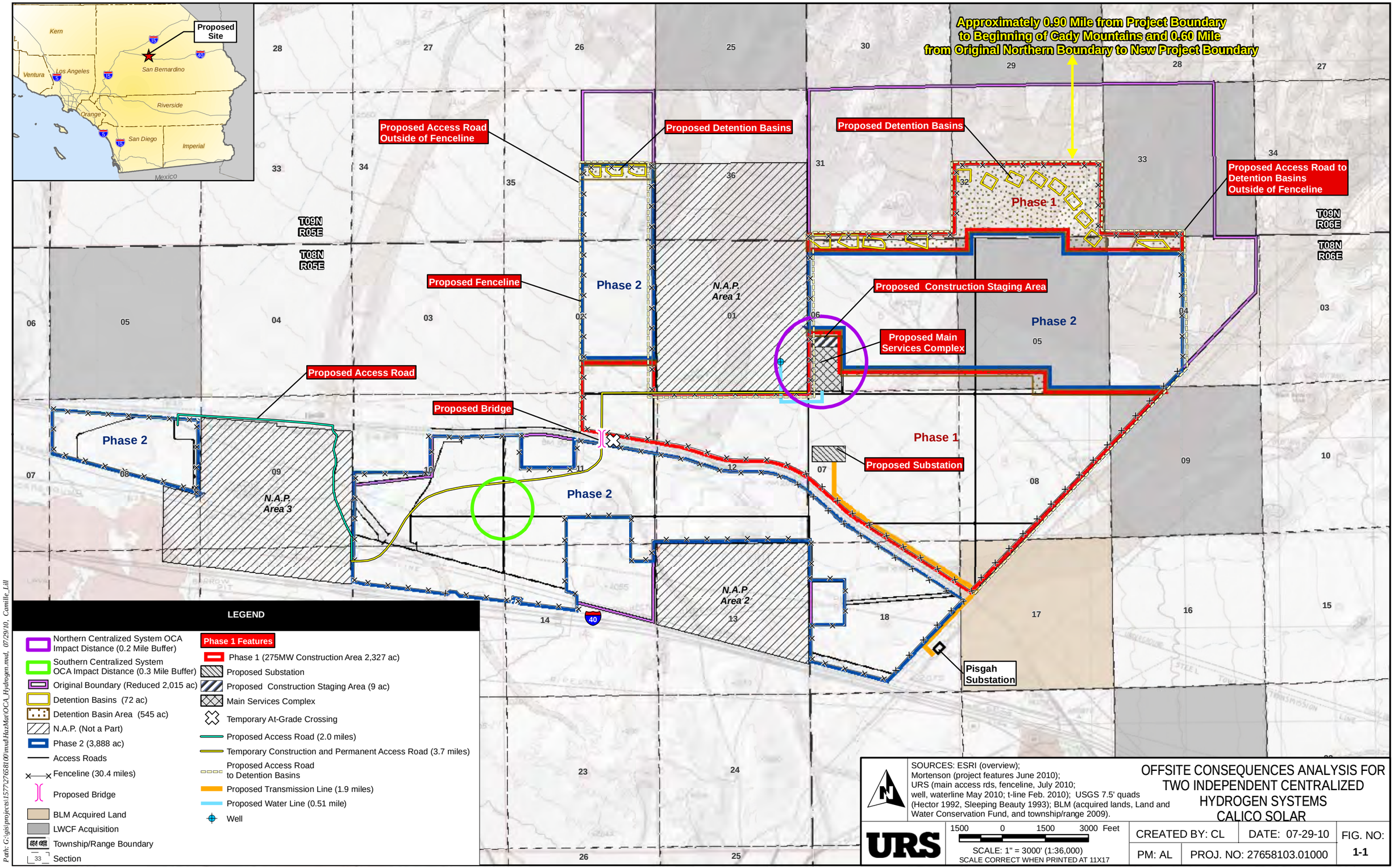
Exhibit 90
Attachment A



SOURCES: ESRI (overview); Mortenson (project features June 2010); URS (main access rds, fenceline, July 2010; well, waterline May 2010; t-line Feb. 2010); USGS 7.5' quads (Hector 1992, Sleeping Beauty 1993); BLM (acquired lands, Land and Water Conservation Fund, and township/range 2009).

OFFSITE CONSEQUENCES ANALYSIS FOR TWO INDEPENDENT CENTRALIZED HYDROGEN SYSTEMS CALICO SOLAR

URS

1500 0 1500 3000 Feet

SCALE: 1" = 3000' (1:36,000)

SCALE CORRECT WHEN PRINTED AT 11X17

CREATED BY: CL	DATE: 07-29-10	FIG. NO:
PM: AL	PROJ. NO: 27658103.01000	1-1

Path: G:\gis\projects\15772\76581000\mxd\HazMat\OCA_Hydrogen.mxd, 07/29/10, Camille_Lill

Exhibit 91

PREPARED REBUTTAL TESTIMONY

OF

Noel Casil

Transportation and Traffic

Q.1 Will you please state your name and occupation?

A.1 My name is Noel Casil and I am a Senior Transportation Engineer for URS Corporation. My resume has also been included with this testimony.

Q.2 Are you the same Noel Casil that submitted opening testimony in this case?

A.2 Yes.

Q.3 Are you sponsoring additional exhibits in this proceeding?

A.3 No.

Q.4 Are you aware of the request from BNSF to use the proposed permanent access road for both temporary and permanent access to the site?

A.4 Yes.

Q.5 Do you believe this change is significant or represents the potential for significant adverse impacts?

A.5 No. The change from the temporary access road to the permanent one, made at the request of BNSF, is a minor one. It does not result in any significant changes in off site traffic or transportation impacts.

Q.6 Does this complete your direct testimony?

A.6 Yes

I swear under penalty of perjury that this testimony is true and correct to the best of my knowledge.

July 29, 2010

_____ _____

Date Noel Casil

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
For the CALICO SOLAR (Formerly SES Solar One)

Docket No. 08-AFC-13

PROOF OF SERVICE
(Revised 6/14/10)

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DECLARATION OF SERVICE

I, Jennifer Draper, declare that on July 29, 2010, I served and filed copies of the attached Applicant's Rebuttal Testimony. 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/solarone].

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:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

_X_ sent electronically to all email addresses on the Proof of Service list;

____ by personal delivery;

_X_ by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

_X_ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-13
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

Original Signed By
Jennifer Draper

*indicates change