

Memorandum

Date: June 29, 2010
Telephone: (916) 654-4894

DOCKET 09-AFC-8

To: Vice Chair James D. Boyd, Presiding Member
Commissioner Robert B. Weisenmiller, Associate Member
Hearing Officer Kenneth Celli

From: **California Energy Commission** – Mike Monasmith, Senior Project Manager
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Sacramento, CA 95814-5512

DATE	<u>06/29/10</u>
RECD.	<u>06/29/10</u>

Subject: **ENERGY COMMISSION STAFF'S REBUTTAL TESTIMONY
GENESIS SOLAR ENERGY PROJECT (09-AFC-8)**

SUMMARY

Energy Commission staff is providing the following Rebuttal Testimony in the technical areas of Alternatives, Biological Resources, Soil & Water Resources, Waste Management and Worker Safety/Fire Protection. This testimony is organized as follows:

Section 1 – Alternatives, Testimony of Susan Lee

Section 2 – Biological Resources, Testimony of Susan Sanders

Section 3 – Soil & Water Resources, Testimony of Micheal Donovan

Section 4 – Waste Management, Testimony of James Thurber

Section 5 – Worker Safety / Fire Protection, Testimony of Dr. Alvin Greenberg

Witnesses have previously sworn to their testimony in these above-listed sections in the June 11, 2010 Genesis Revised Staff Assessment.

REBUTTAL TESTIMONY SECTION 1

ALTERNATIVES

APPLICANT

Q: Should the Section regarding the Advantages and Disadvantages of Dry Cooling (page B.1-28) be revised as stated by the applicant to achieve a more “objective” analysis?

A: The list of Advantages and Disadvantages of Dry Cooling (page B.1-18) were not specific to the proposed project; they were issues for dry cooling in general. The applicant is correct in that the Advantages and Disadvantages of Dry Cooling specifically for the GSEP should be further nuanced. The applicant is directed to the list of Advantage and Disadvantages that was already updated to be specific for the GSEP shown on page B.2-16. For example, where the applicant revised the first bullet point to be more objective as follows:

~~Dry cooling allows a power plant location to be independent of a water source. It has essentially no water intake or water discharge requirements.~~
Dry cooling would reduce the use of ground water and discharge requirements.

The updated list of advantages and disadvantages of Dry Cooling (page B.2-16) revised this bullet point to be more objective as follows:

Dry cooling allows a power plant location to be less dependent on a water source. It would allow the use of less water and would reduce operation use of water from 822 AFY to approximately 66 AFY per 125 MW power block in a water-constrained environment (GSEP 2009f).

It should be noted that the dry cooling alternative would reduce the operating water use of the project by over **90** percent.

TOM BUDLONG

Q. Do the provisions of the National Environmental Policy Act (NEPA) apply to the Energy Commission’s Staff Assessment or decision making process?

A: No. NEPA applies to federal agencies that make discretionary, regulatory decisions on projects. The Staff Assessment/Draft Environmental Impact Statement was a joint NEPA and CEQA document. Now that the Energy Commission staff is preparing a Revised Staff Assessment, the Energy Commission staff uses an approved process equivalent to the California Environmental Quality Act, defined on the Commission’s website (at http://www.energy.ca.gov/public_adviser/site_certification_process.html):

The Commission's regulatory process, including the evidentiary record and associated analyses, is functionally equivalent to the preparation of an Environmental Impact Report. (Pub. Res. Code, § 21080.5.) During certification proceedings, the Commission acts as lead state agency under the California

Environmental Quality Act (CEQA). (Pub. Res. Code, §§ 25519 (c), 21000 et seq.

Q. Is the alternatives analysis too restrictive, eliminating consideration of other possible combinations of alternative sites and technologies?

A: No. CEQA requires consideration of a reasonable range of alternatives that meet the CEQA screening criteria [see CEQA Guidelines Section 15126 (a)]. CEQA does not require consideration of all potential alternatives to a proposed project. The consideration of alternatives is based on the goal of reducing or eliminating the significant impacts of the project as proposed.

REBUTTAL TESTIMONY SECTION 2

BIOLOGICAL RESOURCES

Energy Commission Staff Rebuttal Testimony – BIOLOGICAL RESOURCES

This testimony responds to the Applicant's Revised Opening Testimony regarding desert tortoise mitigation.

Q. Genesis Solar, LLC believes that under NECO the compensatory mitigation for desert tortoise habitat impacts should be zero because the 1,749 acres impacted by the Project is not "categorized" by BLM, and no sign that desert tortoises use the site was detected during protocol surveys. The applicant provided a desert tortoise habitat assessment and mitigation approach in their *Proposal for Desert Tortoise Mitigation: A Habitat-Based Approach for the Genesis Solar Energy Project*, indicating that only 904 acres of the project site is suitable or marginally suitable for desert tortoise, and proposed mitigation based on that assessment. Do you agree with this habitat assessment and proposed mitigation?

A. Staff does not agree, and stands by the desert tortoise impact assessment described in the Revised Staff Assessment, and with proposed compensatory mitigation at a 1:1 ratio for impacts to 1,749 acres, and at a 5:1 ratio for impacts to 23 acres of critical habitat. Staff based the evaluation of desert tortoise habitat at the Genesis site in part on consultation with desert tortoise experts at the US Fish and Wildlife Service (USFWS), California Department of Fish and Game, and BLM. Since the RSA was published, the USFWS provided information in a written form which articulates their assessment of desert tortoise habitat at the Genesis site. Staff has included this information as **Biological Resources Rebuttal Testimony Attachment A: USFWS Memo – Desert Tortoise Habitat Assessment Genesis Solar Energy Project**.

Biological Resources Rebuttal Testimony Attachment A

USFWS Memo – Desert Tortoise Habitat Assessment
Genesis Solar Energy Project

Memo to File

Site visit date: March 24, 2010
Participants: USFWS - Pete Sorensen, Tannika Engelhard, Jody Fraser, Joel Pagel; BLM - Mark Massar
Site visit notes: Tannika Engelhard, Pete Sorensen, Jody Fraser, Joel Pagel
Site visit purpose: Conduct a qualitative assessment of desert tortoise habitat quality on the Genesis Solar project site.

Based on a March 24, 2010, field visit to project site by BLM and FWS biologists, to review the “tortoise habitat”, “marginally suitable habitat” or “not habitat” site mapping classifications in the applicant’s February 25, 2010, report by Dr. Alice Karl (Solar Genesis 2010), and a similar evaluation by BLM and CDFG biologists conducted several weeks earlier, we have evaluated the Solar Genesis site as follows:

Background

As discussed in the March 26, 2010, final SA/draft EIS for this project, BLM, CEC, CDFG, and USFWS do not consider this site to be high quality; however, all four agencies consider the entire site (minus the sand dunes) to be suitable desert tortoise habitat. During several CEC public workshops for this project, the USFWS has stated that this determination of suitable habitat is based on the documented presence of tortoise sign on site (shell fragments) and off site (burrows, tracks, and carcasses), and similar habitat characteristics with adjoining occupied habitat. The tracks were found less than 0.5 mi from the project site and the carcasses were found less than 5 mi from the project site, both well within the dispersal range of the species. The USFWS has also stated that the site is considered suitable based on the presence of habitat characteristics, including creosote bush scrub, herbaceous forage plants, and sandy-fine gravel soils, required by the species for feeding, breeding, and sheltering, or movement between occupied areas in the vicinity of the proposed project. And, during the public workshops, the USFWS has stated that it is not appropriate to assume an area does not provide suitable habitat based on a single snap shot in time since the habitat quality, particularly as it relates to food resources, is so heavily tied to rainfall. In addition, the USFWS’ desert tortoise survey protocol employed by the biological consultants was designed to yield estimates of the number of tortoises potentially affected by projects but not to determine definitive presence/absence, which would require multiple surveys for low-detection species like desert tortoise.

On behalf of Genesis Solar, Dr. Alice Karl conducted a qualitative assessment of desert tortoise habitat value on February 17, 2010, identifying areas of the project site as “tortoise habitat”, “marginally suitable” or “not habitat”. The results of the assessment were detailed in a written report submitted by Genesis Solar to the BLM, CEC, CDFG, and USFWS on February 25, 2010 (Solar Genesis 2010). In response to this assessment, USFWS and BLM biologists conducted a separate qualitative habitat assessment to determine the appropriateness of the habitat delineations by Dr. Karl.

Methods

The USFWS/BLM qualitative assessment of desert tortoise habitat value was conducted by walking an arc through the 1,890-acre proposed solar project site, from west to east,

through each type of habitat identified in the Genesis Solar report. The USFWS/BLM assessment was based on the observations and expert opinions of the USFWS and BLM biologists involved since no quantitative habitat data were gathered by the consultant or agencies during their site visits. The assessment route, which began at approximately 9:30am and was concluded at approximately 3:30pm, was recorded using a Trimble GPS unit. The day was sunny with a few patchy clouds. The air temperature was approximately 80 °F and the wind was light with mild occasional gusts (not strong enough to create dust in the air). Photos were taken at various points along the route to record the current habitat conditions on site (see attached photos). Biologists on the site visit included Mark Massar (BLM), and Jody Fraser, Tannika Engelhard, Joel Pagel, and Pete Sorensen (USFWS).

Observations

Though patchy with some coarser sand and small gravel on a micro-scale, soils along the transect route were uniformly friable and dominated by a silty-sandy matrix that became sandier toward the dunes. Kangaroo rat burrow complexes were abundant and uniformly distributed throughout the site, and larger, deeper burrows (probably kit fox and badger) were commonly found; several abandoned burrowing owl complexes and burrowing owl boluses also were found. The widespread burrowing by numerous species indicated that soils throughout the site are suitable for desert tortoise burrows as well.

Observations also included a few patches of rabbit scat, but no cottontails or jack rabbits were found; other wildlife observed were:

- (1)
- Though no live side-blotched lizard (many)
- western whiptail (many)
- zebra-tailed lizard (many)
- desert horned lizard (1)
- prairie falcon (2) (male and female)
- northern harrier (1)(female)
- red-tailed hawk (2)

turkey vulture desert tortoise and limited sign (burrows, scat, carcass, and shell fragments) were observed, purpose of the site visit was to conduct a habitat suitability assessment, not to look for sign itself.

Only subtle differences were detectable between areas delineated in the Genesis Solar report as “tortoise habitat”, “marginally suitable” or “not habitat”. “Not habitat” was not obviously different in terms of forage species densities, soils, and creosote scrub (shrub height, density and species composition), from “marginally suitable” habitat. If the “tortoise habitat” may be somewhat higher in density of creosote scrub and greater diversity of shrub species relative to “marginally suitable” and “not habitat” areas, as noted in the consultant’s report, overall site variability and patchiness made it difficult to observe such distinctions. Regardless, various forage species usable by desert tortoise

were available along the transect route, including, but not limited to: *Plantago ovata* (desert plantain), *Cryptantha* spp. (cryptantha), *Hesperocallis undulata* (desert lily), *Abronia villosa* (sand verbena), *Cammasonia* spp. (primrose), and *Mimulus* spp. (monkey flower). *Plantago* and *Cryptantha* were by far most abundant.

Surprisingly, virtually no weeds were observed on the visit, though the site was heavily disturbed for desert warfare training during WWII. Tank tracks were still visible in places, as evidenced by more exposed soil and lower densities of native annual plants within the tracks, but overall, disturbance from 70 years ago has healed nicely, with mature creosote now growing in the tank tracks. Considerable refuse (cans and boxes) from historical military tank-training bivouacs were also visible throughout the site. Non-native species observed were (1) two species of mustard (*Brassica* spp. and *B. tournefortii*), which were widely scattered at very low densities to loosely patchy in a few places but never abundant or dominant, except off site in the sandier soils east of the project; and (2) a few individual *Schismus* spp. grasses found in only two locations. Though these weeds are abundant in neighboring locations, with seeds expected to blow onto the site by frequently strong winds, they did not appear to be gaining a foothold. Given the virtual carpet of native annuals (see above and attached photos), forage conditions for desert tortoise were excellent.

Notes on Dr. Karl's habitat delineations

According to the report (Genesis Solar 2010), Dr. Karl's habitat delineations were based on shrub species richness, shrub density and dominant shrub height, the presence of drainages, and soil consistency and texture. However, based on the report, it appears that none of these variables were measured across the project site in a manner that would allow for quantitative or statistical analysis. Also, it's our understanding from Mark Massar and Magdalena Rodriguez (CDFG), both of whom accompanied Dr. Karl on the February 17, 2010, assessment, that these variables were only casually observed at several locations on site, and that no actual measurements were taken.

While we agree that the overall habitat quality on site is low, older and relatively recent desert tortoise sign found by the consultant indicates the site has supported the species in the past. The consultant's age estimates for some of the sign is speculative/unreliable, considering tortoise sign can not be accurately aged (R. Averill-Murray, *in litt.* 2010). The desert tortoise is a habitat generalist that occupies many types of desert conditions across its vast range; onsite conditions fall within the range of habitat variability known to support the species, including equivalent value habitat off site where recent tortoise tracks have been documented. As stated in the Genesis Solar report, areas surrounding the project site support habitat that is "consistent with occupied habitat" as indicated by the presence of burrows and a set of tracks. Since low densities of tortoises are known to use adjoining areas within normal movement ranges from the project site, several individuals could be exploiting the currently abundant forage conditions on site.

Overall, we found no support for the conclusion in the Genesis Solar report that portions of the site were not tortoise habitat. In addition to being suitable habitat for feeding, breeding, or sheltering, the project site, including areas identified in the Genesis Solar report as "not habitat", could be (1) used by desert tortoise moving to or from occupied

habitat surrounding the project site, (2) currently occupied at a low level of detectability, and/or (3) reoccupied by adult tortoises or their progeny from adjoining occupied areas.

REFERENCES

Genesis Solar 2010. Tetra Tech/E. Festger (tn: 55691) Alternative Proposal for Desert Tortoise Mitigation: A Habitat-Based Approach. An unpublished report submitted on behalf of Genesis Solar, LLC. 2/25/2010.

****Note - the “Points” indicated on the following photos reference points on the attached figure titled “USFWS/BLM Habitat Assessment for the Genesis Solar Project. March 24, 2010”.**

Points 1 to 3 in “marginally suitable” habitat (as delineated by Dr. Karl)



POINT 1



POINT1



POINT 2



POINT 3

Points 4 to 7 in “not habitat” (as delineated by Dr. Karl)



POINT 4



POINT 5



POINT 6



POINT 7



Point 8 in “marginally suitable” (as delineated by Dr. Karl)



Facing west into “marginally suitable”



Facing southeast into “not habitat”

Point 9 in "tortoise habitat" (as delineated by Dr. Karl)
Facing west into "tortoise habitat"



Facing north into "tortoise habitat"



Facing north and northeast into "tortoise habitat"

Point 9 in "tortoise habitat" (as delineated by Dr. Karl) (con't)
Facing east into "tortoise habitat"



Facing south into "tortoise habitat"

Point 10 in "tortoise habitat" (as delineated by Dr. Karl)
Facing west into "tortoise habitat"



Facing northwest into "tortoise habitat"





Facing east into “marginally suitable”

Facing southeast into “marginally suitable” and “not habitat”



Facing south into “not habitat”



REBUTTAL TESTIMONY SECTION 3

SOIL & WATER RESOURCES

This testimony responds to certain technical and regulatory Soil and Water Resources issues raised by the applicant and the following intervenors: Center for Biological Diversity (CBD) and California Unions for Reliable Energy (CURE). Rebuttal testimony is organized by issue raised, exhibit number, or both. Staff has not attempted to answer questions or issues that should be responded to by the applicant. The intervenors issues and questions have been rewritten as necessary for clarity and brevity.

Center for Biological Diversity (CBD)

- a. The applicant's Groundwater Resources Investigation (GWRI) and Revised Staff Assessment water balance and perennial yield for the Chuckwalla Valley are incorrect and overestimates some water balance components.

Response: Energy Commission staff agree that the applicant's GWRI overestimated recharge from precipitation to the Chuckwalla Valley Groundwater Basin (CVGB) balance. Energy Commission staff recalculated the mountain front recharge based on a 3 percent of total average precipitation in the CVGB. Recent studies in an adjacent groundwater basin to the north have indicated recharge values of between 3-5 percent of the total precipitation. Whitt and Jonker (1998) estimated that the annual recharge from precipitation to the Joshua Tree groundwater sub-basin (located to the west) was 975 acre-feet (AF), on the basis of a percentage (2.8 to 5 percent) of the total precipitation falling on the Quail Springs watershed.

Energy Commission staff believe recharge from precipitation (mountain front recharge) values presented in the Revised Staff Assessment (RSA) are representative of average natural recharge in the CVGB.

- b. The Groundwater Model is insufficient to predict the impacts of this project.

Response: Staff stated in the RSA that *"the calculations and assumptions used to evaluate potential groundwater level impacts are imprecise and have limitations and uncertainties associated with them such that the magnitude of potential impacts that could occur cannot be determined precisely."* Recognizing these uncertainties, staff included a groundwater level monitoring, mitigation and reporting Condition of Certification to ensure that the Project's proposed use of groundwater does not significantly impact the existing well users in the CVGB in the vicinity of the project. Condition of Certification **SOIL&WATER-2 – Groundwater Level Monitoring, Mitigation and Reporting** details specific monitoring requirements of the proposed plan along with specific mitigation measures related to adverse impacts that may occur to existing wells.

- c. Potential Impacts to the Colorado River – All pumpage from the project will eventually be lost to the Colorado River

Response: Staff recognized that there was a potential indirect impact to the Colorado River from reduced underflow from the CVGB to the Palo Verde Mesa Groundwater Basin (PVMGB), which in turn could induce additional flow from the Colorado River into the PVMGB. Staff included Condition of Certification **SOIL&WATER-15 – Mitigation of Colorado River Impacts** that requires the applicant to mitigate project impacts to the Colorado River. Specifically, the applicant would be required to develop a Water Supply Plan that identifies the activity and water source that will replace 50,590 acre-feet under a wet-cooled Project alternative or 8,500 acre-feet under a dry cooled Project alternative, over the life of the project.

Staff also recognized that there was a potential that not all of the groundwater extracted for the project would result in an indirect impact to the Colorado River from reduced underflow from the CVGB to the PVMGB. There was a potential that a reduction in storage in the groundwater basins. RSA **SOIL&WATER-19** was developed to permit the applicant to refine the estimates of the amount of subsurface water flowing from the Colorado River due to project basin groundwater pumping used for determining the appropriate volume of water for mitigation in accordance with **SOIL&WATER-15** using a numerical groundwater model.

California Unions for Reliable Energy (CURE)

- a. The Project Would Result in Potentially Significant Unmitigated Impacts to CVGB Balance

Response: Staff evaluated the potential impact to the basin balance from the proposed project; this evaluation is included in **Soil and Water Resources Table 15**. The proposed project would not have a significant impact on the basin balance as the Net Budget Balance would be positive for all construction and operational scenarios assuming average conditions. Assuming that no recharge occurred during the entire period of operation (an unlikely event), the maximum expected production 50,590 acre-feet would be less than 0.3 percent of the total groundwater in storage in the CVGB.

With respect to the cumulative projects, the RSA evaluated foreseeable projects (see **Soil and Water Resources Table 22**) during the anticipated 30-year life of the project plus construction. Water use varied from 1,526 acre-feet per year to over 10,000 acre-feet per year. **Soil and Water Resources Table 23** presents the estimated change to the CVGB balance during the construction and 30-year operational life (assuming average year conditions). The cumulative budget balance at the end of the operational period (year 2043) would be 56,212 acre-feet or approximately 0.375 percent of the total groundwater in storage in the CVGB.

For some managed groundwater basins, it is not unreasonable to use a percentage of the existing storage as a working storage to buffer periods when demand exceeds inflows. This “operational or working storage” is generally about 5-10 percent of the total available groundwater in storage, and well above what we expect from this project.

- b. The Project Would Result in Potentially Significant Impacts to Groundwater Supply for Both Existing Uses and Proposed Projects in the CVGB

Response: Condition of Certification **SOIL&WATER-2** requires preparation of a Groundwater Level Monitoring and Reporting Plan. The requirements do not limit the monitoring program to only existing wells. In addition, the monitoring program will be evaluated at the end of five years to assess whether parts of the program should be revised or eliminated. Since the primary intent of the program is to assess potential impacts to existing well users, the absence of a well in given area would negate any proposed impact to a well user.

- c. The Project Would Result in Significant Unmitigated Impacts to the PVMGB and Colorado River

Response: The RSA Condition of Certification **SOIL&WATER-15** requires development of a Water Supply Plan that includes water conservation projects such as use of ZLD systems, payment for irrigation improvements in Palo Verde Irrigation District, purchase of water rights within the Colorado River Basin that will be held in reserve, and/or participation in BLM's Tamarisk Removal Program. To support the fact that water conservation measures are available, an example of a Tamarisk Removal Program was provided in the RSA. The example indicates that removal of 33 acres of a mixture of mature and immature trees would be equivalent to a savings of 1,610 acre-feet year and that in the area near the proposed project over 26,000 acres of salt cedar (Tamarisk). A Tamarisk Removal Program would only be required to remove 27 acres of mature trees or 33 acres of a mixture of mature/immature trees to achieve a water savings of over 1,600 acre-feet per year. Correspondingly, there is more than sufficient salt cedar land cover type for the Project owner to implement a water conservation mitigation program using tamarisk removal.

- d. Supplemental Efforts Necessary to Adequately Analyze and Mitigate Impacts to Water Resources

Response: Staff would welcome any additional analysis to assist in refining the potential impacts to the Soil and Water Resources aspect of the Genesis Project. However, staff feels that the analysis conducted and the Conditions of Certification included in the RSA adequately address potential Soil and Water Resources impacts and mitigation measures.

- e. The potential hydrological effects of the western portion of the installation on vegetation downstream (south) of the Project

Response: Dr. Okin states: "Thus, it is my opinion that the Project's diversion of flow from small ephemeral channels would result in significant offsite impacts to vegetation that have not been adequately addressed by the RSA."

Dr. Okin's opinion appears to be based on the understanding that the applicant's proposed drainage plan will resemble the drainage plan used on Interstate 10 (I-10) and referred to in Appendix E. At the time that Appendix E was written (February 26, 2010) the applicant's drainage plan did indeed resemble the I-10 drainage plan, with

large areas of fan being intercepted and concentrated into a small number of channels. However, the applicant's plan was subsequently revised and this potential referenced reach is no longer analogous. The final plan (referred to in the main body of the RSA) is for concentrated flow from the upstream boundary to be dispersed along the project's downstream boundaries via a series of dissipaters located approximately every 100 feet (similar to the frequency of channels intercepted along the upstream boundary). While we do not expect the system to perfectly mimic natural conditions we expect the revised plan to reduce impacts to less than significant levels.

- f. The potential effects of the western portion of the installation on erosion and soil mobilization from the Project

Response: Dr. Okin disagrees with the Applicant and the RSA report regarding the origin of the Qal deposits on which much of the proposed project sits, and hypothesizes that the Qal was formed by dust and sand accretion under a gravel cover rather than removal of dust and sand to leave a gravel 'lag'. The necessary geochemical studies to confirm either theory for the formation of the Qal at the project site have not been conducted so at this point its origins remain speculative by the applicant, Energy Commission staff and Dr. Okin, though the hypothesis he presents is certainly feasible. As Dr Okin states, the mode of formation does not fundamentally alter the RSA's statement that the Qal has been stable for thousands of years. In turn I would agree with Dr. Okin's statement that the fine sand and dust beneath the gravel surface is vulnerable to wind erosion following mechanical disturbance and grading.

The applicant and the Energy Commission staff assume that the project site itself will be completely impacted by development, so the focus of our work has been on assessing potential off site impacts such as sand being transported downwind. Sand transport requires an available sand source and enough wind speeds to initiate the transport processes of rolling, saltation and suspension. Each takes place successively further from the ground and each requires progressively more wind energy. Approximately 25 percent of sand transport takes place along the ground surface as rolling or traction processes, with approximately 75 percent occurring as saltation (bouncing), mostly within 6 feet of the ground. Because of their size and weight, sand particles are rarely suspended for great distances, though suspension is the primary transport process for dust particles. The solar arrays will to some extent act as wind fences or friction elements, reducing wind velocities along the ground in the array area and reducing entrainment of sand particles. In addition, the applicant proposes constructing a wind fence around the property, which should intercept the vast majority of sand being eroded from the graded areas and prevent it from passing downwind. There should not be a downwind impact from eroded sand (indeed, a major focus of the RSA has been on the potential for the project to cut off sand supplies to downwind habitat areas which are sand-dependent.)

With respect to potential soil stabilization during construction and operations, Condition of Certification **SOIL&WATER-1** requires the development of a Drainage Erosion and Sedimentation Control Plan (DESCP). The DESCP requires soil wind and water erosion control. The DESCP shall address:

“exposed soil treatments to be used during construction and operation of the proposed Project for both road and non-road surfaces including specifically identifying all chemical based dust palliatives, soil bonding, and weighting agents appropriate for use at the proposed Project site that would not cause adverse effects to vegetation. BMPs shall include measures designed to prevent wind and water erosion including application of chemical dust palliatives after rough grading to limit water use. All dust palliatives, soil binders, and weighting agents shall be approved by the CPM prior to use.”

In addition, the applicant will be required to develop a closure and decommissioning plan (see Condition of Certification **SOIL&WATER-14**) prior to site mobilization where the applicant will be required to:

“develop specific decommissioning plans for each scenario that will identify actions to be taken to avoid or mitigate long-term impacts related to water and wind erosion after decommissioning.”

Staff believes that these plans and measures will mitigate potential impacts related to wind erosion to below the level of significance.

Applicant for the Genesis Solar Power Project – NextEra

- a. Chuckwalla Valley Groundwater Basin and Palo Verde Mesa Groundwater Basin is distinct from the Colorado River, geologically, hydrologically, and legally.

Response: The legal framework for apportionment of waters of the Colorado River was originally set forth in the Colorado River Compact of 1922. Water in the lower Colorado River is apportioned among the States of California, Arizona, and Nevada by the Boulder Canyon Project Act of December 21, 1928 (U.S. Congress, 1948, p. A213–A225) and was confirmed in 2006 in the Consolidated Decree (U.S. Supreme Court, 2006) after the Blythe II Commission hearing. The Consolidated Decree is specific about the responsibility of the Secretary of the Interior to account for consumptive use of water from the mainstream. Consumptive use is defined to include “water drawn from the mainstream by underground pumping.” In 2008, the USGS (Wiele et al., 2008) prepared a report titled “Update of the Accounting Surface Along the Lower Colorado River.” As part of that analysis they clearly demonstrated that the “river aquifer” as stated in the 2006 Supreme Court decree extends into the tributary washes of the Colorado River as diagramed here:

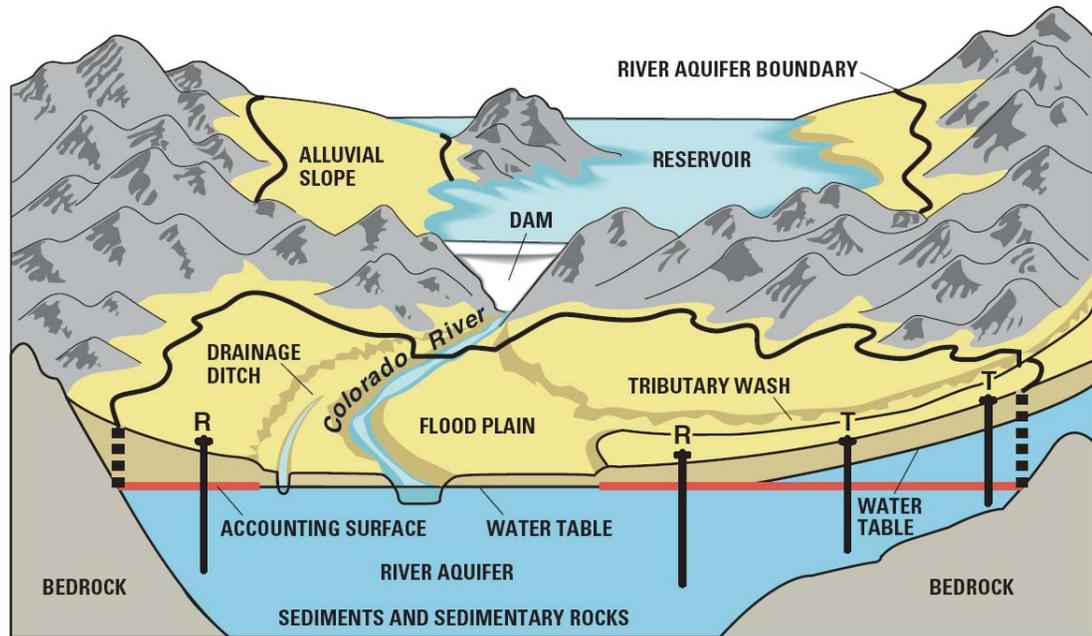


Figure 2. Schematic diagram showing the river aquifer and accounting surface (red line) of the lower Colorado River. Wells labeled “R” have a static water-level elevation equal to or below the accounting surface and are presumed to yield water that will be replaced by water from the river. Wells labeled “T” have a static water-level elevation above the accounting surface and are presumed to yield water that will be replaced by water from precipitation and inflow from tributary valleys (Modified from Wilson and Owen-Joyce, 1994).

The USGS (Wiele et al., 2008) report went on to state that:

“Ground water in the river aquifer beneath the flood plain is considered to be Colorado River water regardless of water levels. Water pumped from wells on the flood plain is presumed to be river water and is accounted for as Colorado River water.”

The USGS (Wiele et al., 2008) later stated:

“The accounting surface extends outward from the edges of the flood plain or a reservoir to the subsurface boundary of the river aquifer.”

That concept is clearly indicated in the above figure and in Figure 6 below. The concept of distance from the Colorado River had no bearing on whether the underlying groundwater was indicated as part of the “river aquifer.”

The USGS characterized the “river aquifer” as:

“The river aquifer consists of permeable, partly saturated sediments and sedimentary rocks that are hydraulically connected to the Colorado River so that water can move between the river and the aquifer in response to withdrawal of water from the aquifer or differences in water-level elevations between the river and the aquifer. The subsurface limit of the river aquifer is the nearly impermeable bedrock of the bottom and sides of

the basins that underlie the Colorado River valley and adjacent tributary valleys, which is a barrier to ground-water flow.”

Again, the USGS (Wiele et al., 2008) reference Figure 6 below as identifying areas encompassed by the “river aquifer.” Consequently, any well in the Palo Verde Valley Groundwater Basin is considered to be taking Colorado River water regardless of water level and wells extracting water in the Chuckwalla Valley Groundwater Basin and Palo Verde Mesa Groundwater Basin are extracting water from the “river aquifer.”

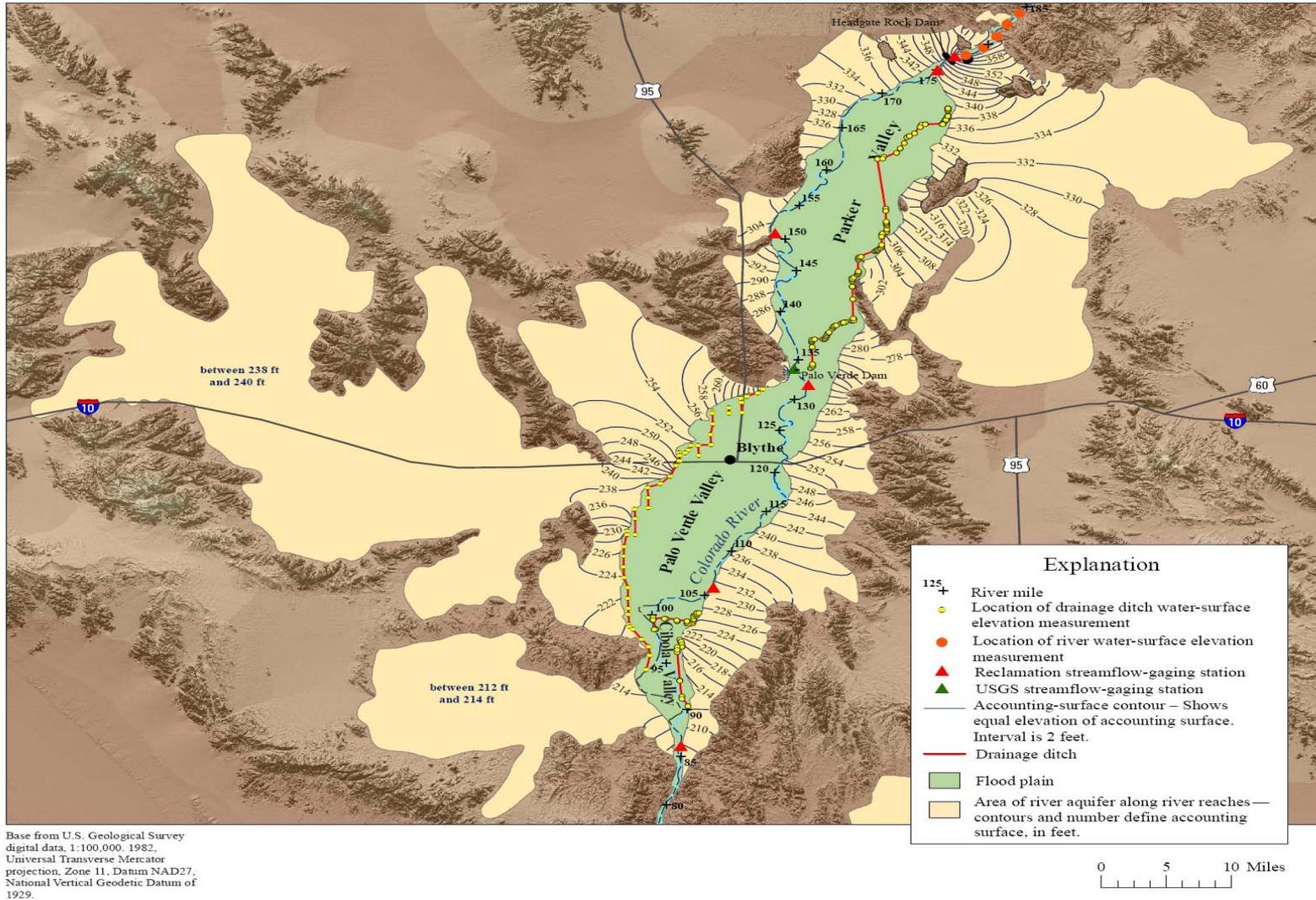


Figure 6. Map showing the accounting surface in Parker, Palo Verde, and Cibola Valleys and adjacent tributary areas in Arizona and California.

- b. The project's use of groundwater will have no measurable effect on surface waters of the Colorado River, and will not reduce supplies available to Colorado River surface water users.

Response: From the Blythe Solar Power Project (BSPP) Applicant's response to CEC Staff Data Requests 166-229 dated January 6, 2010; DR-S&W-179 (AECOM, 2010). CEC staff requested:

"Please conduct a more thorough analysis of the groundwater recharge/discharge that is likely occurring in the Palo Verde Mesa Groundwater basin. Please provide a table with estimates either by reference or by actual calculations of the estimated amount of recharge/discharge that is occurring. Anticipated recharge can be calculated using a procedure described in Hely & Peck (1964). The analysis should use isohyetal maps of average annual precipitation overlaid on the basin boundaries. Several factors (2, 5, & 10%) should be applied to the calculated volume to give a range of anticipated recharge."

In response to "Recharge from underflow from the Colorado River" the BSPP Applicant responded (AECOM, 2010):

"As provided in the August 2009 BSPP AFC, geochemical and water level data indicate that groundwater from outside the basin is flowing into the area as flux from the Colorado River. The USBR in their analysis of the accounting surface has concluded that groundwater below the Project site is in communication with the Colorado River. Geochemical data show that there is a gradual mixing of water from the river to the west and into the Project site as TDS concentrations progressively increase away from the River. An estimate of groundwater flux from the River into the Palo Verde Mesa Groundwater Basin was made using a simple underflow calculation and Darcian flow across a cross sectional area at the upper portion of the basin (see AFC Figure 5.17-7). The aquifer was assumed to extend a distance of 19,000 feet perpendicular to flow and at a depth of 600 feet below the water table at this location. Using the average transmissivity of 26,000 ft²/day from Leake et al. (2008) and a groundwater gradient of 0.0003 ft/ft from measurements taken in 2000 (AFC Figure 5.17-7), the groundwater flux across this area is approximated at 1,241 acre-feet per year."

The BSPP Applicant (AECOM, 2010) went on to state under "Water Balance":

"As noted, in the AFC and in this DR response, the significant recharge from the Colorado River underflow is the primary mechanism for recharge to the basin along with inflow and agricultural return. Recent historic water level data indicate relative stability within the basin, and published reports suggest that the shallow aquifer discharges to surface water returning water to the River. Given the proposed amount of water usage, and the buffering effect of the River, the proposed Project water use is not significant and would not significantly impact storage within the Palo Verde Mesa Groundwater Basin."

The BSPP Applicant also states in the Hydrogeologic Investigation Report (S&W Attachment C from AECOM, 2010) dated January 2010 in support of the AFC stated:

“Sources of recharge to the groundwater reservoir in the Palo Verde Mesa and surrounding area are the Colorado River, precipitation, and underflow from bordering areas (Metzger and others 1973). The Colorado River recharges the aquifers directly by seepage in some reaches and indirectly by diversions from the Colorado River in the form of seepage from canals and irrigated land.”

As stated in the Genesis RSA, there is subsurface outflow from the CVGB to the PVMGB of approximately 400 afy. Worley-Parsons (2009) indicated that at the end of operations, the outflow would have changed as a result of groundwater extraction from 400 afy to 71 afy reducing outflow by 329 afy. As previously indicated, if the Colorado River acts a buffer to inflows/outflows to the PVMGB, it is reasonable to assume that the reduction in the outflow from the CVGB to the PVMGB will be made up at least in part by inflow from the Colorado River.

The Genesis Applicant uses Blythe Energy Projects (BEP) I & II as examples of the Energy Commission understanding of the interrelationship between surface water and groundwater. Specifically (CEC, 2005) that the “Commission finds that Palo Verde Mesa groundwater and Colorado River water are legally distinct.” However, this determination was made before the Consolidated Decree (U.S. Supreme Court, 2006) and before additional investigations/assessments made by the U.S. Geological Survey concerning an update of the accounting surface (Wiele et al., 2008). Moreover, the U.S. Bureau of Reclamation attempted to promulgate a rule (USBR, 2008) that was later withdrawn that would have defined what constituted the taking of Colorado River water from the “river aquifer.” Discussions with the USBR indicate that they are again considering a proposed rule. Staff recognizes that there is no LORS in effect regarding withdrawal of groundwater that is connected to the Colorado River. However, the connection between the Colorado River and groundwater in the CVGB and the PVMGB has been established (see previous testimony) and the citing of previous Commission findings issued prior to the decree does not negate the potentially significant impact to the Colorado River from groundwater extraction at the project site.

The Genesis applicant also cited that the PVID asserted in a letter dated September 16, 2003 that the groundwater extracted by the Blythe II project would be accounted in its diversions from and to the Colorado River. PVID went on to indicate that the amount diverted was not within the measurement accuracy of its diversion structure from and to the Colorado River. Staff agrees that for Blythe II, which lies within the PVID district boundaries, groundwater pumped for Blythe II would likely be accounted for in PVIDs diversions from and to the Colorado River. However, the GSEP lies outside of the PVID’s jurisdiction and PVID has not asserted that GSEP groundwater withdrawals would be accounted in PVID’s diversions from and to the Colorado River.

REFERENCES

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REBUTTAL TESTIMONY SECTION 4

WASTE MANAGEMENT

This rebuttal testimony responds to certain requested changes to the Conditions of Certification raised by the applicant and presented into the record as "Applicant's Revised Opening Testimony" on June 24, 2010

The applicants requested revisions and questions have been rewritten as necessary for clarity and brevity.

Issue: CONDITION OF CERTIFICATION WASTE-2

Genesis requests the following language be added (deleted) for clarification.

WASTE-2 The project owner shall provide the resume of an experienced and qualified professional engineer or professional geologist, who shall be available for ~~additional characterization (if needed),~~ demolition, excavation, and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies. The professional engineer or professional geologist shall be given authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil and impact public health, safety and the environment.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the resume to the CPM for review and approval.

Response: The professional engineer or geologist shall be available to oversee any additional site characterization if necessary due to discovery of hazardous materials/waste during grading or excavation. Site characterization would be implemented to determine contaminant concentrations, volumes of materials and appropriate remedial measures, rather than continuing with demolition, excavation, and grading as the only remedial measure. Suggested change does not satisfy the intent of **WASTE-2**.

Issue: CONDITION OF CERTIFICATION WASTE-8

As Staff correctly identifies, there are no applicable LORS that would require the GSEP to comply with this condition. Additionally, the GSEP will not impact local landfills and therefore this condition is not necessary to mitigate any project related impacts and should be deleted.

Response: **WASTE-8** provides for a recycling/reuse plan with a goal of 50% to recycle construction and demolition waste in accordance with the Riverside County Integrated Waste Management Plan and is identified in the LORS section. The GSEP project is required to complete the Riverside County Waste Management Department (RCWMD) Construction and Demolition Waste Diversion Program Reporting Form C (GSEP 2009f, page WM-6). RCWMD and staff will require the applicant to meet the 50 percent waste diversion rate.

Issue: CONDITION OF CERTIFICATION WASTE-10

This condition requires ALL spills to be reported. To prevent the onerous reporting of every drip and leak from every connector or valve, the condition has been modified to require reporting of spills above EPA's reportable quantities (RQ) limits. The verification has also included the words "during construction and on the property during operation" since the Project owner will not be operating the liner facilities therefore will have no knowledge or control over these activities. Accordingly, Applicant requests the following modification and language be added for clarification.

Response: **WASTE-10** requires the project owner to submit to the CPM and DTSC for approval that HTF contaminated soil is considered hazardous or non-hazardous under state regulations, rather than rely on DTSC approval previously applied to other projects. **WASTE-10** requires that all spills be documented but that spills of 42 gallons or more must be reported, not ALL spills are to be reported.

Issue: CONDITION OF CERTIFICATION WASTE-10

If DTSC and the CPM concur with the project owner determine that the HTF-contaminated soil is considered hazardous it shall be disposed of in accordance with California Health and Safety Code GSEP Waste Management Revised Opening Testimony Page 5 (HSC) Section 25203 and procedures outlined in the approved Operation Waste Management Plan required in Condition of Certification **WASTE-9** and reported to the CPM in accordance with Condition of Certification **WASTE-11**.

If DTSC and the CPM concur with the project owner determine that the HTF-contaminated soil is considered non-hazardous it shall be retained in the LTU and treated on-site in accordance with the Waste Discharge Requirements contained within in the **Soil & Water Resources** section of this document.

Response: **WASTE-10** requires the project owner to submit to and receive approval from the CPM and DTSC a determination of whether HTF contaminated soil is hazardous or non-hazardous. The project owner may make the required submittal prior to operation to establish the project-specific criteria (concentrations of HTF in soil). The suggested language changes do not significantly alter the intent of the Condition but do not seemingly improve the language either; it is unclear by this language what would occur when the DTSC "does not concur".

Issue: CONDITION OF CERTIFICATION WASTE-10

Verification: Within 28 days of an HTF spill ~~the project owner shall provide the results of the analyses and their assessment of whether the HTF-contaminated soil is considered hazardous or non-hazardous to DTSC and the CPM for review and approval~~ **that is 42 gallons or more, the CERCLA reportable quantity, the project owner shall notify the DTSC and CPM of the spill and the results of the analysis and their assessment as to whether the spill is hazardous or non-hazardous.**

Response: The requested edit is acceptable, but shall include the following:

analysis and their assessment as to whether the spill is hazardous or non-hazardous in accordance with the criteria established and approved by the CPM and DTSC per **WASTE-10**.

Issue: CONDITION OF CERTIFICATION WASTE-11

This condition requires ALL spills to be reported. To prevent the onerous reporting of every drip and leak from every connector or valve, the condition has been modified to require reporting of spills above EPA's reportable quantities (RQ) limits. Genesis also requests that portions of the condition be moved to Verification for clarification and consistency.

Response: The requested changes to WASTE-11 and the Verification are acceptable.

REBUTTAL TESTIMONY SECTION 5

WORKERY SAFETY / FIRE PROTECTION

The Applicant, in pre-filed testimony, questions the need for staff's proposed Condition of Certification **WORKER SAFETY-4** and requests a substantial revision to **Worker Safety-7**. Proposed Condition **4** requires a construction Safety Monitor. Proposed Condition **7** addresses emergency response and mitigation for direct and cumulative impacts to the Riverside County Fire Department (RCFD).

WORKER SAFETY-4

The applicant asks that staff's proposed that **WORKER SAFETY-4** be deleted in its entirety. This proposed condition is a standard condition developed by staff in 2005 as a result of number of focused safety, hazardous materials management, and security audits of existing operating power plants and those under construction. This condition would require the project owner to make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. The Safety Monitor, selected by and reporting directly to the CBO, is responsible for verifying that the Construction Safety Supervisor implements all appropriate Cal/OSHA and Energy Commission Decision safety requirements. As discussed in the Revised Staff Assessment (RSA), this Safety Monitor serves an as extra "set of eyes" to ensure worker safety during construction and commissioning.

To date, the CBOs and Energy Commission Compliance Project Manager (CPM) report good working relationships exist between the Safety Monitors, the CPMs, and the project owners' Construction Safety Supervisors with no known complaints from the project owners about the tasks and hours of this independent Safety Monitor. The need for a Safety Monitor was recently and tragically underscored by the events on February 7, 2010 in Middlefield Connecticut where it appears that appropriate safety procedures were not implemented and lax safety supervision was found to exist.

Additionally, this condition has been accepted and adopted by the Commission for all power plants licensed since staff proposed it in 2005.

Staff understands that the professionals hired by the project owner to construct, operate, and maintain the Genesis Solar Energy Project are intended to be well-trained in safety procedures. However, given the nature of any industrial construction and the fact that some natural gas will be used and thus present on the site along with 2 million gallons of highly flammable heat transfer fluid at elevated temperatures, staff strongly recommends that this safety monitor is necessary and prudent.

WORKER SAFETY-7

This proposed condition requires mitigation of direct and cumulative project-related impacts to the RCFD. The applicant wishes to revise the dollar amount to a one-time payment of \$429,000 and an annual payment of \$195,000. Staff's proposed mitigation in the Revised Staff Assessment (RSA) would require \$850,000 and \$375,000,

respectively. The applicant contends that staff's equal allocation to the four thermal solar power plants proposed for Riverside County is unfair and instead suggests that an allocation based upon the size and energy (in MW) produced be used.

Staff is sympathetic to all parties who must deal with this very difficult issue of mitigation. However, the California Environmental Quality Act (CEQA) requires staff to identify and propose appropriate mitigation for impacts to fire services and not defer mitigation to some later negotiation. While staffs strongly supports the project owner reaching an agreement with the SBCFD regarding funding of its project-related share of costs to provide appropriate mitigation of project-related impacts on fire protection, hazardous materials accidental releases and spills, rescue, and emergency medical services (EMS), it cannot abrogate its responsibility under CEQA to propose mitigation. Staff has also documented all the reasons that additional emergency response capability is needed for this rather remote solar power plant which, when completed and operational, will have on site approximately 2,000,000 gallons of highly flammable oxygenated heat transfer fluid. And while staff appreciates the engineering and administrative safety measures (including shut-off valves) that will be implemented at Genesis, emergency response is the third leg of the safety platform and the fire department must prepare for the contingency of failure of one or several safety systems. One need only look at the Gulf of Mexico catastrophe to understand the need for adequate and timely response measures.

Staff commends the applicant for recognizing that the Genesis project will indeed have direct and cumulative impacts on the RCFD. While staff still prefers that the applicant negotiate with the RCFD to arrive at a mutually acceptable level of mitigation, staff feels that an allocation based solely upon the energy produced would understate the need for fire department response. As staff described in the RSA, staff reviewed the emergency response needs of the proposed solar power plants which would be located in Riverside as well as San Bernardino and Kern Counties. Staff has also met with the RCFD. Staff has considered the position of the RCFD and all relevant information as well as past experience at existing solar power plants that are similar to but smaller than the proposed Genesis project. The RCFD would respond to more than just a fire at the Genesis site; it will have to provide some level of services in five areas:

1. Plan reviews, inspections, and permitting
2. Fire response
3. Hazmat spill response
4. Rescue
5. Emergency Medical Services (EMS)

The County of Riverside is faced with a multitude of renewable energy projects proposed or considered for formal proposal Some are wind and photovoltaic while others are solar thermal projects that utilize large volumes of flammable heat transfer fluid (Genesis, Palen, and Blythe) or large volumes of highly flammable and explosive propane gas (Palen). The Genesis project is so remotely located in the Mojave Desert that only one access road can be built and response times for rescue, EMS, and fire

suppression will be very high even for a rural environment. Only the placement of new infrastructure can reduce these response times to acceptable levels. Staff also notes that budgetary shortfalls that impact fire services are common today and Riverside County is no exception. These fiscal impacts may limit the RCFD from providing the services that are needed to fulfill its mission in a timely manner.

Towards a goal of determining an equitable allocation of costs, staff developed an Emergency Response Matrix that staff, the fire departments, and project owners may use to assess the level of emergency response need. This analytical tool has a weighting scheme for the various categories of fire department response and utilizes professional judgment in the assignment of the "score" to the categories. Staff has tested this methodology on existing and planned solar power plants and finds it to be useful but cautions against using it as the sole basis for determining need or for allocating financial responsibility for direct individual or cumulative impacts. If the Genesis applicant chooses not to use this matrix tool, staff recommends that the applicant prepare an independent fire needs assessment and a fire risk assessment for the project. Staff would then consider those two assessments in allocating mitigation costs.

Staff has reviewed the cost figures of the proposed fire station presented by the RCFD, and finds the costs to be reasonable and consistent with the costs per square foot for building a fire station, for a new fire engine, and for fire fighter salaries and benefits. In regards to the allocation of costs between the four thermal solar power plants proposed at this time in Riverside County and particularly the three along the I-10 corridor, staff found that allocating 1/4 of the total costs of locating and staffing a new fire station was reasonable and fair. Staff based its recommendation, in part, on the Emergency Response Matrix that staff developed to help determine impacts (attached). The staff matrix shows that the proposed Genesis project rated a score of 3.0 as compared to the proposed Palen project (4.45), the proposed Blythe project (2.5) and the proposed Rice project (2.3). The Genesis project score is 1/4 the sum of all the scores. Staff contends that the proximity of a solar power plant to I-10 along with the presence of large volumes of heat transfer fluid and propane resulted in the increased score for the Palen project. However, the extreme remoteness of the Genesis project and the difficulty of emergency response crews arriving at the project site in a timely manner from existing fire stations adds to the need for new resources and thus adds to the Genesis project's allocation. Staff also bases its determination, in part, on its professional experience and judgment.

Staff's Emergency Response Matrix							
Estimated Values for Riverside County							
A. Response Criteria		points	weighting factor	Genesis	Palen	Blythe	Rice
1. Inspections			0.10				
a.	minimal need	1					
b.	average need	3		3			3
c.	significant need	5			5	5	
			<i>Net --></i>	<i>0.3</i>	<i>0.5</i>	<i>0.5</i>	<i>0.3</i>
2. Fire			0.50				
A. Quantity liquid fuel or hydrogen gas stored on-site			0.20				
a.	<1,000 gal or <1000 lbs hydrogen gas	1					1
b.	>1000 and <100,000 gal or <10,000 lbs hydrogen gas	2					
c.	>100,000 gal or >10,000 lbs hydrogen gas	5		5	5	5	
			<i>Net --></i>	<i>1.00</i>	<i>1.00</i>	<i>1.00</i>	<i>0.20</i>
B. Fire/Explosion off-site consequences			0.30				
a.	Limited to site	1		1		1	1
b.	Potential for smoke and/or fire and/or minor blast effects off-site	2					
c.	Potential for major fire/blast structure damage and/or injuries/fatalities off-site and/or major hwy disruption/closure	5			5		
			<i>Net --></i>	<i>0.30</i>	<i>1.50</i>	<i>0.30</i>	<i>0.30</i>
3. HazMat			0.10				
A. Proximity to sensitive receptors			0.05				
a.	no sig quant of hazmats or no potential for off-site impacts within 1/2 mile	1		1		1	1
b.	<5 receptors within 1/2 mile	2					
c.	5-10 receptors within 1/2 mile	3					
d.	>10 within 1/2 mile	4					
e.	impacts major highway/interstate	5			5		
			<i>Net --></i>	<i>0.05</i>	<i>0.25</i>	<i>0.05</i>	<i>0.05</i>
B. Hazmat response time			0.05				
a.	<30 minutes	1				1	
b.	30 - 60 minutes	3		3	3		
c.	>60 minutes	5					5
			<i>Net --></i>	<i>0.15</i>	<i>0.15</i>	<i>0.05</i>	<i>0.25</i>
4. Rescue			0.15				
a.	<30 minutes	1				1	
b.	30 - 60 minutes	3		3	3		3
c.	>60 minutes	5					
			<i>Net --></i>	<i>0.45</i>	<i>0.45</i>	<i>0.15</i>	<i>0.45</i>
5. EMS							
EMS response time			0.15				
a.	in-house EMT or <5 minutes response time	1					
b.	5 - 10 minute response time	2					
c.	>10 and <15 minute response time	3				3	
d.	>15 and <30 minute response time	4			4		
e.	>30 minute response time	5		5			5
			<i>Net --></i>	<i>0.75</i>	<i>0.60</i>	<i>0.45</i>	<i>0.75</i>
Sum weighting factors			1.00				
TOTAL SCORE			=====>	3.00	4.45	2.50	2.30
LOW Priority: additional resources and mitigation may be needed.		0.1 - 1.5					
MEDIUM Priority: additional resources and mitigation needed.		1.5 - 2.5					
HIGH Priority: very significant need for additional resources and mitigation.		2.5 - 3.5					
VERY HIGH Priority: urgent need for additional resources and mitigation.		>3.5					



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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**APPLICATION FOR CERTIFICATION FOR THE
GENESIS SOLAR ENERGY PROJECT**

Docket No. 09-AFC-8

**PROOF OF SERVICE
(Revised 6/7/10)**

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DECLARATION OF SERVICE

I, Maria Santourdjian declare that on June 29, 2010, I served and filed copies of the attached Staff's Rebuttal Testimony for Genesis Solar Energy Project (09-AFC-8). The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [http://www.energy.ca.gov/sitingcases/genesis_solar].

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:

- sent electronically to all email addresses on the Proof of Service list;
- by personal delivery;
- 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:

- 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. 09-AFC-8
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.

Originally Signed by _____
Maria Santourdjian