

DOCKET

09-AFC-8

DATE JUN 25 2010

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Genesis Solar, LLC's

Rebuttal Testimony

Genesis Solar Energy Project (09-AFC-8)

June 25, 2010



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June 25, 2010

California Energy Commission
Dockets Unit
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **GENESIS SOLAR, LLC'S REBUTTAL TESTIMONY
GENESIS SOLAR ENERGY PROJECT
DOCKET NO. (09-AFC-8)**

Enclosed for filing with the California Energy Commission is one (1) original and one (1) compact disc of **GENESIS SOLAR, LLC'S REBUTTAL TESTIMONY** for the Genesis Solar Energy Project (09-AFC-8).

Sincerely,

A handwritten signature in blue ink that reads "Marie Mills".

Marie Mills

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

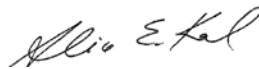
DOCKET NO. 09-AFC-08

DECLARATION OF
Alice E. Karl, Ph.D.

I, Alice E. Karl, declare as follows:

1. I am presently self-employed as a biological consultant.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to Biological Resources for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Davis, CA on June 23, 2010.



Alice E. Karl, Ph.D.

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

DOCKET NO. 09-AFC-08

**DECLARATION OF
EMILY FESTGER**

I, Emily Festger, declare as follows:

1. I am presently employed by Tetra Tech EC, Inc., as a Biologist.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to biology for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Lakewood, CO on June 23, 2010.



Emily Festger

STATE OF CALIFORNIA
Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

DOCKET NO. 09-AFC-08

DECLARATION OF
Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as an Environmental and Permitting Manager.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to Biological Resources for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed in Palm Desert, CA on June 24, 2010.



Kenneth Stein

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

DOCKET NO. 09-AFC-08

DECLARATION OF
Miles Kenney, Ph.D.

I, Miles Kenney, declare as follows:

1. I am presently employed by WorleyParsons Group, as a Senior Project Geologist.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to Biological Resources (the geomorphology of the aeolian sand system) for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Encinitas, CA on June 24, 2010.



Miles D. Kenney

**GENESIS SOLAR ENERGY PROJECT
BIOLOGICAL RESOURCES
REBUTTAL TESTIMONY**

I. Name: Alice E. Karl, Ph.D., Emily Festger, Kenneth Stein and Miles Kenney, Ph.D.

II. Purpose:

Our rebuttal testimony addresses the Biological Resources issues asserted by Scott Cashen in CURE's Opening Testimony and Ileene Anderson in CBD Opening Testimony for the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Alice Karl: I am presently self-employed and have been for the past 32 years. I have M.S. and Ph.D. degrees in ecology and I have over 32 years of experience in the field of desert ecology. I prepared or assisted in the preparation of the Biological Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Revised Opening Testimony.

Emily Festger: I am presently employed at Tetra Tech EC, Inc., and have been for the past 3 years and am presently a biologist with that organization. I have a Bachelor's Degree in Biology and I have over 3 years of experience in the field of biology. I prepared or assisted in the preparation of the Biological Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Revised Opening Testimony.

Kenneth Stein: I am presently employed at NextEra Energy Resources, and have been for the past 6 years and am presently an Environmental and Permitting Manager with that organization. I have a B.S Degree in Environmental Science and a Law Degree with a focus in Environmental Law and I have over 20 years of experience in the field of Environmental Permitting. I prepared or assisted in the preparation of the Biological Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached in my Revised Opening Testimony.

Miles Kenney: I am presently employed at WorleyParsons Group, and have been for the past 7 months and am presently a senior project geologist with that organization. I have a Ph.D. Degree in Geology and I have over 20 years of experience in the field of geology with an emphasis

on Quaternary Geology of desert landscapes. I prepared or assisted in the preparation of the Geomorphic evaluation of the Aeolian sand system report being supplemental to the Biology and Soil and Water sections of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached in my Opening Testimony.

To the best of our knowledge all referenced documents and all of the facts contained in this testimony are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements and provide these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

IV. Exhibits

In addition to this written testimony, we are sponsoring the following exhibits in this proceeding.

- Exhibit 58 **Genesis Solar LLC's Fall 2009 and Spring 2010 Biological Resources Technical Report**, dated June 2010, and docketed on June 11, 2010.
- Exhibit 59 **Golden Eagle Risk Assessment**, dated June 2010, and docketed on June 18, 2010.
- Exhibit 62 **Supplemental Information**, dated June 18, 2010, and docketed on June 18, 2010.
- Exhibit 65 **Golden Eagle Surveys Surrounding Four Proposed Energy Developments in the Mojave Desert Region, California**, dated June 22, 2010 and docketed on June 24, 2010.

V. Opinion and Conclusions

REBUTTAL TO SCOTT CASHEN

The following is offered in rebuttal to the assertions and opinions of Scott Cashen offered by CURE.

GILA WOODPECKER

Mr. Cashen's contention that the GSEP will impact the Gila Woodpecker is unfounded for the following reasons:

1. The GSEP site has highly limited potential to support the Gila woodpecker. The geographic range of this species is Arizona, Mexico and Baja California; it only reaches California along the far southeastern edge, along the Colorado River. (Rare transients have been observed in the interior of California). Suitable nesting habitat is dependent on the availability of nesting substrates, which are cavities in trees and large cactus. Generally, Gila woodpecker peck out these cavities with their beaks. As such, Gilas need soft substrates to peck out the cavity, which explains why they focus on saguaros (cactus), and lesser so on palms and cottonwoods, all of which have soft interiors. Ironwood and palo verde trees are hard woods. Certainly, they could be occupied, but in order for ironwood and palo verde to be used for nesting, Gilas would have to find a snag (dead tree) or live tree with an existing hole. Undoubtedly, having to find such a comparatively rare resource in ironwood-palo verde woodland is the reason why Gila Woodpeckers in California are primarily known to nest in the cottonwood-willow-tamarisk-mesquite woodlands along the Colorado River. Further west in California, but still only immediately west of the river, they have only been observed in very high quality, dense ironwood-palo verde woodlands (e.g., Milpitas Wash). Of course, the higher the density of trees, the greater chance of finding one with an existing hole. On the Genesis site, this woodland doesn't exist. The ironwood and palo verde are small and rare on the Plant Site and there are some tree lined washes along the linears. At GSEP, then, the potential Gila woodpecker nesting habitat has been reduced from a rarely used nesting habitat to an even smaller subset (scattered individual trees and occasional washes), to an even smaller subset of that (snags or trees with holes). Such a rare resource would not invite use of the site by Gila woodpeckers.
2. Irrespective of the rarity of nesting sites for Gila woodpeckers at GSEP, had they been nesting there, it is likely that they would have been detected. The biological team for the GSEP did intensive, multiple surveys over two years, including focused breeding bird surveys, and never heard or saw a Gila woodpecker. Gila woodpecker is a medium-sized, noisy bird that is highly territorial and aggressive, making it a relatively easily detected species. There are no other similar woodpeckers in its geographic range with which it could be confused.
3. Genesis met with the California Department of Fish and Game (CDFG) who has jurisdiction over the Gila Woodpecker to discuss survey protocols prior to surveying the GSEP. CDFG approved the survey protocol and did not request focused surveys for the Gila Woodpecker due to the GSEP's low potential for Gila Woodpeckers habitat to the site.
4. Mr. Cashen has either misrepresented the data in order to promote his conclusions or simply indulged in poor science. He states that the

CNDDDB locations in his Table 1 “are comparable to the habitat on the Project site.” This is inaccurate. The CNDDDB locations noted are mostly or perhaps all in high quality woodland and no such habitat occurs on the Project site. Further, Mr. Cashen states that isolated, disjunct populations have been found well west of the Colorado River, as far as Griffith Park, Los Angeles County. In fact, the reference for this sighting actually states that “wandering individuals”, not populations, have been found in a few places in California, as far as Griffith Park. Finally, Mr. Cashen states that CNDDDB Gila woodpecker locations south of I-10 and the Project demonstrate that there could be Gila woodpeckers north of I-10, at the Project. What he fails to mention is that the CNDDDB locations south of I-10 are actually along the Colorado River and in densely vegetated, nearby woodlands, over 20 miles to the south and southeast of the Project and on the other side of a mountain range. Self-serving misrepresentation of the data does not promote the honest evaluation of potential impacts to biological resources.

COUCH’S SPADEFOOT TOAD

Mr. Cashen’s contentions that the analysis and proposed mitigation for the Couch’s Spadefoot Toad is flawed and inaccurate for the reasons stated below.

1. The 2009 surveys looked for evidence of breeding habitat in the entire BLM right-of-way (100% coverage using 30-foot-wide transects) and nine buffer transects out to one mile. This was a far larger area than the current Project site and no breeding habitat was observed in the survey area.. Potential breeding pools would be identifiable based on soil characteristics, vegetation, and microtopography. During Fall 2009 and again in Spring 2010, surveys examined new routes for the linears, and possible breeding habitat was identified in the borrow pit south of I-10. (This is the “large ponded area along the Project transmission line route” to which Staff refers.) Couch’s spadefoot have been previously observed at this location. Because the revised linear alternatives were not known until after the opportunity to survey for Couch’s occupation of the borrow pit in 2009 (i.e. Summer 2009), the first opportunity to survey will be during the monsoon season this summer. In the event that there is no rain this summer, the RSA and Genesis have assumed presence of the toad at this location and provide the mitigation incorporated into Condition of Certification BIO-26. We agree with this Condition of Certification.
2. Genesis met with representatives of the California Department of Fish and Game (CDFG), Bureau of Land Management (BLM) and

California Energy Commission (CEC) to discuss survey protocols prior to surveying the GSEP in 2009. The agencies approved the survey protocol and did not request additional surveys for the toad.

3. Avoidance –The borrow pit can be avoided during the construction of the transmission line.
4. There is no reason to believe that an adequate breeding pond could not be created. The borrow pit is a perfect example of an artificially created pond in which breeding Couch's have been observed.

HABITAT COMPENSATION PLAN

Mr. Cashen also attacks the entire mitigation strategy as he believes that all mitigation lands must be identified now. This position is unsupported and ignores condition requirements establishing that compensation lands must satisfy criteria demonstrating that they are suitable to ensure the mitigation strategies are accomplished.

BIRDS AND BAT MITIGATION

Mr. Cashen also contends that the GSEP negatively impacts bats, badgers, foxes, and birds. We disagree because:

1. There is no bat roosting habitat on the Project site and there is negligible foraging habitat. Most bat species that might occur in the Project vicinity roost in rocks; a few roost in woodlands. Neither occurs on the Project. Foraging primarily would concentrate on the areas with the greatest insect density, which is the large, arboreal washes. None occur on the Plant site and are rare on the linears.
2. Compensation habitat for desert tortoises will be at least as good or better than the habitat lost at the Project site. Since the habitat at the Project site appears to host badger and kit fox, then the replacement habitat will also have suitable habitat features that will either host or have the potential to host badger and kit fox.
3. The RSA protects breeding birds from February 15 to July 15 (BIO-15). In BIO-8, the Applicant has agreed to avoid loud noises between February 15 and April 15 from February 15 to April 15 when it would result in noise levels over 60 dBA in nesting habitat within 250 feet of the site's borders, to avoid impacts to breeding birds immediately outside the Project area. The exceptions would be:

- a. if these same noise levels and types began prior to Feb 15, in which case it would be assumed that birds had become habituated to the noise prior to nesting; no avoidance would be necessary;
- b. if nesting bird surveys confirm that no birds are nesting within 250 feet of the Project border, or have completed nesting;
- c. if nest monitoring confirms that birds do not alter their nesting behavior in response to the noise.

GOLDEN EAGLE

We disagree with Mr. Cashen's contention. The Applicant docketed the golden eagle risk assessment, which includes data from Spring 2010 surveys, on June 18, 2010.

BIGHORN SHEEP, BURRO DEER AND MOUNTAIN LION

We disagree with Mr. Cashen's contentions about the analysis of impacts to bighorn sheep, deer and mountain lion based on the following:

1. Bighorn Sheep:
 - a. His analysis of the Applicant's data is flawed. Bighorn scat are identifiable and were not observed in the very large survey area in 2009 and 2010, which encompassed far more than the current Project site. Multiple surveys were conducted following the initial intensive surveys, including breeding bird surveys and burrowing owl surveys, and no bighorn or bighorn sign (e.g., scat) were observed in any survey.
 - b. The NECO Plan is not the only source used for an analysis of bighorn sheep populations in the Project vicinity. CDFG's data identified the nearest sheep as the northern Palen Mts. Helicopter surveys for golden eagles in 2010, which encompassed a ten-mile-radius area around the Project, identified one ram in the northeastern Palen Mts. These data were transmitted to CEC, CDFG, BLM, and USFWS on March 20, 2010.
 - c. Based on cumulative data, Staff's assessment is correct.
2. Burro Deer:
 - a. The best habitat for deer is in the large washes and woodland east of the Project site. The Project will avoid this habitat. Staff's assessment is correct.
3. Mountain Lion:
 - a. In the desert, mountain lions den in rocky areas associated with mountains. There is no mountain lion habitat on the Project. Nor does the Project block any connectivity between nearby mountains (Palen, McCoy, Chuckwalla, Big Maria).

GROUNDWATER DEPENDENT PLANTS

The Applicant disagrees with Mr. Cashen's assertions about the results of the study. The Applicant supports its analysis of groundwater effects and effects on groundwater-dependent plants, presented in Exhibits 11, 30, and 50.

MOJAVE FRINGE-TOED LIZARD

The Applicant disagrees with Mr. Cashen's analysis. The Applicant supports its analysis of impacts to Mojave fringe-toed lizards presented in Exhibits 35 and 50.

SPECIAL-STATUS PLANTS

The Applicant disagrees with Mr. Cashen's analysis. While all plant species that may occur at the Project are not known, in the absence of upcoming fall surveys, the mitigation proposed in the our Opening Testimony (modifying Staff's approach) outlines appropriate mitigation for any listed, candidate, CNPS Lists 1 and 2 species, and other species that might be eligible for CEQA consideration.

REBUTTAL TO ILEENE ANDERSON

GENERAL STATEMENT

The Applicant respectfully disagrees with Ms. Anderson based on the following:

- a. Surveys for the Colorado River Substation expansion were completed by AECOM and submitted to Staff as part of the Blythe Solar Power Project (BSPP).
- b. While Ms. Anderson is correct that the desert has variable rainfall that can result in different sampling availability for biological resources, the two years of surveys that the Applicant completed were years of adequate or above-average rainfall that promoted germination and growth of plants, and activity in animals.

DESERT TORTOISE

The Applicant respectfully disagrees with Ms. Anderson based on the following:

- a. The Fort Irwin translocation project to which Ms. Anderson refers cannot be used as a model translocation project. Neither the methods, nor the results of this highly guarded project have been adequately reported. As far as mortality goes, Dr. Bill Boarman,

who is one of the researchers on that project, analyzed mortality data and showed that there was no difference in mortality between resident tortoises and translocated tortoises. Furthermore, many of the mortalities occurred **before** tortoises were translocated, obviously not the result of translocation. These results were discussed at the Desert Tortoise Council Symposium.

- b. The Applicant's translocation plan states that tortoises will be translocated to the nearest **suitable** habitat to the east, west and north. The habitat east of the wash is involved in sand transport because of the large drainages there. Tortoises in the southern desert occupy such high quality washes, as well as smaller, well-vegetated washes, far more than open, interwash habitats.
- c. Our understanding is that BLM has committed to allow tortoise translocation into the habitat along the northern portion of the Project, which is immediately adjacent to BLM Wilderness. Tortoises would be well protected in the Wilderness area.
- d. Ms. Anderson is amply aware of the success of the five-year, tortoise translocation project for the Hyundai Test Track, which Dr. Karl conducted. This is a better measure of the success of translocation than the Fort Irwin Translocation Project, the analysis of which, as previously mentioned, is problematic because of insufficient information.
- e. The Applicant agrees that long-term monitoring, when it can be useful for evaluating the success of translocation and provide insight into future translocation efforts, is warranted. At Genesis, no or very few tortoises are anticipated to be translocated, so the any follow-up monitoring would be statistically bereft and strictly anecdotal, and therefore not useful for evaluating translocation.

BIRDS

The Applicant respectfully disagrees with Ms. Anderson's assessment and believes that the GSEP will not result in the impacts that Ms. Anderson suggests.

BURROWING OWL

The Applicant agrees with Staff. The RSA (BIO-18) requires that a Burrowing Owl Mitigation Plan be prepared, if owls require removal from the Project site. Included in the plan must be detailed methods and guidance for passive relocation and post-relocation monitoring of the relocation site to maintain its functionality.

INSECTS

During pre-survey desktop analyses to determine potential special-status species that could occur in the Project's vicinity or onsite habitats, no special-status insect species were determined.. So, no focused surveys were completed. The California Department of Fish and Game (CDFG), Bureau of Land Management (BLM) and California Energy Commission (CEC) to approved the Applicant's survey protocols prior to surveying the GSEP in 2009.

SPECIAL STATUS PLANTS

The Applicant respectfully disagrees with Ms. Anderson's assessment..

HABITAT LOSS COMPENSATION

CEC conditions of certification that allow desert tortoise compensation lands acquired under BIO-12 to also satisfy compensation land requirements for other species clearly state that desert tortoise compensation lands may be used to compensate impacts to other species only if those lands satisfy criteria that demonstrate that the lands are suitable for the other species. Because all compensation lands must be approved by CEC, CDFG and/or USFWS prior to acquisition and will meet strict performance standards, the resource agencies will ensure that the compensation lands are suitable to mitigate impacts to the species for which they are being acquired as part of that approval process. Accordingly, Ms. Anderson's argument is without merit.

DECOMMISSIONING PLAN

As discussed in our Opening Testimony, the requirements for a Decommissioning Plan are BLM only and therefore should not be included in the CEC License

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

DOCKET NO. 09-AFC-08

DECLARATION OF
Michael Tietze

I, Michael Tietze, declare as follows:

1. I am presently employed by Worley Parsons as a Senior Hydrogeologist and Location Manager.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to the Soil and Water Resources for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Folsom, CA on June 24, 2010.



Michael Tietze

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

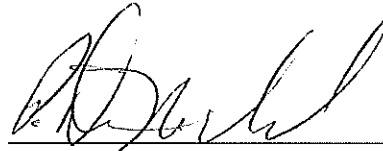
DOCKET NO. 09-AFC-08

DECLARATION OF
P. Duane McCloud

I, P. Duane McCloud, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC., as a Lead Professional for Construction and Engineering.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to the Soil and Water Resources for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Juno Beach, Florida on 25 June, 2010.



P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT


DOCKET NO. 09-AFC-08

DECLARATION OF BOB ANDERS,
P.E.

I, Bob Anders, declare as follows:

1. I am presently employed by WorleyParsons , as a Senior Supervising Civil Engineer and Project Manager.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to Soil and Water for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Folsom, CA on JUNE 22, 2010.


Bob Anders

**GENESIS SOLAR ENERGY PROJECT
SOIL & WATER RESOURCES
REBUTTAL TESTIMONY**

I. Name: Michael Tietze, P. Duane McCloud, and Bob Anders

II. Purpose:

Our Rebuttal Testimony addresses Opening Testimony of Greg Okin, and Eric Hendrix filed by CURE and Tom Myers filed by CBD in the Genesis Solar Energy Project (09-AFC-08) proceedings.

III. Qualifications:

Michael Tietze: I am presently employed at WorleyParsons, and have been for the past five years and am presently a Senior Hydrogeologist and Location Manager with that organization. I have a Bachelors of Science Degree in Geology and I have over 25 years of experience in the fields of hydrogeology and engineering geology. I prepared or assisted in the preparation of the Soil and Water section and the Geology and Paleontology section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

P. Duane McCloud: I am presently employed at NextEra Energy Resources, LLC, and have been for the past 12 years and am presently a Lead Professional with that organization. I have a B.S. Degree in Chemical Engineering and I have over 28 years of experience in the field of power generation. I prepared or assisted in the preparation of the Soil and Water Resources section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

Bob Anders: I am presently employed at WorleyParsons, and have been for the past 2 years and am presently a Sr. Civil Engineer/Project manager with that organization. I have an Engineering Degree in Civil Engineering and I have over 25 years of experience in the field of Civil Engineering. I prepared or assisted in the preparation of the Soil and Water section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

IV. Opinion and Conclusions

REBUTTAL OF TESTIMONY OF GREG OKIN

We disagree with the Opening Testimony of Greg Okin and provide the following rebuttal as it relates to “Hydrological impacts on vegetation south of the Project”.

In the testimony of Mr. Okin, it is stated that “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”. Presumably this opinion is based on the cited reference with the written testimony of Mr. Okin.

We feel the cited reference is a study that is not specifically relevant to the facts surrounding the Genesis project and therefore we feel that the opinion of Mr. Okin should not be considered.

The discharge from the drainage channels, as previously submitted and addressed in the RSA and demonstrated in the FLO 2D modeling, has been designed to spread the storm flows to adequately mitigate impacts to offsite vegetation.

REBUTTAL OF TESTIMONY OF TOM MYERS

Dr. Myer’s testimony alleges that the project will have significant impacts on groundwater resources that have not been evaluated because recharge has been overestimated, assumptions regarding the aquifer are unsubstantiated, and modeling conducted by the applicant is inaccurate and insufficient to predict the impacts of the project. As discussed below, these assertions are without basis and misrepresent or ignore key aspects of the work that has been completed to assess the potential effects of the project on groundwater resources. The Applicant’s assessment of groundwater resources impacts has been performed through a series of extensive and robust investigations of the area, is founded in sound scientific principals, and provides a thorough and objective characterization of potential project effects. This assessment has included the following work:

- Drilling, sampling and geophysical logging of one test well to 550 feet, one test well with four completions to 1,835 feet, one observation well to 150 feet, and one observation well with four buried pressure transducers to 450 feet;
- Conducting and analyzing one seven-day aquifer pumping test, two three-day pumping tests and one 24-hour pumping test;
- Assessing data from 13 additional pumping or specific capacity tests in the eastern Chuckwalla Valley Groundwater Basin (CVGB);
- Measuring and sampling seven existing water supply wells in the area;
- Conducting a geophysical investigation of the basin using Time Domain Electromagnetics (TDEM) to assess basin hydrostratigraphy and water quality to depths between 1,000 and 2,000 feet;
- Conducting seismic refraction and shear wave profiling investigations of the site;

- Conducting gravimetric modeling to assess the bedrock geometry of the basin;
- Conducting an investigation to assess evapotranspiration at Palen Lake, including drilling of hand auger borings, review of aerial photographs and performing calculations;
- Conducting a reconnaissance of McCoy Spring;
- Conducting gravimetric modeling and water well data review in the narrows connecting the CVGB and the PVMGB to assess the rate of underflow between these basins;
- Review of prior computer modeling of the CVGB including modeling for the Chuckwalla Valley and Ironwood State Prisons, the Eagle Crest Pumped Storage project, the Solar Millennium Palen project and the USGS aquifer depletion model;
- Procurement and review of well drilling and completion records filed over a 324 square mile area in CVGB;
- Retrieval and review of water level measurement data from the National Water Information System, records from Chuckwalla Valley State Prison and investigations completed in the CVGB;
- Compilation of current and historical groundwater demand data for the CVGB;
- Evaluation of historical recharge estimates in the CVGB and preparation of an independent recharge estimate;
- Analytical drawdown modeling using the THWells code;
- Numerical impact modeling using the widely accepted USGS Modflow code in the Groundwater Vistas platform; and
- Modeling of solute transport using the MT3D modeling code.

Water Budget

Dr. Myers claims that the Groundwater Resources Investigation by WorleyParsons, dated January 8, 2010 (the GRI report) grossly overestimates all water budget components. We disagree with this assertion. The approaches to the water budget estimates in the GRI report, the Staff Assessment (SA) and the Revised Staff Assessment (RSA) are technically sound and meet all of the requirements of CEQA. Dr. Myers bases his assertion on the principal that in a water budget inflows must equal outflow, and states that a “pre-development” or “steady state” water budget must be used, apparently equating these two terms and stating the water budget should not consider existing pumping or return flows. Mr. Myers definition of water balance is not the only definition in common usage. A definition of water balance as inflows equal outflows applies not only to steady state pre-development conditions, but also to steady state conditions

including groundwater development, where pumping at relatively constant rates has occurred long enough for equilibrium conditions to develop. Calculation of a pre-development water balance is typically impractical due to a lack of data, since there will commonly be few if any wells in the basin, and therefore little or no data, to characterize pre-development conditions.

The use of post development conditions for calculation of water budgets in groundwater basins is well established in California, as also reflected in the California Department of Water Resources (DWR, 2003) definition of a water budget as:

$$\text{INFLOWS} - \text{OUTFLOWS} = \text{CHANGE IN STORAGE}$$

In this definition, DWR (2003) includes groundwater extraction by wells as a component of basin outflow. Furthermore, the requirements for a Groundwater Resources Assessment under California law (SB-610) require characterization of all existing, pre-project groundwater demands coupled with documentation of groundwater level trends to assess potential changes in storage. We therefore contend that the methodology used in the GRI report, the SA and the RSA is sound, and further, that an adequate CEQA analysis **must evaluate existing pre-project conditions**, including all groundwater demand, and include consideration of existing groundwater level trends to assess potential changes in storage.

On the latter point, Dr. Myers completely ignores consideration of groundwater level trends in his analysis. Contrary to his assertion that the GRI report does not present 21st century data and that drawdown “must be occurring,” these data have been presented and considered in the GRI report and indicates that water levels are generally stable near current pumping centers. The fact that groundwater levels in the CVGB are relatively stable indicates that all existing groundwater inflows and outflows, including existing pumping and return flows are currently in a state of equilibrium. It is therefore evident that the approach proposed by Dr. Myers results in significant underestimation of the CVGB groundwater budget components. In addition, Dr. Myers uses estimated discharge components under current conditions to infer conditions that existed prior to development in the basin, a time for which no data are available and during which discharge by underflow and evapotranspiration may have been much greater.

Groundwater Recharge

Dr. Myers contends that the groundwater recharge estimates presented in the GRI report, the SA and the RSA are too high, as he notes, “... based on other methods used in the southwest.” The methods and results presented in the GRI report are in fact consistent with several other studies in southern California, including those referenced in the GRI report. The Maxi-Eakin, Avon and Durbin (1994) and Anderson (1995) methods favored by Dr. Myers were not used in the

GRI report for several reasons. First, they require basin-specific calibration to give meaningful results (Davisson and Rose, 2000), and such calibration is not available for the Chuckwalla Basin. The Maxey-Eakin method has been criticized as being unreliable because of the uncertainty in the derived recharge rate coefficients (Lerner, et al., 1990). Second, they do not apply the basins with precipitation less than 8 inches per year, although according to Davisson and Rose (2000) a basis for this assumption has never been provided by Maxey and Eakin (1949) or other workers. Third, these methods are strictly based on the relationship between precipitation and elevation, such that higher elevations receiving higher precipitation have corresponding higher recharge. This assumption does not directly recognize the principle mechanism of groundwater recharge in arid basins in California – that is, mountain front recharge. Mountain front recharge occurs when precipitation falling on low-permeability bedrock mountains becomes runoff that flows to alluvial fan deposits at the foot of the mountains, where much of it infiltrates and becomes recharge for the alluvial valley aquifers (USGS 2001; USGS 2007b). By this mechanism, and recognizing that precipitation in arid regions of California commonly occurs as a small number of significant rainfall events (storms), particularly in winter when the area receives most of its precipitation from large-scale frontal systems (USGS 2007a), appreciable recharge can result even in such a dry climate.

Consequently, several studies document significant groundwater recharge in arid basins in California that receive less than 8 inches/year of precipitation. USGS 2007b used a distributed-parameter water-balance model for the Mojave River Basin (also in the Mojave Desert) to estimate a 30-year average groundwater recharge that was 2 % of the average precipitation of 7.3 inches per year. USGS 2007b also estimated recharge for a variety of both drier and wetter than average years (68 % of average to 124 % of average) and calculated groundwater recharge rates ranging from 3.2 % of precipitation for the driest year (4.9 inches of precipitation) to 7.1 % of precipitation for the wettest year (10 inches of precipitation). Precipitation in the driest year was most like that in the Chuckwalla Basin, so it is reasonable to assume that a recharge rate of 3 % of precipitation would be applicable. Consequently, we estimated the recharge as 3% of precipitation, i.e., 9,440 AFY (GWRI, Table 3-5). However, even if recharge was only 2% of precipitation, as estimated from the 30-year average, the resulting 6,300 AFY would still give total basin inflows of 11,431 AFY, compared to outflows of 10,875 AFY.

We acknowledge that precise estimation of the components of a groundwater budget is a difficult and inexact science. Estimates by different workers commonly vary, sometimes significantly. Groundwater budgets therefore offer an important and useful perspective for groundwater management, but it is critical that they be validated against observed data from the basin over time. In addition, although Dr. Myers notes that an increase in pumping will “...capture natural discharge from some area”, he neglects to note that the decrease in groundwater elevation due to pumping (and corresponding increase in hydraulic

gradient) will also induce additional recharge or inflow and decrease outflow, until the combination of increase in recharge and decrease in discharge (including basin outflow) balances the new withdrawal, creating a new equilibrium. Consequently, the actual water budget of a basin, as defined by DWR (2003), is not a fixed quantity but will vary with the degree of groundwater development and the characteristics of the basin. Based on the most recent groundwater level data available, combined with the historical records, the Chuckwalla Basin is currently in a state of equilibrium, since groundwater levels are generally stable. The agricultural pumping and the apparent subsequent overdraft of the early 1980s provides an excellent benchmark to provide perspective on the sustainable yield of the basin, and indicates that current groundwater extractions of 10,475 AFY are within the sustainable yield of the basin, whereas the historical extractions of 20,000 to 23,000 AFY exceed the sustainable yield. On this basis alone, the estimated sustainable yield of 12,000 AFY appears reasonable; whereas, the lower value suggested by Dr. Myers is not consistent with observed and historical water level trends.

The proposed Genesis Project withdrawals of approximately 50,000 acre-feet over the life of the project represent only about 0.3 % of the 15 million acre-feet of groundwater in storage in the basin (DWR, 1979). This assumes that all of the groundwater would be taken out of storage, which, as noted above, would not be the case. Even so, if this change in storage were expressed as a corresponding decline in groundwater level over the area of the basin (940 square miles) the water decline would be 0.8 feet (considering a specific yield of 0.1; DWR 1979). It is unlikely that this change in storage would result in significant adverse impacts, and a change in storage alone is not considered a significant impact that requires action by agencies charged with water resource management (DWR, 2003).

Ultimately, any uncertainty in our ability to quantify components of the groundwater budget are addressed by required monitoring and mitigation to help verify the long-term performance of the groundwater basin and address potential adverse impacts to nearby well owners. Moreover, the groundwater withdrawals will be conducted in compliance with all Federal and State laws and regulations.

Groundwater Model

Dr. Myers alleges that the applicant's groundwater model is poorly designed and calibrated and therefore insufficient to predict the impacts of the project. We believe these assertions are unfounded, and ignore the information provided in the GRI report regarding model selection, construction, calibration and evaluation. Selection of an appropriate modeling approach is critical to assuring that model results are adequate to support the objectives for which the modeling results will be used (ASTM, 2004). In addition, a model must be supported by, and commensurate with, available input data. The rationale for selection and design of the applicant's model is described in detail in the GRI report and is consistent with both the available data and the objectives and requirements of a

CEQA analysis. Impact modeling, also known as superposition modeling, is a widely accepted modeling approach that focuses on predicting project drawdown impacts rather than simulating natural water surface elevations. The USGS describes the application and advantages of impact modeling in situations where baseline data do not readily support construction or calibration of a head model as follows (Reilly, et al., 1987):

“The effects of a specified stress on the system can be evaluated even if other stresses acting on the system are unknown. For example, the drawdown caused by a pumping well can be calculated even if the recharge rate, the actual heads, the gradients, or even the pumping rates of other wells in the aquifer are unknown”.

“When superposition is used to solve groundwater problems, we deal in terms of changes in head (drawdowns) and changes in flows rather than absolute values of heads and flows. These changes are usually calculated from initial conditions of zero change in head everywhere (zero drawdown).”

“Through superposition, information (parameter identification) on the natural flow system can be obtained through model calibration, even when predevelopment heads and flows in the system are unknown”.

“[S]uperposition enables us to simplify complex problems and to obtain useful results despite a lack of certain information describing the ground-water system and the stresses acting on it.”

As an example, the USGS used an impact modeling approach in building its model of the CVGB (Leake, et al, 2008). The applicant’s model improves on the USGS approach by considering the actual basin geometry, three dimensional variation in basin fill properties, incorporation of aquifer parameters derived from 17 pumping and specific capacity tests, calibration to drawdown during a pumping test (the only appropriate type of calibration for an impact model) and validation.

Dr. Myers fails to consider basic facts about the applicant’s model that are presented in the GRI report. These points include the following:

- The model accounts for heterogeneity by using average aquifer properties applied to the model layers. This approach is commonly used when data are too widely spaced to allow meaningful incorporation of lateral variations in aquifer properties and allows assessment of impacts over wide areas where properties will tend to be averaged.
- The justification for the number of layers in the model was discussed in the GRI report and the work plans submitted to the CEC. A number of shallower layers were included for the purpose of evaluating the TW-1 pumping test. From a modeling perspective, fewer layers with averaged properties could have been utilized to represent the alluvium and upper

Bouse Formation; however, this would not have allowed numerical solution of the pumping test.

- Dr. Myers takes issue with the use of laterally continuous lower permeability layers throughout the model; however, he completely ignores the fact that the boring logs show the existence of several hundred feet of primarily silt and clay sediments between the pumped aquifer and the water table. These sediments represent playa, lacustrine (lake) and estuarine deposits, and would be expected to be generally continuous across the basin. For example, similar clay layers were reported at the top of the Bouse Formation in several borings located many miles apart in the basin, suggesting that even individual layers may in some cases be widely correlated. Regardless of the lateral continuity of individual layers questioned by Dr. Myers, however, is indisputable that the prevalence of these low permeability sediments over a vertical distance of hundreds of feet would result in significant vertical attenuation of drawdown between the pumped aquifer and the water table. As such, Dr. Myers assertion that the model depends on the lateral continuity of individual relatively thin layers identified at TW-1 and that the model depends on this assumption is without foundation.
- Using a number of discrete, laterally continuous, layers to represent the significant silt and clay sediments present in the alluvium and upper Bouse Formation has the same general effect as using fewer generalized layers.
- Dr. Myers quotes the Supplemental GRI as proof that sedimentary layers in the basin are not continuous; however, his quotes are taken out of context and misconstrued. The quotes refer to coarse sand and gravel deposits encountered during drilling in the middle Bouse Formation that are interpreted to be alluvial (stream) deposits of limited lateral extent based on their depositional environment and the results of aquifer testing in well TW-2. The averaged hydraulic conductivities utilized to represent the pumped aquifer in the model clearly take this variability into consideration and are consistent with the results of the pumping test.
- Dr. Myers questions the hydraulic conductivities applied to layers 3 and 4 of the model; however, the hydraulic conductivities were derived from calibration of a 7-day pumping test with observed drawdown in vertically-spaced transducers across this interval. In addition, the lithologic log for wells OBS-2 and TW-1 show that the depth interval of these layers is occupied by clay, silt and sandy clay/clayey sand. The calibrated hydraulic conductivities for these layers are consistent with the observed materials. He asserts that these layers control modeled drawdown at the water table, but fails to consider that several hundred feet of primarily fine grained sediment are present between the pumped aquifer and the water table would have a much greater effect.

- Dr. Myers discusses the discrepancy between the lithologic interpretation and hydraulic conductivity assigned to a sand that occurs 360 and 410 feet below ground level, but fails to recognize that the assigned hydraulic conductivities are the result of calibrated pumping test drawdown. He then generalizes his observations to pumped intervals that are located 400 to 1,400 feet deeper. This generalization is not justified.
- Significant vertical anisotropy in aquifer materials is not unusual. The vertical anisotropy incorporated into the model was the result of pumping test calibration. Uncertainty in this parameter was evaluated over one order of magnitude as part of the model sensitivity analysis, and this change was found to have no significant effect on predicted drawdowns at the water table.
- The purpose of the model sensitivity analysis stated in the GRI report is to identify the parameters that have the most influence on model predictions and to help bracket the influence of uncertainty on model outcomes. As discussed above, superposition modeling is an appropriate and useful approach to assessment of groundwater resources problems, as is the averaging of aquifer hydraulic properties, and was selected as the best approach given the available data and the objectives of the analysis. We therefore do not understand the basis of Dr. Myers' assertion that the sensitivity analyses are a substitute for a "decent" flow model. Rather, we believe the sensitivity analysis to be prudent scientific practice to characterize the limitations of the model so as to assure its appropriate interpretation and application. In terms of the results of the sensitivity analysis, we disagree with Dr. Myers' interpretations. We believe the results indicate that the model uncertainty is acceptable for use as a predictive tool for the likelihood of potentially significant effects under CEQA.
- The use of a lower pumping rate for aquifer testing than will be applied during water production does not mean that the aquifer was insufficiently stressed to determine aquifer parameters. Similar flow rates are commonly used during pumping tests for aquifer characterization because higher flow rates are infeasible, would result in greater environmental impacts from water discharge, and result in a waste of water. As long as drawdowns are sufficient and pumping tests are continued for a sufficient length of time, this approach is acceptable.
- Dr. Myers has reviewed the Supplemental GRI report, but fails to recognize that there were three pumping tests conducted within the proposed production aquifer for the project. In addition, the prison pumping test was conducted in the production interval. All four of these tests yielded hydraulic conductivities similar to those assigned to the pumped aquifer in the model.

- Dr. Myers expresses concern that barometric pressure changes may have influenced drawdown recorded by the OBS-2 transducers at 270 and 315 feet below ground surface. These transducers are buried directly in the formation and are in layers that are behaving as a confined aquifer. Barometric influence may be neglected in this event.
- Dr. Myers questions the calibration sensitivity analysis of aquitard vertical hydraulic conductivity and seems to cite the variation in predicted drawdown as being problematic for calibration. To the contrary, the sensitivity analysis shows that the model value was correctly selected at relatively high confidence – we believe Dr. Myers may be misinterpreting this result.
- Dr. Myers indicates that a 15% to 25% discrepancy during simulation of the prison well pumping test suggests is not reasonably close; however, in our experience and given the application of the model, we believe the this prediction validates the models ability to distinguish significant drawdown impacts at nearby wells. Dr. Myers further implies that uncertainty in model predictions could increase over time; however, this assertion is contrary to the physics of groundwater flow. In fact, the contrary may be true as the cone of depression around a pumping well increases in size and drawdown is more influenced by the average aquifer properties over a broader area, such as is simulated by the model.
- Reporting of drawdown by individual layers does not appear to be warranted, as drawdown in the pumped aquifers and at the water table are the most salient results of the modeling. MT3D modeling was conducted to assess the potential for inducing migration of dissolved salts in the subsurface, and did not indicate any significant changes. None of the aquifers encountered beneath the site are deemed a potential source of drinking water under California water policy or are suitable for agricultural use, based on elevated TDS contents throughout the subsurface section.

REBUTTAL OF TESTIMONY OF ERIC HENDRIX

We disagree with Mr. Hendrix's testimony on several key points. Some of our disagreements were discussed in our previous submittal in response to CURE Water Resources Data Requests 1-9, dated April 2010.

Mr. Hendrix asserts that the project would result in potentially significant and unmitigated impacts to the CVGB water balance. This assertion is based on uncertainty in water budget inputs and the exclusion of some projects in the cumulative water budget analysis presented in the GRI report. The potential effects of uncertainty on the water budget were discussed in the prior rebuttal to Dr. Myers' testimony. In terms of the cumulative projects considered, most of the projects listed by Mr. Hendrix were considered in the water budget analysis. The Soleil projects were not considered because they have been withdrawn, and several projects were not considered because they have not entered the NEPA, CEQA or county permitting process. However, it should be noted that the neglected projects are photovoltaic projects with a comparatively minimal groundwater demand. Consideration of these projects would increase the CVGB water demand by only a few hundred acre-feet per year.

Mr. Hendrix states that basin overdraft necessarily implies the existence of a "significant detrimental impact," but this is not the case. Overdraft is defined by DWR as the condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin over a period of years during which the water supply conditions approximate average conditions (DWR, 2003). The DWR specifically defines significant adverse overdraft-related environmental, social, or economic impacts as including increased extraction costs, costs of well deepening or replacement, land subsidence, water quality degradation, and environmental impacts. No such significant impacts are predicted to occur as a result of the project, and monitoring and mitigation programs are required to be implemented as specified in the SA and RSA that will assure that any effects that do occur are less than significant.

Mr. Hendrix states that no consideration for potential long term drought or climate change effects has been presented. The GRI report Section 5.4 discusses impacts during dry and critically dry years. The project water budget considers long term average conditions, which incorporate long term droughts. As for climate change, over the life of the project, climate change is not anticipated to result in a significant change in the CVGB water budget. Droughts would not be expected to change underflow from the CVGB to the Palo Verde Mesa Groundwater Basin (PVMGB).

An additional theme is concern regarding uncertainties and their effect on the conclusions of the applicants groundwater studies. Uncertainty is inherent in any study of this type. The treatment of uncertainty and the application of sensitivity analysis to understanding the proper application of the model to the assessment of project effects is discussed in the preceding rebuttal. In our opinion, the

analysis approach recognizes and appropriately treats inherent uncertainties, supporting the conclusion that the project impacts will be less than significant. Furthermore, while there are inherent limitations, extensive data do exist, including 17 measurements of hydraulic conductivity, a significant number of boring logs and long term, frequent groundwater monitoring data near the prison pumping center, among other data. Thus, adequate data exist for a robust assessment of potential effects.

In addition, there appears to be a misunderstanding or confusion regarding water level elevation (“head”) vs. impact or superposition models. As discussed previously, superposition models do not predict water level elevations but water level changes, and cannot be calibrated to water levels. They can, however be calibrated to transient events such as pumping stresses, and this limitation does not make the any less useful for addressing the questions they are designed to answer. Therefore, it cannot be said that these models should be calibrated to water levels as a recommended or “proper” procedure. This is not a concession, but a different approach to modeling that is commonly and appropriately applied to solving groundwater problems where data are limited, as has been discussed previously (Reilly et al., 1987). Superposition modeling was used by USGS to construct the aquifer depletion model of the Colorado River aquifer as discussed previously (Leake, et al., 2008).

Mr. Hendrix asserts that monitoring wells are needed in the narrows between the CVGB and the PVMGB and in the PVMGB to serve as early warning “sentinel wells” of potential project drawdown impacts. We believe this approach is flawed. Monitoring of drawdown should occur (1) in close proximity to the project where findings can be correlated to predicted drawdowns and provide early warning if there are potential discrepancies, and (2) between the project and nearby receptors, where potential far-field drawdowns and regional trends can be assessed. Project-related drawdown in the narrows between the CVGB and the PVMGB is not expected to be measurable. We do not believe that the installation of monitoring wells in an area where drawdown would be indistinguishable from background fluctuations would serve as an early warning of overdraft.

Mr. Hendrix reiterates a CURE request to provide a PVMGB water demand summary and water level response. We do not believe such an analysis will yield useful information because the area in question is a separate basin and subject to hydrogeologic effects not present in the CVGB.

Mr. Hendrix states that a disagreement of 15 to 25 % percent between observed and predicted drawdown during the prison pumping test validation would typically be unacceptable for flow models. In our opinion, this perception is incorrect and may stem from confusion regarding calibration targets for water levels designed to predict water levels as opposed to those designed to predict drawdown. In any event, we believe 15 to 20% is a reasonable correlation. In addition, the proposed approach in COC-19 is inherently conservative and will incorporate assessment of uncertainty in input parameters in accordance with sound scientific practice. Finally, we believe that the use of the existing USGS aquifer

depletion model to assess theoretical Colorado River depletion is both appropriate and conservative. Construction of a detailed model of the adjacent basin is not warranted would be unduly burdensome without substantial benefit.

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STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

DOCKET NO. 09-AFC-08

**DECLARATION OF
Merlyn Paulson**

I, Merlyn Paulson, declare as follows:

1. I am presently employed by AECOM, as a Senior Analyst.
2. A copy of my professional qualifications and experience is included herewith (Attachment A to Testimony) and is incorporated by reference in this Declaration.
3. I prepared the attached rebuttal testimony relating to Visual Resources for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at _____ 1:12 P.M. _____ on June 25, 2010.



Merlyn Paulson

**GENESIS SOLAR ENERGY PROJECT
VISUAL RESOURCES
REBUTTAL TESTIMONY**

I. Name: Merlyn J. Paulson

II. Purpose:

My Rebuttal Testimony addresses the Opening Testimony of Intervenor Budlong on the subject of Visual Resources associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Merlyn Paulson: I am presently employed at AECOM Environment, and have been for the past 11 years and am presently a senior analyst with that organization. I have a Master's degree in Landscape Architecture from Harvard University and I have over 37 years of experience in the fields of aesthetics and visual resources. Beside my current employment with AECOM, I also am a Professor of Landscape Architecture and Environmental Planning, which I founded in 1975, at Colorado State University, and am the lead of the visual resources research and teaching program. I have reviewed the Visual Resources materials filed in this proceeding. A detailed description of my qualifications is contained in the attached resume.

IV. Opinion and Conclusions

1. I disagree with the conclusions reached by Tom Budlong that the construction and operation of the Genesis Solar Energy Project would result in a significant adverse visual impact.
2. I agree with the conclusions reached by California Energy Commission Staff that the construction and operation of the Genesis Solar Energy Project would result in a less-than-significant adverse visual impact.
3. I disagree with the conclusions reached by Tom Budlong that the cumulative visual effect of the Genesis Solar Energy Project would result in a significant adverse visual impact.
4. I disagree with the conclusions reached by California Energy Commission Staff that the cumulative visual effect of the Genesis Solar Energy Project would result in a considerable and potentially significant adverse visual impact.

- a. The Genesis Solar Energy Project's impacts to visual resources in the project viewshed would not be cumulatively considerable.
- b. The interaction of the project with other facilities in the viewshed would be minimal, with minor visual effects to the cumulative environment.
- c. The extension of the cumulative effects area to the entire California Desert Conservation Area, landscapes that are a great distance and visually disconnected from the viewshed of the project, is inconsistent with the intent of CEQA for defining boundaries of cumulative effects study areas and serves no practical purpose for siting, design or mitigation.

Merlyn J. Paulson

FASLA

Years Experience: 38

Professional History

- AECOM, 2000 – present
- Colorado State University, 1975 - present
- MPI, 1978 - 2000
- EDAW, 1975 - 1978
- Steinitz-Roger, 1973 – 1975
- U.S.D.A. Forest Service, 1972

Education

- MLA II, Harvard University
- BLA, Utah State University

Professional Registrations and Affiliations

- Fellow, American Society of Landscape Architects

Technical Specialties

- Aesthetics and Visual Resources
- Visual Simulations
- Geographic Information Systems
- Land Architecture
- Photography

Representative Project Experience

Beacon Solar Energy Project, FPL Energy, California. ENSR technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, and GIS visibility analyses of alternatives connected with the generating station, solar array and transmission line options. 2008-2010.

Blackrock Geothermal Energy Project, CAL Energy, California. AECOM technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, and GIS visibility analyses of alternatives connected with the generating station, cooling towers and transmission line options. Salton Sea, 2008.

Blythe Solar Energy Project, Solar Millennium, California. AECOM technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided

photographic visual simulations, and GIS visibility analyses of alternatives connected with the generating stations, solar arrays and transmission line. Blythe, 2009-2010.

Colstrip Power Plant and Ancillary Facilities, Colstrip, Montana. Graduate degree thesis at Harvard University. This project served as basis for research and development of methods for computer - aided photographic visual simulations and GIS visibility analyses of the generating station and transmission lines. 1975.

Missouri River Energy Services / Ottertail Power Company, Big Stone II Generating Station Expansion and 230kV Corridor Selection Project, Minnesota – South Dakota. Technical expert at ENSR for GIS for all disciplines, field investigation, visual/aesthetics inventory, computer - aided photographic visual simulations, and visibility analyses for the Big Stone II Generating Station and 230kV transmission line corridors to several substations near Morris, Spicer, and Granite Falls, Minnesota. 2006.

Oceanway Secure Energy Project, Los Angeles Basin, California. Technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, and GIS visibility analyses of alternatives connected with the LNG ships and pipelines. 2006-2008.

Palen Solar Energy Project, Solar Millennium, California. AECOM technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, and GIS visibility analyses of alternatives connected with the generating stations, solar arrays and transmission line. Desert Center, 2009-2010.

Palmdale Solar Energy Project, Inland Energy Corp., Palmdale, California. AECOM technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, GIS visibility analyses of alternatives connected with the generating station, solar array, and transmission line and landscape plan for transplanting of Joshua trees. Palmdale, 2008-2010.

Rawhide Generating Station, Platte River Power Authority, Colorado. EDAW technical staff for visual resources field investigation, visual/aesthetics inventory and analysis, connected with the generating station and transmission lines. 1978.

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Ridgecrest Solar Energy Project, Solar Millennium, California. AECOM technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, and GIS visibility analyses of alternatives connected with the generating station, solar arrays and transmission line. Ridgecrest, 2009-2010.

Santan Generating Station, Arizona Public Service Co., Phoenix, Arizona. ENSR technical expert for GIS and visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, and GIS visibility analyses for the generating station, transmission lines and pipeline. 2004.

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TransWest Express and Western Area Power Administration, 600-kV DC Transmission Line Project, Colorado, Nevada, Utah, and Wyoming. AECOM technical expert for visual resources. Current.

Tri-State Generation and Transmission Association, Pyramid Generating Station, New Mexico. ENSR technical expert for GIS and visual resources for aerial photographic interpretation, digitizing, detailed mapping, and spatial analyses of alternatives connected with the generating station, transmission line and pipeline. 2002.

Victorville 2 Generating Station and Solar Facility, Inland Energy Corp., Victorville, California. ENSR technical expert for visual resources field investigation, visual/aesthetics inventory and analysis, computer - aided photographic visual simulations, GIS visibility analyses of alternatives connected with the generating station, solar array, and transmission line and landscape plan for transplanting of Joshua trees. 2007.

Western Area Power Administration, Lawrence Livermore Laboratory Direct Service 230-KV Transmission Line Project, Livermore, CA. Woodward - Clyde Consultants technical expert for visual resource simulations for critical vantage points between Bethany Reservoir and Patterson Pass Road near Livermore. 1993.

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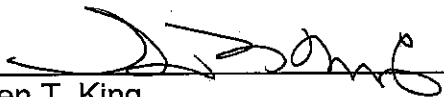
DOCKET NO. 09-AFC-08

DECLARATION OF
GLEN T. KING

I, Glen T. King declare as follows:

1. I am presently employed by NextEra Energy Resources, as an Environmental Specialist.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to Waste Management for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Hinkley, CA on June 24, 2010.


Glen T. King

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

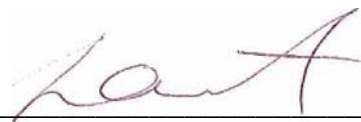
DOCKET NO. 09-AFC-08

**DECLARATION OF
JANINE FORREST**

I, Janine Forrest, declare as follows:

1. I am presently employed by Worley Parsons, as an Environmental Engineer.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to Waste Management for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Martinez, CA on June 24, 2010.



Janine Forrest

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT


DOCKET NO. 09-AFC-08

DECLARATION OF
P. Duane McCloud

I, P. Duane McCloud, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC., as a Lead Professional for Construction and Engineering.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to the Waste Management for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Juno Beach, Florida on 28 June, 2010.



P. Duane McCloud

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

DOCKET NO. 09-AFC-08

DECLARATION OF
Michael Tietze

I, Michael Tietze, declare as follows:

1. I am presently employed by Worley Parsons as a Senior Hydrogeologist and Location Manager.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to the Waste Management for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed at Folsom, CA on June 24, 2010.



Michael Tietze

STATE OF CALIFORNIA

Energy Resources
Conservation and Development Commission

In the Matter of:

Application For Certification for the
GENESIS SOLAR ENERGY PROJECT

DOCKET NO. 09-AFC-08

DECLARATION OF
Kenneth Stein

I, Kenneth Stein, declare as follows:

1. I am presently employed by NextEra Energy Resources, LLC, as an Environmental and Permitting Manager.
2. A copy of my professional qualifications and experience was included in my opening testimony.
3. I prepared the attached rebuttal testimony relating to Waste Management for the Genesis Solar Energy Project (California Energy Commission Docket Number 09-AFC-08).
4. It is my professional opinion that the attached prepared rebuttal testimony is valid and accurate with respect to issues that it addresses.
5. I am personally familiar with the facts and conclusions related in the attached prepared rebuttal testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct to the best of my knowledge and that this declaration was executed in Palm Desert, CA on June 24, 2010.



Kenneth Stein

**GENESIS SOLAR ENERGY PROJECT
WASTE MANAGEMENT
REBUTTAL OPENING TESTIMONY**

I. Name: Glen T. King, Janine Forrest, Duane McCloud, Michael Tietze, and Kenneth Stein

II. Purpose:

Our Rebuttal Testimony addresses the Opening Testimony of Matthew Hagemann relating to the subject of Waste Management associated with the construction and operation of the Genesis Solar Energy Project (09-AFC-08).

III. Qualifications:

Glen T. King: I am presently employed at NextEra Energy Resources, and have been for the past 19 years and am presently an Environmental Specialist with that organization. I have over 18 years of experience in the field of Waste Management. I prepared or assisted in the preparation of the Waste Management section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

Janine Forrest: I am presently employed at WorleyParsons, and have been for the past 2 years and am presently an Environmental Engineer with that organization. I have an Environmental Engineering Degree majoring in land and water and I have over 6 years of experience in those fields. I prepared or assisted in the preparation of the Waste Management, Worker Safety and Hazardous Materials sections of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

Duane McCloud: I am presently employed at NextEra Energy Resources, LLC, and have been for the past 12 years and am presently a Lead Professional with that organization. I have a B.S. Degree in Chemical Engineering and I have over 28 years of experience in the field of power generation. I prepared or assisted in the preparation of the Waste Management section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

Michael Tietze: I am presently employed at WorleyParsons, and have been for the past five years and am presently a Senior Hydrogeologist and Location Manager with that organization. I have a Bachelors of Science Degree in Geology and I have over 25 years of experience in the fields of hydrogeology and engineering geology. I prepared or assisted in the preparation of the Soil and Water section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

Kenneth Stein: I am presently employed at NextEra Energy Resources, and have been for the past 6 years and am presently an Environmental and Permitting Manager with that organization. I have a B.S Degree in Environmental Science and a Law Degree with a focus in Environmental Law and I have over 20 years of experience in the field of Environmental Permitting. I prepared or assisted in the preparation of the Waste Management section of the AFC as well as the post-filing information, data responses, and supplemental filings. A detailed description of my qualifications is contained in the resume attached to my Opening testimony.

To the best of our knowledge all referenced documents and all of the facts contained in this testimony are true and correct. To the extent this testimony contains opinions, such opinions are my own. We make these statements and provide these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

IV. Opinion and Conclusions

REBUTTAL TO HAGEMANN OPENING TESTIMONY

Hagemann Contention II: Failure to Estimate Annual and Worst Case Spill Volume:

Mr. Hagemann documents incidents at the existing SEGS facilities that resulted in the generation of contaminated soil in excess of quantities that the proposed Genesis LTU would be able to accommodate. While design and operation steps would be utilized to minimize the potential for a large spill as described in the RSA, the possibility for such a spill cannot be completely eliminated. As has been the case at the SEGS facilities, the RSA requires numerous plans, such as the Spill Prevention Control and Countermeasures Plan (SPCC), Operations Hazardous Materials Management Plan, Health and Safety Plan and Operations Waste Management Plan, among others to deal with these possibilities. The details of such plans are required to be developed in coordination with the CEC and other applicable regulatory agencies. As such, the final plans are specifically intended to incorporate and address all areas of concern outlined in Mr.

Hagemann's testimony and will reduce any impacts to less than significant, even if all possible events have not been explored in the RSA.

Hagemann Contention III. COC's are Inadequate to Mitigate Spills of HTF

The RSA anticipates potential the project will include management of HTF spills and requires numerous plans, such as the SPCC and Operations Waste Management Plan, that will include specific detail for management of HTF spills, and inclusion of such detail in the RSA is neither required nor necessary in order to assure and conclude that impacts from HTF spills will be less than significant. In addition, the management of spilled HTF will be governed by Waste Discharge Requirements issued by the RWQCB. The details of such plans are required to be developed in coordination with the CEC and other applicable regulatory agencies, and will ensure that all applicable regulations are incorporated, that all reasonably potential provisions are covered and that potential impacts are addressed and mitigated to a level of insignificance.

Hagemann's Contention IV. Plans for Field Response to HTF Spills are Inadequate

Hageman correctly points out that specifics for the Operations Waste Management Plan and other related plans are not contained in the RSA, as discussed above. As also noted previously, it is not necessary, required or appropriate to include such detail in the RSA. The details and specifics for dealing with HTF Spills will be developed in the various plans in conjunction with applicable agencies and the CEC. For clarification, the RoWD states that soil would not be placed in the LTU for bioremediation until it has been characterized as non-hazardous. Affected soil would be moved to the LTU area on plastic sheeting until analytical results indicate that it is acceptable for on-site treatment. Any contaminated soil that is not acceptable will be removed from the site and disposed of as hazardous waste. As such, hazardous waste will not be stored in the LTU, but will be temporarily accumulated in a storage area specifically set aside for this purpose. The storage area will require separate permitting with the County under the hazardous waste generator number obtained for the facility. This is a procedural detail that is anticipated in the framework of plans and permits described in the RSA.

Hagemann Contention V. The Presence of Benzene as an HTF Degradation Product

The RSA notes that for purposes of air modeling, the assumption was made that the thermal decomposition products are mostly benzene and phenol. It should be noted that this is a conservative estimate to generate a worst case assumption for HAP's, and is based on long-term thermal products that can be generated by HTF degradation. It does not follow, nor would be expected, that spilled HTF undergoing rapid cooling from a spill situation, would generate any

appreciable amount of benzene. In fact studies have been performed at the existing SEGS units to characterize exposure to benzene and other possible HTF degradation products. The result of those studies indicated no significant worker exposure to such products and only trace benzene content in the HTF product. Various industrial hygiene studies have been performed and none indicated any benzene issues. The last industrial hygiene study was performed at Harper Lake in 2001 which showed that workers were not exposed to levels of benzene above acceptable levels. As Mr. Hagemann notes in his testimony, if the need for any special personal protection equipment was identified for any special jobs, this would be delineated in the plans outlined in WORKER SAFETY-2 as well as under Cal OSHA regulations.

Hagemann Contention VI. Analytical Methodology for Testing HTF

Condition WASTE-10 provides for the option for the DTSC and CPM to select other testing to characterize HTF contaminated soils. Genesis does not oppose that wording in the condition, and expects the agencies to follow the latest industry guidance for such determination. In addition, Condition SOIL & WATER-6 requires that the project comply with Waste Discharge Requirements and Monitoring and Reporting Requirements issued by the CRBRWQCB, including soil and groundwater sampling and analysis, that are intended to be protective of groundwater. GSEP will comply with these conditions.

Hagemann Contention VII. The Presence of Benzene in Groundwater

Mr. Hagemann's testimony assumes that the HTF is full of benzene, and that a spill of HTF will expose the soil and potentially the groundwater to significant concentrations of benzene. This is simply not the case. Benzene is a highly volatile chemical in this process that gases off in the ullage system upon formation, which is why it is used in the fugitive air modeling. In fact a ullage system is included as part of the HTF system to continuously remove any high boilers or low boilers (such as benzene). Based on data from SEGS, benzene in the HTF product is not expected to accumulate above trace concentrations. In addition, Condition SOIL & WATER-6 requires that the project comply with Waste Discharge Requirements and Monitoring and Reporting Requirements issued by the CRBRWQCB, including soil and groundwater sampling and analysis, that are intended to be protective of groundwater. GSEP will comply with these conditions.

Hagemann Contention VIII. Plans for Staging HTF Spills

Mr. Hagemann delineates several operational details in these comments that are intended to be addressed in the Operations Waste Management Plan, SPCC and WDRs issued by the CRBRWQCB. Affected soil would be moved to the LTU area on plastic sheeting until analytical results indicate that it is acceptable for on-site treatment. Any contaminated soil that is not acceptable will be removed

from the site and disposed of as hazardous waste. As such, hazardous waste will not be stored in the LTU, but will be temporarily accumulated in a storage area specifically set aside for this purpose. The storage area will require separate permitting with the County under the hazardous waste generator number obtained for the facility. This is a routine procedural detail that is anticipated in the framework of plans and permits described in the RSA and is not a violation of LORS. This section of testimony also expresses concerns regarding the potential existence of free liquids in HTF-impacted soil. The initial process for responding to a significant HTF spill is to remove and recycle any free liquid. This again is a procedural detail will be delineated in the detailed plans that will undergo regulatory review and approval.

Hagemann Category IX. A UXO Survey

Mr Hagemann notes the references to the potential for UXO in his testimony. This was discussed by Genesis in Data Responses 226 and 227:

It is understood that the Genesis Solar Energy Project area is in an area that was used during World War II for training exercises. The cultural resources staff did an extensive records research and did not find anything that indicated there might be UXO on site. One historian found some records that showed that small unit exercises probably occurred on site, and also that larger units may have passed through the site on their way to other areas for training, but no evidence of exercises or weapons used on the actual site.

In the spring of 2009, biological and cultural resource surveys were conducted at the site. Over the course of several weeks, dozens of staff combed the area in methodical transects looking for artifacts and other material on the surface of the ground. During that time period, only one 50 caliber cartridge was found, handled and appropriately disposed of by the Riverside County sheriff's department.

It is unlikely that any other UXO material remains on the surface of the project footprint. Genesis Solar LLC will make a decision prior to the construction of the project regarding any further UXO investigation. A UXO Detection and Neutralization Plan is not necessary. However, some UXO identification training and/or reporting procedures during construction) will be implemented. A training program video and posters will be developed, similar to what was done on the Blythe transmission line. In this manner, in the unlikely scenario that any type of UXO be found, there will be procedures in place to deal with the issue appropriately.

Mr. Hagemann in his testimony also provides additional maps copied from reference books that he claims demonstrate the site area as a gunnery range.

Although these maps are very difficult to read as copied, they do not show any direct facilities or maneuver areas near the project site, but instead near Desert Center and well north of the site. The gunnery range reference above is clearly not borne out by the field work done to date.

Genesis continues to believe that the risk is minimal and a separate UXO survey is not necessary. Furthermore, should Genesis elect to perform such a survey, Mr. Hagemann has provided no reason why such a survey would need to be done prior to certification.



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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1-800-822-6228 – WWW.ENERGY.CA.GOV

**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, Marie Mills, declare that on June 25, 2010, I served and filed copies of the attached **GENESIS SOLAR, LLC'S REBUTTAL TESTIMONY** dated **June 25, 2010**. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [http://www.energy.ca.gov/sitingcases/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.



Marie Mills